Facing the Palace

Excavations just east of Fishbourne Roman Palace (Sussex, UK)
1995-1999

for the Sussex Archaeological Society

by John Manley and David Rudkin

with contributions from

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How to read this Digital Supplement

This report is the digital supplement to the printed pages of Facing the Palace, published in hard-copy as volume 141 of the Sussex Archaeological Collections. Please note that the digital supplement has not been designed to be read independently from the printed volume. You should always start reading or research in the printed volume and then turn to the digital supplement for additional information. If you wish to purchase a copy of Facing the Palace please contact Fishbourne Roman Palace, Chichester – contact details will be found on http://www.sussexpast.co.uk. You may have come to this digital supplement directly via the Archaeology Data Service website http://ads.ahds.ac.uk. You will find that the contents of this supplement are ordered in the same sequence as the contents of the printed volume. So, for example, if you go in the printed volume to:

Phase AJ: 13th to 14th century - the robbing of the foundations of Building 3

The symbol at the end of the line indicates that you will find additional information in this supplement which is marked:

Phase AJ: 13th to 14th century - the robbing of the foundations of Building 3

Note that the symbols ** in the digital supplement are sometimes used to separate non-sequential sections of the same section.

Similarly, if you find the ■ symbol in the printed volume you will find additional illustrative material on this subject in the digital supplement.

Figures and Tables

Most Figure and Table numbers which appear in this digital supplement refer to digital Figures and Tables. To ascertain whether a Figure or Table is in the printed volume or the digital supplement, please consult the complete Captions List for Figures and Tables.

10. Plan showing the co-ordinates of the grid system based on eastings and northings
11. Birthday celebrations during the 1995 season – photograph
12. Richard drawing a small section in 1996 – photograph
13. Corinne sieving for small finds in 1996 – photograph
Abstract of the 1995-1999 excavations

Excavations immediately to the east of Fishbourne Roman Palace (Area A) revealed the complete ground plan of a courtyard building lying very close to the front of the later Palace. The building, known as Building 3, was classical in design and aligned east to west. Dating evidence is not particularly precise, but it is suggested that the building was constructed in the second half of the 1st century AD. The function of the building is problematic, although various strands of evidence suggest that the building probably had a public or an administrative function, and may have been constructed by the military. The building seems to have survived in front of the Palace (which was constructed around AD75) perhaps until the end of the 2nd century AD. A complex series of deposits, finds and structures was uncovered to the immediate north of the building.

A small trench (known as Area B) was excavated a little way to the north of Building 3. A ditch ran east to west across the trench. A mixture of imported fine wares and indigenous coarse wares from the bottom of the ditch suggest the ditch was dug prior to AD43, perhaps as early as the first decades of the 1st century AD. The relationship between Building 3 and the ditch in Area B is not yet known.

A full range of edited specialist reports is provided in this publication, including a reconstruction of the original appearance of Building 3. In addition, maps illustrating the spatial distribution of various categories of small finds have revealed a considerable amount about specific human behaviours and site-formation processes. The report concludes with an appraisal of the Fishbourne in the early Roman period, and has relevance for the study of the conquest in AD43.

Format of this report

The specialist reports provide detailed descriptions of different categories of artefact and environmental evidence found during the excavations. It will be quickly appreciated that the majority of artefacts (with one or two exceptions such as the flint objects) were found to the north of Building 3. (Note that the artefact distribution maps printed in this report were produced using GIS software. Artefacts that did not have precise three-dimensional co-ordinates, for example because they were just ascribed a context number, were excluded from these maps; this is the meaning of ‘selected’ in the captions accompanying these maps). This also applies to some kinds of environmental evidence such as food debris represented by oyster shells and animal bones. Many of these items appear to have been deposited as part of a midden, which was building up to the north of the aqueduct in the latter part of the second century AD. The midden was presumably (although not definitely) formed by rubbish derived from the Palace next door. Other finds were deposited in particular features, such as the aqueduct, the stream and the fills of robber trenches. In all categories of finds it was difficult to associate objects with Building 3 itself.

Since Area B is a smaller excavation, separate from the main site of Area A, when there are significant references to Area B, both within the main stratigraphic report, and in the specialists' reports, these will be highlighted by the use of shading, as in this sentence. This device is adopted since future excavations will explore a larger area (called Area C) around Area B. These future excavations will be published separately, and the use of shading in this report will
allow the reader to integrate the results from the two sites (i.e. Areas B and C) and from the two publications more easily.

**
Part 1 – the excavations

Phase AA: The prehistoric flintwork – by Chris Butler

Over the five seasons of excavation at Fishbourne, between 1995 and 1999, a total of 597 pieces of prehistoric flintwork was recovered (see Table 51 and Figs. 20 and 21).

Raw Material: There were two types of flint raw material.

1. A grey, brown or blue-black colour, some having olive or orange-brown patches. Where present, cortex is smooth and a cream to off-white colour. This type derives from nodular flint, possibly originating from Clay-with-Flints outcrops on the nearby Chalk, and from the Coastal Plain.

2. A brown, red-brown or black-brown flint which has on occasions patinated to a white or blue-grey colour. The cortex, where present, is rough and abraded and can be either grey or brown in colour. This type derives from a pebble flint, probably originating from the local gravel deposits.

Debitage: Almost all of the assemblage (94%) is made up of debitage. The flakes are generally quite small, and tend to be long and narrow, only a minority are large and broad. Although the majority of the flakes are hard hammer-struck, 29.5% are soft hammer-struck; furthermore, almost all of the blades and bladelets are soft hammer-struck. A large number of the blades, and some flakes, together with most of the bladelets, exhibit small scars on the dorsal side at the proximal end, as a result of core platform preparation. The larger, hard hammer-struck pieces tend to have the most cortex remaining, whilst the soft hammer-struck blades, bladelets and small flakes have the least. Some of the larger hard hammer-struck flakes are primary flakes, having their entire dorsal side covered with cortex. Four axe-thinning flakes were also recovered.

There are a significant number of flake and blade fragments (15.7% of the assemblage) and a small number of shattered pieces; most of which appear to have been broken in antiquity, although some may have been broken more recently. Thirty-five pieces of debitage (6%) have been retouched, generally just along part of one edge, or at the shoulder of the piece. In a minority of cases the retouch has taken place long after the piece's manufacture, as the retouch cuts the patination; one of these has been retouched to create a small end scraper.

Cores: Ten cores were found during the excavation. Three were two-platform bladelet cores with opposing prepared platforms (1 - SF 107), whilst there was also a single-platform bladelet core (2 - SF 491); all of these are Mesolithic type cores. Two of the flake cores were small; one was a beach pebble. One of the blade cores had its two platforms at 90° to one another, a typical early Neolithic type (3 - SF 137). A single-core rejuvenation flake had been removed with a soft hammer, and may have come from a blade core.

Implements: Very few implements were found during the excavations (Table 51), and make up only 6% of the assemblage. The five microliths are all obliquely-blunted types (4 – SF 112; 5 - SF 164; 6 - SF 569; 7 – SF 600; 8 – SF 11672) and, in the absence of any geometric microliths, probably date to the earlier Mesolithic. Amongst the remaining implements, two notched pieces
were manufactured on small, soft hammer-struck flakes (9 - SF 555 and 10 - SF 9485), and a side scraper (11 - SF 944) and backed knife (12 – SF 803) were manufactured on large blades. It is possible that these may be Mesolithic in date, whilst the heavily patinated backed blade may even be late glacial.

Two hard hammer-struck flakes had been retouched along opposing edges, in one case with abrupt retouch on one edge and semi-abrupt retouch on the other (13 - SF 418). It is likely that these pieces were intended as backed knives. The remaining scrapers (14 - SF 576 and 15 - SF 684), notched pieces (16 - SF 9549) and miscellaneous retouched pieces, together with the button scraper (17 - SF 395), are likely to date from the later Neolithic/Bronze Age.

**Distribution:** The plot of selected flints displays a completely different distribution pattern to that of most other categories of small finds (Figs.16,17,18). Most of the flint finds were located in the area of Building 3 itself. In particular, there were significant concentrations of residual flints from the higher contexts overlying the eastern range of Building 3. Flint finds at deeper levels occurred in the lower levels of the stream. It is notable that the only concentrations of flint finds that were not residual occurred in two small clusters to the south of Building 3. Very few flint finds, by contrast, were recovered from the Roman midden contexts at the northern end of Area A. The distribution of four categories of flint finds is given in Figure 18. The two clusters to the south of Building 3 show up particularly well. The western cluster has a high number of worked flakes, while the eastern cluster has a high number of blades. Whether these differences relate to activities centering around pit 56 is problematic. In the bar-chart which indicates contexts with more than nine individual flint finds, the contexts with most flints are: C3 – an upper context covering the whole of the area of the 1995 excavations; C38 – an area running the length of the 1995 trench south of Building 3; C55 - an area of orange soil to the west of pit 56; C202 – an upper context covering the whole of the area of the 1996 dig; C240 – an upper context at the northern end of the 1996 dig.

**Discussion:** Most of the assemblage has come from post-Roman and Roman contexts, and is therefore residual and redeposited. Those pieces from most other contexts also appear to be redeposited, except for three pieces in context 56 and the clusters to the south of Building 3. Up to one third of the assemblage can confidently be assigned to the Mesolithic, and it is likely that some of the remaining pieces in the assemblage are also of this date. The large number of bladelets and bladelet fragments, together with the bladelet cores suggests that microlith production was taking place here, although no microburins were recovered. The five completed microliths, were all obliquely-blunted types, and three were large specimens, typical of those which occurred in the earlier Mesolithic. The previous absence of microliths from the Sussex Coastal Plain has been noted (Pitts 1980), although more recently a cluster of Mesolithic flints, including microliths, was recovered on the Fishbourne Bypass (Goodburn 1996).

There was no evidence for the production or use of tranchet axes from the flintwork recovered during the excavations, although examples have previously been found at Fishbourne (Wymer 1977). It is possible that some of the axe-thinning flakes found may be Mesolithic. Tranchet axes and other core implements, such as picks, have frequently been found on the Sussex Coastal Plain (Pitts 1980).

The majority of the pieces in the assemblage, which are predominantly hard hammer-struck flakes, together with most of the larger flake-based implements, are likely to have originated in the later Neolithic/Early Bronze Age, or possibly even later in the Bronze Age. As the assemblage is predominantly residual, and these pieces lack firm diagnostic indicators, it is
difficult to be certain. Dating is made even more difficult owing to the smaller size of the raw material being used, especially when it is compared to a downland assemblage.

Three pieces (two hard hammer-struck flakes and a shattered piece) in context 56 are probably from the same nodule of Type-1 flint, and are likely to have come from the same flaking episode. As they have little patination, and do not appear to have been damaged after being discarded, it is likely that they were deposited here shortly after being removed from the core. The remaining pieces of flintwork in this context comprised a mixture of redeposited Mesolithic and later debitage.

Table 51  Prehistoric Flintwork

<table>
<thead>
<tr>
<th>Type</th>
<th>Year of excavation</th>
<th>1995</th>
<th>1996</th>
<th>1997</th>
<th>1998/9</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hard hammer-struck flakes</td>
<td>19</td>
<td>106</td>
<td>53</td>
<td>53</td>
<td>231</td>
<td></td>
</tr>
<tr>
<td>Soft hammer-struck flakes</td>
<td>15</td>
<td>38</td>
<td>30</td>
<td>14</td>
<td>97</td>
<td></td>
</tr>
<tr>
<td>Hard hammer-struck blades</td>
<td>3</td>
<td></td>
<td></td>
<td></td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Soft hammer-struck blades</td>
<td>6</td>
<td>18</td>
<td>4</td>
<td>4</td>
<td>32</td>
<td></td>
</tr>
<tr>
<td>Bladelets</td>
<td>11</td>
<td>17</td>
<td>15</td>
<td>5</td>
<td>48</td>
<td></td>
</tr>
<tr>
<td>Fragments</td>
<td>13</td>
<td>26</td>
<td>34</td>
<td>21</td>
<td>94</td>
<td></td>
</tr>
<tr>
<td>Shattered pieces</td>
<td>7</td>
<td>13</td>
<td>3</td>
<td>5</td>
<td>28</td>
<td></td>
</tr>
<tr>
<td>Chips</td>
<td>1</td>
<td>6</td>
<td></td>
<td>2</td>
<td>9</td>
<td></td>
</tr>
<tr>
<td>Axe-thinning flakes</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td></td>
<td>4</td>
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</tr>
<tr>
<td>Burin spalls</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td></td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Core-rejuvenation flake</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Single-platform flake core</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Two-platform flake core</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Three-platform flake core</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Single-platform blade cores</td>
<td>1</td>
<td>1</td>
<td></td>
<td></td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Two-platform blade core</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Single-platform bladelet core</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Two-platform bladelet cores</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td></td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>End scrapers</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>Side scrapers</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Button scraper</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Notched pieces</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>7</td>
<td></td>
</tr>
<tr>
<td>Knife</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Backed knives</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Microliths</td>
<td>2</td>
<td>2</td>
<td></td>
<td></td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>Misc. retouched pieces</td>
<td>3</td>
<td>2</td>
<td></td>
<td></td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>Fabricators</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td>2</td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>87</td>
<td>247</td>
<td>149</td>
<td>114</td>
<td>597</td>
<td></td>
</tr>
</tbody>
</table>
Figures

16. Phase AA – distribution of selected flint finds
17. Phase AA - location of context 56
18. Phase AA – distribution of four selected flint categories
19. Phase AA – bar diagram of contexts with more than 9 flints
20. Flint finds 1-10
21. Flint finds 11-17

Phase AB – Building 3

Section 5 (Fig. 26):

Wall comments: The remains of the wall on the surface had an average width of c.0.7m. It was noticeable that greensand facing-stones were not much in evidence on this length of wall. Nor was there any evidence for the use of mortar as a bonding agent.

Section comments: The section could not be bottomed because of the rising water-table. However, the section indicated that the foundations comprised nodules of angular flint, laid down in a foundation trench that had the same width as the wall foundation. The foundation depth observed was c.0.9m, and observations recorded elsewhere in this report suggest that the foundations would have continued downwards another 0.1 to 0.2m.

Section 6 (Fig. 27):

Wall comments: The remains of the wall on the surface had an average width of c.0.7m. It was noticeable that greensand and chalk facing-stones were utilised on this length of wall. Greensand facing-stones were used on both faces, but more so on the north; chalk facing-stones were used on both faces, but more so towards the western end of the wall. There was evidence that mortar had been used in horizontal layers during the construction of the foundations. This was the only length of wall in which chalk facing-stones had been used.

Section comments: The section could not be bottomed because of the rising water-table. There were indications of the use of mortar as a bonding agent, particularly in the upper half of the section. There was also clear evidence that the foundation trench had been wider than the actual wall construction, and that context 60 - a deposit of red clay, (redeposited from the Reading Beds clay in which the foundation trench had been dug), had been placed in the top of the foundation trench on the external side of the wall. It was observable that the wall foundations were not vertical and appeared to have slumped (in the upper part) towards the north. Whether this happened during construction (and was therefore corrected), or during the life of Building 3, or after Building 3 had been demolished is difficult to ascertain. The foundations at this point were at least 1.3m in depth. This section should be compared with section 13, some five metres to the east.

Section 9 (Fig. 28):
Wall comments: This section of wall was formed by contexts 8 (southern part) and 9 (northern part). The southern length of wall (8) extended for about one metre north of wall 7. It was different in construction in that it contained a much higher percentage of greensand stones than normally found on top of the foundations. These greensand stones occurred both in the facing (east side) and in the core-work, and appeared to have been deliberately placed to achieve a flat surface. This prompted speculation that this section of wall might have been the base for a threshold, and hence a doorway, providing access to the south-western room. The northern part of this wall (9) contained few facing-stones and was similar to wall 5 in appearance. At the very northern end of wall 9 Alec Down recorded several large flint blocks which he interpreted as some sort of 'buttress', (Cunliffe et al. 1996, 19).

Section comments: The wall foundations were c. 0.75m in width. The foundation trench had been dug into Reading Beds clay and was wider at the top than the width of the wall foundations. On both sides of the upper foundation trench, redeposited red clay (contexts 45 and 49) had been placed adjacent to the sides of the foundations. The overall depth of the foundations was c. 1m.

Section 12 (Fig. 29):

Wall comments: This wall (C275) was one of the two cross-walls in the eastern end of Building 3. Its foundations had been largely robbed out in antiquity, apart from the very bottom course of flint nodules. The surface recorded, therefore, was the top of the robber trench. This comprised a selection of smaller flint nodules and plentiful evidence of mortar flecks. This suggests that these foundations were originally mortared, and that most of the larger flints had been removed by the robbers for buildings elsewhere.

Section comments: The foundation trench for the wall was the same width as the wall foundations and therefore had vertical sides. It was c. 0.6m wide, by c.0.85m deep and suggests a wall of slighter construction than the external walls. The robber trench was the same width as the wall foundations. There was a concentration of mortar flecks 0.6m from the top of the robber trench, lying on top of the surviving bottom course of the wall foundations.

Section 13 (Fig. 30):

Wall comments: The wall in this section is composed of three different contexts: from west to east, C222 - intact wall foundations with greensand and occasional chalk facing-stones; C298 - an irregular area of tumbled flint nodules measuring about 1m square; C259 - the top of the backfilled robber trench which continues to the south-east corner of Building 3. In C222 there was extensive use of mortar as a bonding agent. Towards the east end of C222 was a concentration of greensand, which, together with the abrupt change to the flints of C298, could be indicative of a doorway. However, an alternative explanation would see the flints as the western end of a robber trench. The fill (C259) of the robber trench contained only 5% angular flints, up to 100mm in length.

Section comments: This is the deepest section of wall foundation, reaching a maximum depth of 1.3m. The upper half of the wall foundations had been robbed out in antiquity, leaving the fill (C259) of the robber trench apparent in the section. Underneath the robber trench fill was a deposit of mortar flecks, and underneath that the lower courses of the wall foundation (C222). It is noteworthy that the lower half of the foundations were built to a wider gauge (0.9m) than the wall that they were to support. Presumably this was because the builders recognised that this south-eastern part of the site was the lowest and therefore more prone to problems of flooding.
and potential subsidence than elsewhere. It was apparent that at least on the southern, external side, the foundation cut had been wider than the wall. The gap had been filled with redeposited red clay (C223).

Section 14 (Fig. 31):

Wall comments: This length of wall (C263) marks the eastern end of Building 3. It had been entirely robbed out in antiquity and therefore there were no wall foundations to record. The presence of mortar in the backfilled robber trench, however, indicates that the wall foundation was mortared. Practically all the larger flint was taken by the robbers and the top of the robber trench was characterised by a silty-clay deposit, containing a few flint fragments up to 70mm in length. As a result, it was sometimes difficult to distinguish the sides of the robber trench on the surface, since the fill of the latter merged with the deposits on either side.

Section comments: The section through the filled robber trench (C234) indicates that the wall foundations were c.0.85m deep and c.0.7m wide. There were no indications that the foundation trench was wider than the actual wall foundation itself.

Section 15 (Fig. 32):

Wall comments: This length of wall foundation (C261) was half robbed out in antiquity and therefore its surface was similar to that recorded in Section 14. The presence of mortar indicates that this section was mortared.

Section comments: The section illustrates how the upper half of the wall foundations were robbed, and the space backfilled with C232. The lower half of the wall foundations (C261) were intact and comprised large flint nodules. Overall dimensions indicate that the wall foundations were c.7m wide and 1m deep. There are no indications that the foundation trench was wider than the actual wall foundation itself.

Section 16 (Fig. 33):

Wall comments: This wall foundation (C251) is the internal corridor wall on the north side of the building. Most of this wall foundation had been entirely robbed out, but a small section survived partially intact at its eastern end. The top courses of the wall foundation had been robbed even here, so it was not possible to observe the presence or absence of facing-stones.

Section comments: The section illustrates a trench-built wall foundation 0.8m wide by c.0.85m deep. However, traces of red clay lining the tops of a wider foundation trench were observed further to the west along this same length of wall, showing that variable foundation methods were used on the same wall in close proximity. The presence of mortar indicates that the wall foundations were mortared.

Section 18 (Fig. 34):

Wall comments: The main north wall of Building 3 comprised contexts 241 (eastern end) and 411. In the eastern end no facing blocks were located on top of the wall foundations, while in the western half, greensand facing blocks, as usual dressed on the external side, had survived. Occasional flecks of mortar indicate that these wall foundations were mortared.
Section comments: The excavated section through C241 suggests a trench-built wall foundation. However, traces of red clay lining the tops of a wider foundation trench were observed further to the west along this same length of wall, showing that variable foundation methods were used on the same wall in close proximity. The wall foundation measured some 0.6m in width and was about 1m deep. The wall foundation consisted, as usual, of medium to large nodules of flint. Although the flint is not faced, it is possible that sharp ends to the flints had been chipped off.

Section 105 (Fig. 35):

Wall comments: This wall foundation (C411) is the principal external western wall of Building 3. The wall foundations were well preserved, with greensand facing-stones surviving on both sides of the wall. There were no traces of mortar in the foundations.

Section comments: The foundation trench was the same width as the foundation wall it contained. Angular flint nodules (C411) comprised the foundation fill, and the surviving dimensions of the foundations were 0.9m deep by 0.5m wide.

Section 106 (Fig. 36):

Wall comments: This length of wall (C413) forms the eastern side of the north-western room in Building 3. The wall had occasional greensand facing-stones surviving. At its southern end two large pieces of greensand defined the end of the wall, similar to the 'buttress' feature recorded by Alec Down on the northern end of wall 9. There were no traces of mortar apparent.

Section comments: The section indicates that the foundation trench was wider than the wall foundation, especially on the eastern side. This was infilled and topped with a thin deposit of red clay (C450). The foundations did not appear to be properly aligned with the wall above them, which was constructed slightly to the west of the foundations. This may have been a surveying error when the building was laid out. The foundations overall measured c. 0.7m in width by 0.9m in depth.

Section 107 (Fig. 37):

Wall comments: This wall foundation (C412) formed the southern side of the north-western room in Building 3. There was no evidence of mortar and very few greensand facing-stones survived; the facing on the surviving greensand stones was poorly executed. In some places it appeared that flints had been used as facing-stones. The higher quantity of soil in this wall foundation suggested a poorer construction technique.

Section comments: The section illustrates that the foundation trench was wider on the south side than the wall foundation itself and had consequently been backfilled with redeposited clay (C449). Overall dimensions of the foundations were 1.1m in depth and 0.7m in width.

Section 108 (Fig. 38):

Wall comments: This wall foundation is the northern wall (10, 414) of the south-western room of Building 3. Greensand facing-stones survived well in the middle section of the wall giving the appearance of a well-laid foundation wall. There was no evidence of mortar.
Section comments: The section illustrates that the foundation trench was wider on both sides than the wall foundation itself and had consequently been backfilled with redeposited clay (C455, C448). Overall dimensions of the wall foundation were c. 1m deep and 0.8m in width.

Section 109 (Fig. 39):

Wall comments: This wall foundation (C411) was for the principal external western wall of Building 3. The wall foundations were well preserved, with greensand facing-stones surviving on both sides of the wall. There were no traces of mortar in the foundations.

Section comments: The section indicates that the foundation trench was the same width as the foundation wall it contained. Overall measurements were c.0.9m deep and 0.5m in width. As well as angular flint nodules there were occasional water-worn beach pebbles in the foundation material.

Figures

26. Section 5
27. Section 6
28. Section 9
29. Section 12
30. Section 13
31. Section 14
32. Section 15
33. Section 16
34. Section 18
35. Section 105
36. Section 106
37. Section 107
38. Section 108
39. Section 109

52. Eastern end of wall 6 of Building 3 in 1995, from the east – photograph
53. Coursed flint masonry in the side of wall 6, Building 3 – photograph
54. Wall 222 of Building 3 from the east – photograph

56. The western wall of Building 3, from the north – photograph
57. The robbed-out northern corridor wall, and the north wall of Building 3, from the east – photograph
58. The robbed-out northern corridor wall, and the north wall of Building 3, from the north-west – photograph
59. Sally and the western external wall (411) of Building 3, from the south – photograph
60. The boundary wall extending south from Building 3, cut by the stream – photograph
61. The northern boundary wall of Building 3 in 1998 from the south – photograph
Phase AB – Post-holes (rows 1 & 3)

Table 52  Phase AB – post-hole rows 1 and 3

<table>
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<tr>
<th>Row</th>
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<th>N-S</th>
<th>E-W</th>
<th>Depth</th>
<th>Comment</th>
<th>Fill</th>
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<td>1</td>
<td>462</td>
<td>466</td>
<td>0.3</td>
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<td>very different fill from other post-holes</td>
<td>greensand; flint cobbles; tile</td>
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<td>excavated 1983</td>
<td>Exc. by A Down</td>
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<tr>
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<td>966</td>
<td>0.2</td>
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<td>0.2</td>
<td>Observed in section; could be just the post-pipe? Not illustrated</td>
<td>brown sandy clay</td>
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<td>Exc. by A Down</td>
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<td>0.3</td>
<td>0.25</td>
<td>red sandy clay</td>
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Figures

62. Phase AB – row 1 post-hole plans and sections
63. Phase AB – row 3 post-hole plans and sections
Phase AC – Aqueduct

Figures

71. The dump of pottery in the eastern end of the aqueduct (Phase AC), from the west – photograph

Phase AC – Sump

Figures

77. The sump (621) (Phase AC), from the east – photograph

Phase AC – Robbing of northern or boundary flanking wall

Figures

80. The robbed out end of the northern boundary wall (Phase AC), from the south - photograph

Phase AD – Post-holes (row 2)

Table 53  Phase AD – post-holes row 2

<table>
<thead>
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<th>Comment</th>
<th>Fill</th>
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<td>6</td>
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<td>excavated 1983</td>
<td>Exc. by A Down</td>
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<td>0.2</td>
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<td>red clay</td>
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31/01/2005
Figures

86. Phase AD – row 2 post-hole plans and sections
87. Phase AD – row 2 post-hole plans and sections

Phase AE – Post-holes (rows 4 & 5)

Table 54 Phase AE – post-holes row 4
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<td>582</td>
<td>583</td>
<td>0.45</td>
<td>0.25</td>
<td>0.25</td>
<td>not like the other post-holes</td>
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<td>4</td>
<td>722</td>
<td>721</td>
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<td>0.35</td>
<td>0.35</td>
<td>fine silty soil</td>
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<td>746</td>
<td>795</td>
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<td>0.51</td>
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<td>0.2 by 0.21 pp poss pp (post-pipe)</td>
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<td>747</td>
<td>796</td>
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</tr>
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<td>4</td>
<td>748</td>
<td>809</td>
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<td>0.34</td>
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</tr>
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<td>836</td>
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<td>yellowish-brown sandy clay/flint packing</td>
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</tr>
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<td>848</td>
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<td>762</td>
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<td>0.38 by 0.25 pp pp; brown sandy clay</td>
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<td>0.29 by 0.25 pp pp - 0.25 E-W; brown sandy clay</td>
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<td>832</td>
<td>846</td>
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<td>4</td>
<td>755</td>
<td>800</td>
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<td>0.67</td>
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<td>754</td>
<td>801</td>
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<td>827</td>
<td>844</td>
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<td>0.16</td>
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Table 55 Phase AE – post-holes row 5

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<td>723</td>
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Table 56  Phase AE – Six post-holes

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<td>too large?</td>
<td>tile and flint packing</td>
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<tr>
<td>756</td>
<td>797</td>
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<td>n/a</td>
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<td>839</td>
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<td>0.65</td>
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<td>brick and tile in packing</td>
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</table>
Phase AF – Central Pit

Figures

125. Tile on the floor of the central pit (Phase AH) – photograph
126. Gully 297 (Phase AF) running south from the central pit – photograph
127. Close-up of the floor of the central pit (Phase AF) – photograph
130. Trial hole in the red clay beneath the greensand flags of the central pit – photograph
131. More natural red clay beneath the greensand flags of the central pit – photograph

Phase AH

Figures

140. Post-hole 209 (Phase AH) from the west

Phase AI: 13th to 14th century - medieval occupation or activity?

Description: The contexts which can be assigned to this phase are as follows: 24,32,38,212, 214, 240, 249, 253, 430, 432. These deposits lay mostly over the eastern side of Building 3, with limited areas to the south of the building and an area to the immediate south of the northern internal corridor wall (426). There was also a large area (C432) over the western end of Building 3. Contexts 212 (and 249 below it) were characteristic of the deposits. They had formed as a moderately-sorted fine sandy clay, with only 5% stones; the latter comprised some angular and some rounded flint up to 100mm; there were also occasional fragments of tile up to 160mm. Context 253 was different, being an amorphous poorly-sorted area of silty clay, incorporating 35% stones, with discrete clusters of angular and rounded flint up to 130mm in size. There was also a considerable quantity of gravel (up to 10mm in size), and this context had the appearance of a very rough surface. Context 430 comprised sandy clay, moderately sorted, with 5% stones of angular flint up to 100mm in length. It was noticeable that this deposit, which was a maximum of 100mm in thickness, was thicker as it neared the backfilled robber trench (C437), and also contained some larger flint and tile fragments. It was noted at the time of excavation that this deposit could be related to the fill of the robber trench.

Finds: The bulk finds from these contexts included residual Roman pottery, medieval sherds (Assemblage 25) and ceramic building material, as well as some iron objects and animal bones. There are 325 small finds from these contexts. The most surprising aspect of the distribution of these small finds is that no samian sherds came from the southern or the eastern ranges of Building 3. A number of samian sherds came from the northern and western ranges of Building 31/01/2005 21
3, mostly confined to contexts 430 and 432. However, many of the small finds over the southern and eastern parts of the building do seem to be redeposited and include quantities of flint flakes or tools, whereas those from over the northern and western ranges are more the sort of material associated with Roman demolition deposits, either from the Palace or from Building 3 itself.

**How the features were formed:** We are dealing here (with the exception of C432) with general spreads of soil that covered much of the foundations and courtyard of Building 3. In such circumstances the soil will have built up by natural processes. Finds will have become incorporated in these amorphous soils as a result of short period(s) of medieval occupation or activity.

The methodological issue here is to try to distinguish between those deposits that definitely postdate and cover the foundations of Building 3, and those deposits that might have been contained within the still-standing, or partly ruinous walls, of Building 3. The marked difference in the distribution of small finds, which seem to separate the eastern range from the northern and western ranges, might suggest that at least the eastern range may have been standing, complete or as a ruin, at this time. On the other hand, the spatial distribution of the contexts in this phase (with the exception of C432) closely mirrors the area where robbing of the foundations took place, and therefore strongly suggests that the medieval activity was centred in this area as a result of the robbing of the eastern foundations.

**Overall date:** The dating evidence for this phase on the site can be summarised in the following Table, which provides a list of the main datable medieval finds from the relevant contexts.

<table>
<thead>
<tr>
<th>Context</th>
<th>Fine and Coarse Ware</th>
</tr>
</thead>
<tbody>
<tr>
<td>24</td>
<td>13th -14th century - fresh looking sherds</td>
</tr>
<tr>
<td>32</td>
<td>13th -14th century - fresh looking sherds</td>
</tr>
<tr>
<td>38</td>
<td>13th -14th century - fresh looking sherds</td>
</tr>
<tr>
<td>212</td>
<td>Large Saxo-Norman crucible fragment</td>
</tr>
<tr>
<td>214</td>
<td>35 sherds of 12th – 13th centuries</td>
</tr>
<tr>
<td>240</td>
<td>26 Saxo-Norman sherds</td>
</tr>
<tr>
<td>249</td>
<td>11 sherds of Saxo-Norman and 13th century material</td>
</tr>
<tr>
<td>253</td>
<td>1 sherd of Atrebatic Overlap ware</td>
</tr>
<tr>
<td>430</td>
<td>A few Saxo-Norman to late medieval sherds</td>
</tr>
<tr>
<td>432</td>
<td>12th to 14th century material</td>
</tr>
</tbody>
</table>

**Interpretation and comment:** The different distribution of Roman demolition material and associated small finds (over the northern and western ranges of Building 3) and the absence of Roman small finds and preponderance of medieval sherds (over the eastern and southern ranges), suggests differential use of the site at some time in the 13th or 14th centuries. The southern range had long since been demolished down to the top of its foundations (see phase AH), but the eastern range might have survived as a complete standing building, or in a partly ruinous condition. If it still stood, at least as a ruin, that would explain why very few Roman small finds were spread over it during the general demolition phases of the early 3rd and early 4th centuries.

However, it is more probable that the 'occupation' of the 13th or 14th century relates to the activity connected with the robbing of the foundations of the eastern part of Building 3. By our
own experience of digging out these foundations, (all of 1 metre depth), robbing them would have been both laborious and time-consuming.

Phase AJ: 13th to 14th century - the robbing of the foundations of Building 3

Description: There were a number of different contexts, which comprised deposits filling the robber trenches. Typical deposits were as follows. Context 232 was the fill of the robber trench on the western/internal side of the eastern end of Building 3, where the robbers removed about half of the foundation flints, to a depth of about 0.55m (Figs. 23, 144, 145). In their place was a fine silty clay, poorly sorted, which contained about 5% stones. These stones comprised angular flints and fragments of greensand up to 50mm in length, with occasional larger flints. There were quantities of tile fragments in the fill, and spreads of mortar flecks. Context 437 was the robber trench fill on the northern internal corridor wall (Figs. 57, 58). Here the robbing had been much more extensive and removed the foundation stones in their entirety. The soil matrix was a fine sandy clay loam with up to 35% stones. The stones comprised angular and rounded flints up to 90mm in length, with occasional fragments of greensand. Mortar flecks were scattered in areas in the fill. The deposit was about 1.1m wide and about 0.85m deep; the water table prevented excavation to the bottom of the trench, but it cannot have been more than 0.15m further. It was noticeable that the finds content decreased with depth.

Finds: The bulk finds from the deposits filling the robber trenches included a full range of redeposited material comprising pottery sherds, ceramic building material, iron objects, shell and animal bones. The small finds from the deposits filling the robber trenches comprised approximately 100 finds of different categories including sherds of Roman and medieval dates, flint flakes and iron and copper-alloy objects.

How the features were formed: The deposits filling the robber trenches were presumably derived from the process of robbing the foundations. It appears likely that as the foundations were systematically robbed, upcast of flint rubble would have been thrown to the surface. The larger blocks of flint would have been removed for sorting elsewhere, but the smaller or broken pieces would have been thrown back down the robber trench. At this time, soil derived from other deposits would have been placed in the trench. It is noteworthy that the filling C437 (of the northern internal corridor wall) seemed to contain a much higher percentage of finds, especially tile, suggesting that nearby demolition deposits may have been used to fill the linear hole left by the robber trench. The infilling of the eastern robber trench (C234) contained a high percentage of prehistoric (clearly residual) flint flakes. These must have derived from an adjacent horizon of prehistoric debitage, which perhaps lay to the east.

Overall date: The overall date for the robbing of the foundations cannot be precisely ascertained, but some idea of the dating evidence is given in the Table below.

<table>
<thead>
<tr>
<th>Context</th>
<th>Samian Sherds</th>
<th>Fine and Coarse Wares</th>
</tr>
</thead>
<tbody>
<tr>
<td>31/01/2005</td>
<td>23</td>
<td></td>
</tr>
</tbody>
</table>
Interpretation and comment: The latest sherds in the fills of the robber trenches are 12th- and 13th century examples, and the Saxo-Norman sherds. As can be seen from the Table, six out of eleven robber trenches produced medieval material. The distribution of the robber trenches producing the medieval material is confined to the eastern range of the building, and suggests that these foundations were not robbed out until the later medieval period, although the absence of medieval pottery from C436 and C437 suggests that the northern walls of Building 3 could have been robbed out in the later Roman period. Three coins were found in the robber trench fills: in the northern cross-wall (C268) an illegible as or dupondius (SF 670) of possible 1st century AD date was recovered; in the eastern wall of Building 3 (C234) an illegible as or dupondius (SF 727) of possible 1st century AD date was recovered; in the uppermost fills of the northern internal corridor wall (C437) a coin (SF 1472) of Constantine I (AD 319-20) was located. It is noteworthy that similar robbing of all the footings in the west and east ranges of the adjacent Palace took place during the medieval period.

Figures

145. Robber trench 232 in the eastern range of Building 3

Phase AK: 15th century - later medieval drain

Description: The same feature was encountered during three different seasons of excavations and therefore a number of different context numbers were given to deposits filling the ditch or drain. A sample description is as follows. Context 204 was the upper fill of the ditch in the north-eastern area of the excavation; it comprised a well-sorted, stone-free clayey silt, with occasional fragments of coal and chalk (less than 1% of the total context). It was about 300mm in depth. Beneath was C203, a thin deposit of sandy clay, containing up to 50% stones, with rounded and angular flints from 20 to 100mm in length. There were occasional fragments of brick and tile in the fill. The lowest fill was C206, comprising a well-sorted, stone-free clayey silt. Context 219 was the excavated cut for the ditch. It had an average width of 1.6m and a depth of 400mm, with straight or concave, gradually sloping sides and an uneven bottom. Levels

1 In this area of the excavation this ditch cut across the top of the robber trench fill (218). It is possible that some of the tile finds originated from 218, rather than in the medieval ditch.

31/01/2005
taken on the base of the ditch indicated a fall, from east to west, of 0.75m over a distance of 25m.

**Finds:** The bulk finds comprised a considerable quantity of Roman finds of most categories. The small finds from the contexts filling the ditch comprised 221 finds, mostly redeposited and residual finds from the prehistoric and Roman occupation of the site. Most significant for dating the feature were several finds of clay pipes.

**How the features were formed:** The ditch was cut by hand tools through the contemporary topsoil into the underlying archaeological deposits that were lying directly on top of Building 3. At no point did the ditch clearly cut into any of the masonry footings of the Roman building, although in the north-eastern part of the site it cut across the fill (C218) of the robber trench (Fig. 144). Owing to the relative shallowness of the soils overlying the Roman deposits on the western edge of the excavation, and because of the interruption caused by the previous excavations by Alec Down, the ditch could not be securely located on the western edge of the site. There seems to be little doubt, however, that the ditch was heading for the stream. The ditch silted up through natural processes.

**Overall date:** The best indicator of a date is provided by the several pieces of clay pipe.

<table>
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<tr>
<th>Context Number</th>
<th>Layer</th>
<th>Small Find Number</th>
<th>Material</th>
<th>Type</th>
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</thead>
<tbody>
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<td>203</td>
<td>1</td>
<td>495</td>
<td>Clay</td>
<td>Pipe</td>
</tr>
<tr>
<td>428</td>
<td>1</td>
<td>1251</td>
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<td>428</td>
<td>1</td>
<td>1252</td>
<td>Clay</td>
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<tr>
<td>428</td>
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<tr>
<td>428</td>
<td>1</td>
<td>1254</td>
<td>Clay</td>
<td>Pipe</td>
</tr>
<tr>
<td>428</td>
<td>1</td>
<td>1255</td>
<td>Clay</td>
<td>Pipe</td>
</tr>
</tbody>
</table>

If we assume these pipe fragments to be 17th century in date, then it would appear that the ditch was excavated in the late medieval period. Pottery finds from context 405.1 included fresh sherds of a 16th-17th century glazed earthenware pipkin, and from C418 included sherds of 16th-17th century Graffham and glazed earthenware. One of the lower fills (C206) of the ditch produced three fragments of Tudor stoneware jugs and a large sherd from an earthenware bowl of the same date. It would appear, therefore, that this ditch was collecting rubbish, and perhaps going out of use, during the 16th or 17th centuries.

**Interpretation and comment:** This ditch is likely to have been one of several parallel ditches draining the field from east to west. As such it was probably left open to the elements and did not contain any pipe or conduit. It is noteworthy that Barry Cunliffe found ditches associated with medieval fields over the remains of the Palace. The field strips were about 22 metres wide, separated by open ditches (Cunliffe 1998, 149). Traces of ploughing were observed in these fields above the Palace remains, and it is possible that ploughing took place in the field overlying Building 3. If so, like the fields over the Palace, it is probable that ploughing took place in our field until the 16th or 17th centuries.
Phase AL: 18th century bone-lines

**Summary:** A narrow, linear gully was located, entering the excavation from the north and turning to the west to join up ultimately with the stream. The distinguishing feature of the gully was that on the bottom of it were placed, at regular intervals, and transversely to the long axis of the feature, animal bones, predominantly the humeri and femora of horse.

**Description:** During the course of our excavations of the more recent deposits, and more specifically during the 1997 and 1999 seasons, two lengths of the same small gully were excavated (Figs. 150, 151). The gully measured on average 500mm wide and was about 150mm deep. It was not straight, but entered the excavated area from the north-east (Fig. 150 - point A) and subsequently changed direction (point B) to run almost due west towards the stream (point C). Overall, a length of about 30 metres could be discerned with certainty. The original depth of the gully must have been greater, as it is likely that the top of the sides had been truncated and disturbed both by occasional ploughing and by earthworm activity. In all sections of the gully it was difficult to distinguish the fill from the soil matrix into which the gully had been cut.

The fill was everywhere a soft, fine-grained, sandy loam, well-sorted with occasional gravel fragments up to 40mm in size. Levels taken on the bottom of the gully suggested a steady fall in height from point A to point C (Fig. 150). The southern section of the gully, from point B to point C, was not complete and had been truncated by the earlier trial excavation of Alec Down in 1983 (his trench B). In addition, a crucial stratigraphic relationship was observed in the southern part of the gully, the section immediately to the west of point B. Here it was observed that the gully lay over the drainage ditch dated to the late medieval period (phase AK).

The key characteristic of the gully was a series of large animal bones, predominantly the humeri and femora of horses, which had seemingly been placed very carefully, and at regular intervals, across the short axis of the gully (Fig. 153). The bones numbered some 37 in total, and their identification and other relevant data are given in the Table.

<table>
<thead>
<tr>
<th>Small Find No</th>
<th>Context No</th>
<th>Sheep/Goat</th>
<th>Horse</th>
<th>type of bone</th>
<th>West/North end</th>
<th>East/South end</th>
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31/01/2005  26
Wherever excavated, these bones appeared to be resting on the bottom of the gully. The bones came from at least 11 different horses. Most of the horses appeared to have been approximately 14-15 hands in size, but one was nearer to the size of a shire horse (17-18 hands). The bones were separated by intervals of approximately 0.65m. There appeared to be only one irregularity in the spacing of the bones. That was at point B where the gully changed direction. Here it was noticeable that the intervals between three bones reduced to between 300 and 400mm (Figs. 151,153,154).

In one section of the gully, that immediately to the west of point B, the bones appeared to slope from north to south (Figs.151,153). However, this may have been more a product of the uneven nature of the bones themselves and of the narrowness of the gully rather than any intentional feature. Two other pieces of evidence were investigated. The regularity of the spacing of the bones, and the difficulties of distinguishing the fill of the gully from the matrix into which it was cut, prompted speculation that the bones may have been placed in regularly spaced pits rather than in a linear gully. This theory was investigated during 1999 by wetting the length of exposed gully and seeing whether different rates of drying might reveal small pits. None were observed. In addition, careful attempts were made to see if there were any soil differences either side of the bones, or indeed underneath the bones once lifted. None were recognized.

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??could not be determined
Other 'bone-lines' noted by Alec Down: Alec Down had excavated in 1983 (trial trenches A, B, C) close to the western edge of the field and had uncovered a section of Roman masonry walling associated with Building 3. He later moved to the east to dig an extensive area in advance of the construction of the A27. These latter excavations took place in 1985-6 under difficult working conditions, and his trenches were often flooded in the winter. Alec Down died in 1995 and the results of his excavations were published a year later (Cunliffe et al.1996). There was no mention of any discoveries of lines of large animal bones in the published report.

However, close scrutiny of Down’s archive, housed at Fishbourne Roman Palace, indicated that 'bone-lines' had been encountered. In Alec's trench B, which had truncated our 'bone-line' (see above), his notebook (Fishbourne 1983, Trench Book I, 57) clearly indicated that several large animal bones had been noted in the area, almost certainly indicating that the 'bone-line' between points B and C had originally been continuous. Moreover, on his larger excavation to the east, the remains of at least four other 'bone-lines' had been noted (fig.150). Extracts from the archive (Fishbourne 1985, Trench Books: II, 11-12; III, 49; IV, 36-7) are detailed below, starting with the northernmost example.

- D 1024: character - narrow linear feature, fill, several large mammal bones, in matrix of dark-grey-brown loam, + a few flint pebbles. Date - post-med - recent? NB very similar to feature further south, same orientation, or nearly so, same size, same bone fill. Could they be hand dug land drains of recent date draining to the west? They run in the same direction as the mole plough furrows. (p.44 sketch, p.49 description).

- D 1027: character - narrow linear feature, possibly field drain (see D 1024). Fill very dark grey brown clay-loam with occasional flint pebbles + large mammal bones set in carefully at right angles to the long axis. Note - fill of this feature is water retentive shows up best on drying after heavy rain. Fill of these features is also much softer than D 5 as a whole. Date - post-med. (p.54 sketch, p.55 description).

- D 504: 7.29m OD. character - narrow slot containing evenly placed horse bones. Fill a) of slot = dark-grey-brown clay loam + four flint pebbles and very few small tile frags + 10 horse bones (some more complete than others). Date - Post-Med, probably later post-med. NB one of these features is visible on pasture surface as green line. NB ritual deposit? NB more likely field drain, bones thrust in at measured distance apart (see survey). (p.10 sketch, p.11 description).

- D 517: 7.01m OD. Character - possible field drain? Narrow linear feature, fill very dark-grey-brown clayey loam + a few flint pebbles, with a few very large mammal bones laid out at 90 degrees to its long axis. Date post-med? (p.2 sketch, p.3 description).

There can be little doubt, given the above descriptions, that Alec Down had encountered the same type of feature as we discovered in our excavations. There is also the statement, from one of the descriptions of the 'bone-lines' (D 504), that the bones in question were those of horse and it is a reasonable assumption that these multiple lines contained mostly horse bones. There are a number of questions that arise, however. The group of features (D 1024, 1027, 517) are all aligned ENE to WSW and might have provided a drainage function if the lines continued all the way across the field to the stream on the western edge. However, there is no proof that they actually did continue right across the field, and in both Down's excavations (trench C) and ours in 1998, no trace of an anticipated 'bone-line' (D517) was located. In addition, it is curious that the only 'bone-line' to be extensively excavated (Fig.150) incorporated a distinct turn of direction. This should guard us against assuming that all of the 'bone-lines' were straight.
the individual bones seemed to have been very carefully placed, the lines were not so: the distance between D1024 and 1027 was approximately 35 metres, while that between 1027 and 517 was around 48 metres.

'Bone-line' D504 was clearly of a different orientation to the three above and might be taken to represent a different chronological phase of drainage. Alec Down provided two readings with reference to height above OD (with respect to D 504 and D 517) and it can be stated, therefore, that the fall of the land is indeed from north-east to south-west, which would suit a drainage interpretation. From his archive notes Alec intimated that the evidence pointed to the 'bone-lines' being post-medieval in date and, although he reflected on the possibility of a ritual explanation, he concluded that drainage was the most likely explanation. In that case the question needs to be asked as to what specific function the bones may have had in facilitating drainage? One functional explanation seems to be that the hand-dug trenches would have been open to the heavens and that the bones acted as successive silt traps, allowing the flow of water across the field to the stream, but restricting the loss of topsoil. This might imply that regular maintenance and cleaning was required to recover the topsoil from the piles amassed by the side of each large horse bone. However, this presupposes that the bones would not have been scavenged by foxes or dogs, which seems unlikely.

Finds: The question of date can be determined with reference to the artefacts from the fill of the gullies of the 'bone-lines', and from a single radiocarbon determination from one of the bones. Pottery retrieved from the gullies resulted both from sherds having been washed out from their sides, as the gullies were abandoned and allowed to fill up (these sherds were therefore residual and earlier than the date of construction of the gullies) and later from sherds being dropped into the gullies as they gradually silted up. It is noteworthy that the fills of the gullies are always described as a silty loam; there is no indication that these gullies were deliberately backfilled.

From our excavations in 1997 and 1999 the finds from the fill of the gullies are as follows:

Table 61  Dating evidence from various contexts of Phase AL

<table>
<thead>
<tr>
<th>Context</th>
<th>Finds</th>
</tr>
</thead>
<tbody>
<tr>
<td>404</td>
<td>368 g of mainly abraded Roman pottery but including medieval sherds and one fragment of 18th century? Staffordshire china</td>
</tr>
<tr>
<td>419</td>
<td>236 g of abraded Roman to 17th century sherds</td>
</tr>
<tr>
<td>422</td>
<td>38 g of mainly abraded Roman pottery plus one Saxo-Norman sherd</td>
</tr>
<tr>
<td>705</td>
<td>27 sherds (134 g): Roman, medieval and up to 17th century in date</td>
</tr>
</tbody>
</table>

Alec Down's comments on dating have been noted above. He thought the gullies were post-medieval in date.

In addition, one of the horse bones (SF 828 from context 404) was subjected to radiocarbon determination. This was done more to prove that the 'bone-lines' were not Roman, rather than to prove that they were post-medieval in date. The resulting date is as follows:

Lab Number: Beta-125814 (Beta Analytic Inc. of Miami, Florida)
C13/C12 Ratio: -24.2 o/oo
Conventional radiocarbon age: 130+/−60 BP
Calibrated results (2 sigma, 95% probability): cal AD 1655-1950
How the features were formed: In order to ascertain how this feature was formed one very important question was whether the bones had been placed in the gully fleshed or defleshed. To further that enquiry Naomi Sykes examined the bones to ascertain whether defleshing marks could be observed. Most of the bones were in a poor state of preservation: their surface had become eroded and often the proximal and/or distal ends were missing. For these specimens it was impossible to determine the presence of light cut marks. There were a few bones (SF - 1125, 829, 996, 998, 9137, 9147, 9144, 1117, 1119 and 9138) with notably superior preservation: their shaft surface was complete and in most cases the proximal and distal ends were present and well-defined. Because these specimens were in a relatively good condition, any butchery marks present on the bones would have been apparent. Only one specimen, 998, demonstrated obvious butchery. This was a horse femur which displayed a chop mark on the femoral head (the caput femoralis had been cut off). Chop marks of this kind result from disarticulation and, as such, do not inform on the filleting of the joints. One other specimen, 1124 - a humerus, did provide possible light cut marks on the lateral cranial side of the distal end. It must be stressed that these marks were rather faint, but if they were indeed butchery marks, they would correspond with meat removal.

The overall impression is that there is very little evidence for butchery marks on the bones, the majority of marks observed were caused during mechanical removal of the topsoil or during excavation. The butchery marks that there are suggest disarticulation rather than filleting. Horse butchery is generally characterized by the use of heavy cleavers, the type used to make the chop mark seen on specimen 998. Furthermore, it is usually quite basic - knackers were not specialized butchers, they had less need to remove the maximum amount of meat delicately. There remains, therefore, a strong probability that the horse bones were buried with their flesh attached.

We know that in the medieval and post-medieval period, horse meat was used to feed hunting dogs. Markham (1933, 17) recommends feeding them 'horse-flesh newly slaine, and warm at the feeding' because it was 'the strongest and lustiest meat you can give them'. If, however, the meat had been removed for this purpose, we would have expected to see more signs of butchery; (compare these bones with those from sites such as Launceston Castle, (Albarella and Davis, 1996); Dorchester-on Thames, (Grant, 1981), Gorhambury, (Locker, 1990). Evidence from quantities of animal bone on another medieval and post-medieval site is illuminating. Cattle and horse bones were recovered from a ditch and pit at Market Harborough in Leicestershire (Baxter 1996). The horse bones showed few butchery marks on them in contrast to the bones of other domestic animals at the site, suggesting that the horse carcasses were dismembered for easier handling and disposal, rather than for the removal of meat (Baxter 1996, 77).

There is, therefore, a real difficulty in determining how this feature was formed. It may have been dug as one gully, with fleshed bones placed at regular intervals, and some sort of covering material (brushwood?) laid on top of the bones to facilitate drainage, which was then covered with soil to prevent scavenging. Alternatively, but less likely, a number of pits could have been excavated in a line, and fleshed bones placed on the bottom of these pits. The filling of the gully (or pits) occurred through natural silting once the feature ceased to be maintained.

Overall date: In conclusion, the ceramic dating evidence obtained by ourselves and by Alec Down, together with the radiocarbon determination, proves that the phenomenon of the 'bone-lines' can be securely dated to the post-medieval period. If the latest piece of pottery in the gullies indicates the last time these gullies functioned, then an 18th century date could be argued for them.

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Interpretation and comment: If we follow one of the propositions outlined above, that these trenches when in use were open to the elements and functioned as drainage channels (with the bones acting as silt-traps to prevent soil run-off), then it is prudent to look for parallels in 18th century England. Parallels recorded in print are few, but the practice of innovatory uses of animal bones in early 18th century England was probably widespread. Armitage (1989) records a number of 'novel' uses of animal bones including cattle metapodials being used as the replacement for dislodged flints in damaged walls, agricultural land drains lined with cattle horns laid end to end, and industrial pits whose sides had been lined with cattle horn cores. Armitage isolates the innovatory use of animal bones to a relatively short period, ceasing sometime in the late 18th century. He suggests (1989,154) that from the late 16th century onwards, cities and towns in the Midlands and south-east experienced unprecedented growth in population and animals were driven 'on the hoof' to the cities to supply their food requirements. Waste animal bone was available in huge quantities and was used in planned, casual or decorative ways. The practice of calcining bones for fertiliser seems to have brought an abrupt end to the availability of waste bone.

The evidence, such as it is, points more towards the 'bone-lines' functioning as field drains, and a date in the early 18th century would fit well. Proximity to the rapidly expanding town of Chichester would help to explain the availability of large quantities of horse bones. Interesting areas for discussion remain, however. If they functioned as field drains, it is odd that the drain-digger placed the bones at such regular intervals. Could our regularly-spaced bones have supported timber horizontals (or brushwood?) which were then covered with earth? This would have left voids between the bones, which would have assisted drainage.

A linear arrangement of cattle horn-cores was discovered in the bottom of a drainage ditch in north London, dating to the 17th and early 18th centuries (Armitage et al. 1980). At that time there were two main methods whereby the drainage of agricultural land might be improved. The first consisted of digging trenches and filling them with branches, followed by a covering of straw, followed by a loose covering of earth. When the brushwood rotted, hollow tunnels would be formed underground in the soil. The second consisted of cutting a small V-shaped channel in the bottom of the drainage ditch and filling it with blackthorn bushes covered with wheat straw, on top of which the soil was replaced (Youatt 1846, 485-7; Kerridge 1967, 37). Both of these methods produced what in effect were covered underground ditches, often referred to as 'hollow drains'.

Two further questions spring to mind. Why were the bones almost exclusively horse bones? Presumably because cattle meat was eaten and horse meat was shunned, hence the preponderance of bones from the latter animal. There seems to be no regular pattern to the arrangement of distal and proximal ends, so we can discount that factor as significant in the deposition of the bones. If the 'bone-lines' existed in the field as we have drawn them (Fig.150), then a conservative estimate would suggest that there were approximately 150 animals represented. The second question is why the horse bones were predominantly humeri and femora? This clearly had something to do with the size and length of humeri and femora, but presumably other limb bones might have sufficed. The answer may lie in the organisational

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2 Even in the 19th century, however, after the introduction of calcining bones for fertiliser, there was still a considerable industry centred on the recycling of materials from dead horses. Before the bones were ground for fertiliser, grease was extracted for candle-making and leather dressings; skin and hoofs went to make glue; small bones were used for making buttons; manes and tails were used to stuff furniture and make fishing lines and violin bows; hides were used for the manufacture of a variety of leather goods and the meat, in England anyway, went to feed cats and dogs; horseshoes were removed to make a new set (Hartley Edwards 1987, 183).
procedures adopted at knackers’ yards. These yards must have been numerous and they functioned as part of a large industry. Perhaps the bones from dismembered horses were piled up according to type in the knackers’ yards, enabling purchasers to buy quantities of specific bone types to suit their needs.

There we must leave it. An enduring image abides, however, of a fastidious and innovative farmer3 in one of the fields of early 18th century Fishbourne. Seeking to assist the drainage in claggy-clay pasture, he carefully places limbs of horses at measured intervals along the bottom of hand-dug trenches. Every so often he paces back to his grazing horse and laden cart to get another armful, sometimes wondering about the unusual quantities of reddish tile and pottery in the ground, but more often not.

**Figures**

Fig.150 Phase AL – general plan  
Fig.151 Phase AL – details of bones  
Fig.153 Close-up of some of the horse bones in the bone-lines in 1997 (Phase AL) – photograph  
Fig.154 The bone-line turns a corner (Phase AL) – photograph

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**Phase AM: 19th or 20th century mole drains**

**Summary:** During the 19th or 20th centuries further attempts were made to improve the drainage of the field. This involved the deep ploughing of widely spaced narrow, linear channels, orientated approximately north-east to south-west (Fig.155) and draining into the stream.

**Description:** Context 239 was a well-sorted stone-free clay loam, with no inclusions. It filled a linear slot (context 242) measuring some 180mm in width at the top, by 200mm deep, with a tapered, rounded bottom about 50mm wide. The sides were straight and sloped gradually.

**Finds:** The bulk finds from these drains included a small quantity of redeposited ceramic building material. The small finds from these drains comprised several miscellaneous objects.

**How the features were formed:** The sides of these narrow drains were parallel and very straight suggesting that they had been formed by a plough (drawn by horses or oxen if of 19th century date, or by tractor if dating to the latter part of the 20th century). The plough attachment would have had a thin blade for slicing through the soil as it was dragged, and a wedge-shaped end which would have created the narrow channel at the bottom.

**Overall date:** Contexts 207 and 239 each produced miscellaneous sherds that must be 19th century or later in date. Context 438 produced two sherds, including one of Victorian china. There seems little doubt, therefore, that these drains date to the 19th or 20th centuries.

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3 Fastidious and innovative he may have been, but ultimately also possibly misguided in his endeavours. To date there are no recorded parallels in England, that we have been able to locate, for the kinds of drains described in here. It could be, of course, that more will be found or recognized now that this report has been published. On the other hand it may have been a practise not widely adopted elsewhere.

31/01/2005
Interpretation and comment: This clearly represents another attempt to improve drainage in this field. It seems as if the mole drains were about 18 metres apart. The technique was very different from the drains of the 18th century, but the principle was the same - to produce a voided channel under the ground, which would attract water and allow it to drain away quickly to the lowest point of the field.

Figures

Fig.155 Phase AM – general plan

Phase BG – Medieval

Description: Context 903 consisted of a dark-brown silty sand, with occasional pieces of flint and gravel up to 10mm in size. As such C903 is the same as the naturally formed topsoil or ploughsoil encountered in the uppermost deposits of all excavated areas. It was on average about 150mm thick.

Finds: The bulk finds from this deposit included ceramic building material, pottery, iron fragments and animal bones. The small finds comprised over 60 objects including sherds of samian, glass, patterned tile, tesserae, waste lead and nails.

How the features were formed: The deposit of soil 903 was a well-sorted garden topsoil and developed over the Roman midden as a result of natural processes.

Overall date: The coarse wares comprised 277 sherds - some Roman, some Saxo-Norman with 13 sherds dating to the period AD 1250-1350. Most of the small finds were presumably residual.

Interpretation and comment: The bottom of C903 lay at 500mm below the modern ground surface. This is about the average depth of deposit of naturally formed topsoil that covers the Roman features elsewhere on the site and is consistent with a topsoil formed during the long duration of the medieval period.

Phase BH - Post-medieval

Description: Contexts 901, 901.2 and 902 consisted of a dark-brown silty sand, with occasional pieces of flint and gravel up to 10mm in size. As such they were the same as the naturally formed topsoil or ploughsoil encountered in the uppermost deposits of all excavated areas. These deposits covered the whole of Area B and were in total some 350mm thick.

Finds: The bulk finds from this deposit (901.2; 902) comprised ceramic building material, pottery, iron and animal bones. The small finds from this deposit comprised over 200 objects,
the great majority of which were Roman and therefore residual. One fragment of clay pipe was found (SF 9905) and also a half penny of probable 18th century date (SF 9743).

**How the features were formed:** This deposit was a post-medieval topsoil formed by natural processes.

**Overall date:** The deposit contained some 438 sherds of Roman, Saxo-Norman, medieval and post-medieval sherds; no sherd was later in date of manufacture than the early 19th century.

**Interpretation and comment:** This deposit (901.2; 902), the top of which was some 150mm below the extant surface and the bottom some 350mm below the surface, represents the post-medieval topsoil.
Methodology: In carrying out the determination, it has become apparent that the association with other building material can be crucial in determining the origin of some of the more poorly represented stones. In the Fishbourne area, flint is a common material (as it is throughout most of the south of England), frequently used in tracks or walls, and easily recognised. It is not collected from excavations unless it is mistaken for some other substance or artefact.

Unfortunately, the flint gravels of the West Sussex coastal plain also contain numerous “erratics” - stones that were transported by drifting ice during the glacial periods of the Pleistocene period. Cunliffe (1971) suggested the possibility of this material being imported as ship’s ballast, but it is now recognised that erratics occur naturally in large numbers in the area, from boulders of several tonnes in weight down to small pebbles. The sources of the erratics are generally unknown, although some can be recognised as probably from south-west England, the Channel Islands or Brittany. Consequently, the occasional exotic pebbles may be of purely natural origin and nothing to do with imports of foreign material.

It is therefore recommended that the occurrence of flint pebbles in such contexts is recorded so that the stray find of more exotic material can be recognised as either having been specially selected or is just randomly mixed with flint rubble.

The highest proportion of worked stones came from the large midden deposit in Area A (Phase AF). This is consistent with the idea that such worked stones represent occasional building debris discarded from time to time during refurbishments to the Palace.

Table 62  Worked Stones

<table>
<thead>
<tr>
<th>Year</th>
<th>Small Find No</th>
<th>Context</th>
<th>Context Type</th>
<th>Stone Type</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>FBE 98</td>
<td>4470</td>
<td>558</td>
<td>midden in Area A - Phase AF</td>
<td>Marble or cut from block of massive crystalline calcite</td>
<td>Worked fragment</td>
</tr>
<tr>
<td>FBE 98</td>
<td>5662</td>
<td>585</td>
<td>midden in Area A - Phase AF</td>
<td>Marble or cut from block of massive crystalline calcite</td>
<td>Worked fragment</td>
</tr>
<tr>
<td>FBE 98</td>
<td>5664</td>
<td>585</td>
<td>midden in Area A - Phase AF</td>
<td>Marble or cut from block of massive crystalline calcite</td>
<td>Worked fragment</td>
</tr>
<tr>
<td>FBE 98</td>
<td>5818</td>
<td>585</td>
<td>midden in Area A - Phase AF</td>
<td>Chalk</td>
<td>Small worked block</td>
</tr>
<tr>
<td>FBE 98</td>
<td>5819</td>
<td>585</td>
<td>midden in Area A - Phase AF</td>
<td>Marble (white)</td>
<td>Worked fragment – slice</td>
</tr>
</tbody>
</table>
A large amount of stone was recovered from the midden in Area B (Phase BE).

Table 63 Stones from the midden in Area B

<table>
<thead>
<tr>
<th>Year</th>
<th>Small Find No</th>
<th>Context</th>
<th>Context Type</th>
<th>Stone Type</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>FBE 99</td>
<td>12314</td>
<td>904</td>
<td>upper midden</td>
<td>Slate</td>
<td>Four pieces</td>
</tr>
<tr>
<td>FBE 99</td>
<td>12315</td>
<td>904</td>
<td>upper midden</td>
<td>Sandstone</td>
<td>Small fragment. Fine-grained, purple coloured sandstone</td>
</tr>
<tr>
<td>FBE 99</td>
<td>12316</td>
<td>904</td>
<td>upper midden</td>
<td>Sandstone</td>
<td>Dark-brown, well-cemented quartz sandstone, non-glaucalitic, non-calcareous</td>
</tr>
<tr>
<td>FBE 99</td>
<td>10396</td>
<td>905</td>
<td>middle midden</td>
<td>Purbeck ‘marble’ - limestone</td>
<td>With fossil <em>Viviparus cariniferus</em> (small <em>V.</em> gastropods)</td>
</tr>
<tr>
<td>FBE 99</td>
<td>10514</td>
<td>905</td>
<td>middle midden</td>
<td>Tufa</td>
<td></td>
</tr>
<tr>
<td>FBE 99</td>
<td>10955</td>
<td>905</td>
<td>middle midden</td>
<td>Calcite</td>
<td>2 pieces (small fragments) of crystal masses</td>
</tr>
<tr>
<td>FBE 99</td>
<td>11017</td>
<td>905</td>
<td>middle midden</td>
<td>Sandstone</td>
<td>Hard, brown, laminated sandstone, non-glaucalitic, non-calcareous</td>
</tr>
<tr>
<td>FBE 99</td>
<td>11018</td>
<td>905</td>
<td>middle midden</td>
<td>Sandstone</td>
<td>Probably Upper Greensand ‘malmstone’, but weathered and stained brown</td>
</tr>
<tr>
<td>FBE 99</td>
<td>11019</td>
<td>905</td>
<td>middle midden</td>
<td>Sandstone – Upper Greensand</td>
<td>Typical of Sussex ‘malmstone’</td>
</tr>
<tr>
<td>FBE 99</td>
<td>11424</td>
<td>905</td>
<td>middle midden</td>
<td>Mixon limestone</td>
<td>Two pieces</td>
</tr>
<tr>
<td>FBE 99</td>
<td>12261</td>
<td>905</td>
<td>middle midden</td>
<td>Sandstone – Upper Greensand</td>
<td>Typical of Sussex ‘malmstone’</td>
</tr>
<tr>
<td>FBE 99</td>
<td>12262</td>
<td>905</td>
<td>middle midden</td>
<td>Sandstone – Upper Greensand</td>
<td>Typical of Sussex ‘malmstone’</td>
</tr>
<tr>
<td>FBE 99</td>
<td>12263</td>
<td>905</td>
<td>middle midden</td>
<td>Sandstone – Upper Greensand</td>
<td>Typical of Sussex ‘malmstone’</td>
</tr>
<tr>
<td>FBE 99</td>
<td>12317</td>
<td>905</td>
<td>middle midden</td>
<td>Sandstone, calcareous</td>
<td>Soft, pale non-glaucnomic calcareous sandstone</td>
</tr>
<tr>
<td>FBE 99</td>
<td>12318</td>
<td>905</td>
<td>middle midden</td>
<td>Mixture</td>
<td>Five pieces, includes mortar and weathered Purbeck stone. All very small</td>
</tr>
<tr>
<td>FBE 99</td>
<td>12319</td>
<td>905</td>
<td>middle midden</td>
<td>Sandstone</td>
<td>Greyish-cream coloured, fine-grained</td>
</tr>
<tr>
<td>FBE 99</td>
<td>12320</td>
<td>905</td>
<td>middle midden</td>
<td>Mortar</td>
<td></td>
</tr>
<tr>
<td>FBE 99</td>
<td>12321</td>
<td>905</td>
<td>middle midden</td>
<td>Chalk</td>
<td>Three pieces</td>
</tr>
<tr>
<td>FBE 99</td>
<td>12322</td>
<td>905</td>
<td>middle midden</td>
<td>Chalk</td>
<td></td>
</tr>
<tr>
<td>FBE 99</td>
<td>12323</td>
<td>905</td>
<td>middle midden</td>
<td>Mixon limestone</td>
<td></td>
</tr>
<tr>
<td>FBE 99</td>
<td>10643</td>
<td>906</td>
<td>line of smashed pottery-Phase BD</td>
<td>Sandstone, calcareous</td>
<td>Soft, pale non-glaucnomic calcareous sandstone</td>
</tr>
<tr>
<td>FBE 99</td>
<td>11148</td>
<td>906</td>
<td>line of smashed pottery-Phase BD</td>
<td>Sandstone, glauconitic</td>
<td>Darker, glauconitic, non-calcareous, possibly Upper Greensand from Isle of Wight</td>
</tr>
<tr>
<td>FBE 99</td>
<td>12265</td>
<td>906</td>
<td>line of smashed pottery-Phase BD</td>
<td>Sandstone</td>
<td>Hard, brown, fine-grained, non-glaucnomic, non-calcareous</td>
</tr>
<tr>
<td>FBE 99</td>
<td>12266</td>
<td>906</td>
<td>line of smashed pottery-Phase BD</td>
<td>Sandstone – Upper Greensand</td>
<td>Typical of Sussex ‘malmstone’. Four pieces</td>
</tr>
<tr>
<td>FBE 99</td>
<td>12267</td>
<td>906</td>
<td>line of smashed pottery-Phase BD</td>
<td>Sandstone</td>
<td>Hard, brown, fine-grained, non-glaucnomic, non-calcareous</td>
</tr>
<tr>
<td>FBE 99</td>
<td>12330</td>
<td>906.2</td>
<td>line of smashed pottery-Phase BD</td>
<td>Sandstone, glauconitic</td>
<td>Non-calcareous, probably Upper Greensand, not ‘malmstone’</td>
</tr>
<tr>
<td>FBE 99</td>
<td>10354</td>
<td>907</td>
<td>lower midden</td>
<td>Tufa</td>
<td></td>
</tr>
<tr>
<td>FBE 99</td>
<td>10738</td>
<td>907</td>
<td>lower midden</td>
<td>Sandstone, glauconitic</td>
<td>Darker, glauconitic, non-calcareous, possibly Upper Greensand from Isle of Wight</td>
</tr>
<tr>
<td>FBE 99</td>
<td>10741</td>
<td>907</td>
<td>lower midden</td>
<td>Chalk</td>
<td></td>
</tr>
<tr>
<td>FBE 99</td>
<td>10744</td>
<td>907</td>
<td>lower midden</td>
<td>Limestone</td>
<td>Badly weathered, dense stone with possible fossil traces</td>
</tr>
<tr>
<td>FBE 99</td>
<td>10762</td>
<td>907</td>
<td>lower midden</td>
<td>Sandstone, glauconitic</td>
<td>Darker, glauconitic, non-calcareous, possibly Upper Greensand from Isle of Wight</td>
</tr>
<tr>
<td>FBE 99</td>
<td>10914</td>
<td>907</td>
<td>lower midden</td>
<td>Flint</td>
<td>Natural flint pebble</td>
</tr>
<tr>
<td>FBE 99</td>
<td>10972</td>
<td>907</td>
<td>lower midden</td>
<td>Mixon limestone</td>
<td></td>
</tr>
<tr>
<td>FBE 99</td>
<td>12178</td>
<td>907</td>
<td>lower midden</td>
<td>Sandstone – Upper Greensand</td>
<td>Burnt. Typical of Sussex ‘malmstone’</td>
</tr>
<tr>
<td>FBE 99</td>
<td>12179</td>
<td>907</td>
<td>lower midden</td>
<td>Mixon limestone</td>
<td></td>
</tr>
<tr>
<td>FBE 99</td>
<td>12268</td>
<td>907</td>
<td>lower midden</td>
<td>Sandstone – Upper Greensand</td>
<td>Typical of Sussex ‘malmstone’</td>
</tr>
</tbody>
</table>
Finally, an amount of stone was collected from the northern pit in **Area B** (Phase BF).

Table 64 Stones from the northern pit in **Area B**

<table>
<thead>
<tr>
<th>Year</th>
<th>Small Find No</th>
<th>Context</th>
<th>Stone Type</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>FBE 99</td>
<td>10862</td>
<td>909</td>
<td>Tufa</td>
<td></td>
</tr>
<tr>
<td>FBE 99</td>
<td>10868</td>
<td>909</td>
<td>Limestone</td>
<td>Pale cream limestone, possibly Isle of Wight (cf. Bembridge Limestone)</td>
</tr>
<tr>
<td>FBE 99</td>
<td>10871</td>
<td>909</td>
<td>Limestone</td>
<td>Pale cream limestone, possibly Isle of Wight (cf. Bembridge Limestone)</td>
</tr>
<tr>
<td>FBE 99</td>
<td>10872</td>
<td>909</td>
<td>Sandstone – Upper Greensand</td>
<td>Typical of Sussex ‘malmstone’</td>
</tr>
<tr>
<td>FBE 99</td>
<td>10913</td>
<td>909</td>
<td>Purbeck ‘marble’ - limestone</td>
<td>Quarter-round moulding. With fossil <em>Viviparus cariniferus</em> (small <em>V</em>. gastropods)</td>
</tr>
<tr>
<td>FBE 99</td>
<td>10928</td>
<td>909</td>
<td>Mixon limestone</td>
<td></td>
</tr>
<tr>
<td>FBE 99</td>
<td>10930</td>
<td>909</td>
<td>Sandstone, glauconitic</td>
<td>Darker, glauconitic, non-calcereous, possibly Upper Greensand from Isle of Wight</td>
</tr>
<tr>
<td>FBE 99</td>
<td>10973</td>
<td>909</td>
<td>Mixon limestone</td>
<td></td>
</tr>
<tr>
<td>FBE 99</td>
<td>11409</td>
<td>909</td>
<td>Calcite</td>
<td>Crystal</td>
</tr>
<tr>
<td>FBE 99</td>
<td>12264</td>
<td>909</td>
<td>Sandstone – Upper Greensand</td>
<td>Typical of Sussex ‘malmstone’. Two pieces</td>
</tr>
<tr>
<td>FBE 99</td>
<td>10947</td>
<td>909.2</td>
<td>Mixon limestone</td>
<td></td>
</tr>
<tr>
<td>FBE 99</td>
<td>10994</td>
<td>909.2</td>
<td>Sandstone – Upper Greensand</td>
<td>Typical of Sussex ‘malmstone’</td>
</tr>
<tr>
<td>FBE 99</td>
<td>11345</td>
<td>909.2</td>
<td>Chalk</td>
<td>Hard and dense, slightly gritty with comminuted shell debris</td>
</tr>
<tr>
<td>FBE 99</td>
<td>11084</td>
<td>909.3</td>
<td>Mixon limestone</td>
<td>Waterworn</td>
</tr>
<tr>
<td>FBE 99</td>
<td>11085</td>
<td>909.3</td>
<td>Sandstone</td>
<td>Coarse-grained, reminiscent of Hythe Formation (Lower Greensand)</td>
</tr>
<tr>
<td>FBE 99</td>
<td>11087</td>
<td>909.3</td>
<td>Sandstone, calcereous</td>
<td>Fine-grained</td>
</tr>
<tr>
<td>FBE 99</td>
<td>11105</td>
<td>909.3</td>
<td>Sandstone</td>
<td>Horsham stone or similar</td>
</tr>
<tr>
<td>--------</td>
<td>-------</td>
<td>-------</td>
<td>------------------</td>
<td>--------------------------</td>
</tr>
<tr>
<td>FBE 99</td>
<td>11353</td>
<td>909.3</td>
<td>Sandstone – Upper Greensand</td>
<td>Fairly typical of Sussex ‘malmstone’, but very chalky</td>
</tr>
<tr>
<td>FBE 99</td>
<td>11840</td>
<td>909.3</td>
<td>Mixon limestone</td>
<td></td>
</tr>
<tr>
<td>FBE 99</td>
<td>11842</td>
<td>909.3</td>
<td>Sandstone – Upper Greensand</td>
<td>Typical of Sussex ‘malmstone’</td>
</tr>
<tr>
<td>FBE 99</td>
<td>11843</td>
<td>909.3</td>
<td>Sandstone – Upper Greensand</td>
<td>Typical of Sussex ‘malmstone’</td>
</tr>
<tr>
<td>FBE 99</td>
<td>11845</td>
<td>909.3</td>
<td>Sandstone – Upper Greensand</td>
<td>Typical of Sussex ‘malmstone’</td>
</tr>
<tr>
<td>FBE 99</td>
<td>11847</td>
<td>909.3</td>
<td>Sandstone – Upper Greensand</td>
<td>Typical of Sussex ‘malmstone’</td>
</tr>
<tr>
<td>FBE 99</td>
<td>11848</td>
<td>909.3</td>
<td>Sandstone – Upper Greensand</td>
<td>Typical of Sussex ‘malmstone’</td>
</tr>
<tr>
<td>FBE 99</td>
<td>11849</td>
<td>909.3</td>
<td>Sandstone – Upper Greensand</td>
<td>Typical of Sussex ‘malmstone’, but darker</td>
</tr>
<tr>
<td>FBE 99</td>
<td>11850</td>
<td>909.3</td>
<td>Sandstone – Upper Greensand</td>
<td>Typical of Sussex ‘malmstone’, but very chalky</td>
</tr>
<tr>
<td>FBE 99</td>
<td>11851</td>
<td>909.3</td>
<td>Sandstone – Upper Greensand</td>
<td>Typical of Sussex ‘malmstone’</td>
</tr>
<tr>
<td>FBE 99</td>
<td>11852</td>
<td>909.3</td>
<td>Sandstone – Upper Greensand</td>
<td>Typical of Sussex ‘malmstone’</td>
</tr>
<tr>
<td>FBE 99</td>
<td>11853</td>
<td>909.3</td>
<td>Limestone</td>
<td>Possibly Bembridge limestone or similar from the Isle of Wight</td>
</tr>
<tr>
<td>FBE 99</td>
<td>12001</td>
<td>909.3</td>
<td>Sandstone – Upper Greensand</td>
<td>Typical of Sussex ‘malmstone’</td>
</tr>
<tr>
<td>FBE 99</td>
<td>11356</td>
<td>909.4</td>
<td>Tufa</td>
<td></td>
</tr>
<tr>
<td>FBE 99</td>
<td>11381</td>
<td>909.4</td>
<td>Sandstone</td>
<td>Horsham Stone or similar</td>
</tr>
<tr>
<td>FBE 99</td>
<td>11382</td>
<td>909.4</td>
<td>Mixon limestone</td>
<td></td>
</tr>
<tr>
<td>FBE 99</td>
<td>11383</td>
<td>909.4</td>
<td>Sandstone – Upper Greensand</td>
<td>Typical of Sussex ‘malmstone’</td>
</tr>
<tr>
<td>FBE 99</td>
<td>11510</td>
<td>909.6</td>
<td>Sandstone – Upper Greensand</td>
<td>Typical of Sussex ‘malmstone’</td>
</tr>
<tr>
<td>FBE 99</td>
<td>11512</td>
<td>909.6</td>
<td>Sandstone – Upper Greensand</td>
<td>Typical of Sussex ‘malmstone’</td>
</tr>
<tr>
<td>FBE 99</td>
<td>11514</td>
<td>909.6</td>
<td>Sandstone – Upper Greensand</td>
<td>Typical of Sussex ‘malmstone’</td>
</tr>
<tr>
<td>FBE 99</td>
<td>11535</td>
<td>909.6</td>
<td>Sandstone – Upper Greensand</td>
<td>Typical of Sussex ‘malmstone’</td>
</tr>
<tr>
<td>FBE 99</td>
<td>11536</td>
<td>909.6</td>
<td>Mixon limestone</td>
<td></td>
</tr>
<tr>
<td>FBE 99</td>
<td>11537</td>
<td>909.6</td>
<td>Sandstone – Upper Greensand</td>
<td>Typical of Sussex ‘malmstone’</td>
</tr>
<tr>
<td>FBE 99</td>
<td>11538</td>
<td>909.6</td>
<td>Limestone</td>
<td>Possibly Bembridge limestone or similar from the Isle of Wight</td>
</tr>
<tr>
<td>Code</td>
<td>Value</td>
<td>Description</td>
<td>Notes</td>
<td></td>
</tr>
<tr>
<td>-------</td>
<td>-------</td>
<td>------------------------------------------------------------------------------</td>
<td>----------------------------------------------------------------------</td>
<td></td>
</tr>
<tr>
<td>FBE 99</td>
<td>11539</td>
<td>909.6 Sandstone – Upper Greensand Typical of Sussex ‘malmstone’</td>
<td></td>
<td></td>
</tr>
<tr>
<td>FBE 99</td>
<td>11540</td>
<td>909.6 Sandstone, glauconitic</td>
<td>Coarse-grained, glauconitic, non-calcareous with red/yellow banded staining – possible Upper Greensand</td>
<td></td>
</tr>
<tr>
<td>FBE 99</td>
<td>11541</td>
<td>909.6 Sandstone – Upper Greensand Typical of Sussex ‘malmstone’</td>
<td></td>
<td></td>
</tr>
<tr>
<td>FBE 99</td>
<td>11542</td>
<td>909.6 Sandstone – Upper Greensand Typical of Sussex ‘malmstone’</td>
<td></td>
<td></td>
</tr>
<tr>
<td>FBE 99</td>
<td>11606</td>
<td>909.6 Sandstone – Upper Greensand</td>
<td>Fairly typical of Sussex ‘malmstone’, but very chalky</td>
<td></td>
</tr>
<tr>
<td>FBE 99</td>
<td>11630</td>
<td>909.6 Limestone</td>
<td>Waterworn. Possibly Bembridge limestone or similar from the Isle of Wight</td>
<td></td>
</tr>
<tr>
<td>FBE 99</td>
<td>11632</td>
<td>909.6 Limestone</td>
<td>Tuffaceous. Possibly Bembridge limestone or similar from the Isle of Wight</td>
<td></td>
</tr>
<tr>
<td>FBE 99</td>
<td>11633</td>
<td>909.6 Sandstone – Upper Greensand Typical of Sussex ‘malmstone’</td>
<td></td>
<td></td>
</tr>
<tr>
<td>FBE 99</td>
<td>11673</td>
<td>909.6 Sandstone – Upper Greensand</td>
<td>Typical of Sussex ‘malmstone’, but slightly darker</td>
<td></td>
</tr>
<tr>
<td>FBE 99</td>
<td>11674</td>
<td>909.6 Limestone</td>
<td>Possibly Bembridge limestone or similar from the Isle of Wight</td>
<td></td>
</tr>
<tr>
<td>FBE 99</td>
<td>11676</td>
<td>909.6 Sandstone, glauconitic</td>
<td>Grey, slightly glauconitic, possibly an Isle of Wight Upper Greensand</td>
<td></td>
</tr>
<tr>
<td>FBE 99</td>
<td>11677</td>
<td>909.6 Sandstone, glauconitic</td>
<td>Dark grey, glauconitic, possibly an Isle of Wight Upper Greensand</td>
<td></td>
</tr>
<tr>
<td>FBE 99</td>
<td>11679</td>
<td>909.6 Chalk</td>
<td>Hard, probably high Upper Chalk. Could be local or French</td>
<td></td>
</tr>
<tr>
<td>FBE 99</td>
<td>11682</td>
<td>909.6 Tufa</td>
<td></td>
<td></td>
</tr>
<tr>
<td>FBE 99</td>
<td>11683</td>
<td>909.6 Sandstone – Upper Greensand</td>
<td>Typical of Sussex ‘malmstone’</td>
<td></td>
</tr>
<tr>
<td>FBE 99</td>
<td>11684</td>
<td>909.6 Sandstone – Upper Greensand</td>
<td>Typical of Sussex ‘malmstone’</td>
<td></td>
</tr>
<tr>
<td>FBE 99</td>
<td>11685</td>
<td>909.6 Purbeck ‘marble’ - limestone</td>
<td>16mm thick sawn block. With fossil <em>Viviparus cariniferus</em> (small <em>V</em>. gastropods)</td>
<td></td>
</tr>
</tbody>
</table>

31/01/2005
Brick and Tile – by Derek Turner

Method  During the five-year excavation period a total of 7,710.059 kg of Roman brick and tile was retrieved and cleaned (Figs 170,171,173,174). From 1995 to 1997, unidentifiable fragments generally badly abraded, or tile less than 28mm thick without diagnostic features, were weighed, assessed for fabric, then listed as ‘Unclassified’ prior to reburial on the site. In 1998 and 1999 all bifacial material was retained; badly abraded material was weighed, listed as ‘Discarded’ then buried on the excavation site. During this period bifacial tiles less than 28mm thick were recorded by weight and fabric as ‘Unclassified’. To avoid confusion all unclassified and discarded material has been excluded from the pie charts.

Tegulae

All fragments were examined; flange types, cut-outs (Fig.170), signatures and imprints were recorded.

Flanges have been categorised in accord with a type-series derived from finds in the Chichester area. Although 1997 produced the greater weight of tegula material, 1998 produced a slightly greater number of identifiable flanges. In all some 1509 flanged fragments were reviewed. Fragments where the flange had been completely removed or was present only as a stub have been listed as unclassified. The type B (or close variant) flange predominates in this area (77%).

Of 230 lower cut-outs, from the eaves end, only four were so fragmentary as to be unclassifiable; the commonest variant was the type G with 199 incidences (86.5%). The number of cut-outs show that we have a collection from at least 117 tegulae.
The thickness of the *tegula* body was recorded in 1999 together with the height of the flange measured from the base of the tile to the top of the flange. The 1998 tile was assessed last and in that count the width of the flange was also recorded – this, however, is not particularly useful as typically the *tegula* flange is markedly tapered from a lower value at the top (ridge) end to a greater value at the bottom (eaves) end. Where the length of the fragment was in the order of 100mm or more the degree of taper was noted - over a range of 30 records the lowest percentage taper was 1.5% (over a length of 200mm), the largest 6.7% (over a length of 90mm); a value of 2.4% was noted on a half *tegula* (420mm in length).

With a good range of values for thickness and flange height available a simple statistical review of the data recorded in Microsoft Excel is possible. In order to ensure that the computer’s selection of data is consistent, a check was carried out by manually inputting acceptable values into a calculator; the results were in good accord. The results were as follows (all measurements in millimetres):

### Table 66  Values for tegula thicknesses and flange heights

<table>
<thead>
<tr>
<th>Thickness</th>
<th>1998</th>
<th>1999</th>
<th>1998/9</th>
<th>1999 (Area B only)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Median</td>
<td>24/25</td>
<td>25</td>
<td>25</td>
<td></td>
</tr>
<tr>
<td>Mean</td>
<td>24.61</td>
<td>25.34</td>
<td>24.80</td>
<td>25.21</td>
</tr>
<tr>
<td>σn-1</td>
<td>4.10</td>
<td>5.08</td>
<td>4.38</td>
<td>4.89</td>
</tr>
</tbody>
</table>

31/01/2005
Clearly there is no significant statistical variation between the 1998 and 1999 excavations or between the contexts in Area B and the other contexts. This is not unexpected as there is no significant geographical and minimal temporal variation between the various contexts.

As there is a small collection of tile from the Dell Quay tilery (Rudling 1987), some 3km south of the Fishbourne excavation site, a similar review was carried out on the 13 undoubted roof tiles. One flange was too damaged to be assessable but the other 12 were of type B; there were 11 cut-outs - all were type E. The statistical results in millimetres were:

Table 67 Tegula thicknesses, flange heights and widths from Dell Quay tilery

<table>
<thead>
<tr>
<th></th>
<th>Thickness</th>
<th>Flange Height</th>
<th>Flange Width</th>
</tr>
</thead>
<tbody>
<tr>
<td>Median</td>
<td>21</td>
<td>32</td>
<td></td>
</tr>
<tr>
<td>Mean</td>
<td>21.46</td>
<td>48.00</td>
<td>32.7</td>
</tr>
<tr>
<td>$\sigma$-1</td>
<td>3.99</td>
<td>3.34</td>
<td>3.83</td>
</tr>
<tr>
<td>$\sigma$</td>
<td>3.84</td>
<td>3.21</td>
<td>3.63</td>
</tr>
</tbody>
</table>

In 1982/3 a Romano-British site, 400 metres south-west of Fishbourne Roman Palace, was excavated (Rudkin 1986). A large masonry aisled building replaced an earlier timber structure in the mid-2nd Century AD. There is an unusually low proportion by weight and number of tegula fragments in the store compared to imbrex. The few tegula fragments were reviewed but no meaningful variation was identified.

Rook (McWhirr 1979, 295 - 301) has postulated that tegulae could have been produced using a fairly sophisticated wooden mould and wire cutting; such a technique would produce standard and rectilinearly finished tiles. The evidence from the reviewed Fishbourne tile, however, confirms Adam’s (1994) comment that tegulae do not appear to have been produced in standard sizes. In addition, the Fishbourne sample indicates that the majority of the flanges were finished by hand-stroke rather than tool-finished, and in a number of cases the eaves end cut out retained the evidence of knife cutting after the tile had been shaped.

The evidence indicates that in Fishbourne area tegulae were not produced to a standard size, were formed in a very simple mould (or between two battens), the flanges were only exceptionally ‘tool’-smoothed and knives were used to fashion the cut outs.

Any discussion suggesting that there was a recognisable Fishbourne tegula ‘type’ must be treated with some caution. However, it seems clear that the ‘norm’ was for the tile to be in the
order of 25mm thick with a type-B flange and a type-G cut-out; the ‘typical’ flange height (measured from the base of the tile) is 52mm. The results were consistent within the excavated area, but a review of the Dell Quay material retrieved from the kiln site (Rudling 1987) suggests that the product of that tiler was in the order of 21mm thick with an average flange height of 48mm. Due to taper, flange width would only be of limited use if consistently measured at a known point such as either identified tegula end.

Significantly all 11 of the Dell Quay cut-outs were of type-E, compared with only 5 out of 230 on the excavated Fishbourne site. The Dell Quay flanges were all type-B, or close variant, and probably not tool-finished. This certainly would support the hypothesis of at least two tilers operating in the area and the difference in fabrics indicates at least two tileeries. It would be a little too optimistic to attempt to adduce a suggested number of individual tilers from the number of observed cut-out types in our sample.

Distribution charts of tile thickness and flange height are appended. Although such charts could be used as a characteristic template, they would only be valid for comparison purposes where the output could be tied to one particular tiler. In this case there are a number of tilers/tileeries involved over a non-discrete period. Individual signatures and other marks were recorded as small finds.

**Imbrex**

Over the five-year excavation period a total of 451.615 kg of confirmed imbrex material was recovered; of this some 76.9% was found in 1997, when it represented 10.26% of the total ceramic building material retrieved.

Only one fragment from the excavation was seen to have any diagnostic feature - finger marks on SF 1886 from context 433.3. In contrast, in the very small number of imbrex fragments deposited from the Dell Quay tileery there are two examples of pierced imbrex - one with a rectangular cut-out and the other circular in form.

The large amount of ceramic building material retrieved in 1997 came from the area adjacent to the stream and possibly represents a palace modification or demolition phase; the high proportion of imbrex compared to amounts in other years may reflect the fact that the imbrices are relatively fragile and were probably mortared into place (from the evidence of the 1982/3 excavation) resulting in greater damage/wastage during the dismantling of a roof.

**Brick**

Bricks were initially categorised by thickness in an attempt to identify the overall sizes of bricks represented in the sample. By 1997 the lower end ranges were defined as less than 28mm, 28 - 32mm, 33-37mm and 38-40mm with further groupings greater than 40mm. In 1998 and 1999 the above groupings were used, but all tile/brick fragments thicker than 40mm, or having specific diagnostic features, were individually listed. The recorded thickness range is from 14 to 82mm.

Some of the thinner tile fragments will be unrecognised opus spicatum, tegula, imbrex, string course and wall-bonding fragments. In the range c. 30-48mm the lower end may represent bessales or lydia (hypocaust pilae tiles and wall-bonding bricks respectively), the mid range may be pedales (pila capping tiles) and the upper range sesquipedales and bipedales (the extra large
tiles used to bridge hypocaust pilae). In practice a firm ascription can only be based on bi-facial tile/brick with three finished edges.

All fragments of *tegula mammata* have been individually reported. Where possible the mamma has been typed as one of five local categories (A1 - 3, B1, B2) and positions recorded either as one of eight layouts (A - H) or as a distance from an edge or corner. In practice a precise layout can only be determined if a substantial (ideally three-edged) fragment is recovered. There were several incidences of a *mamma* being placed on a combed surface; this has been noted on other sites in the Fishbourne area.

Numbers of mainly domestic animal prints and finger prints were noted - the former were treated as small finds. The more common animal imprints were dog paw prints.

**Flue tile**

Approximately 40% of the flue tile was recovered in 1997 and the bulk of the remainder in 1998/9. This is most of the patterned, ‘keyed’ tile from the site. Several categorisation schemes have already been suggested and these have been combined into one experimental system (Appendix A).

A number of groove/space variations can be identified. In particular SF790 from context 212 has an identifiable pattern on Dell Quay fabric; this comb appears to have been used on SF1876 from context 443.3, which is also Dell Quay fabric. Other identified pairings (context/small find number) for this comb include 512/5198 and 590/6427, 905/10339 and 556/5977, 502/3728 and 511/4055, 577/4698 and 562/4130, 202/791 and 443/1527.

A broken comb with a missing tine, giving a pattern of 2 tines - gap - 3 tines, was seen on a half box-tile SF 6427 (context 590) and also on another fragment of flue tile - SF 5198 (context 512). Both fragments were made of sandy fabric (local 1F). Black (in Betts et al 1994) has already characterised Chichester area relief pattern flue tile as being ‘sandy’. In order to minimise shrinkage and reduce the danger of thermal shock it would certainly have been desirable to temper flue tile; sand is a readily available and cheap filler.

These instances confirm a wide spread of destruction material, including Palace material and possibly a degree of mixing in the post-Palatial period.

Several forms of scoring were noted; the narrowest scores were probably made by a sharp metal implement such as a knife, but the broader grooves could have been produced by any casually picked up nail, twig, scrap wood or bone fragment.

**Water pipe**

No ceramic water pipe was found *in situ*. By weight 70% of the pipe fragments were found in 1998. SF 12385 found in context 718.2 may be a fragment of small bore ceramic water pipe; a second fragment (SF 8054 in context 507) may also be small bore water pipe. These latter finds could be associated with, for example, a fountain in the garden. Cunliffe (1971, 44) firmly dates the water pipe to the Flavian period. The freshwater pipeline to the east of the Palace (Kenny 1992, 34) may have been laid to bring water to the early-2nd century bath house at the east end of the Palace North Wing. However, this aqueduct has been dated to the mid-1st century AD.
(Phase AC) by the current excavations. It does not appear to have contained a ceramic pipe, at least in the sections excavated.

The water pipes appear in primary structures in the late 1st/early 2nd centuries but could have been re-used at any subsequent period.

Other

The ‘Other’ category contains a number of items which were of interest including opus spicatum and tesserae. Opus spicatum floor tiles are associated, as primary structures, with first period levels (following the chronological divisions in Cunliffe, 1971, 44).

Fabric

Since 1995 fabrics have been assessed using a local numbering system. The basis of the system was partly subjective and more recent experience suggests that information may be lost because research workers have varying interpretations. A suggested more objective categorisation framework is shown in Appendix B and material has been collected as the basis for a small reference collection.

There are three main sources of raw material in the Chichester area: London Clay, Reading Beds clay and alluvial brickearth. Of these the commonest in the immediate Fishbourne area is Reading Beds clay. Excavations in Fishbourne Glebe uncovered a Reading Beds deposit with very obvious cut marks where the clay had been mined (pers. comm. D. Turner) and of course the lane running east and north of the site is called Clay Lane.

There is no reason to suppose that fuel supplies were any more difficult to procure in the Fishbourne area than, say, Dell Quay, and beach sand for tile-making could be lightered up the harbour on any convenient tide to any site between East Head and Fishbourne. There is no logical reason why the bulk of the tile required for the construction of the Palace could not have been made and fired on site with considerable savings on transport. As recently as Georgian times brick for new houses in Chichester was fired on site.

Although in relatively small quantities, the very distinctive Dell Quay fabric has been found in the debris. Mention has already been made of the tilery known to have existed at Copperas Point near Dell Quay and there is some evidence from surface finds that a second may have existed nearer to Dell Quay itself.

In 1995 it was noted that the locally classified types-2 and -5 are possibly only further variants of local type-1 which means that in that year 99.82% of the tile identified was type-1. This assessment is largely substantiated in subsequent years. It seems clear from the overall results that ‘tempering’ is common in flue tile variants with sand being the commonest inclusion - a conclusion which agrees with Black’s (in Betts et al 1994) assessment of Chichester relief pattern flue tile being ‘sandy’.

Tempering is less noticeable in tile not likely to be exposed to considerable temperature fluctuation - tegulae for example. Even so, it was found in the 1998-9 sample that some 17.51% of the unclassified material and 18.01% of identified tegulae material contained sand. In the same period only 5.97% of imbrex was noted as sandy.

Discussion
ADS Supplement – FBE 95-99

Several intact tegulae were laid as a form of channel/levelling course in Area B (context 906); other than that the ceramic building material was found in very fragmentary - and sometimes very abraded - state. The presence of one undoubted waster SF8099 in context 589 (part of the road surface contemporary with Building 3 – Phase AB), a probable waste mammate brick in context 646 (causeway – Phase AE) and a very over-fired and distorted tegula fragment from Context 18 (the fill of the linear slot – Phase AD) indicate the possibility that some of the detritus represents breakage/wastage during constructional phases, but in the main the spread of material seems likely to represent the scattering of broken or dropped salvaged material from the demolition of Building 3, from Palace rebuilding phases and the final demolition of the Palace.

During the construction phase of a masonry building the detritus will include substantial quantities of greensand chippings and some flint. Although chalk blocks might be used in construction, any chippings arising are likely to have been burnt for slaked lime. Tile fragments are likely to be relatively few, arising from breakage and wasters.

During the destruction phase of a masonry structure the casualty rate in roof material - especially the more fragile and mortared imbrices - is likely to be high with most of the greensand blocks being retrieved for reuse.

Given the high water table of the period and our first-hand knowledge of how rapidly the surface becomes churned by foot and wheeled traffic, it is probable that material deposited on destruction level surfaces could be trodden or sink into lower layers, ‘contaminating’ earlier features. Unless deliberately dug in, destruction rubbish should not normally be found, for example, below the earliest masonry or metalled road surfaces.

Several examples of tile-packed post-holes were found in Fishbourne Glebe (Kenny 1995, 15); these were carefully packed with substantial fragments of tile. Some 116 post-holes were found in the 1995-9 excavation, but relatively few (10.34%) had quantities of 1000g or more of tile in the fill:

Table 68 Tiles from post-holes in FBE 95-99

<table>
<thead>
<tr>
<th>Post-hole</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>229/211</td>
<td>packed with greensand and 1135g tile (one piece)</td>
</tr>
<tr>
<td>466/462</td>
<td>1100g tile - single tile on edge plus greensand and flint</td>
</tr>
<tr>
<td>524/543</td>
<td>2050g tile - believed to have fallen in when post removed</td>
</tr>
<tr>
<td>568/567</td>
<td>3095g tile - flint and greensand in fill, imbrex on ‘surface’</td>
</tr>
<tr>
<td>576/575</td>
<td>1095g tile - in upper fill; no evidence of ‘packing’</td>
</tr>
<tr>
<td>583/582</td>
<td>1085g tile - four sharp-edged fragments</td>
</tr>
<tr>
<td>635/630</td>
<td>4180g tile (three pieces) - possibly packing</td>
</tr>
<tr>
<td>652/651</td>
<td>2895g tile - described as packed with greensand and red clay</td>
</tr>
<tr>
<td>649/648</td>
<td>1000g tile - tile on edge plus greensand and flint</td>
</tr>
<tr>
<td>793/741</td>
<td>1590g tile (large fragments) - not assessed as packed</td>
</tr>
<tr>
<td>792/742</td>
<td>2925g tile - not assessed as packed</td>
</tr>
<tr>
<td>807/752</td>
<td>3331g tile - tile and flint packing</td>
</tr>
</tbody>
</table>

Of the remaining ‘fills’:

- 10.34% contained only small quantities of tile (500 to 999g)
- 18.97% contained less (50 to 499g)
- 7.76% contained less than 50g

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50.83% contained no tile at all.

Thirteen of the post-holes had already been excavated by A. Down (Cunliffe, Down & Rudkin 1996, 17), assessed as packed with clay, stone and gravel and assigned to Cunliffe’s period 1a.

These were:

C1/22  524
C6    526  Gravel-packed
C9    522
C14   531
C15   533  Gravel-packed
C16   532
C17   523
C18   534  Gravel-packed
C19   529  Gravel-packed
C20   528
C21   526  Gravel-packed
C23   530
C24   525

The three post-holes around the central pit (226, 229 and 246 – Phase AH) are all best described as rubble filled using greensand fragments and flint. The 1135g of tile in 229 was a single piece.

None of the post-holes contained the weight of tile that would realistically be required for effective packing. Given the effectiveness of large tile fragments as packing pieces, it would be surprising if they would not have been used had they been available. It seems probable that most, if not all, the post-holes were dug prior to any large-scale destruction or re-modelling of Building 3 but probably after the construction of the masonry building.

The incidence of tile-free post-holes was plotted on the site diagram. The most northerly line (row 5) of post-holes contained only two (plus one presumed) totally tile-free out of eighteen. In the more southerly row 4 most of the tile contaminated post-holes were associated with the greensand road. The most southerly rows (rows 1 and 2) contained the greater number of tile-free post-holes.

Significantly, post-hole 793 contained a fragment of half-box-tile while post-holes 568, 869 and 803 contained combed flue tile - all are in the northern two rows. This presence suggests material from the Palace site and is in a sensible proportion relative to the total ceramic building material found in the post-holes. Lattice-scored flue tile was found in the courtyard pit (282 – Phase AH), combed flue tile in a beam slot (718 – Phase AD) and thin-walled flue tile in a drain (39 – Phase AH). No flue tile was found in the post-holes 229, 226 and 246 surrounding floor 284 which contained both flue tile and *opus spicatum*.

From the evidence of the tile alone it seems possible that the rows of post-holes may have been removed at different times; that the southern posts were extracted, and levelled, first and the most northerly line later. Dating by tile presence alone - even roller-impressed - is likely to be unsatisfactory; given the likelihood of trample contamination during demolition.

Slot 718 contained 40.471kg of brick and tile including flue tile and pipe fragments. The fill of 896 (water-pipe trench – Phase AE) contained only 90g of unclassified/brick material. Collars
for a wooden water pipe were found in situ in the pipe trench; the pipe probably rotted away and the small amount of ceramic building material may be contamination from above. The slot, however, appears from the tile evidence to have been robbed out and the building material deposited after a Palace destruction/re-modelling phase.

Courtyard pit 30/282 (Phase AH) contained 50.35kg of brick and tile, including flue tile and water pipe. Most of this material was found in the north-east corner of the feature. The associated drain 41 (Phase AH) contained 6.55kg brick and tile, including flue tile and water pipe. The fills of the courtyard pit and the drain indicate deposition of Palace destruction/re-modelling phase material; in the case of the pit the concentration of tile suggests intentional dumping rather than a scatter over a surface.

The extensive 2nd century Cunliffe Period 3 work on the east end of the North Wing of the Palace, less than 100 metres from the excavation site, is a point from which damaged flue material is likely to have appeared in fair quantity.

Figures

170. Types of tile flanges (A-S) and cut-outs (A-F)
171. Pie Diagrams of relative percentages of tegula, imbrex, brick, flue tile and water pipe during the five years of excavation

Relief-Patterned tiles – by Ernest Black

The contexts which produced the tile fragments can be grouped as follows:

a) 2nd-3rd century (pre - A.D.270): 237.1 die 21; 443 die 13 (two), ? die 22, ? die 40; 452 die 21; 511 die 13; 512 die 48; 513 die 55; 514 die 48; 557 die 13 (two), ?die 48; 558 die 13; 577 die 48; 639 die 13; 710 die 13; 719 die 48; 904 die 13, die 48, die 55 (two); 905 die 4, die 48. Total: 24 fragments.

b) Later 3rd – 4th century: 443.2 ?die 55; 445 die 13; 467 uncertain die; 489 die 13; 579 die 13 (five), die 48; 580 die 13 (two), die 24 (two); 590 die 13; 621 die 37; 907 die 13 (two); 909.6 die 81. Total 19 fragments.

c) Post - Roman: 24 ?die 20; 234 die 22; 240 ?die 21; 408 Die 13 (two and one uncertain), ?die 55, uncertain die; 417 ?die 60; 419 die 4; 422 die 13; 430 die 55; 431 die 48; 432 die 22; 437.1 die 21; 501die 13; 503 die 13; 505 die 48; 507 die 48 (three); 508 die 4; 701 die 21, die 22; 901.2 die 48; 902 die 48; 903 ?die 48. Total: 27 fragments.

Dies 21, 22, 24, 37 and 81 (and the uncertainly identified dies 20, 40 and 60), along with die 19 from the earlier excavations, belong to the London - Sussex group of dies. Two fragments (from contexts 234 and 237.1) were examined by Dr. Ian Betts who assigns them to Museum of London Archaeological Service (MOLAS) tile fabric number 3054, one of the two fabrics that
are usual for tiles keyed with London - Sussex dies. (For a description of the fabric see Betts et al. 1997).

The earliest context (237.1) was the Late Antonine - Severan fill of the stone - flagged sunken feature (Phase AH) in the eastern range of Building 3. Professor Cunliffe did not establish where tiles of the London - Sussex group found in his excavations had been used. Black (1985, 372 - 73) conjectured that it was in a refurbishment of the period 1C baths and its incorporation into the period 2 palace. If this was the case it is possible that the occurrence of the fragments in the 1995 - 1999 excavations indicates that these baths had been modified or partly dismantled by the Late Antonine - Severan period.

The small number of fragments from a large number of different dies suggests that the bulk of the tiles keyed with London - Sussex dies were removed from the site for reuse elsewhere. The only other site in Sussex with such a wide range of dies is the bath-building at Wiggonholt where dies 20, 21, 22, 23, 37, 83, 786, 111 and an uncertain Group 5 (Diamond and Lattice) die are known. At both Fishbourne and Wiggonholt die 37 was used to key distinctive curved bricks of uncertain use (SF8103 from context 621; sump – Phase AC; Fig. 174.1), a nearly complete example of which is known from Trinity Square, London ( Betts et al. 1994).

The specimen of die 81 from context 909.6 (the northern pit in Area B – phase BF;) has one corner of the tile with part of one keyed face and of one unkeyed side (SF11607; Fig 174.2). A cutaway is present in the side with an arched top / base c.98 mm from the end of the tile. The complete shape of the cutaway is uncertain. Particles of crushed tile (>8mm) are visible embedded in the surfaces. At the original corner and at the exterior junction of the two surviving surfaces are traces of grey staining, possibly burning. The face is abraded and the size of the impression seems to be c.10 - 20% smaller than other examples keyed with die 81. The keying was done when the roller had become considerably worn and splintered. The maximum surviving dimensions of the face of the tile are c.137 x 182 mm and the maximum surviving depth is c.90 mm. There is no trace of the triangular cutaway that is present in a double width box-flue tile of the kind used as a bipedalis at the Eastbourne villa (Betts et al. 1997, 8 and 10, fig.4) and it seems likely that the tile from context 909.6 was a standard box-tile. The measurements of such tiles from the Batten Hanger villa were c.480 x 180 - 85 x 140 mm.

It is clear from Professor Cunliffe’s excavations that dies 4, 13, 48 and 55 were used in the Period 3 east wing baths, constructed c.130 - 160 (Cunliffe 1971, 175 & 179). The earliest specimen appears to be a fragment of die 13 from context 639 which represents the upper level of a causeway across the stream (Phase AE). This is dated to the first half of the 2nd century. But overlying context 590 represents a dump of demolition of 3rd and 4th century date and David Rudkin (pers. comm.) suggests that it would not have been unreasonable for this piece of tile to have been trodden into the surface of the causeway between its construction in the late 1st century and the later dumping. A second fragment of die 13 came from context 590 itself. Even so, there are several contexts with tile fragments keyed with this group of dies which are dated to the early 3rd century or earlier (contexts 511, 513, 514, 558, 577, 905, 710, 719 ). It is possible that these, and presumably the fragments from later contexts, came from tiles broken when the east wing baths were constructed. It is equally possible that they derive from a subsequent phase of alteration that took place in the late 2nd or early 3rd century. Professor Cunliffe had good evidence for dating the abandonment of the baths and the robbing of tiles from it to the last decade of the 3rd century (Cunliffe 1971, 189 & 220).
Figures

173. Bar chart indicating selected contexts with Roman keyed tile finds
Tile Fragments within the foundations of Building 3 (B3) –
by Ernest Black

A fragment of tegula (SF1562) was found within wall 411, and five joining fragments (SF1566) of a ‘thin-walled box-tile’ were found within wall 414 (Fig. 174.3).

Discussion: The presence of the thin-walled box-tile from the wall construction of the courtyard masonry Building 3 should mean that this is no earlier than Cunliffe’s Period 1C, when such tiles were used in the proto-palace baths (Building M2). However, pottery and stratigraphic dating has suggested a possible construction date for Building 3 in Period 1B. The problem may be resolved in two possible ways.

1. An unlocated bath-building may have existed in Period 1A or 1B and the box-tile fragments from context 414 in Building 3 came from this. The difficulty is the existence of a bath-building in Period 1C where such tiles were used. It seems more reasonable to assign the tiles to this building, especially in view of the infrequency with which baths were totally replaced rather than simply altered or extended. The survival of the Period 1C baths incorporated into the Period 2 palace at Fishbourne is a case in point.

2. If the tile fragments from context 414 came from the proto-palace can this be re-dated to Period 1A or 1B to fit the dating assigned to Building 3? Professor Cunliffe’s dating of M2 relied on its stratigraphical relationship to other buildings and features. A masons’ working-yard, associated with the construction of M2 involved the diversion of the stream further east with the infilled former stream-bed underlying the eastern side of M2. This was therefore assigned to Period 1C. However, this sequence and dating cannot strictly be applied to the whole of the proto-palace. It is only an assumption that M2 had a single phase of construction. The northern courtyard and porticoes and the east range abutting these and extending south beyond the baths must indeed belong to Period 1C as Professor Cunliffe deduced, but the southern baths need not have been contemporary. Rooms 10-15 could have functioned as a free-standing bath-block alongside the original stream. If so, a date in Period 1A or 1B is quite possible for this and fits the occurrence of the thin-walled box-tile fragments from context 414 in Building 3.

Figures

174. Three relief-patterned tiles

The Tesserae – by Derek Turner

The first obvious point is that the tesserae vary considerably in size. The occasional near perfect cube is probably sheer happenstance. After a floor is laid the surface is ground smooth removing variable but significant amounts of material from the upper surface of each tessera. In theory the ideal would be a small, square-section elongated cuboid, the tesserae being pushed longwise,
closely set, into the mortar to give maximum mutual support and adhesion. Examination of *in situ* mosaics and excavated fragments of floor indicate that this did not happen in practice.

In order to assess average sizes the three recorded *tessera* dimensions were multiplied together to arrive at a size in cubic millimetres; the cube root of this figure provides a good average side dimension. In a 10% sample cube sizes varied from 5400mm$^3$ to 632mm$^3$ - ie 17.5mm to 8.5mm side length, the overall average being 11.25mm.

Using a value of 15% for grouting, this derived length gives good concordance with *in situ* mosaics at the palace where on mosaic floors of average quality there are in the order of 11 *tesserae* to 150mm of floor using less than regularly sized *tesserae* and noticeable grouting. In a sample of high-quality flooring however, the *tesserae* were small, square-sectioned and fitted so closely together that the interstices appeared as little more than hairline cracks.

In the three contexts examined first it was noted that the colour distribution was predominantly white (in the order of 75%) so this aspect was examined by context with the following percentage results listed in order of sample size:

Table 69  Tessera colours from key contexts

<table>
<thead>
<tr>
<th>Context</th>
<th>White</th>
<th>Grey</th>
<th>Red</th>
<th>Green</th>
<th>Yellow</th>
<th>Unassessed</th>
</tr>
</thead>
<tbody>
<tr>
<td>All</td>
<td>57.84</td>
<td>29.75</td>
<td>11.17</td>
<td>0.07</td>
<td>0.69</td>
<td>0.49</td>
</tr>
<tr>
<td>598</td>
<td>78.72</td>
<td>17.02</td>
<td>3.95</td>
<td>0.0</td>
<td>0.03</td>
<td>0.0</td>
</tr>
<tr>
<td>558</td>
<td>80.10</td>
<td>18.88</td>
<td>1.02</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>585</td>
<td>72.73</td>
<td>23.03</td>
<td>3.64</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>559</td>
<td>76.58</td>
<td>18.02</td>
<td>5.41</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>507</td>
<td>41.67</td>
<td>44.79</td>
<td>13.54</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>535</td>
<td>72.88</td>
<td>23.73</td>
<td>1.69</td>
<td>0.0</td>
<td>1.69</td>
<td>0.0</td>
</tr>
</tbody>
</table>

The colours were graded only as white, grey/dark, clearly red, green and yellow. Listed with grey are all very dark hues varying from blackish to very dark brown. The percentage of yellow in C535 represents one *tessera*. A green *tessera* was recorded in C613. Material used included chalk, shale, greensand, tile and flint.

A block of four moderately large chalk *tesserae* was found in the backfill material re-excavated from context 403, and a mortared pair of smaller units was found in both context 585 and context 598. These apart, all *tesserae* were found as single units, some abraded, some with mortar adhering and others very sharp and clean.

Several square-section ‘rods’ of both white and red material were found - one red rod in each of contexts 424 and 417, two in 402; white rods were found in contexts 598, 585, 710 and 510. A number of clean red tile cubes of a size appropriate to the edging round a floor, were also noted.
A number of rather long tesserae are probably the ‘stub ends’ of rods. A fragment of yellow sandstone 25 x 25 x 8mm was found which may be a ‘blank’ from which two or three small yellow tesserae could be cut. A number of larger flat flints, found in the ditch of Area B, appear to have been cut possibly for use as opus sectile.

Figures

176. Bar Chart illustrating principal contexts containing tesserae

Blue Frit – by Susan Clegg and Julia Freeman

Introduction: The aim of this report is to present results following the analysis of blue pellets recently recovered from Fishbourne Roman Palace. These pellets have been examined under a Stereomicroscope; they were also examined by X-ray Fluorescence Spectroscopy in order to determine their chemical composition.

The word pigment (Latin pigmentum) means a coloured substance, usually in the form of a dry powder which, when mixed with a vehicle, constitutes a ‘paint’. Pigments, whether crystalline or amorphous, were ground into uniform particles and, as they have no adhesive qualities, required a binding material or medium to hold them in place (Mora, et al., 1984).

Pigments may be divided into different categories such as mineral or organic and natural or artificial, depending on their origin. Natural pigments are found in the earth in the form of carbonates, sulphates, sulphides and oxides. After extraction the mineral was left to dry naturally in the sun. It was then roughly ground and sieved to remove any impurities, re-ground to a fine powder, cleaned and dried. Artificial mineral pigments are the product of a well-defined chemical process. They are obtained by sublimation or by a wet method through precipitation of chemical solutions (Mora, et al., 1984.).

It was during the third millennium BC that Egyptian artisans, being ‘... masters [in] the art of fire ...’ began to develop the first synthetic pigment known as ‘blue frit’ (Delamare & Guineau, 1999, p.22 2:2). Large samples of blue pigment were found in flat-bottomed containers dating from the mid to late 14th century BC by Sir Flinders Petrie at a ‘factory’ site in the ancient metropolis of Tel el Amarna in Middle Egypt in the late 1890s. These samples, which were examined by Spurrell (1895), consisted of a crystalline compound resulting from the fusion of silica, copper ore and an alkali. Their colours varied from a pale to a dark blue.

The manufacture of blue frit was codified by Vestorius at the Campanian city of Puteoli in the 1st century BC (Ling, 1992). The procedure involved the mixing of finely ground silica, copper filings and flowers of soda into a water-based paste which was then rolled into small pellets. The pellets were allowed to dry naturally then placed in earthenware pots and
finally placed in an oven and, according to Vitruvius ‘... As soon as the copper and sand grow hot and unite under the intensity of the fire, they mutually receive each other’s sweat, relinquishing their particular qualities, and having lost their properties through the intensity of the fire, they are reduced to a blue colour’ (Book VII, 219:1). The resulting blue crystalline compound was coarsely ground before use. Blue pigmented pellets have been found on different Romano-British sites and were examined, using X-ray diffraction analysis, by the late Leo Biek in the early 1980s (Davey & Ling, 1982).

Materials and Methods: Twenty-six finds of blue pellets were obtained from the 1995 – 1999 excavations at Fishbourne Roman Palace, near Chichester in West Sussex. The specimens varied in size, shape, texture and colour.

X-ray Fluorescence Spectroscopy (XRF) was performed on all the samples. This non-destructive analytical technique is used to identify and determine the concentration of elements present in solid, powered and liquid samples. The technique is relatively sensitive and is capable of detecting elements above sodium (Na) in the Periodic Table and is particularly useful for detecting heavy metal pollutants such as lead (Pb). XRF is widely used in archaeological research because of its ability to carry out accurate analyses at high speed with the results being available within minutes. For this study it was used semi-quantitatively to assess the main elements present and their approximate proportions. No standardizations were carried out. The machine used for this report was Cambridge Instruments AN10000 X-Ray Spectrometer with a Philips PV9500 detector and X-ray tube.

The samples were also examined under a MEIJI Techno RZ zoom Stereomicroscope with a fibre-optic light source to study the fine detail. All pellets made available for the study were photographed and photomicrographs were subsequently taken at magnifications between x 20 and x 60 using a Nikon Coolpix 950 digital camera. Because the pellets are never homogeneous, the colours were identified using the Munsell Book of Color (Matte Finish Collection) 1973 and should be considered as a guide only.

Results: Below are photographs, together with a magnified view, of the pellets found in various contexts at the Fishbourne Roman Palace during the excavation seasons of 1997, 1998 and 1999. Beneath each photograph is a printout of the XRF results obtained for each of the pellets (Fig. 177 – photographs; Fig.178 – XRF printouts). Note that each pellet has an ID Number usually comprised of context/small finds number.
Pellet ID Number: 437.4/1999 (fill of robber-trench; internal wall, north side of Building 3)

Weight: 1.17 g  
Magnification: x 30  
Dimensions: 13 x 11 x 9 mm  
Munsell No: 10 B 6/6

Fig. 177.1a  
Fig. 177.1b

XRF:

Fig. 178.1
Pellet ID Number: 501/2140 (Topsoil)

Weight: 0.09 g  
Magnification: x 25
Dimensions: 4 x 5 x 7mm
Munsell No: 10 B 6/6

Fig. 177.2a  
Fig. 177.2b

XRF:

Fig. 178.2
Pellet ID Number: 501/2150 (Topsoil)

Weight: 0.44 g  Magnification: x 20
Dimensions: 6 x 8 x 11 mm
Munsell No: 10 B 7/4

Fig. 177.3a  Fig. 177.3b

XRF:

Fig. 178.3
Pellet ID Number: 505/2083  (Backfill from Alec Down trench)

Weight: 0.55 g  Magnification: x 25
Dimensions: 7 x 9 x 10 mm  Munsell No: 10 B 6/8

![Fig. 177.4a](image1)
![Fig. 177.4b](image2)

**XRF:**

![Fig. 178.4](image3)
Pellet ID Number: 507/2299 (General upper layer)

Weight: 0.32 g  
Dimensions: 6 x 8 x 9 mm  
Munsell No: 5 PB 5/10

Fig. 177.5a  
Fig. 177.5b

XRF:

Fig. 178.5
Pellet ID Number: 507/2569 (General upper layer)

Weight: 2.66 g
Dimensions: 13 x 14 x 18 mm
Munsell No: 5 PB 5/10

Fig. 177.6a

Fig. 177.6b

XRF:

Fig. 178.6
Pellet ID Number: 507/2817 (General upper layer)

Weight: 1.65 g  Magnification: x 20
Dimensions: 11 x 12 x 19 mm
Munsell No: 10 B 7/4

Fig. 177.7a  Fig. 177.7b

XRF:

Fig. 178.7
Pellet ID Number: 507/3125 (General upper layer)

Weight: 1.5 g  Magnification: x 20
Dimensions: 12 x 13 x 17 mm
Munsell No: 5 PB 5/8

Fig. 177.8a  Fig. 177.8b

XRF:

Fig. 178.8
Pellet ID Number: 510/2478 (Above greensand road)

Weight: 0.46 g
Magnification: x 30
Dimensions: 6 x 8 x 10 mm
Munsell No: 10 B 7/6

Fig. 177.9a  Fig. 177.9b

XRF:

Fig. 178.9
Pellet ID Number:  512/2548  (Above greensand road)

Weight:  0.36 g  Magnification: x 30
Dimensions:  5 x 7 x 9 mm
Munsell No:  10 B 6/6

Fig. 177.10a  Fig. 177.10b

XRF:

Fig. 178.10
Pellet ID Number: 513/2634 (South of greensand road)

Weight: 0.49 g  Magnification: x 30
Dimensions: 7x 9 x 10 mm
Munsell No: 10 B 6/6

Fig. 177.11a  Fig. 177.11b

XRF:

Fig. 178.11
Pellet ID Number: 513/2714 (South of greensand road)

Weight: 1.27 g           Magnification: x 20
Dimensions: 8 x 10 x 17 mm
Munsell No: 10 B 7/4

Fig. 177.12a            Fig. 177.12b

XRF:

Fig. 178.12
Pellet ID Number: 513/2965  (South of greensand road)

Weight: 0.3 g  Magnification: x 25
Dimensions: 5 x 7 x 8 mm
Munsell No: 5 PB 6/8

Fig. 177.13a  Fig. 177.13b

XRF:

Fig. 178.13
Pellet ID Number 578/5627 (Palace Demolition)

(a) Upper Pellet:
- Weight: 0.03 g
- Magnification: x 25
- Dimensions: 2 x 3 x 3 mm
- Munsell No: 5PB 6/6

(b) Lower pellet:
- Weight: 0.07 g
- Magnification: x 25
- Dimensions: 4 x 4 x 6 mm
- Munsell No: 5PB 6/6

Fig. 177.14a  Fig. 177.14b

XRF:

Fig. 178.14
Pellet ID Number: 578/5825 (Palace Demolition)

Weight: 0.58 g  Magnification: x 25
Dimensions: 7 x 10 x 11 mm
Munsell No: 10 B 7/4

Fig. 177.15a  Fig. 177.15b

XRF:

Fig. 178.15

31/01/2005
Pellet ID Number: 579/5597 (Demolition over aqueduct)

Weight: 1.18g  Magnification: x 20
Dimensions: 10 x 11 x 13 mm
Munsell No: 10 B 7/4

Fig. 177.16a  Fig. 177.16b

XRF:

Fig. 178.16
Pellet ID Number: 588/7817 (N-S road surface of Phase AB)

Total Weight: 0.45 g  Magnification: x 20

(a) Dimensions of largest part: 3 x 6 x 7 mm
(b) Dimensions of second largest part: 3 x 5 x 5 mm
(c) Remainder in pieces:

Munsell No: 10 B 5/8

Fig. 177.17a

Fig. 177.17b

XRF:

Fig. 178.17
Pellet ID Number: 604/6462 (Upper fill of aqueduct)

Weight: 3.43 g
Dimensions: 15 x 18 x 20 mm
Munsell No: 10 B 7/6

Fig. 177.18a  Fig. 177.18b

XRF:

Fig. 178.18
Pellet ID Number: 711/9156 (Upper layer just below topsoil)

Weight: 0.59 g  
Magnification: x 40  
Dimensions: 8 x 9 x 11 mm  
Munsell No: 5 PB 5/6

Fig. 177.19a  
Fig. 177.19b

XRF:

Fig. 178.19
Pellet ID Number: 711/9171 (Upper layer just below topsoil)

Weight: 0.60 g  Magnification: x 25
Dimensions: 7 x 9 x 10 mm
Munsell No: 5 PB 5/10

Fig. 177.20a  Fig. 177.20b

XRF:

Fig. 178.20
Pellet ID Number: 711/9221 (Upper layer just below topsoil)

- Weight: 0.46 g
- Magnification: x 20
- Dimensions: 7 x 8 x 8 mm
- Munsell No: 5 PB 5/6

Fig. 177.21a

Fig. 177.21b

XRF:

Fig. 178.21
Pellet ID Number: 726/9949 (Palace demolition deposit)

Weight: 0.12 g  Magnification: x 20
Dimensions: 4 x 5 x 6 mm
Munsell No: 5 PB 5/8

Fig. 177.22a  Fig. 177.22b

XRF:

Fig. 178.22
Pellet ID Number: 742/10591 (Row 5 post-hole)

Weight: 1.38 g  Magnification: x 20
Dimensions: 11 x 14 x 17 mm
Munsell No: 10B 6/6

Fig. 177.23a  Fig. 177.23b

XRF:

Fig. 178.23
Pellet ID Number: 818/10941 (Row 5 post-hole)

Weight: 0.39 g  Magnification: x 20
Dimensions: 7 x 8 x 10 mm
Munsell No: 10B 6/6

Fig. 177.24a  Fig. 177.24b

XRF:

Fig. 178.24
Pellet ID Number: 904/10208 (Upper layer in Area B above Roman midden)

Weight: 0.8 g  Magnification: x 30
Dimensions: 8 x 10 x 12 mm
Munsell No: 10 B 7/4

Fig. 177.25a  Fig. 177.25b

XRF:

Fig. 178.25
Pellet ID Number: 907/11028 (Roman midden in Area B)

(a) Weight: 1.99 g  Magnification: x 20
Dimensions: 10 x 16 x 18 mm
Munsell No: 5 PB 5/8

Fig. 177.26(a)a  Fig. 177.26(a)b

XRF:

Fig. 178.26(a)
(b) 
Weight: 0.88 g 
Dimensions: 9 x 13 x 15 mm 
Munsell No: 5 PB 5/8 

Magnification: x 20

Fig. 177.26(b)a

Fig. 177.26(b)b

XRF: As (a)

(c) 
Weight: 0.41 g 
Dimensions: 5 x 9 x 11 mm 
Munsell No: 5PB 5/8 

Magnification: x 20

Fig. 177.26(c)a

Fig. 177.26(c)b

XRF: As (a)
(d) Weight: 0.24 g
Dimensions: 5 x 7 x 12 mm
Munsell No: 5PB 5/8

Fig. 177.26(d)a

XRF: As (a)

Fig. 177.26(d)b
The texture and detailed structure of all the pellets were closely examined by the naked eye and also microscopically. As a result of this examination they were divided into four types, conveniently labelled as Fishbourne Roman Palace (FRP) Types I, II, III and IV.

The structure of FRP Type I shows that the ingredients of the pellets had been roughly ground. The quartz grains are large and there are a few inclusions. The composition of FRP Type II pellets is totally different: the ingredients of these pellets have been finely ground and there are some small inclusions. The quartz grains are also smaller in size. FRP Type III pellets varied slightly from those of Types I and II. Although the ingredients of these pellets have been finely ground there are a few large grains of quartz but very few inclusions. The ingredients of FRP Type IV pellets have been finely ground and there are no inclusions.

Chemical analysis of the pellets by XRF shows variations in the amount of copper (Cu), iron (Fe) and calcium (Ca) used in their manufacture. Lead (Pb) and arsenic (As) are also occasionally found. Using the XRF results (as printed above) the pellets were categorized by chemical composition into four groups:

**Group 1**

The secondary fluorescence peaks of copper and iron were similar in height whilst the calcium peak remains low. This implies similar proportions of copper and iron but low amounts of calcium.

**Group 2**

The secondary fluorescence iron peak is higher than the secondary copper peak whilst the secondary calcium peak is similar to that of Group 1. There is more iron contamination in these.

**Group 3**

The secondary fluorescence copper peak is higher than in Group 1. These pellets contain more copper than those in the other groups.

**Group 4**

In this group the secondary fluorescence copper and calcium peaks are high whilst the secondary iron peak remains low; the proportions of copper and calcium are high, but the amount of iron is low compared with that found in the other groups. There are smaller peaks denoting the presence of lead and arsenic.

Table 70 below shows how the fabric and structure types relate to the chemical composition groups for each pellet found at Fishbourne Roman Palace during the excavations of 1995 to 1999.
Table 70  Blue frit from various contexts

<table>
<thead>
<tr>
<th>Chemical Composition</th>
<th>FRP I</th>
<th>FRP II</th>
<th>FRP III</th>
<th>FRP IV</th>
</tr>
</thead>
<tbody>
<tr>
<td>Group 1</td>
<td>FBE 99 742/10591</td>
<td>FBE 98 513/2714</td>
<td>FBE 99 904/10208</td>
<td>FBE 98 12/2548 FBE 98 513/296</td>
</tr>
<tr>
<td>Group 2</td>
<td>FBE 98 507/2299</td>
<td>FBE 98 507/2647</td>
<td>FBE 98 711/9171</td>
<td>FBE 98 501/2140 FBE 98 510/2478 FBE 98 578/5825</td>
</tr>
<tr>
<td>Group 3</td>
<td></td>
<td>FBE 99 711/9156</td>
<td>FBE 97 437.4/1999</td>
<td></td>
</tr>
<tr>
<td>Group 4</td>
<td>FBE 98 507/2569</td>
<td>FBE 98 507/2647</td>
<td></td>
<td>FBE 98 597/5597 FBE 99 907/11028</td>
</tr>
</tbody>
</table>

Figures

Fig.177 All Blue Frit photographs
Fig.178 All Blue Frit XRF print-outs
Part 3 – The finds

The coin finds from Fishbourne, 1961-1999 – by David Rudling

The Coin Catalogue (1995-1999 excavations), by date, providing also context and small find numbers.

a, Iron Age


N.B. The C and A on the obverse may indicate the Calleva (Silchester) mint in Hampshire. The reverse type is adapted from a denarius of L. Aquilius Florus.

Tincomaros, Second Coinage, c. 25-20 BC. Silver minim: 8mm diameter; 0.25g. Fig. 183. Obv.: A geometric pattern comprising two interlocking squares, C·F in centre. The squares have inwardly-curved sides. Rev.: Animal (? boar) right, TI above animal, NC below animal. Ref.: Van Arsdell (1989) 381-1: Atrebatic E; Hobbs (1996) 981-2. SF 1626: Context 496.

b, Roman

All reference numbers with prefix RIC are to be found in the relevant volume of Roman Imperial Coinage (eds Mattingly, Sydenham, Sutherland, Kent, Carson, Webb, Bruun & Pearce 1923ff). The prefix BMC refers to the relevant volume of the British Museum Catalogue, either for the period of the Republic (Grueber 1910) or for that of the Empire (Mattingly & Carson 1930ff).

I. Republican

102 BC or later. Silver quinarius. The quinarius (half a denarius), long out of issue by the end of the 2nd century BC, was revived in 102 BC, but now had the reverse type of the former silver victoriatus which had been discontinued about 170 BC. Rome. Very worn. 15mm diameter; 1.48g. Obv.: Laureate head of Jupiter right, two banker’s marks in field to right. Rev.: Victory standing right, holding palm and crowning trophy, moneyer’s name in field and Q (for quinarius) in exergue: illegible/missing.
Ref.: Type as Sydenham (1952) 587; Crawford (1974) 326 etc, moneyer uncertain; Carson (1978) 119.
SF 2301: Context 506.

Issued by L. Plautius Plancus, c. 47 BC. Silver denarius.
Obv.: Mask of Medusa, facing, L.PLAVTIVS below.
Rev.: Aurora flying right, conducting the four horses of the Sun, PLAN[CVS] below.
Ref.: Type as BMC 4009.
SF 1628: Context 432.

Issued by P. Clodius M.f. Turrinus, c. 42 BC. Denarius.
Obv.: Laureate head of Apollo right, lyre behind.
Rev.: Diana Lucifera standing facing, holding two long torches, bow and quiver on her shoulder, [P·] CLODIVS on right, M·F on left.
Ref.: BMC 4290.
SF 1154: Context 434.

ii. Imperial

Obv.: [M AGrippa L F Cos III], head left.
Rev.: Legend illegible, Neptune standing left, holding vertical trident, large S and C to left and right respectively in field.
Ref.: Type as RIC (Gaius) 58.
SF 9505: Context 710.

Claudius I, AD 41-54. As. AD 41-50. Rome.
Obv.: [TI CLAVDIVS C]AES[AR AVG PM TR P IMP], bare head left.
Rev.: Minerva advancing right, brandishing javelin, and holding round shield on left arm, S-C in field.
Ref.: RIC 100.
SF 7857: Context 542.

Claudius I. As (25 mm). c. AD 41-50.
Obv.: TI CLAVDIVS CAESAR [ ], bare head left.
Rev.: Minerva advancing right, brandishing javelin, and holding shield on left arm, S-C in field.
Ref.: RIC 100.
SF 11897: Context 927.

Claudius I. As (24 mm). c. AD 41-50.
Obv.: Bare head left.
Rev.: Minerva advancing right, brandishing javelin, and holding shield on left arm.
Ref.: RIC 100.
SF 1623: Context 485.

Irregular issue. 19+mm (fragment). Imitation of a Minerva type As of Claudius I.
Obv.: Bare head left.
Rev.: Minerva advancing right, holding shield on left arm, [S]-C in field.
*Cf.* above and RIC 100.
SF 10179: Context 716.

Nero, 54-68. Denarius. AD 64-5. Rome.
Obv.: [NERO] CAESAR AVGVSTVS, laureate bust right.
Rev.: SALVS in exergue, Salus seated left on throne, holding patera.
Ref.: RIC 60; BMC 90.
SF 7021: Context 610.2.

Obv.: IMP NERO CAESAR AVG P MAX TR P P, laureate bust right.
Rev.: VICTORIA AVGVSTI, Victory walking left, holding wreath and palm, S-C in field.
Ref.: RIC 522.
SF 6699: Context 598.

Obv.: [IMP CAES VESP] AVG P M COS [III], laureate head right.
Ref.: RIC 42; BMC 64.
SF 2118: Context 503.

Obv.: IMP CAESAR VESPASIAN AVG COS III, radiate bust right.
Rev.: [PAX] AVG, Pax standing left, sacrificing out of patera in right hand over lighted altar, S-C in field.
Ref.: RIC 740; BMC 816.
SF 2538: Context 510.

Vespasian. As. AD 77-8. Lugdunum.
Obv.: IMP CAESAR VESPASIAN AVG COS VIII P, laureate head right, small globe below.
Rev.: [AEQVITAS] AVGVSTI, Aeqvitas standing left, holding long vertical rod in left hand, S-C high in field.
Ref.: RIC 758; BMC 844.
SF 7752: Context 625.

Vespasian. As or dupondius.
Obv.: [IMP CAESAR VESPA]SIANVS AV[G], laureate head right.
Rev.: Legend illegible, figure standing left.
SF 11913: Context 933.

Vespasian. As.
Obv.: [ ]VES[  ], laureate bust right.
Rev.: Legend illegible, standing figure.
SF 11159: Context 850.

Obv.: [IMP] CAES DOMIT AVG GERM P M [ TR P XIXIII, XV or XVI], laureate head right.
Ref.: Type as RIC 186.
SF 2272: Context 505.

Domitian. Dupondius.
Obv.: Legend illegible, radiate bust right.
SF 5885: Context 580.

Domitian. As or dupondius. AD 86-96.
Obv.: IMP CAES] DOMIT AVG GERM [COS...], head right.
Rev.: VIRTVT [AVGVSTI], Virtus standing right, holding spear in right hand, S-C in field.
Ref.: Type as RIC 305A.
SF 6689: Context 602.2.

Obv.: IMP NERVA CAES AVG P M TR P COS II P P, laureate head right.
Rev.: SALVS PVBLICA, Salus seated left, holding corn ears.
Ref.: RIC 9.
SF 2133: Context 503.

Obv.: IMP NERVA CAES AVG P M TR P COS III P P, laureate bust right.
Rev.: AEQVITAS AVGVST, Aequitas standing left, holding scales and cornucopiae.
Ref.: RIC 13.
SF 2864: Context 507.

Nerva. As or dupondius.
Obv.: [ ]AVG P M TR[ ], head right.
Rev.: Legend illegible, standing figure, S-C in field.
SF 1366: Context 430.

Flavian, c. AD 69-98. As or dupondius. 25mm. Very corroded and illegible.
Obv.: Head right. Rev.: Female figure standing left.
SF 670: Context 268.

1st century. Illegible. As.
Obv.: Bare head left. Rev.: Standing figure.
SF 7927: Context 602.2.

SF 9002: Context 701.

1st-2nd century. Illegible. As. 24mm.
Obv.: Bust right.
Rev.: Female figure standing left.
SF 9080: Context 701.

1st-2nd century. Illegible. As or dupondius. 25+mm. Extremely corroded.
Obv.: Bust ?left.
SF 727: Context 234.

1st-2nd century. Illegible. As or dupondius. 24mm.
Obv.: Bust right. Rev.: Figure standing left.
SF 3404: Context 508.

1st-2nd century. As or dupondius. 25mm. Illegible, except [S]-C in field on reverse.
SF 9965: Context 902.

1st-2nd century. Illegible. ?As or dupondius. 26mm. Very corroded.
SF 9909: Context 727.

SF 10976: Context 901.

?1st-2nd century. Illegible. ?As or dupondius. 21+mm. Extremely corroded.
SF 1369: Context 430.

Obv.: IMP NERVA TRAIANVS AVG GER DACICVS, laureate bust right.
Rev.: P M TR P - COS V P P , Mars walking right, with spear and trophy.
Ref.: RIC 80; BMC 143.
SF 5607: Context 557.

Antoninus Pius, 138-61. Dupondius.
Obv.: [ ] PIV[ ], radiate head right.
Rev.: Legend illegible, female figure standing right, S-C in field.
SF 2002: Context 503.

Obv.: LVCILLAE AVG ANTONINI AVG F, Draped bust right.
Rev.: VESTA, Vesta standing left, holding simpulum and palladium, altar at feet.
Ref.: RIC 788.
SF 2270: Context 505.

SF 2117: Context 503.

The Central Empire

Obv.: GALLIE[NVS AVG], radiate bust right. Rev.: Illegible.
ADS Supplement – FBE 95-99

SF 3676: Context 555.

Obv.: SALONINA AVG, diademed and draped bust right, on crescent.
Rev.: [IVNO CO]NSERVAT, Juno standing left, holding patera and sceptre.
Ref.: Cf. RIC 11.
SF 2877: Context 503.

Claudius II, 268-70. Fragment of an antoninianus.
Obv.: IMP [], radiate head right.
Rev.: [SPE]S PVB[LICA], Spes walking left, holding flower in right hand.
Ref.: Type as RIC 102 or 168.
SF 1630: Unstratified.

16mm. Rome.
Obv.: DIV[O C]LAVDIO, radiate bust right.
Rev.: [CONSECRATIO], large altar.
Ref.: RIC 259.
SF 971: Context 417.

Claudius II. Commemorative issue. Fragment of a silvered antoninianus.
Obv.: [DI]VO CL[AVDIVS], radiate bust right.
Rev.: [CONJSECRA[TIO], eagle to right.
Ref.: RIC 266.
SF 3483: Context 508.

The Gallic Empire

Victorinus, 268-70. Antoninianus. Mint II.
Obv.: [IMP C VICT]ORINVS P F [AVG], radiate bust right.
Ref.: RIC 61; Cunetio 2577.
SF 5542: Context 579.

Irregular Issues (Barbarous Radiates), c. 270-80.

Ae 13mm. An imitation antoninianus with an obverse of ?Gallienus (260-8), and a Pietas Augg/Augustor with sacrificial implements reverse of Tetricus II (270-3).
Obv.: Radiate head right. Rev.: Jug with detached handles to left and right.
SF 1583: Unstratified.

Ae 16mm. An imitation of a Laetitia Aug type coin of Postumus (260-8).
Obv.: Radiate head right. Rev.: Galley to left, ?7 oars, AVG in exergue.
Cf. Cunetio 2891.
SF 1040: Context 416.

31/01/2005 91
Ae 17mm. An imitation with an obverse of Tetricus II and a reverse type of Tetricus I (270-3).
Obv.: [TE]TRICVS CA, radiate, draped and cuirassed bust right.
Cf. Cunetio 3045.
SF 9187: Context 711.

Ae 15mm. An imitation of a coin of Tetricus II.
Obv.: Legend illegible, radiate bust right.
Rev.: SPES [AVGG], Spes walking left, holding flower.
Type as RIC 270.
SF 3598: Context 512.

Ae 16mm.
Rev.: Figure (? Pax) standing left, holding vertical spear or sceptre.
SF 5988: Context 564.

Ae 16mm.
Obv.: Radiate, cuirassed bust right. Rev.: Figure standing left.
SF 1063: Unstratified.

Fragment. Ae 13+mm.
Obv.: Radiate bust right. Rev.: Illegible.
SF 1583: Unstratified.

The British Empire

Obv.: [IMP C CARAVSIVS P F AVG, radiate bust right.
Rev.: [PAX] AVG, Pax standing left, holding vertical sceptre, [S]-P in field, [ ]XX in exergue.
Ref.: As RIC 100.
SF 1365: Unstratified.

Carausius. A large fragment from an antoninianus. ?Colchester.
Obv.: IMP C CARAVSIVS P F AVG, radiate, draped and cuirassed bust right.
Rev.: PAX [AVG], Pax standing left holding olive branch and vertical sceptre, S-[C] in field, C in exergue.
Ref.: RIC 300.
SF 1: Context 3.

Obv.: IMP C CARAVSIVS P F AVG, radiate, draped and cuirassed bust right.
Rev.: Incuse impression of obverse.
SF 1629: Context 432.

Obv.: IMP C [ALLE]CTVS P F AVG, cuirassed bust right.
Rev.: VIRTVS AVG, galley going left, with mast and 7 oars. Mint-mark illegible.
Ref.: Type as RIC 55.
SF 6804: Context 590.

3rd century. Ae 18+mm. Probably an antoninianus, and probably an irregular issue.
SF 10776: Context 707.

3rd or 4th century. Ae 11mm. Illegible and very corroded fragment.
SF 149: Context 44.

3rd or 4th century. Ae 12+mm. Illegible.
SF 1631: Context 470.

3rd or 4th century. Ae 11+mm. Illegible fragment.
SF 9408: Context 710.

SF 9004: Context 701.

The Central Empire

Obv.: IMP CONSTANTINVS MAX AVG, laureate, helmeted and cuirassed bust right.
Rev.: VICTORIAE LAETAE PRINC PERP, two victories standing facing one another, together holding shield inscribed VOT/PR above altar. Mint-mark in exergue: STR.
Ref.: RIC 209.
SF 2029: Context 502.

Constantine I. Ae 17mm. 319-20. London.
Obv.: IMP CONSTANTINVS AVG, helmeted bust left.
Ref.: RIC 158.
SF 1472: Context 445.

Constantine I. Ae 19mm. 321. Trier.
Obv.: CONSTANTINVS AVG, helmeted and cuirassed bust right.
Rev.: BEATA TRAN-QVILLITAS, globe set on altar inscribed VOT/IS/XX, above 3 stars. Mint-mark: STR.
Ref.: RIC (Trier) 303.
SF 5149: Context 579.

Constantine I. Ae 17+mm. 321-2.
Obv.: CONSTANTINVS AVG, consular bust right, with eagle tipped sceptre in right hand.
Rev.: BEATA TRAN-QVILLITAS, altar inscribed VO/TIS/XX in 3 lines. Mint-mark illegible.
Ref.: Type as RIC London 220.
SF 1482: Context 445.

Constantine I. Fragment of an Ae 19mm. 322-3. Lyons.  
Obv.: CONSTAN-TINV[S AVG], helmed and cuirassed bust right.  
Rev.: BEATA TRAN[VILLITAS], altar inscribed VO/TIS/XX in 3 lines. Mint-mark: C-R in field; PLG in exergue.  
Ref.: RIC 156.

SF 1534: Context 443.

Constantine II, as Caesar, 317-37. Ae 16mm. c. 318-20.  
Obv.: CONS[TANTINVS IVN NOB C], laureate bust right.  
Rev.: [VICTORIAE LAETAE PRINC PERP], two victories standing facing one another, holding a shield over an altar.  
Ref.: Type as RIC Arles 200.

SF 5263: Context 580.

Obv.: CONSTANTINVS [IVN NOB C], laureate, draped and cuirassed bust left.  
Rev.: [PR]OVIDENTIAE CAESS, camp gate with two turrets, star above; [ ]TR in exergue.  
Ref.: As RIC 455.

SF 2654: Context 506.

Constantine II, as Caesar. Ae 15mm. c. 330-5. Lugdunum.  
Obv.: CONSTANTINVS [IVN NOB C], laureate and cuirassed bust right.  
Rev.: [GLORIA EXERCITVS], two soldiers standing facing, each holds a spear and rests on a shield, two standards between them, SLG in exergue.  
Ref.: RIC 238.

SF 9429: Context 718.

Constantine II or Constantius II. Ae 14mm. c. 337-40. Possibly an irregular issue.  
Obv.: [ ], AVG, laureate bust right.  
Rev.: [GLORIA EXERCITVS], two soldiers standing facing, each holds a spear and rests on a shield, a standard between them.  
Ref.: Reverse type as Trier 38.

SF 2880: Context 507.

Helena, mother of Constantine I. c. 337-41. Large fragment of an Ae 12+mm.  
Obv.: [FL IVL HELENAE AVG], bust right with ornamental mantle.  
Rev.: [PAX PVBLICA], Pax standing left, holding branch and transverse sceptre. Mint-mark illegible. Ref.: Type as RIC (Trier) 42.

SF 3956: Context 512.

Irregular issue, c. 337-41. Fragment (centre) of an Ae 7+mm. Imitation of a Pax Publica-type coin of Helena.  
Obv.: Bust right. Rev.: Pax standing left, holding vertical sceptre.  
SF 11506: Context 701.

31/01/2005
Commemorative issue, c. 337-40. Ae 16mm.  
Obv.: CONSTAN-TIN[OPOLIS], helmed bust left, sceptre over left shoulder.  
Rev.: Victory standing left on prow, holding spear and resting on shield.  Mint-mark: illegible.  
Ref.: Type as RIC (Trier) 67.  
SF 10146: Context 904.  

Constans, 337-50. Ae 14mm. c. 341-6. Trier.  
Obv.: [CONSTANS] P F AVG, diademed bust right, with pearls and rosettes.  
Rev.: VICTOR[IAE] D D AV[GQ NN], two victories standing facing one another, each holding a wreath.  Mint-mark: M over [TRP].  
Ref.: RIC (Trier) 182; HK (Trier) 138.  
SF 4284: Context 558.  

Constans. Ae 14mm. c. 341-6. Trier.  
Obv.: CONSTAN-S P F AVG, diademed bust right, with pearls and rosettes.  
Mint-mark: D over [ ].  
Ref.: Type as RIC (Trier) 195; HK 148.  
SF 4558: Context 577.  

Constans. Ae 13mm. c. 341-6. Trier.  
Obv.: CONSTAN-S P F AVG, diademed bust right, with pearls only.  
Rev.: VICTORI[AE] D D AVGG Q N N, two victories holding wreaths.  
Mint-mark: ‘E’ over TRP.  
Ref.: RIC (Trier) 199; HK (Trier) 155.  
SF 4845: Context 557.  

Constans or Constantius II. Ae 13mm. c. 347-8.  
Obv.: Illegible, rosette diademed bust right.  
Rev.: [VICTORI[AE] D D AVGG Q N N], two victories holding wreaths.  
Mint-mark: illegible, palm above.  
Ref.: Type as RIC (Trier) 203.  
SF 1604: Context 491.  

Constans or Constantius II. Ae 13mm. c. 347-8.  
Obv.: Illegible.  
Rev.: [VICTORI[AE] D D AVGG Q N N], two victories holding wreaths.  
Mint-mark: illegible.  
SF 11089: Context 907.  

Constans or Constantius II. Ae 14+mm (fragment). c. 348-50.  
Obv.: [D]N CONS[ ], draped and cuirassed bust right.  
Rev.: [FEL TEM]P REP[ARATIO], Phoenix on globe.  
Ref. Type as RIC (Trier) 231.  
SF 3838: Context 512.  


31/01/2005 95
Obv.: D N CONSTA-NS P F AVG,
Rev.: FEL TEMP REPARATIO, emperor on galley going left, holding a standard and a
phoenix on a globe, in the stern sits Victory, steering the ship. Mint-mark: RP in exergue.
Ref.: RIC 109.
SF 2116: Context 502.

Irregular issue, mid-4th century (c. 348-364). Ae 21mm. 2.8g.
Obv.: Legend illegible, diademed, draped and cuirassed bust right.
Rev.: Legend illegible, soldier spearing fallen horseman.
SF 9388: Context 713.

4th century. Ae 13mm. Illegible.
SF 2119: Context 503.

4th century. Ae 12mm. Illegible.
SF 2271: Context 505.

1st-4th century. Ae 18+mm. Illegible and very corroded fragment.
SF 9012: Context 701.

1st-4th century. Ae 20+mm. Illegible and very corroded fragment.
SF 10327: Context 701.

1st-4th century. Ae 17+mm. Illegible and very corroded fragment.
SF 9098: Context 704.

c, Medieval

John, 1199-1216. Silver cut halfpenny. Class 5a or b, 1204/5-c. 1208/9. Winchester.
Obv.: [HE]NR[ICVS REX], bust facing.
Ref.: North (1980) 969 or 970.
SF 1969: Backfill of Alec Down’s Trench ‘C’.

Obv.: [HENRI]CVS R[EX III], bust facing.
Rev.: [NIC]OLE [ON.], long cross. The moneyer Nicole is known at various mints.
SF 3553: Context 508.

Henry III. Long Cross coinage. Silver cut farthing. Class 5g, 1251-72.
Obv.: [HENRICVS R]EX-II[I, bust facing, with sceptre.
Rev.: REN[ ], long cross. The moneyer Renaud of either London or Bury.
SF 90: Unstratified.

Edward I or II. Silver penny. Class 10c-f, c.1305-10. London.
Obv.: +EDWA R ANGL DNS HYB, bust facing.

31/01/2005 96
Edward I or II. Silver round farthing. Class 10 or 11, c. 1305-14. London.
Obv.: +EDWARDVS REX AN, bust facing.
Rev.: CIVITAS LONDON.
Ref.: North (1975) 1058 or 1070.
SF 9932: Context 902.

Edward III, 1327-77. Post-Treaty period, 1369-77. A large fragment from a penny issued by either Archbishop Thoresby or Archbishop Neville of York.
Obv.: [EDWAR]DVS RE[X ANGLIE], bust facing, with cross on breast.
Ref.: North (1975) 1295.
SF 823: Unstratified.

Philip and Mary, 1554-8. Base silver penny.
Obv.: P Z M D [G ROSA SINE SPINE], double rose.
Rev.: CIV[ITA]S L[ONDON], shield.
SF 1059: Unstratified.

d, Post-Medieval

William III. Copper farthing. Dated 1697.
SF 2023: Context 503.

George II. Copper halfpenny. Date illegible, but young bust of the period 1729-39.
SF 4: Unstratified.

George II. Halfpenny. Date and bust illegible. c.1729-54.
SF 1382: Context 403.

Probably George II or III, c.1729-75. Two halfpennies. Dates illegible.
SF 10915: Context 701; SF 9743: Context 901.2.

George III. Copper ‘Cartwheel’ penny. Dated 1797.
SF 2010: Context 503.

George III. Halfpenny. Dated 1806.
SF 2033: Context 505.

SF 2009: Context 503.

Fragment from a cut/broken copper/copper-alloy ?coin. 19+mm diameter, 1mm thick. Illegible.
SF 912: Unstratified.

Table 71 provides a consolidated list, and the opportunity has also been taken to tabulate coins from Alec Down’s 1983 excavation (which cut across the area of the 1995-99 dig) and his excavations to the east of Building 3 in 1985-6, underneath the modern A27 (Fig.8).

<table>
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<tr>
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<tr>
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<td>Total Coin Types</td>
<td>Total Coin Types</td>
<td>Total Coin Types</td>
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<tr>
<td>Carthaginian</td>
<td>1 Müller 286</td>
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<td>-</td>
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<td>Late Iron Age</td>
<td>-</td>
<td>2 VA 1705-1 and ineligible. Ae units.</td>
<td>2 VA 378-1, 381-1</td>
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<td>2 BMC 4261, BMC (East) 190</td>
<td>1 BMC (East) 190</td>
<td>3 as Sydenham 587, BMC 4009, 4290</td>
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<tr>
<td>Agrippa (Caligula)</td>
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<td>-</td>
<td>1 58</td>
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<tr>
<td>Claudius I</td>
<td>1 cf: 83 plated</td>
<td>7 100, copy as 100, rev. illeg., illeg. ?copies (4)</td>
<td>4 100 (3), copy as 100</td>
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<tr>
<td>Nero</td>
<td>1 423</td>
<td>3 as 213, 456, rev. illeg.</td>
<td>2 60, 522</td>
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<td>Vespasian</td>
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<td>6 475 or 740, 494, 528b, as 528, as 766a, 809++</td>
<td>5 42, 740, 758, rev. illeg. (2)</td>
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<tr>
<td>Titus</td>
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<td>-</td>
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<td>1 as 335</td>
<td>3 240a, as 242A or 354, 354</td>
<td>3 as 186, as 305a, rev. illeg.</td>
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<td>- otherwise illeg.</td>
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<td>2 illegible</td>
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<td>6 otherwise illeg.</td>
<td>8 otherwise illeg.</td>
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<tr>
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<td>1 80</td>
</tr>
<tr>
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<tr>
<td>Antoninus Pius</td>
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<td>Faustina II</td>
<td>-</td>
<td>1 M. Aurelius 677</td>
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<tr>
<td>Lucilla</td>
<td>-</td>
<td>-</td>
<td>1 788</td>
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<tr>
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<td>1 illeg. denarius</td>
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<td>-</td>
<td>1 as 11</td>
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<td>3 as 102 or 168, 259, 266</td>
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<tr>
<td>Victorinus</td>
<td>-</td>
<td>-</td>
<td>1 61</td>
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<td>Coin Types</td>
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<td>Radiates</td>
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<tr>
<td>c.294 - 310</td>
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<td>Constantine I</td>
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<tr>
<td>Urbs Roma</td>
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<td>copy as HK Trier 85</td>
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<tr>
<td>Commemorative issue c.337-40</td>
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<td>Fallen horseman, c.348-64.</td>
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<tr>
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<tr>
<td>1st-4th century</td>
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<tr>
<td>Edward I or II</td>
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<td>Philip and Mary</td>
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<td>George II or III</td>
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<td>George V</td>
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<td>?Token dated 1740</td>
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N.B. Unless otherwise stated, all references are to Roman Imperial Coinage (RIC). Other references are to: Müller (1860-63); Van Arsdell (1989); BMC (Roman Republic) = Grueber (1910); Sydenham (1952); HK = Hill & Kent (1972) and North (1975 and 1980).

**

A selection of coins from the 1983 and 1985-6 excavations

a, Carthaginian

Carthage (Zeugitana, North Africa), 3rd/early 2nd century BC. Ae 18 mm; 4.89g. Fig. 184. Obv.: Head of Tanit left, wreathed with corn.
Rev.: Head and neck of horse right; Punic letter (= o) in field to right.
Ref.: Müller (1860-63) 286; Sear (1979) 6526.

b, Iron Age

31/01/2005

100
North of the Thames. Tasciovanus, probably c. 20-5 BC. Bronze coin: 15 mm diameter. Very corroded and edge chip.
Obv.: Two celticized bearded heads right. Rev.: Celticized ram left.
SF 211: 1985 Trench E, Context 2.

North of the Thames. Late-1st century BC/early-1st century AD. Probably either Tasciovanus or Cunobelin. Large fragment of a bronze coin: 15 mm diameter. Extremely corroded.
Obv.: ?Head right. Rev.: ?Horse right.

c, Roman Imperial

Claudius I, with Nero as caesar. Plated imitation denarius. 2.18g. Die axis 180°. c.AD 50s-60s. Fig. 185.
Obv.: TI CLAVD] CAESAR AVG P M TR P [ , laureate head of Claudius right.
Rev.: NERO CLAVD CAES DRVSVS GERM PRINC IVVENT, bare head of Nero left.
Ref.: Similar to RIC 83 (issued AD50-54); BMC 80

**

Table 72: Summary lists of coins, token and jetons from the 1961-69, 1983, 1985-86, 1987-88 and 1995-1999 excavations at Fishbourne (see Fig. 8 for location of excavations). Note that the columns are ordered so as to reflect excavations trending from west (Palace 1961-9) to east (A27 1985-6).

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<td>Carthaginian (late-3rd / early-2nd century BC)</td>
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<td>Late Iron Age (late-1st century BC/early-1st century AD)</td>
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<td>Republican (late-3rd -late-1st century BC)</td>
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<td>-</td>
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<td>Tiberius, AD 14-37</td>
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31/01/2005 101
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<td>Nerva, AD 96-98</td>
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<td>1st-3rd century</td>
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<td>Gallienus, AD 253-268</td>
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<td>Radiates, c. 260-280</td>
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<td>Helena, mother of Constantine I</td>
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Kings of England:

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<td>Henry III, 1216-1272</td>
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<td>Edward I or II, c.1305-1310</td>
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<td>Edward III, 1327-1377</td>
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<td>Henry VI, 1422-1471</td>
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<td>Period</td>
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<tr>
<td>Philip II of Spain (husband of Mary)</td>
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<td>William III, 1694-1702</td>
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<td>George I, 1714 – 1727</td>
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<td>George II, 1727-1760</td>
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<td>George II or III</td>
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<td>George III, 1760-1820</td>
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<td>Victoria, 1837-1901</td>
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<td>Edward VII, 1901-1910</td>
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<td>George V, 1910-1936</td>
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<td>George VI, 1936-1952</td>
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Figures

Fig. 184  Carthage. Ae 18. SF 52 (1983).
Fig. 185  Claudius I. Plated denarius. SF 69 (1983).
The sigillata – by Geoff Dannell

Decorated samian
(significant contexts are indicated after the context number)

1. (SF 2079 context 505) Form 29 or 11. Insufficient for ascription, but the large motifs imply an early date. The fabric is not South Gaulish and may be Italian, but is probably ‘Provincial Arretine’.

2. (SF 10884 context 716; flint road – Phase AE) Form 29. Insufficient for ascription. The larger frond has not been certainly identified from literature or comparable rubbings. Fig. 187.

3. (SF 7767 context 581; under flint road – Phase AE; this piece provides a tpe for the construction of the flint road) Form 29. Very few of the designs on Drag. 29 have been published from Lezoux and no direct contemporary parallels have been found. Oswald shows two examples of decorated gadroons (Oswald 1937, 211, fig. 13, 1 & 9), but neither of this type. The small ‘tulip’-shaped leaves were current at La Graufesenque c. AD 50 – 70 and the use of small birds at much the same time.

4. (SF 1580 context 443.2; demolition – Phase AH) Form 29. The very bottom of the decoration, with a frieze of anthemions, which has a disconnected blob at the base between the spiral elements. This variant is known at La Graufesenque and was drawn by Hermet (Hermet 1934, pl. 13.60) without the blob, which he may have thought was an excrescence, but it is quite definitely part of the poinçon. The bowls on which it has been recorded there look to be Neronian.

5. (SF 4081 context 511; flint road – Phase AE) Form 29. Insufficient for ascription. The open scroll and palm leaves in the bottom zone suggest a potter of the Neronian – Vespasian period.

6. (SF 1619 context 484; bottom of stream – Phase AD) Form 29. Tight scroll to right, with two-ringed, centred roulettes. For general design see Hermet pl. 36.R7 (Hermet 1934).

7. (SF 10705 context 37) Form 37. Ovolo used by Frontinus (Hermet 1934 pl. 85.2)

8. (SF 1560 context 443.4; demolition – Phase AH) Form 37. Style of bowls stamped by Crucuro who used this ovolo. (Colchester, CMAE, R271). If only one South Gaulish potter used the die for this name, his career was extensive. Mees (1995) divides the output between two men. A form 37 from La Graufesenque has the name of Germanus stamped in the mould, overwritten with Crucuro’s name. This should be dated c. AD 75 – 90. The latest works, represented by his ‘Labours of Hercules’ (Hermet 1934, pl. 109 1 & 2) are in a style of the opening years of the 2nd century. This piece is from his earlier work.

31/01/2005
9. (SF1490/1491 context 457) Form 78. It is not easy to ascribe this form when produced without an ovolo. Germanus is one of the few to have stamped his moulds. Hermet illustrates a similar leaf and bird (Hermet 1934 pl.92.10). c.AD 75 – 90 La Graufesenque

10. (SF 11975 context 934; north pit Area B – Phase BF) Form 37. A small fragment of an ovolo, which has been found on Knorr 78 from La Graufesenque. However, no potter or mould-maker can yet be associated with it. c.AD 75 – 90 South Gaulish

11. (SF 2017 context 502) Form 30 The ovolo is known at La Graufesenque on Drag. 37, and may be a reduced or worn version of that used by Frontinus. Cf ovolo CH (Dannell, Dickinson & Vernhet 1998 73). The Apollo is not in Oswald’s catalogue. c.AD 75 – 90 South Gaulish

12. (SF 7862 context 37) Form 37. Probably ovolo SA, used by Patricius (Dannell, Dickinson & Vernhet 1998, 83) c.AD 75 – 90 South Gaulish

13. (SF 2703 context 513) Form 37. Rogers’ ovolo B28, but very worn. c.AD 100 – 120 Les Martres-de-Veyre

14. (SF 1537 context 443; demolition – Phase AH) Form 37. Very eroded. The ovolo is broken, but may be that of Donnaucus or Potter X-13 (Rogers 1974) The acanthus is his K2. c.AD 100 – 120 Les Martres-de-Veyre

15. (SF 1617 context 484; bottom of stream – Phase AD) Form 37. Style of Potter X-2 (Stanfield & Simpson 1956 pls. 3-9). The wreath is Rogers’ G376 (Rogers 1974). One figure is probably the warrior, O.157, the other, not clear. c.AD 100 – 120 Les Martres-de-Veyre

16. (SF 2724 context 507) Form 37. The leaf is probably that shown for Cettus by Terrisse (Terrisse 1968) c.AD 135 – 160 Les Martres-de-Veyre

17. (SF 2040 context 505) Form 37. Rogers’ ovolo B12, used principally by Divixtus. c.AD 140 – 160 Central Gaulish

18. (SF 2316/2357 context 510; above greensand road – probably Phase AF) Form 37. Probably from the same vessel as 17. The ovolo is Rogers’ B143 (Rogers 1974), which was used by a number of potters, most of whom had a connection with Cinnamus. c.AD 145 – 165 Central Gaulish

19. (SF 10378 context 702) Form 37. Rogers ovolo B182 (Rogers 1974) used, among others, by Cinnamus. c.AD 145 – 165 Central Gaulish

20. (SF 2218/2295 context 501/506) Form 37. May come from the same vessel; the style is perhaps that of Paternus. c.AD 160 – 190 Central Gaulish

21. (SF 10404 context 905; midden Area B – Phase BE) Form 74. Small bust of Pan, on black-slipped, metallic, vessel. A recent find from Chichester has a different mask (Dannell 1989 fig. 31/01/2005 106
14.8.218), and this type is not shown by Simpson (Simpson 1957). The horns are only faintly visible among the hair. Fig. 187.

c. AD 120 – 160 Lezoux

**

Arretine stamps

1. MENA AVILI SF 11483; context 919 (primary silt in ditch in Area B – Phase BA; the date of deposition of this post-dates the digging of the ditch in Area B) Conspectus 22 A two-line stamp, which is also known from Silchester, cf OCK 380.2 c. B.C. 10 – A.D. 10 Lyons

2. ATEIXANTHI SF 11115; context 915 (probable old ground surface in Area B; the date of deposition of this piece probably post-dates the actual digging of the ditch in Area B) Conspectus 22 A heavily abbreviated stamp in an ansate frame. The distribution suggests an Italian origin for this piece, cf OCK 312.12. c. B.C. 5 – A.D. 20 Arezzo or Pisa

NB Note also that the base of an Arretine cup from context 915 bore the graffiti ‘TV’- see Fig. 190

**

Samian potters’ stamps – by Brenda Dickinson

Each entry gives: SF number, context number, phasing if context is significant, potter (i, ii, where homonyms are involved), die, form, reading, published example (if any), origin of pottery, discussion, date.

Superscript a and b indicate:

a A stamp attested at the pottery in question.
b Not attested at the pottery in question, but other stamps of the potter known from there.
c Assigned to the pottery on the evidence of fabric, distribution, etc.

Ligatured letters are underlined

1 2415; 507; Flo-- Albinus 4a 33 F-ALBI-NI-OF (Dickinson 1996, Fig. 142, 27) Lezouxb. Stamps of this potter, from a different die, occur on the rims of decorated bowls by Cinnamus ii,
Luxtucissa and, particularly, Paternus v. This evidence, and his use of plain forms such as 31R and 79R suggest a range c. AD 150-180.

2 2194 + 2134; 505; Maccalus 3a 38 or 44 MA[CCALI]M (Dickinson 1986, 190, 3.81) Lezoux\(^a\). Late 2nd-century date for this stamp is shown by its occurrence in the group of late-Antonine samian recovered off Pudding Pan Rock (Kent) and by two examples from Housesteads. c. AD 160-200.

3 2174; 505; Niger ii 3b 15/17 or 18 [O]FNGRI (Glasbergen 1955, 142, 289) La Graufesenque \(^*\). This stamp is from the earliest stage of a die which underwent several modifications as it progressively degraded. The penultimate version was used on the pre-Flavian cup, form Ritt. 8 and, given the lack of site dating for the die as a whole, this provides the best evidence for the earliest version. c. AD 50-65.

4 2744; 507; Pugnus ii 1a 33 [PV]GNI-M \(^b\). The stamp, which occurs on decorated ware in one of the potter’s latest styles, was also used on plain forms, including cups of form 27. Its range will be c. AD 150-180.

5 2763; 507; Severus iii 6a 15/17 or 18 OFSEV[ERN] with S and N reversed (Ettlinger 1978, 128, 165) La Graufesenque\(^*\). A stamp noted from the York fortress and on bowls of form 29 with decoration typical of the early Flavian period. c. AD 70-85.

6 2073; 505; ]PILLI? on form 18/31 or 31, Central Gaulish. The P is uncertain, but the other letters are clear. Hadrianic or early Antonine. Burnt.

7 11088; 909.3 (north pit Area B – Phase BF); Logirnus 10a form uncertain [LOGI]RNM (Dannell 1971, 309, 56a) La Graufesenque\(^*\). The fabric of this piece suggests origin at La Graufesenque, though the die was also used at Montans. Logirnus began work under Nero, but most of his output is Flavian. There are many examples of this stamp from military sites in Britain founded in the early Flavian period, including the Red House site at Corbridge, but none from Agricolan sites in Scotland, where his work is relatively common. c. AD 70-80.

8 11924; 933 (north pit Area B – Phase BF); Pontus 8g’ 27? OFPONTI La Graufesenque\(^*\). A faint mark under the loop of the P resembles the tail of an R, but it is not present on all examples of the stamp and is probably the result of a developing fault on the die. The stamp has therefore been assigned to Pontus, rather than Frontinus, but its date would be much the same in either case. Stamps from the original die (OPFONTI) occur at Malton and the main site at Corbridge. c. AD 75-90.

9 9172; 711 (south of greensand road; probably Phase AD); Primus iii 30b 27g PRIMI-M \(^a\) (Durand-Lefebvre 1963, 194, 603) La Graufesenque\(^*\). This is one of the later stamps of a potter whose work was mainly Neronian, but a few of whose stamps occur in Flavian contexts. This particular stamp appears occasionally on the pre-Flavian cup forms 24 and Ritt. 8, but is also known from Camelon, Newstead, Rottweil-Hochmauren and York. c. A.D. 60-75.

10 9290; 710 (overlying greensand road; probably Phase AE or AF); Tintirio 1a 33 TINTI [RIOM] Lezoux\(^b\). The potter was at work in the early- to mid-Antonine period, stamping forms 18/31, 18/31R, 27, 31 and 80. This stamp seems to be from one of his later dies, since it is known on form 80. c. AD 155-175.
11 10658; 907 (midden in Area B – Phase BE); II IV on form 27, South Gaulish. Flavian.

12. 5850; 585 (midden Phase AF); Bellic(c)us ii 2a 33 BIILLICCIM (Juhász 1935, pl. XLIV, 41) Lezouxb. c. A.D. 150–170/180.

13. 6670; 535 (fill of aqueduct – Phase AG); L. Cosius Virilis 12c 33 OFLCVIR[ILI] (Laubenheimer 1979, fig. 6, 45) La Graufesenque. c. A.D. 85–110.

14. 5733; 585 (midden Phase AF); Ericus 1b 38 or 44 ERICI-M (Knorr 1907, Taf. XXX, 126) Lezouxb. c. A.D. 135–160.

15. 6451; 598 (possible lower layer of midden – Phase AF); Felicio iv 5a Dish CEFLICIO retr. Montans. c. A.D. 120–145.


18. 7178; 598 (possible lower layer of midden – Phase AF); Primus iii 33a 15/17R or 18R [P] RIMIFE La Graufesenque. c. A.D. 55–70.

19. 6054; 585 (midden Phase AF); Viducus ii 4a 33? VIDVC[OS Γ] (Hartley 1972, fig. 81, 54) Les Martres–de–Veyrea. c. A.D. 100–120.

**Distributions:** Distribution plots were made of the sigillata sherds by period, and then bar charts showing the contexts which contained the samian were produced. The following comments are provided on a period by period basis and reference should be made to the figures and bar charts for each period.

**Pre-Claudian:** (Figs. 199,200) distribution of samian as expected in Area B and in the north end of Area A. Note the concentrations of samian in 598, an area just above the natural in the north-east corner of Area A, and in 919, the primary silt of the ditch in Area B. The largest quantity of samian occurred in 907, the lower layer of the midden in Area B; many sherds in this context must be residual.

**Pre-Flavian:** (Figs. 201,202) distribution of samian much more widespread with concentrations in Area B but spreading southwards in Area A towards Building 3. Highest concentrations were in Area B midden deposits 905 and 907, and also in 598, an area just above the natural in Area A.

**Flavian:** (Figs. 203,204) distribution of samian a little less concentrated in Area B, with a spread of sherds in Area A north of Building 3. Quantities of samian occurred in the midden deposits of Area B (905 and 907). In Area A 598, an area above the natural in the north-east corner and 507, an upper layer in the north east corner of Area A which sealed the flint road produced quantities of samian.

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Trajanic: (Figs. 205,206) distribution of samian scarce in Area B with some spread in Area A north of Building 3. As in the preceding period there was a concentration in 507, with also quantities in the midden deposits 558 and 585 of Phase AF.

Hadrianic: (Figs. 207,208) distribution of samian much as in Trajanic period, but with a concentration in 710, a context which lay over the greensand road of Phase AD.

Antonine: (Figs. 209,210) distribution of samian in Area A north of Building 3 and in the upper levels of the stream. Concentrations of sherds in 507, the midden deposits of Phase AF and in 710 overlying the greensand road.

Late Antonine: (Figs 211,212) distribution of a few sherds of samian. Concentrations in the upper levels of the stream (491), 507 and 580, a context over the top of the aqueduct.

1st century sherds: (Figs. 213,214) distribution of samian concentrated in Area B and in Area A north of Building 3. Contexts which included a high quantity of samian were 507 and 598.

2nd century sherds: (Figs. 215,216) distribution of samian much as in 1st century except for fewer sherds in Area B. Concentration of sherds in 507 and 710.

The distributions, while of interest in their own right, indicate that the earliest focus of activity, as demonstrated by the sigillata, was in Area B, and with time, the focus of activity moved to Area A. It is also noteworthy that the samian distributions stayed to the north of Building 3 right up to the Late Antonine period, suggesting that Building 3 was in existence at that time, and therefore prevented the southern spread of samian sherds, by its presence.

Figures

191. Samian stamps

**

Figures

192. Bar chart illustrating sizes of selected samian sherds
193. Bar chart indicating sizes of samian sherds by date
194. Bar charts showing numbers of samian forms by date – pre-Claudian, pre-Flavian
195. Bar charts showing numbers of samian forms by date – Flavian, Trajanic
196. Bar charts showing numbers of samian forms by date – Hadrianic, Antonine, Late Antonine
197. Respective quantities of samian sherds by date from selected samian production zones – Atterine, South Gaulish, Central Gaulish
198. Respective quantities of samian sherds by date from selected samian production zones – East Gaulish, MdV and Lezoux
200. Samian – pre-Claudian bar chart
202. Samian – pre-Flavian bar chart
203. Samian – Neronian and Flavian distribution
204. Samian – Neronian and Flavian bar chart
Pottery – by Malcolm Lyne

1. Introduction: The five seasons of excavation yielded more than 352kg of pottery, of which the overwhelming bulk is Roman and of 1st to 3rd century date. Small amounts of Late Iron Age 'Atrebatic overlap' pottery and pre-Conquest imports are also present and there are significant quantities of medieval sherds from the upper levels.

2. Methodology: All of the pottery assemblages, with the exception of some of those from unsealed superficial deposits, were quantified by number of sherds and their weights per fabric. Those from the unsealed deposits were broadly spot-dated, examined for unusual sherds and weighed in total. A number of assemblages are large enough and sufficiently significant for more accurate quantification by Estimated Vessel Equivalents (EVEs) based on rim sherds (Orton 1975). These quantifications are tabulated below (Tables 73 to 79).

Fabrics were classified by means of a x8 lens with built-in metric scale for determining the size, form, frequency and nature of inclusions. Finer sherds were further examined using a x30 pocket microscope with built-in artificial illumination source.

3. Fabrics:

The Atrebatic and ‘overlap’ fabrics: The term ‘overlap’ fabrics was first put forward by Alec Down (1981,176) to cover Southern Atrebatic native wares made in the decade or so before AD43 and for 20 years or so after this date. Such wares were further discussed by Down in his report on the pottery from the Cattlemarket site in Chichester (1989,151) and compared with similar Late Iron Age material from Copse Farm, Oving (Hamilton 1985). Many of these wares occurring in contexts otherwise dated by imports to the period AD43-60 are difficult to distinguish from similar pottery made before the Roman conquest.

C.1. Handmade, patchy fired but generally soot-soaked fabric with profuse ill-sorted up to 0.50 mm subangular quartz and very sparse irregular calcite filler.
C.2. Handmade, soot-soaked fabric with profuse up to 0.50 mm calcined flint filler and smoothed surfaces.
C.3. Handmade with profuse up to 2.00 mm calcined flint and up to 0.20 mm irregular and angular iron-stained and honey-coloured quartz filler, with occasional large angular ironstone and grey limestone inclusions.
C.4A. Tournetted very fine sanded grey-buff to black fabric with profuse up to 0.20 mm multi-coloured quartz and sparse up to 2.00 mm calcined flint filler.
C.4B. Handmade brown-black fabric with profuse ill-sorted up to 0.50 mm multicoloured quartz filler, with occasional up to 2.00 mm angular black ironstone and soft brown grog inclusions.
C.5. Soapy black fabric with profuse ill-sorted up to 0.50 mm colourless quartz and grog filler.
C.7. Handmade soot-soaked fabric with profuse up to 1.00 mm white and colourless quartz.
C.8. Similar fabric but with profuse up to 0.20 mm rounded white quartz filler.
C.11A. Handmade Rowlands Castle type grey ware variant with additional profuse coarse calcined flint filler. The Late Iron Age – Early Roman ceramic sequence from North Bersted shows that cooking-pots in this fabric were made from the Late Iron Age until c.AD.50 (Lyne, forthcoming).
C.21. Handmade black fabric with angular up to 2.00 mm reddish-brown ferrous inclusions.

2. Other Late Iron Age and Roman Coarseware fabrics.
C.9. Handmade soot-soaked wares from around Poole Harbour. These are characterised by profuse white quartz sand filler together with sparse shale and chert inclusions. These wares can be subdivided into C.9A. Durotrigian Black-Burnished Ware and C.9B. Dorset BB1. Vessels in the latter fabric appear in small quantities after c.AD.120 and continue to be supplied until at least AD 300. The presence of a solitary Fabric C.9A bowl fragment in the lowest fills of the aqueduct does however indicate earlier supply of such wares during the mid-1st century.
C.10A. Wheel turned grey ware with profuse up to 0.20 mm colourless quartz, occasional coarse black ferrous inclusions up to 3.00 mm. An Arun Valley/Hardham industry product. These wares form a significant element in most pottery assemblages from the mid-1st century onwards but are absent after c.AD 200.
C.10B. Off-white variant with blue-grey surface wash. This fabric variant is represented by a single 2nd century jar rim fragment from the fill of post-hole 722 cut through the surface of the Phase AD greensand road.
C.11. Romanised Rowlands Castle wares. These high-fired grey wares are characterised by profuse fine quartz filler and a scatter of brown and black ferrous and white calcite inclusions. They can be subdivided into the rare and generally early C.11B variant with additional sparse calcined flint and C.11C without flint. Cooking pots in Fabric C.11B were found in Late Iron Age and pre-Flavian contexts at North Bersted; indicating that their manufacture commenced some years before the Roman conquest and continued until c.AD 70: storage jars in similar fabric did, however, continue to be made at Rowlands Castle until the early 3rd century. Supply of mainly cooking-pots in Fabric C.11C from both the main production centre only 11 kilometres to the west and satellite kilns at the Palace itself was on a large scale from c.AD.60 until the destruction of the Palace at the end of the 3rd century
C.12. Sandy orange fabric with profuse irregular up to 0.75 mm multi-coloured quartz filler. Wares in this fabric were made at Fishbourne on a small scale during the late 1st and early 2nd centuries.
C.13. Wheel turned, very fine sanded grey ware with additional moderately ill-sorted 1.00 to 3.00 mm irregular to angular soft black ferrous inclusions. Jars and other forms in this rare but distinctive West Sussex fabric were supplied during the period c.AD.50-80
C.15. Alice Holt/Farnham grey wares (Lyne & Jefferies 1979). These wares from the Hampshire/Surrey borders to the north of Fishbourne can be subdivided into C.15A. early Alice Holt/Farnham products (Ibid., Fabric A) and C.15B. late Alice Holt/Farnham products with self-slip or black/white slip bands of decoration. Very small quantities of early products arrived on site during Cunliffe Periods 1B and 1C: appreciably larger quantities of late products were traded to Fishbourne during the mid – late-3rd century.

Other rare coarseware imports to the site comprise C.16 New Forest grey ware (c.AD 270-300+), C.17 BB2 (c.AD 130-250), C.18 Vectis ware (1st to 3rd centuries), C.19 Highgate Wood Fabric C (c.AD 60-180) and C.20 Hampshire Grog-Tempered ware (c.AD 270-300+). Nondescript very fine and fine sanded grey wares of indeterminate origin are lumped together under the miscellaneous heading C.22.

3. Roman finewares
F.1A. Gallo-Belgic Terra Rubra TR3 fabric.
F.1B. Gallo-Belgic Terra Rubra TR1(C) fabric.
F.2A. Gallo-Belgic Terra Nigra
F.2B. Central Gaulish micaceous Terra Nigra
F.3. Gallo-Belgic Whiteware
F.4. Italian Arretine fabric
F.5A. South Gaulish La Graufesenque Samian.
F.5B. Martres-de-Veyre Samian.
F.5C. Lezoux Samian.
F.5D. Marbled Samian. This very rare South Gaulish fabric is represented by a single fragment from the context 906 in Area B.
F.5E. Black Lezoux Samian. This equally rare fabric is represented by the moulded head from a closed form retrieved from context 905 in Area B.
F.6. Soft wheel turned cream to pink sand-free fabric with sparse to moderate up to 2.00 mm irregular soft, red and grey ferrous inclusions. Beakers, flagons, honey jars and other forms in this early Wiggonholt fabric are present in significant quantities during the period c.AD.50-80 but are probably residual in later assemblages.
F.7. Sand-free reddish-brown fabric with external white slip and a tendency to laminate. Flagons and other forms in this fabric have the same date range as those in Fabric F.6 but may be of local manufacture.
F.8. Sand-free wheel turned leaden-grey fabric. This fabric is represented by fragments from a single lid seated bowl of early-2nd century date built into the causeway across the stream.
F.9A. Central Gaulish White ware. Imports in this c.AD.60-120 dated fineware fabric are confined to fragments of a single cup from context 908 in Area B.
F.9B. Central Gaulish Other fabric (Davies et al. 1994,130). Vessels in this c.AD 60-140 dated colour-coated fabric are also restricted to a fragment of a beaker from context 727.
F.9C. Lyon ware. Vessels in this c.AD 43-75 dated fabric are restricted to a tiny roughcast cup or beaker chip from the foundation for the flint road of Phase AE.
F.9D. Lezoux Colour-coat. A single c.AD 150-200 dated beaker sherd with barbotine tendrils is present in the mid – late-2nd century midden deposit 558.
F.10A Hardham 'London' ware. Bowl, cup and platter forms in this dark-faced micaceous fineware were supplied to Fishbourne in small quantities during the late-1st and early-2nd centuries.
F.11. Cologne colour-coat. Small numbers of fragments from roughcast bag-beakers and hunt-cups in this white fabric with black colour-coat are present in 2nd century assemblages from the site. c.AD130-200.
F.12. Wiggonholt oatmealy cream fabric with very fine quartz and brown/black ferrous inclusions. This is essentially an oxidised version of Fabric C.10A but used for fineware forms.
such as flagons and beakers. Vessels in this fabric appeared on site c.AD 50/55 and continued to be supplied until the mid-2nd century.

F.13. Lower Nene Valley Colour-coat. Beakers in this fabric are represented by just a few fragments from 3rd century and palace destruction levels.

F.14A. Oxfordshire Red Colour-Coat. Just a few fragments, from beakers and open-forms in this fabric, are present in the palace destruction levels. c.AD 240-400.

F.14B. Oxfordshire Parchment ware. A bowl sherd came from context 716 c.AD 240-400

F.15. Colchester colour-coated ware. Small but persistent quantities of rough cast beakers in this fabric were supplied to Fishbourne during the period c.AD 130-200.

F.16A. New Forest purple colour-coat (Fulford 1975 Reduced Fabric 1A). There are a number of beaker fragments from the site, from palace destruction levels and pit context 909.6 in Area B. A reconstructable beaker of early-4th century date came from the drain context 22 of Phase AH. c.AD 270-400.

F.16B. New Forest cream with red to brown colour-coat (Ibid., Oxidised Fabric 1A). Small quantities of sherds in this fabric were present in palace destruction levels. c.AD 270-400.

F.16C. New Forest Parchment ware. This fabric is represented by a single bowl sherd from demolition context 578.

F.17. Grey Upchurch Ware. There are nine sherds of a 2nd century poppyhead beaker from context 602. This rare import probably came by sea to Fishbourne alongside the few BB2 dishes from the same source, as a trade subsidiary to that in salt from boiling sites in the Medway marshes.

F.18A. Moselkeramik. One chip from a solitary beaker was present in the assemblage from the poorly-dated context 598. c.AD 200-270.


Other minority fabrics represented by sherds from just one or two vessels include F.19 Verulamium Region Whiteware (c.AD 55-200).

F.21 Hardham Oxidised Ware (c.AD 250-400), F.22 micaceous sand-free grey ware, F.23 Verulamium Region Mica-dusted ware and F.24 sand-free grey fabric with minute black ferrous inclusions and polished black surfaces, of ?Harfleur origin in Normandy.

F.25 and 26 are dump categories for miscellaneous fine cream and red wares and miscellaneous mica-dusted finewares respectively.

4. The Assemblages

4.1. Phase BA. c.10 BC - AD 25. The early ditch

Assemblage 1. From the lowest fill of the east-west ditch cutting context 915 in Area B (contexts 919,919.2,919.3,926,929 and 937).

These contexts produced 106 sherds (1425 g) of Atrebatic overlap pottery and early imports. Unfortunately, this key assemblage is unsuitable for any kind of meaningful quantification, as it is largely made up of a number of fresh sherds from just a handful of vessels. These vessels include:

Fig.217.1. Cup of Conspectus form 22 in Italian Arretine fabric fired patchy deep orange-brown with a high gloss (Ettlinger et al. 1990). There is no sign of wear on the fragments from this cup, which is stamped MENA. c.BC.10-AD.10 (see G.Dannell report) AVILI Context 919

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3. Lower part of ovoid beaker of form GB24A (Stead and Rigby 1989) in pale pinkish-orange TR.3 fabric with greyish-white slip over its upper part. Late Augustan-Tiberian. Context 919


5. Gallo-Belgic platter copy in wheel-turned soot-soaked Fabric C.6. Context 919


7. Everted rim from jar in grey Fabric C.11C. Paralleled at the Theological College site in Chichester (Down 1993, Fig. 30.1.10). Late Iron Age - Claudian. Context 919.3

8. Handmade bead-rim from jar in soot-soaked Fabric C.6. Paralleled at the Theological College site in Chichester (Ibid., Fig.30.1.7). Late Iron Age. Context 919.3

The assemblage also includes a chaff-tempered salt container fragment from East Kent (Macpherson-Grant 1980) and 17 friable sherds in patchy orange/black handmade Fabric C.1, making up the greater part of the base of a cooking pot. Sherds in Atrebatic Overlap fabrics C.1, C.2,C.3,C.5,C.6 and C.11B account for nearly 70% of the 72 coarseware sherds: the rest are in very fine sanded grey ware and could, on the face of it, be either Late Iron Age or Roman in date. Sandy, usually tournetted, grey wares have, however, been seen in Late Iron Age assemblages from North Bersted: there they make up 5% of an assemblage dated c.50BC-0 by associated Dressel 1B amphora sherds and a Simple Gallic fibula and 21% of another assemblage dated Late Augustan-Tiberian by the presence of Gallo-Belgic imports and probably contemporary with the Phase BA ditch (Lyne in Manley & Rudkin, forthcoming).

The possible early Roman ground surface (context 907) and above natural (context 915) produced 20 sherds (166 g) of Atrebatic overlap and early Roman pottery. These fragments include an Italian Arretine sherd stamped ATEIXANTHI and dated c.BC 5-AD 20 (see G.Dannell report), a base of a cup with the graffitti ‘TV’ (Fig.190), a fragment from an open form in Terra Rubra fabric F.1B (c.AD.1-60), one sherd in fabric C.4A, four sherds from a Gallo-Belgic platter copy in fabric C.6, one storage jar sherd each in early Rowlands Castle fabrics C.11A and 11B and five grey sherds in fabric C.11C. Some of these sherds are clearly contemporary with those from the Phase BA ditch, but this pottery assemblage is not particularly well sealed and includes later, c.AD 43-60 dated sherds.

4.2. Phase AB. Constructional deposits associated with Building 3. c.AD 50-90.

Assemblage 2. From the walls of Building 3 (contexts 241,411,414 and 426).

The various walls of Building 3 produced a mere 5 sherds (32 g) of badly broken-up pottery, including two sherds in Atrebatic Overlap fabric C.6 and one in Rowlands Castle ware fabric C.11. There are no rim or other diagnostic sherds.

Assemblage 3. From the foundation trench fills for Building 3 (contexts 12,14,45,49,50,60,221,223,273,302,303,448,449,450, 455,456,463 and 494).

The foundation trench backfills yielded an even smaller two sherd (20 g) assemblage, comprising a small ?Gallo-Belgic cream flagon fragment in Fabric F.25 from Context 14 and a
sherd in the early Rowlands Castle ware fabric variant C.11B with additional flint from context 303.

**Assemblage 4.** From the metalling of the north-south road (context 444).

The 42 sherds (536 g) of pottery from the road-metalling include three large fragments from an undeveloped Gillam 238 mortarium (c. AD 55-80), a fragment from a Claudian South Gaulish Samian Ritterling 8 form, sherds from an imitation Gallo-Belgic platter of Cunliffe's Form 19 in Fabric C.22 fired smooth black and three sherds in Atrebatic Overlap fabrics C.3 and C.6. Some of this pottery may, however, be occupational and pushed down into the surface of the road during its period of use.

4.3. Phase AB. Early post-Conquest occupational deposits c. AD 50-90.

**Assemblage 5.** From the post-holes relating fence-line 1 (contexts 462,531,533,594,628,629,856,857,882,883,884 and 965) and fence-line 3 (contexts 528,529,640,642,644,859,872,885 and 886).

Five of the post-holes relating to fence line 1 produced pottery: context 594 yielded 11 flagon sherds in very-fine-sanded orange fabric but lacking rim and other diagnostic fragments, contexts 628 and 858 yielded one and three sherds of Rowlands Castle grey ware respectively and the latter fill context also had one chip each of orange sandy fabric C.12 and Atrebatic Overlap fabric C.4A. The one drawable rim came from post-hole 867 (fill 856): Fig. 217.9. Handmade jar with stubby everted rim in brown-black Fabric C.4B. Ext.rim diameter 140 mm. context 856.

Pottery was totally lacking from the fills of the post-holes in fence line 3, suggesting that this fence may have been the earlier of the two and erected on a ground surface bereft of any previous occupation debris.

**Assemblage 6.** From the lower fill of the later western pit in Area B (context 918).

This context produced a substantial 494 sherd (8014 g) assemblage of fresh pre-Flavian pottery, including Arretine wares and pre-Flavian Samian. The assemblage is too small for quantification by EVEs but was broken down by numbers of sherds and their weights per fabric:

| TABLE 73 Estimated Vessel Equivalents for ceramic assemblage 6 |
|---------------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| Fabric | No. of sherds | % | Weight in g. | % |
| C.2 | 3 | 0.6 | 74 | 0.9 |
| C.3 | 4 | 0.8 | 16 | 0.2 |
| C.4A | 20 | 4.0 | 604 | 7.5 |
| C.5 | 3 | 0.6 | 22 | 0.3 |
| C.6 | 49 | 9.9 | 544 | 6.8 |
| C.11A | 1 | 0.2 | 114 | 1.4 |
| C.11C | 20 | 4.0 | 166 | 2.1 |
| C.12 | 5 | 1.0 | 500 | 6.2 |
| C.13 | 135 | 27.3 | 3126 | 39.0 |
| C.14 | 2 | 0.4 | 16 | 0.2 |
| C.21 | 12 | 2.4 | 222 | 2.8 |
| C.22 | 112 | 22.7 | 1006 | 12.5 |

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The assemblage is characterised by a wide range of fabrics, the most significant of which are a distinctive grey ware with large black ferrous inclusions from an unspecified West Sussex Coastal Plain source (C.13), fine grey wares of uncertain origin (C.22) and a Wiggonholt cream to pink fineware used for beakers, flagons and honey pots (F.6). These three fabrics account for nearly 64% of the pottery in the assemblage by sherd count.

Soot-soaked and blackened, handmade and tournettéd Atrebatic wares of local origin are still much in evidence and account for another 17% of the sherds: Romanised local Rowlands Castle grey ware fabrics C.11A and 11C are, however, in a tiny minority and make up a mere 1% of the material. The following vessels are present:

11. Honey jar with two handles in soft, cream Fabric F.6 fired pink. Similar to Camulodunum Form 175B, which is dated c. AD 30 - 60 at Sheepen. Another example came from the A27 excavations at Fishbourne (Rigby 1996, Fig.6.11-66). Ext.rim diameter 140 mm.

12. Small flagon in similar fabric fired pinkish-white with traces of red colour-coat inside its mouth. Ext.rim diameter 30 mm.

13. Small globular vessel of ring-and-dot beaker form but with dot-barbotine rosettes, in similar fabric fired cream-buff. The form is similar to Cunliffe's micaceous grey ware Type 73, which dates c.AD.50 - 120. Ext.rim diameter 100 mm.

14. Disc-mouthed flagon of Cunliffe's Type 118 in reddish-brown Fabric F.7 with traces of white slip. Only one example came from Cunliffe's excavations at Fishbourne but, as Camulodunum Type 148, the form is dated c.AD 43 - 60 at Sheepen (Hawkes and Hull 1947).

15. Deep dish with perforated base in tournetted Atrebatic Overlap Fabric C4 fired grey with patchy buff-grey/black surfaces. Ext.rim diameter 200 mm. A similar Atrebatic Overlap bowl but apparently without basal perforations came from the Period 1 cultivation context D1021 in the 1985-86 Fishbourne excavations (Down 1996, Fig.6.17-14).
18. Jar of Cunliffe Form 162 in grey Fabric C.10A with rolled-over rim. Ext.rim diameter 200 mm.
19, 20. Two further necked jars in similar fabric.
21. Badly warped bead-rim beaker in sandy grey Fabric C.10A. This looks like a waster or kiln second.
22. Jar with stubby everted rim in grey Fabric C.22 with surface blackening. Ext.rim diameter 170 mm.
23. Necked jar of Cunliffe Type 181 in similar fabric. Ext.rim diameter 100 mm. Context A52/61 at the Theological College site in Chichester (Down 1993, Fig.30.2-37).

4.4. Phase AC. Construction of the aqueduct; destruction and subsequent robbing of northern boundary wall of Building 3 c.AD 65-110

Assemblage 7. From the lowest fills of the Aqueduct (contexts 613.2 and 613.3)

The 468 sherds (10178 gm.) of pottery from the bottom of the aqueduct includes a number of part complete Atrebatic ‘overlap’ vessels and was probably dumped soon after the digging of the feature. The assemblage was quantified by Estimated Vessel Equivalents based on rim sherds:

<table>
<thead>
<tr>
<th>Fabric</th>
<th>Jars</th>
<th>Bowls</th>
<th>Dishes</th>
<th>Beakers</th>
<th>Store-jars</th>
<th>Others</th>
<th>Total</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>C.4A</td>
<td>1.17</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1.17</td>
<td>16.1</td>
</tr>
<tr>
<td>C.6</td>
<td>1.45</td>
<td>0.33</td>
<td></td>
<td></td>
<td></td>
<td>Lids 0.18</td>
<td>1.96</td>
<td>27.0</td>
</tr>
<tr>
<td>C.9A</td>
<td>0.07</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.07</td>
<td>1.0</td>
</tr>
<tr>
<td>C.10A</td>
<td>1.38</td>
<td>0.06</td>
<td>0.17</td>
<td>1.00</td>
<td>Lid 0.15</td>
<td></td>
<td>2.76</td>
<td>38.0</td>
</tr>
<tr>
<td>C.11B</td>
<td>0.10</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Lid 0.07</td>
<td>0.17</td>
<td>2.3</td>
</tr>
<tr>
<td>C.11C</td>
<td>0.52</td>
<td>0.02</td>
<td></td>
<td></td>
<td>Lids 0.21</td>
<td></td>
<td>0.75</td>
<td>10.3</td>
</tr>
<tr>
<td>C.15A</td>
<td>0.05</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.05</td>
<td>0.7</td>
</tr>
<tr>
<td>C.22</td>
<td>0.22</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.22</td>
<td>3.0</td>
</tr>
<tr>
<td>Total cse.</td>
<td>4.89</td>
<td>0.06</td>
<td>0.59</td>
<td>1.00</td>
<td>0.61</td>
<td>7.15</td>
<td>98.4</td>
<td></td>
</tr>
</tbody>
</table>

F.3 | 0.12 | 0.12 | 1.6 |
Total all | 4.89 | 0.06 | 0.59 | 1.00 | 0.61 | 7.27 |

| | [67.3%] | [8.2%] | [16.1%] | [13.8%] | [8.3%] |

This assemblage is not well sealed and includes late-1st and 2nd century sherds which have worked their way down from the late 2nd century upper fills of the aqueduct (Assemblage 21). Obvious pieces, such as a Colchester colour-coat cornice-rim beaker sherd (c.AD130-200) have been omitted from the above quantification, but it is possible that one or two of the Rowlands Castle fragments are also of later date. No samian is present.

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The large percentage of fresh and partially complete Atrebatic ‘overlap’ vessels (46%) would be more in keeping with an assemblage predating AD.50 and the presence of handmade vessels amongst the Fabric C.10A material would also suggest that they belong to the earliest years of the Hardham or related Arun Valley pottery industry.

A possible explanation for the presence of all this fresh-looking early material in the bottom of what was a newly dug but long-lived aqueduct is that the water was conveyed by a wooden boxed in conduit in the slot at the bottom of the ditch, which was then covered over with soil and relatively recent rubbish from an early phase of occupation.

The Atrebatic Overlap pottery includes the following pieces in the Southern Atrebatic Late Iron Age tradition:

Fig.218.25. Necked bowl in tournetted Fabric C.8 fired patchy black/orange/brown with vertical burnished line decoration on a polished exterior surface. The interior surface is smoothed to a lesser extent. External rim diameter 200 mm. Paralleled in the Claudio-Neronian pottery assemblage from Ditch 3 at Ounces Barn, Boxgrove (Middleton 1995, Fig.13-8).

Context 613.2
26. Greater part of another necked bowl in a coarse version of Fabric C.4A. Ext.rim diameter 270 mm. The rim profile is similar to that on another ?necked-bowl from the pre-conquest assemblage A52/61 at the Theological College (Down 1993, Fig.30.2-40).
27. Greater part of jar in tournette-finished soot-soaked Fabric C.6 with tournette-decoration over its lower part. Ext.rim diameter 100 mm.
28. Greater part of tournette-finished handmade jar made in sections. In grey-black Fabric C.6 with burnished random spaced vertical lines over rough-smoothed exterior. Ext. rim diameter 150 mm. Closely paralleled in the mid – late - 1st century pottery assemblage from Ditch 15 at Ounces Barn, Boxgrove (Middleton 1995, Fig.20-155).
29. Gallo-Belgic platter imitation of Cunliffe Form 16 (CAM.8) in wheel-turned black Fabric C.6 with white margins and rough-smoothed surfaces. Ext.rim diameter 200 mm.
30. Gallo-Belgic platter imitation of Cunliffe Form 5 (CAM.2B) in similar fabric with surface polish. Ext.rim diameter 180 mm.
31. Domed handmade lid with edge beading in soot-soaked, wheel-turned Fabric C.6 with external surface polish. Ext.rim diameter 240 mm.

Fragments from a Gallo-Belgic platter imitation of Cunliffe's Form 19 and a simple lid of Form 187, in soot-soaked handmade Fabric C.6 are also present in the assemblage from Context 613.3.

The other wares include a lagena handle and fragments from a butt-beaker in Gallo-Belgic Whiteware (Fabric F.3), two Campanian 'Black Sand' amphora sherds, a rim sherd from a Durotrigian Black-Burnished ware bowl similar to Ower Type 16 and dated to the period c.0 - AD70 (Woodward 1987, Fig.47-106), as well as the following:

Fig.218.32. Much of upper part of storage jar in wheel turned coarse grey Fabric C.10A. Ext.rim diameter 150 mm.
32. Smaller example in similar fabric but handmade with the rim finished on a turntable. Ext.rim diameter 180 mm.
33. Jar with stubby everted rim in similar fabric. Ext.rim diameter 180 mm.
34. Small jar of Cunliffe Form 84 in grey Rowlands Castle Fabric C.11C.
35. Slack profiled, closed form in flecky dark grey Fabric 11C with beaded rim. Ext.rim diameter 160 mm.
Assemblage 8. From the fills of the robber trench of the north-south wall, demolished for the construction of the east-west road and aqueduct (contexts 597 and 626).

These combined trench fills are probably of Phase AC date and from the robbing of stone to build the proto-palace. These fills produced a total of 545 sherds (5835 g) of pottery including pre-Flavian samian; an assemblage just large enough for quantification by Estimated Vessel Equivalents (EVEs) based on rim sherds:

<table>
<thead>
<tr>
<th>TABLE 75</th>
<th>Estimated Vessel Equivalents for ceramic assemblage 8</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fabric</td>
<td>Jars EVE</td>
</tr>
<tr>
<td>C.6</td>
<td>0.16</td>
</tr>
<tr>
<td>C.10A</td>
<td>0.32</td>
</tr>
<tr>
<td>C.11C</td>
<td>0.82</td>
</tr>
<tr>
<td>C.12</td>
<td>0.05</td>
</tr>
<tr>
<td>C.13</td>
<td>0.10</td>
</tr>
<tr>
<td>C.14</td>
<td>0.06</td>
</tr>
<tr>
<td>C.15A</td>
<td>0.10</td>
</tr>
<tr>
<td>C.21</td>
<td>0.19</td>
</tr>
<tr>
<td>C.22</td>
<td>0.10</td>
</tr>
<tr>
<td>Total cse.</td>
<td>1.79</td>
</tr>
<tr>
<td>F.6</td>
<td>Flagon 0.20</td>
</tr>
<tr>
<td>Total all</td>
<td>1.79</td>
</tr>
</tbody>
</table>

The two most significant fabrics in this assemblage are Hardham (C.10A) and 'Rowlands Castle' grey wares (C.11C). The latter shows a marked increase in significance to one which now accounts for a quarter of all the pottery. It seems likely, however, that this sudden upsurge in the supply of such wares at the beginning of Phase AC was due to a Rowlands Castle potter moving to Fishbourne to supply pots to the kitchens of the new proto-palace, as much of the following vessel was present in the fill of the robber trench:

Fig.219.38. Overfired jar in blue-grey Fabric C.11C. The pot is very distorted, has a hole blown in the side and shows signs of knife trimming. Ext.rim diameter 220 mm. 626.5

Other grey ware vessels include the following pieces:

39. Neck of flagon with rim similar to that on Cunliffe's oxidised Form 116.2, but in rough grey Fabric C.12. Ext.rim diameter 60 mm 626.5
40. Small jar with undercut bead rim in coarse orange-cored grey Fabric C.10A with rough surfaces. Ext.rim diameter 90 mm 626.8
41. Butt-beaker copy of Cunliffe Form 64 in grey Fabric C.10A. Ext.rim diameter 90 mm Context 626
42. Lid-seated bowl with external offset, in similar fabric. Ext. rim diameter 140 mm. Context 597
43. Jar with moulded rim in coarse grey Fabric C.13. Ext.rim diameter 140 mm Context 626.2

This assemblage is also characterised by a fairly high percentage of sherds in oxidised Fabric C.12, although a number of these fragments come from a single vessel:

44. Butt-beaker in fine, over-fired, grey version of the fabric with rough orange-brown surfaces. Ext.rim diameter 100 mm. Contexts 626, 626.2
Fragments from a lid of Cunliffe Form 196.1 and a bowl of Form 93 in this fabric are also present: a number of sherds have patchy surface blackening.

45. Simple wheel turned bowl with flattened rim top in black fabric C.6 with overall surface polish. Ext.rim diameter 130 mm Context 597

46. Small jar of Cunliffe Form 161.5 in similar soot-soaked fabric. Ext.rim diameter 100 mm. Context 597

47. Small bead-rim jar of Cunliffe Form 166 in similar fabric. Ext.rim diameter 140 mm. Context 597

48. Screw-neck flagon of Cunliffe Form 110 but in cream Fabric F.6. Ext.rim diameter 60 mm. All of the six examples from the 1960s excavations are in Fabric F.7 and probably of local manufacture. Context 626.3

49. Reeded-rim jar similar to Cunliffe Form 167, in grey Fabric C.14 fired black. Ext.rim diameter 160 mm. c. AD 70-100 Context 626.2

4.5. Phase AD. Construction of the greensand road and fence-lines c.AD.70 – 150

Assemblage 9. From greensand road construction contexts 509, 603 and 717.

The road construction layers 509, 603 and 717 produced a total of 80 sherds (570 g) of pottery. The assemblage is too small for meaningful quantification but includes fragments from a pre-Flavian South Gaulish samian Dr.18 dish. Fragments from a bead-rim jar in black Fabric C.6, a beaker in TR3 fabric and a platter in Campanian Pompeian Red fabric are also present. This assemblage is all pre-Flavian and probably residual.


Only five of these post-hole contexts (630,651,654,878 and 881) produced any pottery. Of a total of 24 sherds (264 g) of pottery, the bulk came from the fills of post-hole 653 (654) and 652 (651). The former produced nine large fresh sherds from a CAM 182 amphora similar to Cunliffe's Fishbourne Form 148.3 in orange Italian fabric (c. 50 BC-AD50) and the latter yielded four fragments from a carrot amphora (c.AD.43-75+). Post-hole 652 also produced one sherd each in fabrics C.22 and F.12.

4.6. Phase AD. Refuse from the lower filling of the stream c.AD.70 – 150

Assemblage 11. From the lower infilling of the stream canalised at the beginning of Phase AD (context 484).

The very large 13086 g assemblage of pottery from this context was sufficient for quantification by Estimated Vessel Equivalents based on rim sherds:

<table>
<thead>
<tr>
<th>Fabric</th>
<th>Jars EVE</th>
<th>Bowls EVE</th>
<th>Dishes EVE</th>
<th>Beakers EVE</th>
<th>Store-jars EVE</th>
<th>Others EVE</th>
<th>Total EVE</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>C.10A</td>
<td>1.35</td>
<td></td>
<td></td>
<td>0.18</td>
<td>0.18</td>
<td></td>
<td>1.71</td>
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<tr>
<td>C.11C</td>
<td>4.09</td>
<td></td>
<td></td>
<td></td>
<td>Lids 0.14</td>
<td>4.23</td>
<td>43.1</td>
<td></td>
</tr>
<tr>
<td>C.12</td>
<td>0.52</td>
<td></td>
<td>0.07</td>
<td></td>
<td>Lids 0.07</td>
<td>0.66</td>
<td>6.7</td>
<td></td>
</tr>
</tbody>
</table>

31/01/2005
This assemblage spans Phases AD and AE and continues a trend towards increasing supply of Rowlands Castle products to the Palace (43%). A lack of pre-Phase AD material is reflected in a complete absence of Atrebatic Overlap pottery: the latest of the samian sherds are four c. AD 90-120 dated fragments from the Martres-de-Veyre kilns and indicate that rubbish deposition continued into the earliest years of the 2nd century.

The Rowlands Castle wares include a simple lid fragment but are otherwise entirely made up of sherds from everted-rim cooking pots and other closed forms:

Fig. 219.50. Narrow mouthed, wide bodied jar of Cunliffe Form 324 in grey Rowlands Castle ware Fabric C.11C. Ext.rim diameter 100 mm.

51. Jar with stubby everted rim in similar fabric. Ext.rim diameter 180 mm. One of a considerable number of very similar pots.

The Hardham grey ware forms include examples of Form 166 bead-rim jars (c. AD 43-75/80), Form 64 butt-beaker copies (c. AD 43-75/80) and Form 180 necked and cordonned jars (c. AD 43-100).

Wares in sandy oxidised Fabric C.12 include a piece from a Form 196 lid, a number of heavily blackened bowl sherds and several fragments from the following vessel:

52. Rim from reeded-rim bowl variant of Cunliffe Type 86 in rough orange fabric fired buff-pink. Ext.rim diameter 260 mm. The vessel is warped and has a blackened interior. Paralleled at County Hall, Chichester in late 1st century context (Down 1989, Fig.16.5-10).

Nondescript very fine sanded grey wares with blackened surfaces include an example of bowl form 84 (c. AD 50-75/80) and the following piece:

53. Jar with rolled over and undercut rim. Ext.rim diameter 160 mm. Finewares from this and similarly dated deposits in the bottom of the canalised stream include sherds from the following three vessels:

54. Slack profiled dot-barbotine beaker in sandfree micaceous grey fabric F.22 (Cunliffe 1971,188). Ext.rim diameter 80 mm. Twenty two sherds from this vessel are present c. AD.64-85+.

55. Eggshell indented beaker with stubby everted rim, in grey Verulamium Region Mica-dusted ware Fabric F.23 fired honey-brown with traces of golden mica dusting. Ext.rim diameter 80 mm. Seven sherds from this vessel are present. Flavian.

A number of sherds from other similar beakers with rectangular dot-barbotine panels of decoration and in the same fabric came from the early 2nd century context 492
immediately above 484 in the canalised stream fills. Context 492 also produced the following:
56. Slack profiled beaker in sand free reddish-brown fabric with fine brown grog filler and grey dot-barbotine rosettes on the shoulder. Two-tone cream and red dot-barbotine beakers are known to have been made at Staines and Cherry Hinton in Cambridgeshire (Evans 1990) during the period AD.55-90 and this somewhat discoloured vessel may indicate very limited or even failed manufacture of such beakers at Fishbourne. Ext.rim diameter 100 mm.

Assemblage 12. From the fill of Slot 718.

The fill of the slot produced 227 sherds (4676 g) of pottery, including three near-complete and reconstructable vessels.

Fig.220.57. Everted-rim jar of Cunliffe Form 316 in grey Fabric C.11C with groups of two vertical burnished lines on the body below an area-burnished shoulder, and an arrow shaped 'batch-mark' on the underside of its base. Ext rim diameter 240 mm. Cunliffe (1971) dates the type generally to the 2nd and 3rd centuries and a close form parallel from the David Grieg site in Chichester is dated mid-2nd to early-3rd century (Down 1974, Fig.8.24-60). A c.AD100-180 date does, however, seem more likely for vessels of this type with 'batch-marks' on their undersides.

57A. A IV 'batch-mark' on the base of a second pot of identical form and size.
58. Another pot, but with carinated shoulder, in similar fabric. Ext.rim diameter 240 mm. This version is earlier in date than the above and dated c.AD 80-150 at the David Grieg site (Ibid. Fig.8.23-46).

Sherds from Colchester roughcast and barbotine beakers (c.AD 130-200) and several fragments from the following dish are also present in what is a mid-2nd century assemblage:

4.7. Phase AE. Construction of flint road, causeway and fence-line c.AD 120 - 200

Assemblage 13. From the flint road surface (context 511).

This context yielded 160 sherds (1476 g) of pottery ranging in date from the mid-1st to the early-4th century. Most of these sherds show signs of abrasion and were clearly deposited as rubbish long after the road had gone out of use. There were, however, a number of fresh joining sherds from the upper part of the following vessel embedded in the road surface:

Fig. 219.37. Jar with undercut bead-rim in grey Fabric C.22 with black surfaces. Ext.rim diameter 170 mm. Vessels with the same kind of undercut bead rim were present in the pre-Flavian ditch fills of c.AD 60 on the Cattlemarket site in Chichester (Down 1989, Fig.21.3-52).

Assemblage 14. Construction layers in the causeway across the stream continuing the line of the gravel path (contexts 625, 639.2, 639.3 and 646).

These contexts produced 173 sherds (2570 g) of pottery, including Flavian to Trajanic samian: a late Antonine fragment may be intrusive.
This assemblage is of considerable significance in including a number of spalled and discoloured kiln wasters in Fabrics C.12 and F.7: these wares make up nearly 30% of all of the assemblage by sherd count and include the following forms:  

Fig. 220.60. Globular beaker of Cunliffe's Form 79 with girth groove, in heavily spalled orange-brown Fabric C.12 fired rough buff with black patches. Ext.rim diameter 100 mm. Context 625  

61. Similar vessel but with stubbier rim, in orange-brown Fabric C.12 with spalling. Ext.rim diameter 140 mm. Context 625  

62. Ring-neck flagon rim of Cunliffe's Form 109 in finer version of Fabric C.12 fired discoloured patchy black/buff. Ext.rim diameter 70 mm. Context 625  

Wares in this fabric are present in Fishbourne assemblages from c. AD 50 to 150, suggesting manufacture on site to serve both the proto-palace and Palace's needs. Vessel types owe nothing to local Atrebatic pottery traditions and consist largely of Cunliffe's Hemispherical Bowl Forms 86, 87, 88, 89, 90, 92 and 93 with just a few examples of flagon Form 114, mortarium Form 141 and lid Form 196. More forms, from the A27 excavations, are illustrated by Rigby (1996, Figs. 6.10 and 6.11) under her corresponding 'Local oxidised cream and orange wares' fabric.  

The following beaker form in grey Fabric F.22 is also present:  

63. Small beaker with neck cordon and dot-barbotine rosettes on the shoulder. There are no exact equivalents in Cunliffe's corpus but the dot-barbotine rosettes are paralleled on the similar beaker from the early 2nd century canalised stream fill context 492 and on c. AD 60 - 120 dated beakers in FMIC-1659 fabric from London (Davies et al. 1994, Fig. 136). Context 625  

The other wares include Forms 161 and 162 cooking pots in Rowlands Castle ware and the base from an indeterminate early micaceous Lezoux samian bowl, a Form 73 dot-barbotine beaker in cream Fabric F.6 and the following:  

64. Jar in wheel turned sand free grey ware with profuse up to 2.00 mm grey, off-white and brown grog filler. Ext.rim diameter 160 mm. Context 625  

65. Lid-seated necked bowl in sand free leaden grey Fabric F.8. Ext.rim diameter 200 mm. This form is paralleled in the London area in Highgate Wood Fabric C during the early-2nd century (Davies et al. 1994, Fig. 433-446). Context 639.2  

Assemblage 15. From the fills of the post-holes associated with fence line 4 (contexts 525, 526, 544, 571, 573, 575, 582, 648, 655, 722, 746, 747, 748, 755, 798, 799, 801, 828, 829, 832, 834, 835, 836, 841 and 844)  

Twelve of the post-holes in fence-line 4 produced a total of 43 sherds (240 g) of pottery between them. Most of the fragments are body sherds from Rowlands Castle and Hardham grey ware vessels, but three fresh fragments from a Vectis ware jar of late-1st century character (Tomalin 1987, Form 11) were present in post-packing 755.  

4.8. Phase AE. Refuse material in the beam-slots of the timber building c. AD 120 – 200  

Assemblage 16. From the fills of beam slots 600, 607 and 620 of the timber building cutting the fills of the north-south wall robber trench (contexts 601, 606 and 620).  

The 512 sherds (3682 g) of pottery from slots 600 and 607 are to all intents and purposes the earliest part of the rubbish dumping for the overlying midden 558 deposited into the beam slot trenches of the freshly demolished timber building. The assemblage was just large enough for quantification by EVEs.
TABLE 77  Estimated Vessel Equivalents for ceramic assemblage 16

<table>
<thead>
<tr>
<th>Fabric</th>
<th>Jars EVE</th>
<th>Bowls EVE</th>
<th>Dishes EVE</th>
<th>Beakers EVE</th>
<th>Store-jars EVE</th>
<th>Others EVE</th>
<th>Total EVE</th>
<th>%</th>
</tr>
</thead>
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</tr>
<tr>
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<tr>
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<td></td>
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<td>0.33</td>
<td>1.81</td>
<td>4.74</td>
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</table>

The quantification is somewhat distorted by the presence of large fragments from two Wiggonholt creamware flagons, giving an exaggerated emphasis on that fabric. Nevertheless, it is obvious that the largest single supplier of pottery to the site continued to be the Rowlands Castle kilns. All of the datable forms from that source can be dated within the period c.AD 60-150 and include bowl forms 81 (c.AD 60-120), 91.3/228 (c.AD 60-120) and 210 (c.AD 100-150) as well as flagon form 304 (c.AD 70-150). Fragments from Hardham 'London' ware beakers can also be dated within the period AD 60-150 and others in the fine grey ware F.22 belong to Form 276 (c.AD 70-100). Other wares include Wiggonholt flagons of Form 297 (c.AD 70-150) and 300 (c.AD 100-150), a North Kent BB2 pie-dish of Monaghan's Type 5D2.4 (1987, c.AD 110-180) and a BB1 flanged dish of Gillam Type 62 (1977, c.AD 120-180).

The 76 sherds (1014 g) pottery assemblage from slot 620 was not quantified by EVEs but was of very similar character to that from Slots 600 and 607 and includes four large sherds from a Rowlands Castle ware beehive.

All of this pottery can be regarded as being of early 2nd century date, with the presence of Colchester Colour-coat and Cologne beaker sherds indicating that some at least of the material is later than AD130. The date range of the assemblage further indicates that the previous timber-framed building probably had a relatively short life at the beginning of Period AE.

4.9. Phase AF. Refuse material in the midden overlying the timber building c.AD.150-200

Assemblage 17. From that part of the midden above the fills of slots 600,607 and 619 (context 558)
The 629 sherds (5162 g) of mid to late second century pottery from this context includes Hadrianic and Antonine Samian and is also large enough for quantification by Estimated Vessel Equivalents (EVEs).

### TABLE 78  Estimates Vessel Equivalents for ceramic assemblage 17

<table>
<thead>
<tr>
<th>Fabric</th>
<th>Jars</th>
<th>Bowls</th>
<th>Dishes</th>
<th>Beakers</th>
<th>Store-jars</th>
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<td>EVE</td>
<td>EVE</td>
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<td>2.6</td>
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<td>0.11</td>
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<tr>
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<td>0.71</td>
<td>0.86</td>
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<td>0.57</td>
<td>4.08</td>
<td>4.08</td>
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</tr>
<tr>
<td>F.6</td>
<td>0.11</td>
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<td>F.11</td>
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<td>0.57</td>
<td>5.38</td>
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<td></td>
</tr>
</tbody>
</table>

|         | [33.3%] | [13.2%] | [16.0%] | [27.0%] | [10.6%] |

This assemblage is once again dominated by vessels of 2nd century character in grey Rowlands Castle ware. These make up nearly half of all the pottery and include rims from numerous cooking pots of Cunliffe Form 313 and similar: the lack of batch-marked pieces suggests an absence of early 3rd century vessels of this type. Other Rowlands Castle forms include carinated and lid-seated bowls of Form 209 with diagonal burnished line decoration (c.AD.100-180), dishes of Form 202 with multiple chevron decoration (c.AD.100-200), flanged dishes of Form 217 (c.AD.100-150), carinated bead rim jars of Form 321 (c.AD.100-300) and simple lids of Form 187.

The comparatively small quantities of Hardham grey ware include further examples of dish form 217, an everted cooking pot rim of second century type and two late or residual copies of Gallo-Belgic platters: these latter are unlikely to be later than c.AD.150 in date.

This assemblage is also characterised by the presence of a number of forms in black Dorset BB1 fabric. These include examples of Gillam’s flanged dish Type 62 (1977,c.AD.120-180) and dog-dish Type 75 (c.AD.120-180) as well as cooking pot rim fragments of 2nd century character.

Other coarsewares include a basal fragment from a BB2 bowl or dish and rim sherds from two large reeded-rim bowls of Cunliffe Form 86 in sandy oxidised Fabric C.12 (c.AD.60-100).

The finewares include fragments from Cologne roughcast cornice rim bag-beakers and hunt cups in Fabric F.11 (c.AD.130-200), numerous pieces from at least three similarly dated Colchester Colour-coat cornice rim beakers in Fabric F.15 and many fragments from beakers of Forms 275 and 276 (c.AD.70-100) in sandfree grey Fabric F.17.

**Assemblage 18.** From the fills of post-holes associated with fence-line 5 (contexts 522,523,543,567,569,724,730,735,736,737,738,739,740,741, 742,743,744 and 753).
Fourteen of the post-holes in fence line 5 produced a total of 187 sherds (1715 g) of pottery between them. This is by far the largest amount of pottery from any of the fence lines and includes fragments of a Cologne colour-coat cornice rim beaker (c.AD.130-200+) and a BB1 flanged bowl (c.AD.120-200+) from context 743. This and the presence of jar fragments of c.AD.180-270 dated type in Rowlands Castle ware from post-hole 740 and a basal sherd of a BB1 open form with scrolling on its underside from context 741 suggests that this fence line is the latest in the series and went out of use at some time in the late 2nd or early 3rd century.

**Assemblage 19.** From the greensand flag floor of the central pit (context 311)

Wedged between the flags of this floor and clearly deposited at the time of its construction were five sherds of pottery. These include two fragments of Rowlands Castle ware, a chip of ?BB1 and the following piece:

Fig.220.66. Cornice-rim beaker in very fine sanded grey ware with traces of external black slip and possible sand rough-casting. Ext.rim diameter 100 mm. The piece probably comes from Normandy and possibly from the Harfleur kilns (Evrard 1995, Planche 2-513). c.AD.130-200.

The presence of this piece and to a lesser extent the chip of possible BB1 leave little doubt that this floor was laid after AD.130.

**4.10. Phase AG.** From a deposit post-dating Building 3 c.AD.200 - 300

**Assemblage 20.** From context 434 on the line of wall 407.

Context 434 on the surface of the foundation for the north wall of Building 3 produced 113 large fresh sherds (1842 g) of pottery making up virtually all of the upper part of a large reeded-rim carinated bowl of Cunliffe Form 209 with diagonal burnished line decoration (c.AD100-200).

There is clear evidence for the robbing out of some of the wall foundations for Building 3 during the 13th century, but the presence of this freshly smashed bowl on top of the foundation for its north wall suggests that some demolition may have taken place much earlier, towards the end of the 2nd century. It is, however, possible that the medieval wall robbers found the bowl during their activities and smashed it where it was found.

**Assemblage 21.** From the upper fills of the aqueduct (contexts 535 and 604).

The 1043 sherds (10974 g) of pottery from these fills span Phases AD to AG and because of this wide date range are not particularly suitable for detailed quantification. Nevertheless, quantification of a total EVE of 7.44 reveals a breakdown by fabric and form very similar in many respects to those for Assemblages 14 and 15.

Rowlands Castle wares make up 47.0% of all the pottery and most of the jars in the assemblage. These jars are mainly of Forms 161 and 313 and are accompanied by examples of jar Form 324 (c.AD150-250), bowl Forms 84 (c.AD 60-85) and 209 (c.AD 100-180) and flagon Form 304 (c.AD 70-150). Other forms in minority fabrics include a BB2 pie dish (c.AD 130-200) and BB1 flanged dishes, a Cologne beaker (c.AD 130-200) and a butt-beaker copy of Form 64 in Fabric C.22 (c.AD 60-85).
One significant difference between this assemblage and that from the midden is that whereas both have high percentages of beakers (27.0% from the midden and 24.6% from the aqueduct), the midden examples are largely made up of a variety of colour-coated and fineware forms from Wigganholdt, Cologne, Colchester and Upchurch: those from the aqueduct are almost entirely everted-rim grey ware beakers of Cunliffe Form 262 (c. AD 100-250).

There are no pieces which could safely be attributed to the 3rd century and the impression is given that the aqueduct was backfilled with old rubbish of wide ranging date towards the end of the 2nd century.

4.11. Phase AH. From demolition and destruction deposits c. AD 200 – 350+

Assemblage 22. From the fills of the central pit (context 237)

The 99 sherds (792 g) of pottery from the fill include much residual material but also a large fragment from a Rowlands Castle cooking pot of Form 313 with part of a batch-mark (c. AD 200-300), a flaring BB1 cooking pot rim of post AD 290 date and an Alice Holt/Farnham industry developed beaded and flanged bowl rim of Type 5B.6 (AD.270-400+). This leaves little doubt that the central pit was filling up at the time of the destruction of the palace in c. AD 300 or later.

Assemblage 23. From palace destruction debris over the aqueduct fills (context 580).

This assemblage of 358 sherds (5000 g) of pottery is a sample from a more widespread deposit made up of assemblages from contexts 443, 446, 452, 465, 489, 557, 564, 578, 579, 580, 590, 726 and 905, and consisting almost entirely of late-2nd to 3rd century pottery with just a little 4th century material.

TABLE 79 Estimated Vessel Equivalents for ceramic assemblage 23

<table>
<thead>
<tr>
<th>Fabric</th>
<th>Jars EVE</th>
<th>Bowls EVE</th>
<th>Dishes EVE</th>
<th>Beakers EVE</th>
<th>Store-jars EVE</th>
<th>Others EVE</th>
<th>Total EVE</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>C.9B</td>
<td>0.05</td>
<td>0.19</td>
<td>0.14</td>
<td>0.09</td>
<td></td>
<td></td>
<td>0.47</td>
<td>9.1</td>
</tr>
<tr>
<td>C.11C</td>
<td>2.59</td>
<td>0.13</td>
<td>0.05</td>
<td></td>
<td>Lids 0.31</td>
<td></td>
<td>3.08</td>
<td>59.5</td>
</tr>
<tr>
<td>C.15B</td>
<td>0.19</td>
<td>0.07</td>
<td>0.10</td>
<td>0.07</td>
<td>Strainer</td>
<td></td>
<td>0.21</td>
<td>0.64</td>
</tr>
<tr>
<td>C.16</td>
<td>0.13</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.13</td>
<td>2.5</td>
</tr>
<tr>
<td>C.22</td>
<td>0.48</td>
<td>0.07</td>
<td>0.23</td>
<td></td>
<td>Mortarium 0.08</td>
<td></td>
<td>0.86</td>
<td>16.6</td>
</tr>
<tr>
<td>Total cse.</td>
<td>3.44</td>
<td>0.46</td>
<td>0.29</td>
<td>0.32</td>
<td>0.07</td>
<td>0.60</td>
<td>5.18</td>
<td></td>
</tr>
<tr>
<td>F.6</td>
<td>P</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>F.16A</td>
<td>P</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total all</td>
<td>3.44</td>
<td>0.46</td>
<td>0.29</td>
<td>0.32</td>
<td>0.07</td>
<td>0.6</td>
<td>5.18</td>
<td></td>
</tr>
</tbody>
</table>

This assemblage reflects the peak in Rowlands Castle ware supply to sites in Sussex west of the River Arun during the period c. AD 200-270. Forms from this source consist almost entirely of stubby rimmed cooking pots of Forms 313 and 314 (c. AD 150-300) with just a few fragments each from plain lids, Form 203 dishes (c. AD 80-300) and a developed beaded and flanged bowl of late 3rd to early 4th century type.
Dorset BB1 continued to be supplied to Fishbourne in small but increased quantities during the 3rd century: this and the other demolition assemblages include incipient (c. AD 200-280) and developed beaded and flanged bowls (c. AD 240-350), flanged bowls (c. AD 180-250), straight sided dishes and cooking pot everted rims of c. AD 200-290 style.

The early to mid-3rd century saw the reappearance of products from the revitalised Alice Holt/Farnham grey ware industry on sites throughout West Sussex. Fishbourne Palace was no exception to this and the self-slipped Alice Holt wares from this source include a form 5B.2 beaded and flanged bowl (c. AD 220-270), two examples of strainer form 5C.2 (c. AD 220-270), beaded and flanged dish form 6C.1, and a Class 10 beehive (Lyne and Jefferies 1979). Post AD.270 black/white slipped forms are represented by a white-slipped Class 3B cooking pot and an internally black-slipped open form. Two everted rim cooking pot fragments appear to be New Forest grey ware products (c. AD 260-400) and were probably supplied to the site alongside purple colour-coated indented beakers from the same source.

**Assemblage 24.** From the fill of the pit in the central courtyard of Building 3 (context 283) and the drain leading from its south-west corner (contexts 22, 37, 39, and 41).

Thirty-one sherds (483 g) of late-2nd to early-3rd century pottery came from the fill of the pit and include 11 large fragments from a thin-walled amphora in orange Campanian black-sand fabric, the spout from a Central Gaulish Dr.45 mortararium (c. AD 160-200) and 15 sherds from a badly abraded wall-sided mortararium of Cunliffe Form 292 (c. AD 160-250) in extremely friable cream-buff fabric.

The fill of the drain yielded three fragments of Roman tile, two nondescript pottery fragments and a scatter of fragments making up the following near complete vessel:

Fig. 220.67. Indented beaker of Fulford Type 42 in Fabric 16A (1975, Fabric 1A) with white painted decoration. External rim diameter 70 mm. c. AD 300-340. Context 22.

If one assumes that the drain and pit were in contemporaneous use, then the presence of this vessel suggests that they remained in use after the destruction of the palace and into the early 4th century.

**5. Miscellaneous sherds**

The pottery from other, less significant, assemblages includes a number of sherds of intrinsic interest in their own right:

Fig. 220.68. Fragment from beaker in sand free grey Fabric F.22 fired black with barbotine lettering on exterior surface. Context 431. Medieval horizon below compacted flints 424 on north side of Building 3.


70. Finger-impressed girth-cordon fragment from storage vessel of Lyne Type 5C.36 (1994,327) in brown-black grog tempered East Sussex Ware. c. AD 100-270. Vessels of this type were manufactured in the Ouse valley and probably on salterns in the Newhaven area. They were traded over wide distances, particularly during the early 3rd century, and examples have been seen by the author from sites as far west as the Findon ritual shaft near Worthing and as far east as Hastings. This example is exceptionally far from its origin and may have been supplied to the palace with sea-salt from East Sussex. Context 512 Deposit above greensand road surface.

**6. The Medieval occupation within Building 3.**

**Assemblage 25.** From contexts 3, 24, 32, 38, 212, 240 and 249
The considerable quantities of pottery from these layers within the confines of Building 3 and resting on the natural subsoil include both Roman and medieval material. The latter sherds include large fresh fragments and occur in such quantities as to suggest that some kind of occupation or activity took place on the site of, or in the ruins of, Building 3, during the 12th to early 14th centuries. The following pieces are of particular interest:

Fig.220.71. Handmade everted rim cooking pot in grey fabric with profuse angular ill-sorted flint and ironstone filler, fired pale brown with grey smudges. Ext.rim diameter 220 mm. Context 3. The vessel rim looks Saxo-Norman but a further rim fragment from this or a similar vessel recovered from Context 212 has a dribble of apple green glaze on its surface. ?Early 13th century.

72. Fragment from another cooking pot with more elaborate rim and finger-impressed strip applied to the neck; in similar fabric fired buff. The application of finger-impressed horizontal strips to the necks of cooking pots was also practised at the 13th century Orchard Street kiln in Chichester (Down 1971,153-164, Fig.9.6-11), where the potters also employed a coarse flint-tempered fabric. The form is, however, more closely paralleled at the Binsted kilns, in oxidised sandy ware, which Barton dates to the 14th century (1979, Fig.Binsted 2-6). Context 3.

73. Pitcher rim in similar fabric but fired reddish-brown. Ext.rim diameter 100 mm. Context 3.

74. Fragment from large pan in similar fabric with an appliqué finger-impressed strip below the rim. Context 24.

75. Fragment from deep, open form in similar fabric but handmade, knife trimmed and overfired hard grey. Possibly a large crucible. Context 212.

As at Orchard Street in Chichester, the potters who made this flint-tempered pottery made peg tiles in the same fabric; fragments of which were also present within Building 3.

Fig.220.76. Pitcher rim in wheel turned, very fine sanded grey ware fired buff with splashes of apple green glaze. c. AD 1200 - 1350. Context 212

77. Small cooking pot in similar fabric. Context 249.


The various robber trenches produced a total of 3713 g of pottery, most of which is Roman in date but also includes a few sherds in medieval flint-tempered and sandy fabrics. Only one medieval rim is present, but the general appearance of the sherds indicates that some robbing took place during the 13th century and was contemporary with the activity within the building.

Distribution: The fine and coarse ware sherds from the 26 assemblages described above were collected as bulk finds during the excavation and therefore no accurate distribution plot can be made of them. However, it is possible to suggest that the distribution of the sherds of Roman date across the site almost certainly reflected the general distribution patterns of most other finds in Area A. In particular, it is likely that many of the sherds mimicked the distribution patterns of the 1st and 2nd century samian (Figs 213,215). In addition, as has been noted above, there were significant concentrations of sherds in some of the features, especially from the western pit in Area B, and in Area A from the aqueduct, the stream, the linear slot in the central eastern part of the site, from the robber trench of the northern boundary wall, the surface of the flint road, from the fills of the beam slots, the midden and from demolition debris associated with the Palace.
Figures

217. Pottery finds 1-24
218. Pottery finds 25-36
219. Pottery finds 37-56
220. Pottery finds 57-77

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Catalogue of amphorae sherds - by David Williams
(by year of excavation and then context number, significant contexts indicated)

FBE 1995

2
Dressel 20 : 1 b/s^4.

3
Dressel 20 : 1 handle.
Dressel 2-4 : single rod from bifid handle and small section from top of spike.
Undesignated : Part of a rounded rim with deep internal depression in a light red sandy fabric.
This is somewhat reminiscent of the flat-bottomed Gauloise 6 form but the fabric is slightly
coarser than that normally associated with amphorae in this series, making identification
difficult in this case (Laubenheimer, 1985, Fig. 159).

11 (the upper, western, r fill of the courtyard pit - Phase AH)
Dressel 20 : 1 rim (cf. Martin-Kilcher, 1987, Beilage 1, middle years of 1st century AD), 1
handle and 25 b/s.
Dressel 2-4 : bifid handle and 4 b/s in “black sand” fabric, 1 b/s from junction between neck and
body and 1 b/s.
Undesignated : 3 b/s.

22 (the fill of the drain - Phase AH)
Dressel 20 : 2 b/s.

24
Dressel 2-4 : single rod from bifid handle.

32
Dressel 2-4 : 1 b/s in Italian fabric.
Undesignated : handle with median groove [possibly Haltern 70].

37 (the fill of the drain - Phase AH)
Dressel 20 : 1 b/s.

^4 b/s stands for body sherd
FBE 1996

203
Dressel 20 : 1 rim (*cf.* Martin-Kilcher, 1987, Beilage 1, no. 39, early part of the second half of the 1st century AD).

205
Dressel 20 : 1 b/s.

218 (*the fill of a robber trench – Phase AJ*)
Dressel 20 : 1 b/s.

212
Dressel 20 : 1 basal wart.

232 (*the fill of a robber trench – Phase AJ*)
Dressel 20 : 3 b/s.

237 (*the fill of the central pit – Phase AH*)
Dressel 20 : 21 b/s.

247
Camulodunum 186A : 1 rim.

254
Dressel 20 : 1 b/s.

268 (*the fill of a robber trench – Phase AJ*)
Dressel 20 : 6 b/s.
Southern Spanish : 1 b/s.
Undesignated : 1 b/d.

269
Dressel 20 : 2 handles.

281
Dressel 20 : 3 b/s.
Undesignated : 1 handle.

283 (*the upper, eastern, fill of the courtyard pit – Phase AH*)
Black sand fabric : 10 b/s.

352
Dressel 20 : 1 handle.

FBE 97
423
Dressel 2-4 : 2 b/s in “black sand” fabric.

431

432
Dressel 20 : 3 b/s.
Dressel 2-4 : bifid handle in "black sand" fabric & 1 b/s; single rod of bifid handle; 2 b/s.
Undesignated : 6 b/s.

433
Southern Spanish : 1 b/s.

443 (Palace demolition – Phase AH)
Dressel 20 : 2 b/s.
Richborough 527 : 2 b/s.
Dressel 2-4 : 8 b/s including 1 in “black sand” fabric.
?Gauloise 4 : 1 flat-bottomed base.
Richborough 527 : 4 b/s.
Camulodunum 186sp : 1 hollow base.
Undesignated : 2 b/s.

444
Dressel 20 : 6 b/s.

457
Dressel 20 : handle.

465
Richborough 527 : 1 b/s.

484 (lower deposit in stream – Phase AD)
Dressel 20 : 12 b/s.
Dressel 2-4 : 8 b/s including 1 in “black sand” fabric
Southern Spanish : 16 b/s.
Peacock & Williams 59 : 1 rim, 1 handle with median groove and 3 b/s.
Haltern 70 : 1 rim and shoulder sherd.
Rhodian : 1 handle.
Dressel 7-11 : 1 handle.
Undesignated : 1 rim and 4 b/s (possibly from a flagon).

485 (lower deposit in stream – Phase AD)
Dressel 20 : 1 rim (Martin-Kilcher, 1987, Beilage 1, B and C) 1 handle and 3 b/s.
?Gauloise 4 : 6 b/s.
Carrot : 3 b/s.

491 (upper deposit in stream – broadly second century AD)
Dressel 20 : 11 b/s.
Dressel 2-4 : 6 b/s.
Haltern 70 : 1 b/s.
Undesignated : 1 handle & 1 b/s.

492 (*upper deposit in stream – broadly early second century AD*)
Dressel 20 : 1 b/s.
Southern Spanish : 1 b/s.
?Gauloise 4 : 1 flat-bottomed base & 4 b/s.
Dressel 2-4 : 1 bifid handle & 1 b/s in “black sand” fabric.
Camulodunum 186sp : 1 handle.

FBE 98

501
Dressel 20 : 8 b/s.
Dressel 2-4 : 1 b/s in "black sand" fabric; 1 b/s in Catalan fabric.
Undesignated : 12 b/s; 2 b/s with single rod handle stumps.

503
?Gauloise 4 : 1 b/s.
Undesignated : 2 b/s.

507
Dressel 20 : 10 b/s.
Dressel 2-4 : 12 b/s in "black sand" fabric; 2 b/s in Italian fabric; single rod from a bifid handle; 1 rim.
Southern Spanish : 2 b/s.
?Gauloise 4 : small part of handle; 1 b/s.
Undesignated : 10 b/s.

508
Dressel 20 : 1 b/s.
Dressel 2-4 : 1 b/s in "black sand" fabric.

510 (*from context above greensand road of Phase AD*)
Dressel 20 : 1 b/s.
Dressel 2-4 : single rod from a bifid handle form in a red gritty fabric; 2 b/s in "black sand" fabric; 1 b/s in Italian fabric.
Southern Spanish : 2 b/s.

511 (*from flint road – Phase AE*)
Dressel 20 : 1 rim (difficult to place exactly; it might be Martin-Kilcher, 1987, nos 51 or 55, AD 50-70 or nos 58-60, AD 70-110) and 2 b/s.
Dressel 2-4 : slither in "black sand" fabric.

512 (*from context above greensand road of Phase AD*)
Dressel 20 : 8 b/s.
Dressel 2-4 : 1 b/s in Italian fabric; 1 b/s.
Camulodunum 186sp : 2 b/s.

31/01/2005
Dressel 20 : 4 b/s.
Dressel 2-4 : 1 b/s in "black sand" fabric; 4 b/s in Italian fabric.
Undesignated : 1 small flat base.

514 (from context above greensand road of Phase AD)
Dressel 20 : 2 b/s.
Dressel 2-4 : 1 rim and b/s in Italian fabric.

515 (from context above greensand road of Phase AD)
Dressel 2-4 : bifid stump in "black sand".
?Dressel 1 / Pascal 1 : red handle stump with median groove.

516
Dressel 20 : 2 b/s.
Dressel 2-4 : bifid handle and 2 b/s in "black sand" fabric; 2 b/s.
Southern Spanish : 1 b/s.
Undesignated : 1 b/s.

517
Dressel 20 : 1 b/s.
Southern Spanish : 1 b/s.

535 (from fill of aqueduct – Phase AG)
Dressel 20 : handle & 9 b/s.
Dressel 2-4 : 3 b/s in "black sand" fabric; 1 b/s.
Southern Spanish : 1 b/s.
Undesignated : 3 b/s.

535.2 (from fill of aqueduct – Phase AG)
Haltern 70 : handle stump and 6 b/s.
Undesignated : 5 b/s.

543
Camulodunum 186C : 1 rim.

551
Dressel 2-4 : 1 bead-rim in "black sand" fabric.

556
Dressel 2-4 : 1 b/s in "black sand" fabric; bifid handle in Italian fabric.

557
Dressel 20 : 12 b/s & 1 b/s with part of a graffito cut into the wet clay before firing.
Dressel 2-4 : 5 b/s in "black sand" fabric; 1 b/s in Italian fabric.
?Gauloise 4 : 1 b/s.
Undesignated : 5 b/s.

558 (from midden – Phase AF)
Dressel 20 : handle & 2 b/s.
Dressel 2-4 : 3 b/s in "black sand" fabric; 1 rim.

31/01/2005 135
Southern Spanish: 1 b/s.
?Gauloise 4: 2 b/s.

559
Dressel 20: 10 b/s.
Dressel 2-4: 10 b/s in "black sand" fabric; 2 b/s in Italian fabric; 4 b/s; bifid handle-stub with shoulder junction and 2 large b/s.

562
Dressel 20: 2 b/s.
Dressel 2-4: 5 b/s in "black sand" fabric.
Undesignated: 7 b/s.

563
Dressel 20: 2 b/s.
Undesignated: 1 slither.

564
Dressel 20: 1 rim (cf. Martin-Kilcher, 1987, no. 38, AD 50-70); 1 handle and 9 b/s.
Dressel 2-4: single rod of bifid handle in Italian fabric.
Southern Spanish: 1 b/s.

573
Dressel 20: 2 b/s.
Undesignated: 2 b/s.

577
Dressel 2-4: 2 b/s in "black sand".
Dressel 20: 2 b/s.
Undesignated: 6 b/s.

578
Dressel 20: handle stub & 3 b/s.
Dressel 2-4: 1 b/s in "black sand" fabric; 3 b/s.

579
Dressel 20: 2 b/s.
Dressel 2-4: 2 slither in "black sand" fabric; 2 b/s.

580
Dressel 20: 15 b/s.
Dressel 2-4: 5 b/s in "black sand" fabric; single rod from bifid pair; 2 b/s; part of solid spike.
Southern Spanish: 3 b/s.
Undesignated: 1 b/s.

581 (from rubble foundation for flint road – Phase AE)
Dressel 20: 1 b/s.
Dressel 2-4: 1 rim and 7 b/s.

585
Dressel 20: 22 b/s.

31/01/2005 136
Dressel 2-4 : 2 b/s.
Undesignated : 1 b/s.

589
Dressel 20 : 1 b/s.

590
Dressel 20 : 9 b/s.
Dressel 2-4 : single rod from a bifid pair and 7 b/s.
Undesignated : rod handle attached to body in a sandy white fabric.

597
Dressel 20 : handle and 9 b/s.
Dressel 2-4 : 1 b/s.
Undesignated : 1 b/s.

598
Dressel 20 : 20 b/s.
Dressel 2-4 : 2 b/s in "black sand" fabric; 7 b/s.
Undesignated : 7 b/s.

599
Undesignated : 4 b/s.

601
Dressel 20 : 1 b/s.

602
Dressel 20 : 15 b/s and 4 part handles.
Haltern 70 : 1 part handle with central groove and 1 b/s.
Camulodunum 186C : 1 rim and 2 b/s.
?Gauloise 4 : 1 b/s.
Southern Spanish : 21 b/s.
Undesignated : 2 b/s.

604 (from fill of aqueduct – Phase AG)
Dressel 2-4 : 3 b/s in a light red fairly fine-textured fabric.
Southern Spanish : part of hollow spike.

604.2
Haltern 70 : 3 b/s.

604.4
Haltern 70 : 1 b/s.
Dressel 2-4 : 3 neck sherds in a fine-textured abraded fabric.

604.5
Dressel 20 : 1 rim (cf. Martin-Kilcher, 1987, nos 23 or 26, AD 30-50 ) and 6 b/s.
Southern Spanish : small part of hollow base.

606
Dressel 20 : 6 b/s.
Dressel 2-4 : part of one rod from a bifid form in "black sand" fabric.
Southern Spanish : 1 small b/s.

610.2 *(context infilling stream)*
Camulodunum 186A : 1 rim and 1 part hollow base.

610.4
Dressel 20 : 1 handle with a single saw mark near the base.
Dressel 2-4 : 9 b/s.
Southern Spanish : 1 b/s.

610.5
Dressel 20 : 3 b/s.
?Gauloise 4 : 2 b/s very abraded.

611.4 *(context infilling stream)*
Haltern 70 : 1 rim and 2 b/s.

613 *(from lowest fills of aqueduct – Phase AC)*
Dressel 20 : 3 b/s.
Southern Spanish : 1 b/s.
Dressel 2-4 : 2 b/s in a gritty fabric.

613.2
Dressel 20 : 2 b/s.
Dressel 2-4 : 1 b/s in a reddish-buff fairly fine textured fabric.

621 *(from sump – Phase AC)*
Dressel 20 : 3 b/s.
Dressel 2-4 : 4 b/s.
?Gauloise 4 : strap handle.
Undesignated : 6 small b/s.

621.2
Dressel 20 : 1 b/s.
Dressel 2-4 : 3 b/s.

621.3
Dressel 20 : 2 b/s.

621.6
Dressel 20 : 3 b/s.

624
Haltern 70 : 1 b/s.

625 *(from causeway in stream – Phase AE)*
Dressel 20 : handle and 3 b/s.
Dressel 2-4 : rim and bifid handle in Italian fabric; single rod of bifid handle in "black sand" fabric; single rod of bifid handle; part solid spike; 1 b/s; part shoulder sherd; 7 b/s; large single
rod of bifid pair in Italian fabric; end of spike in an Italian fabric.
Camulodunum 186C : 1 rim.
Camulodunum 186sp : handle & 1 b/s.
Rhodian : peaked top of handle and attached b/s in Peacock’s Fabric 1.
Carrot : 1 b/s.
Haltern 70 : 3 b/s.
Southern Spanish : 4 b/s.
Undesignated : 7 b/s.

626.2 *(from robber trench – Phase AC)*
Dressel 20 : 1 b/s

626.3
Dressel 20 : 1 b/s.

626.4
Dressel 20 : 5 b/s.

626.5
Dressel 20 : 6 b/s.

632
Dressel 20 : 1 b/s.

639 *(from causeway – Phase AE)*
Dressel 20 : 1 rim *(cf. Martin-Kilcher, 1987, nos 51 or 52, AD 50-70)* and 4 b/s.
Dressel 2-4 : bottom of spike and bifid handle stump in Italian fabric.
Dressel 2-4 : 5 b/s.

639.2
Dressel 20 : 6 b/s.
Dressel 2-4 : 1 rim in "black sand" fabric.
Haltern 70 : part of grooved handle.

639.3
Dressel 20 : basal wart and 7 b/s.
Dressel 2-4 : part of bifid handle.
Undesignated : 1 b/s.

646
Carrot : small base.

648
Dressel 2-4 : 1 b/s in "black sand" fabric.

651
Dressel 2-4 : 1 b/s.
FBE 99

716
Dressel 7-11 : part grooved handle.

717
Dressel 20 : 4 b/s.
Dressel 2-4 : 1 b/s with signs of the sherd being cut or "tooled".

718 (linear slot – Phase AD)
Dressel 20 : 4 b/s.
Dressel 2-4 : single rod from bifid handle in a white sandy fabric and 1 b/s.
Richborough 527 : 1 b/s.
Undesignated : 1 b/s.

718.2
Rhodian : part single rod handle in Peacock's Fabric 2.

718.3
Dressel 20 : small part of handle.
Dressel 2-4 : 10 b/s.

720
Richborough 527 : 1 complete rim attached to body and 5 b/s.

722
Dressel 20 : 1 b/s.
Undesignated : 1 b/s.

899
Dressel 20 : 1 b/s.
Rhodian : 3 b/s in Peacock's Fabric 2.

905
Haltern 70 : part neck.
Southern Spanish : 1 b/s.

906 (line of pottery and tile – Phase BD)
Dressel 20 : 4 b/s.
Dressel 2-4 : bifid handle stump at shoulder junction and a shoulder sherd.
Camulodunum 186C : 1 rim and 1 b/s.
Undesignated : 1 b/s.

909.2 (north pit in Area B – Phase BF)
Undesignated : 1 rim.

909.6
Dressel 20 : 5 b/s.
Dressel 2-4 : 4 b/s.
Carrot : 1 b/s.
Undesignated : 1 b/s.

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**Mortaria – by Kay Hartley**

**Fabrics**

Context numbers are provided after the fabric descriptions, with letter suffixes after context numbers referring to individual sherds in the catalogue.

**Fabric 1 Vicinity of Fishbourne, probably military**

Self-coloured, powdery, cream fabric with thick brownish-pink core. Inclusions: random, moderate, ill-sorted, quartz with some orange-brown material and some small voids in the clay. The trituration grit is mostly tiny quartz with some red-brown material. Context 922-Area B; Phase BC or BD.

**Fabric 2 Vicinity of Fishbourne, probably military**

Hard, slightly abrasive bright orange fabric, fired to paler colour at surface. Inclusions: fairly frequent, ill-sorted, transparent and pinkish quartz with rare opaque red-brown and black material. The few trituration grits surviving suggest that it was mostly quartz with some red-brown material. Context 908-Area B; Phase BC.

**Fabric 3 Vicinity of Fishbourne, probably military**

Hard, slightly abrasive fabric with a well-defined, thick blue-grey core, fired to orange-brown (1-1.5mm thick) at the surface; self-coloured (equals M. Lyne Fabric C12, but this version of the fabric is intended to be oxidised). Inclusions: moderate to fairly frequent, ill-sorted, mostly transparent quartz with opaque red-brown material. No trituration grit has ever been applied to the interior of the only example. Context 918-Area B; Phase BC.

**Fabric 4A-4E Southern England, mostly from Wiggonholt**

At least five related fabrics are represented in this sample, in mortaria dated within the period AD150-250, which, in this instance, can be attributed with fair certainty to sources in Sussex. These fabrics and their associated rim profiles fall well within a recognisable tradition followed in the workshop at Wiggonholt which is around 30 km north-east of Fishbourne and Chichester. They show the range of mortarium fabric which could be produced at one workshop. It is, however, worth remembering that other similar workshops may have existed at the same time in Sussex and Hampshire. Three mortaria found at Winchester (2 examples) and Portchester, which are stamped with an otherwise unknown trademark (Fulford 1975, fig. 182, no.71) are likely to be from a workshop in the
Winchester/Portchester area. The stamp is not of a type produced at Wiggonholt and its distribution is not in keeping with a source there, nevertheless the rim profiles are in the Wiggonholt tradition and the fabric is similar enough. The mortaria at Fishbourne are probably from Wiggonholt except where otherwise indicated for individual sherds. (See Tomber and Dore 1998, 187 – their sample had too little trituration grit to show the importance of flint as a constituent. For groups containing numerous mortaria attributable to Wiggonholt see Evans 1974, Cooper 1984, Luke & Wells 2001; Cunliffe 1971 and Down 1978 and 1989 also have these mortaria, but the source is not specifically indicated.)

Fabric 4A

Self-coloured and powdery, fine-textured, cream fabric. Inclusions: moderate, mostly very tiny quartz and black with rare orange-brown material. Trituration grit mostly flint and quartz. Fabric can be very closely matched in the Colchester workshops. Context 557A-demolition of Building 3; Phase AG.

Fabric 4B

Self-coloured, slightly abrasive fabric; pale brown changing rapidly to a very thick pale grey core. Inclusions: fairly frequent to frequent, mostly very tiny quartz, with some opaque black (probably iron-rich) and very rare orange-brown material. The trituration grit is almost entirely flint with rare red-brown (?)sandstone) and quartz; 535A(fill of aqueduct; Phase AG) +580F (above aqueduct; Phase AH)+557C; 577B; 559.

Fabric 4C

Hard, self-coloured, fine-textured, buff-cream fabric. Inclusions: moderate to fairly frequent, ill-sorted quartz and opaque black and orange-brown material. Trituration grit includes orange-brown, quartz and almost certainly flint. 557C i; 604B.

Fabric 4D

Fine-textured light brown fabric with well-defined pink core almost to the surface. Inclusions: trituration grit consists of mixed flint and quartz with a little red-brown material. 585(midden; Phase AF)+535B; 580E.

Fabric 4E

Hard, greyish-cream fabric with some pink near the surfaces and cream slip. Inclusion: packed with quartz (moderately well-sorted overall), rare orange-brown and probably flint. The trituration grit included flint and quartz. Fabric similar to that produced in the Verulamium region. 725; 580D.

Fabric 5 Colchester (Tomber & Dore 1998, 133-134)

Powdery, very fine-textured cream fabric; self-coloured. Inclusions: few sporadic, ill-sorted opaque black fragments and rare quartz and orange-brown material. Any trituration grit composed of flint and quartz. Similar to Fabric 1A. 577A.
Fabric 6 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 was obtained by the addition of a vast amount of well-sorted, small quartz inclusions, possibly with a little flint and very sparse red-brown material. 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. 432; 611-4; 713.

Fabric 7 Oxford white-slipped ware (Tomber & Dore 1998,176-177)

See no. 443 in the catalogue.

Fabric 8 SWWS South-east Gloucestershire/north Wiltshire, possibly in the Wanborough area (Tomber & Dore 1998, 192)

See no. 602B in the catalogue.

Fabric 9 New Forest (Tomber & Dore 1998, 142)

Greyish-white fabric, sometimes with grey core; it may have a cream slip. Inclusions: frequent and moderately well-sorted, predominantly quartz with sparse black slag and orange-brown material. Trituration grit: preponderantly flint with rare quartz, red-brown and black material. 507B; 577Ci; 579Ai; 579Aii.

Fabric 10 Probably Lyon, (Saison-Guichon 2001; Hartley and Tomber in prep; Tomber and Dore 1998, 68-69)

The samples described there are in pink-brown fabrics, but the most common mortaria attributable to this source are in a cream fabric. Some of the mortaria in both fabrics produce mortaria with a ‘peppered’ appearance because of inclusions protruding to the surface, but most of the mortaria imported from these potteries do not have this characteristic.

Self-coloured, fine-textured, cream fabric sometimes with pink core. Inclusions: fairly frequent, small to medium-sized quartz with hackly fracture, rare gold mica, probably other micas and feldspar, very rare opaque red-brown and black material. The fabric is peppered with the quartz etc. throughout and at all surfaces; this is a characteristic of the fabric.

The mortaria commonly recognised in Britain as from this area are mostly Neronian-Flavian, but finds from Fishbourne suggest that this trade was already in place in the Claudian period (see FBE 98 context 626.8 for details). It is reasonable to assume that the mortaria in this fabric came from potteries at Lyon but it should be remembered that potteries producing similar mortaria in similar fabric were also being made at St-Germain-en-Gal (Leblanc
These potteries were also supplying Germany with mortaria via the Rhône and Rhine. 626-8; 564; 437.1 (robber trench fill; Phase AJ) FBE 97 437.1.

**Fabric 11 Oise/Somme area of France** (Tomber & Dore 1998, 75-76)

Quite hard, fine-textured, buff-cream to brownish-cream fabric, sometimes with pink in the core; self-coloured. 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. 535C i; 601; 535Ci; (FBE 97 444 is probably fabric 11 rather than 12).

**Fabric 12 Oise/Somme area of France** (Tomber & Dore 1998, 75-76)

Self-coloured, yellowish fabric, sometimes with pink core; fabric softer, more powdery and more open in texture than Fabric 11. Inclusions: moderate, tiny to small, quartz, red-brown and black material. Trituration grit: flint, quartz with occasional red-brown. 507A; 510A; 510B; 512; 535Cii/iii; 579B; 604A; 604.3A; ?718; 740.

**Fabric 13 Probably Rhineland**

Self-coloured or with self-coloured slip; softish and powdery, cream fabric with pink core. Inclusions: moderate, ill-sorted and random, opaque black (iron-rich) and quartz. Trituration grit: almost entirely quartz with rare red-brown material. This fabric is somewhat unusual for the Rhineland. The only alternative would be some such source as Wiggonholt, but no 2nd- or 3rd century mortaria attributable to southern England has this type of trituration grit, i.e. solely quartz-like (with rare red-brown) and entirely lacking flint. See FBE 98 505 for comments on source. 505; 580C; 580A

**Fabric 14 Rhineland**

Hard, fine-textured white fabric, sometimes with pink core. Inclusions: some smallish quartz, red-brown and black material in the matrix, but the obvious inclusions are random, large, quartz and very rare calcareous fragments. Trituration grit: transparent and rare pinkish quartz. Context 933; North pit; Phase BF.

**Catalogue**

*Numbers from 1 onwards refer to illustrations; FBE 97 (year of excavation); 432 (context number; letter suffixes after context numbers used to identify individual sherds)*

**FBE 97 432** (overlying stream)

85g A sherd with incomplete rim section in Fabric 6, made in the Verulamium region. The close concentric scoring on the inside suggests that this is Flavian.

**FBE 97 443** (Palace demolition; Phase AH)
5g Fabric 7. Body sherd in fine-textured orange-brown fabric with a minute trace of what may be white slip. Inclusions: few random, ill-sorted black (iron-rich) and quartz. The trituration grit is entirely transparent, pinkish and brownish quartz. Oxford AD240-400.

1. **FBE 98 505 (Alec Down’s backfill)**

265g Diameter 290mm. 18% Fabric 13; six joining sherds in fine-textured cream fabric with pink core and perhaps a cream slip. Inclusions: few visible at x20; these include tiny quartz and rare, medium to large red-brown fragments. Trituration grit: entirely tiny quartz. Heavily worn in the bottom. The form (approximating to Gillam 272) is nearest to Fishbourne type 291, with bead turned out to form the spout.

Types generally similar to Fishbourne 290, 291 and 505 were produced in various potteries, mainly in the Rhineland (to which Fishbourne 290 and 291 should have been attributed), but also at Wiggonholt, Colchester and elsewhere in East Anglia. They were also produced in some of the potteries in the Oise/Somme area of northern France, which had at an earlier date, produced the Bushe-Fox 22-30 and the Gillam 238 and 255. A few were produced elsewhere. Some characteristics in rim profile can help in attributing them to individual potteries, but the most obvious difference between mortaria from the Rhineland and the other sources appears to be in the trituration grit. The trituration grit in all Rhineland mortaria found in Britain appears to be composed of quartz and quartz-like materials sometimes with red-brown ?sandstone, while the other sources of any note used flint often with some quartz..Mortaria of this type were being imported into Britain within the period AD150-300 (the wide date-bracket is due to lack of precise dating evidence). This example is probably from the Rhineland.

**FBE 98 557C (demolition of Building 3; Phase AG)**

Two joining body sherds, four others and one base/body sherd which could all be from the above vessel.

**FBE 98 507A (north-west corner of Area A; upper layer)**

25g Fabric 12. Oise/Somme area of northern France. Part of the flange and body of a third mortarium of Gillam type 255 in powdery, fine-textured, yellowish-cream fabric. Inclusions: moderate to fairly frequent, tiny to small, quartz, and rare slag. Only one trituration grit survives; Gillam 255 often had little in the way of trituration grit. See 510A for details. Antonine, primarily AD140-180.

2. **FBE 98 507B**

25g Diameter ?240mm. 6.5% Fabric 9, greyish-white fabric probably with cream slip. Inclusions: frequent, tiny to small quartz, and rare orange-brown and black slag? Trituration grit: included quartz, flint and orange-brown material. New Forest (Tomber & Dore 1998, 142). Mortarium with short, flat flange at right angles to the high vertical bead (see Fishbourne type 361.2); the left side of a finger-depression spout survives. Late 3rd- or 4th-century, but the form would best fit a date in the 4th century.
3. FBE 98 510A (above greensand road of Phase AD)

35g Diameter 360mm. 5% Fabric 12. A Gillam type 255 mortarium in fine-textured, cream fabric. Inclusions: moderate, tiny quartz, orange-brown, grey and black material (?slag). No trituration grit survives. There are many variants of this form, all are unstamped. Made at Noyon and in other potteries in the Oise/Somme area of northern France (Tomber & Dore 1998, 75-76; Hartley 1998, 203-206). For some examples of the form and comments, see Hartley 1991, 203-205. Antonine, primarily AD140-180.

FBE 98 510B

30g 2% Fabric 12; Oise/Somme area, northern France. Gillam type 238 in fine-textured, yellowish-cream fabric. Inclusions: moderate to fairly frequent, minute, quartz, black and orange-brown. No trituration grit survives, but some of the trituration grit normal to this source is scattered on top of the flange; this consists mainly of flint with some quartz and occasional red-brown material. AD65-100.

FBE 98 512 (above greensand road of Phase AD)


4. FBE 98 535A (fill of aqueduct; Phase AG)

140g Diameter 270mm 11% Fabric 4B. Two joining sherds from a mortarium in self-coloured, slightly abrasive fabric; pale brown changing rapidly to a very thick pale grey core. Inclusions: fairly frequent to frequent, mostly very tiny quartz, with some opaque black (probably iron-rich) and very rare orange-brown material. The trituration grit is almost entirely flint with rare red-brown (?sandstone) and quartz; it shows little if any wear. A very slightly inclined version of Fishbourne type 294; as Fulford 1975, fig. 182, no.71, without the upper groove. AD170-220. Typical of forms and fabric produced at Wiggonholt.

FBE 98 580F Does not join, but is almost certainly from the same vessel.

FBE 98 557C Two joining body sherds, probably from the same vessel.

FBE 98 535B

23g Fabric 4D. Body sherd, probably part of FBE 98 585 (AD140-170). Trituration grit consists of mixed flint and quartz with a little red-brown material.

FBE 98 535C i

110g Fabric 11, self-coloured, quite hard, very fine-textured, almost brownish-cream fabric. Inclusions: moderate to fairly frequent, mostly minute quartz, orange-brown and black material with rare white calcareous material and rare large red-brown fragments. The
trituration grits consist of a mixture of flint and quartz and are combined with concentric scoring on the interior. Fragment with incomplete rim section from a mortarium of type Bushe-Fox 22-30 (1913, fig. 19), which was never stamped. For comments and examples of this type see Hartley 1991, 198-203 and Hartley 1998, 203-206; also good examples in TC30-40 Tomber with Hartley 1985 (Microfiche F15 and F17). This type was certainly made at Noyon and probably elsewhere in the Oise/Somme area of France AD70-150.

FBE 98 535C ii

40g Fabric 12, self-coloured, powdery, yellowish-cream fabric. Inclusions: fairly frequent, minute to small sized quartz, red-brown and occasional white (probably calcareous) material. No trituration grit survives, but several flint grits survive on the rim. Oise/Somme area of northern France. Fragment with incomplete rim section from another mortarium of type Bushe-Fox 22-30 (1913, fig. 19). See 535C i for other comments. AD70-150.

FBE 98 535C iii

120g Fabric 12. Base/body sherd possibly from 535C ii; very heavily worn so that no trituration grit survives.

FBE 98 557A (Building 3 demolition; Phase AG)


FBE 98 564 (from above the stream; Phase AH?)

88g Fabric 10; self-coloured, almost brownish-cream with dark orange core in parts. Inclusions: random, ill-sorted, rounded, quartz, moderate in number. The surface has been deliberately covered with small, rounded, transparent and pinkish quartz. Rhone valley (Tomber & Dore 1998, 68-69). The end of a spout which has become detached at the point where extra clay was added to form it. Likely to be AD50-85.

FBE 98 557C

35g Two joining body sherds probably from FBE 98 535A.

145g. Two joining body sherds, four others and one base/body sherd could all be from FBE 98 505

FBE 98 559 (demolition of Building 3; Phase AG)

30g Diameter >220mm 8% Fabric 4B, sandwich fabric, cream at surface, with pink core almost to surface enclosing greyish-cream central core. Inclusions: frequent quartz, well-sorted overall with very rare opaque black and orange-brown material. The four or five
trituration grits surviving include flint, slag and quartz. Probably Wiggonholt. A wall-sided mortarium identical to Fishbourne type 294.1, with similar spout. AD180-250

5. FBE 98 577 A (above midden; Phase AG)

80g Diameter 350mm 5% Fabric 5, powdery, very fine-textured cream fabric; self-coloured. Inclusions: few sporadic, ill-sorted opaque black fragments and rare quartz and orange-brown material. Any trituration grit would have been composed of flint and quartz. This wall-sided mortarium with wide flat bead and grooves at the top and bottom of the wall is a Colchester type 501, most closely paralleled by Hull 1963, fig.8, no. 14. This is among the latest forms to be stamped; it continued in production after the practice of stamping ceased. Optimum date AD180-210, with the possibility of being slightly earlier or later. Almost certainly made at Colchester, but local production is not entirely impossible. Colchester mortaria are not common in Sussex, but the dimensions and deep wall of this example would be in keeping with production there. There was a small workshop active in Sussex at Wiggonholt in the second half of the 2nd century and during part of the 3rd century, which produced mortaria of this type, but they are typically small and thin walled. The fabrics produced at Wiggonholt can usually be distinguished from Colchester fabric, but it can be very close and there are likely to be occasions when it might not be distinguishable by macroscopic examination.

6. FBE 98 577B

45g Diameter 290mm. 8% Fabric 4B. A hammerhead mortarium in self-coloured, fine-textured cream fabric with pale grey core. Inclusions: fairly frequent to frequent, mostly very tiny quartz with rare orange-brown and black material. No trituration survives. The fabric indicates Wiggonholt as the likely source. This is the first instance recorded of a hammerhead mortarium of this type being attributed to this workshop. A date in the mid-3rd century is probable judging from the closest parallels for this rim profile which are from the Mancetter-Harthill potteries.

FBE 98 577C i

17g 1% Fabric 4C, self-coloured cream fabric. Inclusions: moderate to fairly frequent, ill-sorted, but much of it tiny, mostly quartz with rare orange-brown and black material. Three trituration grits survive, two orange-brown and one quartz. Slightly singed after fracture. This wall-sided mortarium with two grooves at top and bottom of the wall is a Fishbourne type 294 with flat rim. The form and fabric are typical of mortaria made at Wiggonholt. Optimum date AD180-230.

7. FBE 98 577C ii


8. FBE 98 579Ai (above the stream; Phase AG)
80g Diameter 260mm. 13% Fabric 9, greyish-white fabric with greyer core and possibly a cream slip. Inclusions: frequent, moderately well-sorted, quartz with some minute to small black material. Trituration grit: flint with some quartz and perhaps a little quartz sandstone. New Forest (Tomber & Dore 1998,142). Slightly burnt fragment with left side of spout surviving, generally similar to Fishbourne type 362. Probably AD 240-300+.

9. **FBE 98 579A ii**

65g Diameter 260mm. 9% Fabric 9, similar to 579Ai. New Forest (Tomber and Dore 1998, 142). Fragment with left side of spout surviving, generally similar to Fishbourne type 362 and to 577 C ii. Probably AD 240-300+.

**FBE 98 579B**

60g Diameter 370mm. 6% Fabric 12. Oise/Somme area, northern France. A Gillam type 238 mortarium, discoloured almost throughout to brown. No trituration grit survives, but the grit on the flange consists of flint and quartz. AD65-100.

**FBE 98 580A**

155g Diameter 310 12% Probably Fabric 13, but probably burnt, and discoloured throughout to grey. Fishbourne type 291. Rhineland. AD150-300.

**FBE 98 580C**

60g Diameter 230mm 12% Fabric 13, the Rhineland. Fishbourne type 291; collar deliberately gritted with quartz.. AD150-300.

**FBE 98 580D**

25g Diameter >240mm 5% Fabric 4E, greyish-cream fabric with frequent quartz and rare orange-brown inclusions. The trituration grit included flint. This was heavily burnt, probably before fracture. Fishbourne type 294. Probably Wiggonholt. AD180-250.

**FBE 98 580E**

155g Two joining base sherds (break modern) and one burnt body sherd in Fabric 4D. Southern England.

**FBE 98 580 F**

50g Fabric 4B. Probably Wiggonholt. Base and body sherd showing little wear. Probably part of FBE 98 535A.

**FBE 98 585 (from midden of Phase AF)**

45g Diameter 300mm. 6% Fabric 4D, probably Wiggonholt. Fine-textured fabric, overfired to grey with the core appearing as orange-brown. Inclusions: moderate, including quartz, slag.
and calcareous material. Trituration grit uncertain. This flanged mortarium is close to Fishbourne type 284.1. This is a typical Colchester form, but attributable with virtual certainty to a local workshop such as that at Wiggonholt. AD140-170. FBE 98 535B is probably from this vessel.

**FBE 98 601 (from beam-slot of Phase AE/AF)**


**10. FBE 98 602B**

10g 3% Fabric 8, orange-brown fabric with cream slip (Tomber & Dore 1998,192, ‘south-west, white-slipped ware’). Inclusions: moderate to fairly frequent, ill-sorted quartz, some red-brown and black slag. Trituration grit: two slag grits survive. Mortarium with short, thick flat flange at right angles to a high bead; very generally similar to Fishbourne type 361.1 where the chamfer at the end of the flange is in the opposite direction. South-east Gloucestershire/north Wiltshire. Late 3rd- or 4th-century.

**11. FBE 98 604A (upper fill of aqueduct; Phase AG)**

95g Diameter 340mm. 6% Fabric 12, self-coloured, yellowish-cream fabric. Inclusions: ill-sorted, red-brown and rare black. One flint trituration grit survives. A third mortarium of type Bushe-Fox 22-30 (1913, fig. 19). See 535C i for other comments. AD 70-150.

**FBE 98 604.3A**

115g Fabric 12. Two joining body sherds showing concentric scoring. Wear very moderate. The concentric scoring points to Gillam 238 or Bushe-Fox type 22-30. AD65-150.

**12. FBE 98 604B**

48g Diameter 310mm. 5% Fabric 4C. Hard, self-coloured, fine-textured, buff-cream fabric. Inclusions: very moderate, random and ill-sorted quartz and opaque black and orange-brown material. No trituration survives. An unusual wall-sided form, but well within the Wiggonholt tradition. AD180-250.

**13. FBE 98 611.4 (from bottom of stream; probably Phase AE)**

120g Diameter 280mm 15% Fabric 6. Cream fabric with thick brownish-pink core (Munsell 5YR 7/4, ‘pink’) extending up to surface skin; possible slight traces of cream slip. Inclusions: frequent quartz, moderately well-sorted overall, with very rare opaque black and orange-brown material. No trituration grit survives. Singed before fracture.
The broken stamp shows parts of retrograde IVN. When complete this retrograde stamp can be interpreted as IVNII for the genitive form ‘of Iunius’. This is Iunius 1 who worked in the Verulamium region. His mortaria are now known from Braughing; Brockley Hill (3); Fishbourne; London; Radlett; Stonea; Verulamium and Ware. His mortaria from Brockley Hill suggest that his workshop was there, but one mortarium has been recorded at Radlett where mortaria were also made. His mortarium from Verulamium was found in a context dated to AD135-145 (Frere 1972, 375, no. 22 and see fig. 145, no. 22 for illustration of a complete impression). Taking rim profiles into consideration as well, the optimum date for his activity is AD90-130.

FBE 98 626.8 (from fill of robber trench; Phase AC)

60g Diameter 330. 7% Fabric 10, self-coloured, fine-textured, cream fabric. Inclusions: random, large quartz with hackly fracture, but there is small, mostly quartz and rare gold mica peppered throughout the fabric and appearing on all surfaces. (Rhône valley, see Tomber & Dore 1998, 68-69; Saison-Guichon 2001; Hartley and Tomber in prep;). Two sherds (not joining), from the same early wall-sided mortarium, in a fabric attributable to an important pottery at Lyon. This mortarium would never have had any triturative grit. The vast majority of the mortaria found in Britain, which were produced in these potteries are of the period AD50-85 (Hartley 1993, 398-401, types 11-17 in Fabric 13, p.391); wall-sided examples such as the present example are extremely rare, but another example is published from Fishbourne (Cunliffe 1971, fig. 98, 144.2, found in Period 1). AD43-60.

FBE 99 713

35g Sherd with incomplete rim section in Fabric 6 made in the Verulamium region. It is very unusual in having wide concentric scoring as well as grit on the inside. AD80-130.

FBE 99 718 (from linear slot; Phase AD)

65g 1% Probably Fabric 12, but appears to be discoloured and made slightly abrasive by a brownish deposit on all surfaces. Two joining sherds from a mortarium with concentric scoring on the flange, though none is visible on the surviving part of the interior. The rim is much too curved to be a true Gillam 238. It may be somewhat earlier than the Gillam 238, probably made within the period AD50-85. Probably made in northern France.

14. FBE 99 725

60g 260mm 8% Fabric 4E. Hard, greyish-cream fabric with some pink near the surfaces and cream slip. Inclusions: packed with quartz (moderately well-sorted overall), rare orange-brown and probably flint. The triturative grit included flint and quartz. An unusual form, but within the Wiggonholt tradition, (Evans 1974, fig. 17, no. 179 is generally similar in form and fabric, also Fishbourne type 289). AD180-250.

FBE 99 740

10g Fabric 12. Flange fragment from a Gillam 238. Oise/Somme area, northern France. AD65-100.
FBE 99 908 (western pit–Area B; Phase BC)

125g Diameter >360mm. 7% Fabric 2. Rim sherd with incomplete rim section from a mortarium with self-coloured slip in hard, slightly abrasive bright orange fabric. Inclusions: fairly frequent, ill-sorted, transparent and pinkish quartz with rare opaque red-brown and black material. The few trituration grits surviving suggest that it was mostly quartz with some red-brown material. The rim profile is generally similar to Fishbourne type143, but it does lack the distal end of the flange. It cannot be attributed to any known mortarium source and is probably from a small local workshop, possibly military, of mid-1st century date.

15. FBE 99 918 (western pit–Area B; Phase BC)

490g Diameter 300mm 32% Four joining sherds from a mortarium in Fabric 3: hard, slightly abrasive fabric with a well defined, thick blue-grey core, fired to orange-brown (1-1.5mm thick) at the surface; self-coloured; (equals M. Lyne Fabric C12, but this vessel was intentionally oxidised). Inclusions: moderate to fairly frequent, ill-sorted, mostly transparent quartz with opaque red-brown material. No trituration grit has ever been applied to the interior which shows some signs of wear. This is a very sturdy, thick-walled mortarium with short, thick stubby flange, rising slightly above the bead. Although there are exceptions, the lack of trituration grit on the mortaria in use in Britain is normally indicative of pre-Flavian date. No exact parallel has been published from Fishbourne and it would be difficult to find an exact dated parallel, but this mortarium in this fabric fits best with a Neronian to early Flavian date. It is likely to be of military origin and probably local. One of the characteristics of flanged mortaria made in Britain in the pre-Flavian to early Flavian period is the wide variety of rim profile and fabric. This is probably because the potters were servicing local military needs and came from diverse areas of the Roman Empire, where differing potting traditions were practised.

16. FBE 99 922 (north of western pit in Area B; probably Phase BC)

203g Diameter 350mm. 9% A burnt mortarium in Fabric 1: self-coloured, powdery, cream fabric with thick pink core. Inclusions: random, moderate, ill-sorted, quartz with some orange-brown material and some small voids in the clay. The trituration grit is mostly tiny quartz with some red-brown; mostly tiny and distributed up to two centimetres below the bottom of the bead. Probably made in a local military workshop. This is a typical pre-Flavian rim profile which would never have been stamped. Neronian to early Flavian period.

FBE 99 933 (north pit–Area B; Phase BF)

70g Diameter 230 14% Fabric 14, hard, fine-textured, white fabric with pink core. Inclusions: some tiny to smallish quartz, red-brown and black material in matrix, but the obvious inclusions are random, large quartz and one huge calcareous fragment. Trituration grit: transparent and rare pinkish quartz. Fishbourne type 291. Rhineland. AD150-300.
Glass – by Denise Allen

A catalogue of the most significant pieces follows (Figs 226 to 232). Please note that if sherds join they have been counted as 1 fragment. The full catalogue notation gives year of excavation, followed by context number, followed by small find number. In certain cases a note in italics explains a significant context. Most pieces in the full catalogue are illustrated.

Vessel Glass
Cast and Ground
Polychrome

1. FBE96 203 444
   Rim fragment of a bowl of polychrome cast and ground glass; translucent dark green ground with two extant spots of opaque red surrounded by smaller spots of opaque yellow. Flaring rim with small horizontal lip.

2. FBE96 203 435
   Base fragment of a bowl of polychrome cast and ground glass, translucent dark green ground with opaque red spots surrounded by spots of opaque yellow, all distorted into a mottled pattern. Lower curving side of vessel extant, with a low moulded base-ring.

3. FBE98 557 (demolition of Building 3 – Phase AG) 5315
   Lower side fragment of what was probably a curved dish with flaring lip; very edge of base-ring extant on lower edge of piece. Dark brown ground marbled with opaque pale yellow.

4. FBE98 604 7921
   Flat fragment, probably part of base, possibly part of same vessel as no 5. Dark brown ground marbled with opaque pale yellow.

5. FBE 99 unstratified 10666
   Small fragment of polychrome cast and ground glass: emerald green ground with two extant opaque white spirals, and opaque yellow flecks.

6. FBE99 907 (lowest layer of midden in Area B – Phase BE) 11386
Fragment from the base of a pillar-moulded bowl of dark brown glass, marbled with opaque white. Patterning suggests that original mosaic pieces may have been opaque white spirals.

Fragments of polychrome cast and ground dishes and bowls are commonly found in 1st century contexts, but never in high numbers. At least four vessels are represented here: a bowl of green glass with opaque red and yellow spots (nos 1-2); a bowl, probably with flaring lip and base-ring, of dark brown glass marbled with opaque yellow (nos 3-4); a bowl of indeterminable form of green glass with white spirals and yellow flecks (no. 5); and a pillar-moulded bowl of brown glass marbled with spiral opaque white pieces (no 6).

The form of nos 1-2 and 3-4 is likely to have been a wide-rimmed bowl with base-ring (Price & Cottam 1998, 55-59), represented here also in colourless glass by nos 8-17 below. They were made in a variety of glass colours and patterns, and seem to belong late in the sequence of cast and ground glass manufacture, continuing in their colourless form well into the 2nd century. The polychrome pattern used for nos 1-2 is quite common: a base fragment was found in ploughsoil during earlier excavations at Fishbourne (Harden & Price 1971, 323-6, plate 25, fig. 137), nine fragments have been found during various excavations at Colchester (Harden 1947, 294, nos 3-5, plate 87; Cool & Price 1995, 28-30, nos 189, 191, fig. 2.9) and several more are discussed with reference to these. The brown and yellow marbling of nos 3-4 is not as common.

Fragment no. 5 is too small to identify its form, but its pattern is a common one, and no. 6 is a pillar-moulded bowl fragment of common 1st-century type, represented also by a blue-green fragment, no 7 below (Price and Cottam 1998, 44-46, fig 7). The colours of no. 6 are commonly seen - three fragments were found at Colchester (Cool & Price 1995, 19-20, nos 1-3, fig 2.2)

**Monochrome**

**Blue-green**

7. FBE98 507 2526  
Small base fragment of a pillar-moulded bowl of blue-green glass. Part of two ribs extant, and two adjacent wheel-cut circles around interior.

**Colourless**

8. FBE97 452 1461  
Rim fragment of a bowl of colourless glass, cast, wheel-cut and polished. Broad, out-splayed rim with overhang which has been cut with a row of notches around the edge, extended upward into narrow vertical ovals (egg and dart decoration). Underneath the rim is a row of oval facets, and a row of small horizontal ovals beneath every other notch. Diameter of rim 110 mm.

9. FBE97 467 1530  
Small body fragment of colourless glass, apparently cast and rotary polished, possibly from a bowl similar to no. 1 above, with carinated profile (not illustrated).

10. FBE98 557 5237 + FBE98 558 (midden in Area A – Phase AF) 4523  
Two joining rim fragments of a bowl of colourless glass; cast and ground. Broad, out-splayed rim with overhang; diameter c..155 mm.

11. FBE98 512 2555

31/01/2005
Rim fragment very similar to above, but not joining (probably part of the same vessel); diameter c. 155 mm.

12. FBE98 507 (probably part of midden Area A – Phase AF) 2522 + FBE98 507 2510
Two joining base fragments of the base-ring of a colourless cast and ground plate, similar to nos 10-11 above but larger. Diameter of base-ring 220 mm.

13. FBE99 710 9470
Fragment of the base with base-ring of a plate similar to above, colourless, cast and ground. Diameter indeterminable.

14. FBE98 558 637
Fragment of the base ring of a colourless cast and ground bowl or plate; diameter indeterminable (not illustrated).

15. FBE99 710 9435
Fragment from the curved lower side of a colourless cast and ground bowl or plate. Diameter indeterminable.

16. FBE98 507 2434
Flat base fragment of a colourless cast and ground bowl or plate.

17. FBE98 598 (midden in Area A – Phase AF) 6734
Tiny rim fragment of a bowl or plate similar to nos 10-12 above, with overhanging lip. Diameter indeterminable.

Colourless cast and ground bowls with wide everted rims were popular during the Flavian and Trajanic periods. They were made both with and without an overhang to the rim, and in both a plain and a decorated form (Price & Cottam 1998, 55-59). Two fragments similar to no. 1, but without the decoration under the rim, came from previous excavations at Fishbourne, from deposits of AD100-270, and after AD270 (Harden & Price 1971, 334-6, nos 33-34, fig 138), and similar finds have come from other British sites such as Richborough, York and Castleford (Cool & Price 1996, 36).

**Blown glass**

**Bowls and cups**

18. FBE98 505 2085
Rim fragment of a large tubular-rimmed bowl of blue-green glass. Rim folded inward and downward, then outward and downward to form hollow tube; diameter indeterminable.

19. FBE99 726 9728
Rim fragment of a tubular-rimmed bowl of blue-green glass; rim folded outward and downward twice, to form hollow tube; diameter c.300 mm.

20. FBE99 710 9451
Rim fragment very similar to no 19, from the same or a similar vessel; diameter c. 300 mm.

21. FBE99 701 9115
Rim fragment of a tubular-rimmed bowl of yellow-green glass. Rim folded outward and downward twice to form hollow tube; diameter indeterminable.

Small rim fragments of blue-green tubular-rimmed bowls:
- FBE99 701 9126
- FBE99 701 9083
- FBE99 701 9824
- FBE99 908.2 10907

Glass bowls with their rims finished by folding into hollow or solid tubes were made in a variety of forms for much of the Roman period, and rim fragments cannot be closely dated. The commonest form was a deep bowl, sometimes decorated with ribs, and with an applied base-ring, popular during the later 1st and first half of the 2nd centuries (Price & Cottam 1998 78-80). A shallower form was made at the same time but was less common and less long-lived (*op. cit* 77-78). Some of the eight fragments listed above are likely to have come from these forms.

22. FBE97 484 (from the bottom of the stream – Phase AD) 1875
   Rim fragment of a cup of blue-green glass. Rim turned slightly inward and ground smooth (band of horizontal wheel-incised lines beneath); diameter c.90 mm.

23. FBE99 905 (midden in Area B – Phase BE) 10349
   Rim fragment of a cup of pale blue-green glass. Vertical rim, ground smooth, with a horizontal wheel-cut band beneath; diameter 100mm.

These are most likely to represent a form of convex cup with wheel-cutting and abrasion known as a ‘Hofheim cup’, after the German site where many examples were found. Several similar rim fragments were found during earlier excavations at Fishbourne (Harden & Price 1971, 343-5, nos 46-48, fig. 139) and there were many from Colchester (Cool & Price 1996, 64-68, nos 282-331). It appears to have been the commonest blown-glass drinking vessel between about AD 43 and AD60/61 (Price & Cottam 1998, 71-73).

24. FBE97 430 1411
   Rim fragment of a bowl of blue-green glass. Rim outflared and fire-rounded and thickened; diameter c. 160 mm.

25. FBE99 710 9353
   Rim fragment of a bowl or cup of blue-green glass. Rim outflared and fire-rounded; diameter c. 120 mm.

26. FBE99 711 9266
   Rim fragment of a cup of blue-green glass. Rim fire-rounded and thickened and turned slightly outward; diameter c. 100 mm.

27. FBE98 512 3361
   Rim fragment of a cup or beaker of colourless glass. Rim has flaring lip, ground smooth; outer surface rotary polished. Diameter of rim 80mm.

28. FBE99 904 (midden in Area B – Phase BE) 10155
   Rim fragment of a bowl or cup of colourless glass. Rim has flaring lip, ground smooth; diameter c. 160 mm.
29. FBE98 558 4361
Rim fragment of a bowl of colourless glass. Rim fire-rounded and tooled to form outer ridge; diameter c. 180 mm.

Listed here are three blue-green and four colourless bowl, cup or beaker rims (nos 23-29) which cannot be assigned with any certainty to specific forms, but which illustrate some of the range of drinking vessels in use on the site.

30. FBE98 604.2 (upper fill of aqueduct – Phase AG) 6795
Rim fragment of a cup of colourless glass. Rim fire-rounded and turned slightly outward to form everted lip; diameter c. 100 mm.

No 30 may represent a form of cylindrical drinking cup common during the later 2nd and earlier 3rd centuries, a less common variant of the extremely common form represented by nos 31-35 below (Price & Cottam 1998, 99-101).

31. FBE96 240 527
Rim fragment of a cup of colourless glass. Rim turned inward very slightly, and fire-rounded and thickened; diameter c. 80mm.

32. FBE97 452 1473
Rim fragment of a cup of colourless glass. Rim fire-rounded and thickened and turned slightly inward; diameter c. 90 mm.

33. FBE98 514 3010
Rim fragment of a cup of colourless glass. Rim fire-rounded and thickened and turned slightly inward; diameter c. 80 mm.

34. FBE98 507 2513
Rim fragment of a cup of colourless glass. Rim fire-rounded and thickened and turned slightly inward; diameter c. 90 mm.

35. FBE98 507 3087
Rim fragment of a cup of colourless glass. Rim fire-rounded and thickened and turned slightly inward; diameter indeterminable.

Fragments 31-35 are most likely to have come from a cylindrical cup with double base-ring, which was the most popular drinking vessel during the later 2nd and earlier 3rd centuries (Price & Cottam 1998, 99-101). Two came from previous excavations at Fishbourne (Harden & Price 1971, 352-5, nos 74-75, fig 141), and the form is discussed extensively with reference to 46 fragmentary vessels from Colchester (Cool & Price 1995, 83-85, nos 466-533, fig 5.12).

36. FBE98 507 2339
Lower body fragment of a cup of colourless glass; change of angle extant, with two horizontal wheel-cut lines. Diameter of lower body c.70 mm.

Base fragments, most probably from bowls or cups.

37. FBE98 558 4509 + FBE98 559 4685
Two base fragments, almost certainly from the same vessel of emerald green glass. Pushed-in tubular base-ring; diameter c. 45 mm.
38. FBE98 513 2838
Base fragment of colourless glass; pushed-in solid base-ring; diameter c. 70 mm.

39. FBE98 598 7901
Base fragment of colourless glass; pushed-in tubular base-ring; diameter 60 mm.

40. FBE98 501 2151
Base fragment of a cup or beaker of colourless glass; pushed-in tubular base-ring, flattened to run around edge of base; diameter c. 40 mm.

41. FBE98 508 7919
Base fragment similar to no. 37; diameter c. 40 mm.

42. FBE98 580 6191
Base fragment of a cup of colourless glass; blown pad base, applied to underside of vessel; edges missing; diameter indeterminable.

None of these six base fragments can be closely identified, but again serve to illustrate the range of vessels present, most of them probably used for drinking.

Jars

43. FBE99 710 9403
Rim fragment of a jar of blue-green glass. Rim folded inward and downward, then outward and downward to form vertical, concave collar; diameter c. 80 mm.

44. FBE98 557 5606
Base fragment of a globular jar or jug of dark blue glass; pushed-in open base-ring; diameter indeterminable.

Convex jars with collar rim were in common usage during the third quarter of the 1st and first half of the 2nd centuries (Price & Cottam 1998, 137-138). A closely related form of convex jug with long neck was popular at the same time (op.cit. 150-152) and base fragments like no 44 could have come from either form.

Jugs

45. FBE99 904 10173
FBE99 904 10209
FBE99 908 11135
FBE99 909.3 11942
FBE99 922 11743
FBE99 922 11744
FBE99 922 11768
FBE99 922 11776
FBE99 938 12060

Nine fragments, some from a vessel body, some from a cylindrical neck, of dark blue glass. Some of the fragments have opaque white marvered blobs. It seems possible all the fragments are from the same vessel, probably a jug, or perhaps a flask. Diameter of neck c. 30 mm (not illustrated).
A decoration of marvered blobs of glass was used on several vessel types during the mid-1st century AD, probably copying, in blown form, the marbling of cast and ground vessels. Examples include a fragmentary bowl from Kingsholm, Gloucester (Price & Cottam 1998, 18, plate 2:4), a bath-flask from Richborough (Harden et al. 1968, 58 no. 70) and a jug from Carlisle (Cool 1992, 67, no. 5, fig. 10). Although this example is very fragmentary, the presence of what appear to be neck fragments suggest that it is most likely to have been a jug, probably with a globular or conical body, either of a type which belongs to the mid-1st century (Price & Cottam 1998, 149-150) or the Flavian period (op. cit. 150-154).

46. FBE97 490 (upper fill of stream – Phase AH) 1599
Rim fragment of a jar, flask or jug of blue-green glass. Rim outflared and folded inward and downward; diameter c. 65 mm. Also two joining body fragments from the same vessel, the curvature of which suggest the form was globular or bulbous. A further 15 body fragments are almost certainly from the same vessel, all being of identical thin-walled, dull surfaced blue-green glass with a curving profile:
291 1600 2 fragments
291 1601 6 fragments (2 joining)
291 1602 1 fragment
291 1603 1 fragment
291 1605 1 fragment
291 1606 2 fragments
491 1846 2 fragments

These fragments are insufficiently diagnostic to reconstruct the profile, or indeed the type of vessel represented.

47. FBE98 514 (above greensand road – Phase AE-AF) 2552 + FBE98 514 2581
Two fragments from the cylindrical neck, probably of a jug, of yellow-green glass; diameter of neck c. 30 mm (not illustrated).

The colour and size of neck fragments no. 47 suggest that they are from a form of long-necked jug common during the later 1st and 2nd centuries (Price & Cottam 1998, 150-157). Some of the handle fragments listed below may also be from vessels such as these.

Handle fragments, from jugs or flasks

48. FBE98 598 6805
Fragment of a fine, curved, round-sectioned handle of blue-green glass. Part of pinched ?rim attachment extant; width of handle c. 4 mm.

49. FBE99 710 9253
Fragment of a curved, flat-sectioned handle of yellow-green glass, with pinched outer trail adhering; width of handle c. 25mm.

Also, not illustrated:
FBE98 505 2178 Upper part of blue-green, angular ribbed handle; width c. 35 mm.
FBE99 902 9937 Part of the rib of a blue-green handle.
FBE98 509 6282 Rim attachment of a blue-green handle.
FBE98 557 5637 Part of a broad, curved rib of a blue-green handle.
FBE98 514 2943 Part of the rib of a blue-green handle.

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FBE97 484 1618 Folded handle attachment from beneath rim, blue-green glass.

**Flasks and unguent bottles**

50. **FBE98 598 7266**
Handle of a bath-flask of blue-green glass. ‘Dolphin’ handle, attached at shoulder and rim; height c. 26 mm.

Bath flasks were used over a long period, from the third quarter of 1st century AD to the mid-3rd century, to carry perfumed oils and unguents to the baths (Price & Cottam 1998, 188-190). The handles are particularly robust and easy to recognise, as here.

51. **FBE97 484 (bottom of stream – Phase AD) 1620**
Base fragment, probably from a flask with rounded conical body, flattened base. Diameter of body c. 70 mm.

52. **FBE99 905 10324**
Base fragment of a small vessel, perhaps similar to nos 51-52 above (not illustrated).

53. **FBE98 516 4045**
Lower body fragment of an unguent bottle of blue-green glass; rounded conical body, slightly concave base; diameter c. 35 mm.

54. **FBE99 904 10111**
Lower body fragment of an unguent bottle of blue-green glass; rounded-conical body, slightly concave base; diameter c. 50 mm.

Conical unguent bottles were made during the late 1st century and early 2nd century (Price & Cottam 1998, 172-174). Fragments occur quite regularly in domestic contexts, and more complete finds often survive in burials. Some of the nine rim fragments and three neck fragments listed below may be from an unguent bottle of a similar type (nos 55-58), or from tubular unguent bottles (Price & Cottam 1998, 169-171).

**Rim fragments, unguent bottles, flasks, jugs or bottles**

55. **FBE99 922 12098**
Rim fragment of a beaker or flask of blue-green glass. Rim fire-rounded and thickened and turned outward to form horizontal lip; diameter c. 40 mm.

56. **FBE98 558 4399**
Rim fragment of an unguent bottle or flask of blue-green glass. Rim folded outward, upward and inward; diameter c. 30 mm.

57. **FBE99 905 10960**
Rim fragment of an unguent bottle or flask of blue-green glass. Irregular, flaring rim, folded outward, upward and inward; diameter c. 30 mm.
58. FBE97 484 1621
Rim fragment of a flask, jug or bottle of blue-green glass. Rim folded outward, upward
and inward forming horizontal lip; diameter c. 50 mm.

Folded rim fragments, similar to no 57:
FBE99 908.2 10904 Blue-green, irregular; diameter c. 50 mm.
FBE98 507 2362 Blue-green; diameter c. 25 mm.
FBE98 598 6789 Blue-green; diameter c. 25 mm
FBE98 5581 5039 Blue-green flaring; diameter indeterminable.
FBE98 602 7917 Blue-green; diameter indeterminable.

Blue-green neck fragments:
FBE98 907 10706 Cylindrical, diameter c. 20 mm.
FBE98 507 2733 Cylindrical, diameter indeterminable.
FBE98 507 2409 Cylindrical, diameter c. 10 mm.

Bottles

59. FBE98 559 4738
Handle, body and base fragments of a small square bottle of blue-green glass. Thin-
walled, poorly made, with many bubbles and other impurities within the metal. Narrow,
flat-sectioned handle, apparently without ribs; base has two moulded concentric circles
with an irregular indentation off-centre. Width of sides c. 56 mm.

60. FBE97 443 (demolition from Palace – Phase AH) 1539
Base fragment of a prismatic bottle of blue-green glass. Moulded design on underside:
part of one circle extant, surrounding a central motif of a ?quartered circle.

Square bottles were extremely common during the 1st and 2nd centuries (Price & Cottam
194-198). The closely related cylindrical form was also common, during the late 1st century, but
went out of use rapidly in the 2nd century (op. cit. 191-194). Hexagonal and rectangular bottles
were also made, but were less common, and had a shorter period of circulation (op. cit. 198-
202). Fragments of bottles dominate most earlier Roman glass assemblages, but fragments can
often not be assigned with certainty to one body shape or another.

A small, thin-walled bubbly variant of the square bottle seems to appear fairly late in the
sequence, and this may be what is represented by no. 59. Two examples came from a later 2nd-
century pit at Felmongers, Harlow, Essex (Price 1987, 206, nos 33-34, fig. 4).

In addition to the two fragments catalogued here, there were a further 161 blue-green bottle
fragments, listed elsewhere. Twenty-three of these could be identified as coming from square
bottles, 78 as prismatic bottles (ie. square, hexagonal, rectangular or octagonal, although
realistically most are likely to have been square), 20 from cylindrical bottles, and 40 were of
indeterminate body shape (these include rim, neck, handle and shoulder fragments, which were
common to all body forms).

61. FBE98 577 4507
Rim fragment of a bottle or jug of colourless glass. Rim outflared and folded outward,
upward and inward; diameter c. 60 mm.
62. **FBE98 558 4950**
   Cylindrical neck fragment of colourless glass, from same or similar vessel to 59; diameter c. 30 mm.

63. **FBE98 558 4912**
   Handle fragment of a bottle of colourless glass. Flat-sectioned, angular, multi-ribbed handle; width c. 45 mm.

Fragments with horizontal wheel-cut lines, likely to be from cylindrical bottles:
- **FBE99 905 10262** Blue-green, two horizontal wheel-incised lines; diameter body c. 180 mm.
- **FBE99 711 9519** Colourless, two horizontal wheel-cut lines; diameter of body c. 100 mm.
- **FBE98 598 7042** Colourless, two horizontal wheel-cut lines; diameter of body c. 70 mm.

64. **FBE98 559 4760**
   Three small fragments of colourless glass, which apparently have horizontal mould-blown cordons. Possibly from a barrel-shaped bottle. Diameter of body c. 120 mm (not illustrated).

When blue-green bottles began to disappear from circulation they were never replaced in anything like a similar quantity by any other glass container. Presumably this was dictated by changes in distribution methods and/or taste. Late Roman glass containers include colourless cylindrical one- or two-handled bottles, often decorated with horizontal wheel-cut lines (Price & Cottam 1998, 202-205), as probably represented by fragments 61-63 here, and cylindrical bottles with mould-blown corrugated body (op. cit. 1998 209-211). Fragment no. 64 may be tentatively identified as such a vessel.

**Bead and other objects of glass**

65. **FBE98 563 6032**
   Tiny fragment of a small bead of dark blue glass (not illustrated).

This is too small for close identification.

66. **FBE98 559 4718**
   Fragment of a small cube, probably a tessera, of dark blue glass. Width c. 8 mm.

Glass tesserae were often used to pick out lustrous details in mosaics, such as waves, eyes, peacock feathers and other plumage. They were used in larger numbers in fountain and wall mosaics.

67. **FBE96 246** (post-hole around central pit – Phase AH) 590
   Plano-convex disc of very dark glass, appearing black. Diameter slightly irregular, 7-19 mm.

68. **FBE99 905 10950**
   Plano-convex disc of very dark glass, appearing black. Diameter c. 14 mm.
69. FBE98 581 7627
   Plano-convex disc of very dark glass, appearing black. Diameter c. 16 mm.

70. FBE98 598 7782
   Plano-convex disc of very dark glass, appearing black (broken into two pieces).
   Diameter c. 17 mm.

71. FBE99 712 9259
   Plano-convex disc of opaque white glass; chip missing from one side. Diameter c. 16 mm.

Glass discs of this sort are commonly found on Roman sites, and are likely to have been used as gaming pieces. A grave found at Stanway, near Colchester, contained a hinged wooden gaming board with 13 white and thirteen dark blue glass pieces set out in an unfinished game, with the cremated remains of the deceased also placed on the board (Crummy 1996, 14). Individual glass discs found in domestic contexts may represent lost pieces from such games, or were perhaps used for accounting.

72. FBE98 598 6242 + FBE98 598 6293
   Two thin, straight pieces of ?colourless glass or ?rock crystal. Both have linear ‘grains’ in the way in which they have worn and broken, and one appears to have a smooth bevelled edge. Maximum length 30 mm; maximum width 10 mm.

These pieces are rather an enigma.

**Probable post-medieval**

4 vessel bases, which are probably post-medieval, but which may be Roman:

FBE96 202 281 Base fragment of a vessel of olive green glass. Pushed-in base forming out-splayed foot with tubular ring at edge; diameter 80mm.

FBE97 432 1283 Two joining base fragments of colourless glass. Blown pad foot with cracked-off edge, applied to underside of vessel of which very little survives. Diameter of foot c. 50mm.

418 934 Base fragment of a vessel of olive green glass, surfaces slightly pitted and iridescent. Pushed-in base forming out-splayed foot with tubular ring at edge; diameter 60mm.

428 1248 Base fragment of a vessel of olive green glass, surfaces pitted and heavily iridescent. Pushed-in base forming out-splayed foot with tubular ring at edge; diameter 70mm.

These may be from the bases of Roman vessels, in which case they belong to the late 3rd or 4th century. It is, however, probable that they are post-medieval in date.

**Figures**

226. Glass finds 1-8, 10, 11, 13, 15-17
227. Glass finds 12, 18-20
228. Glass finds 21-28
229. Glass finds 29-40
230. Glass finds 41-44, 46, 48-51, 53-58
231. Glass finds 59-63, 66, 72
232. Glass finds 67-71
235. Bar chart indicating selected contexts with more than nine Roman glass finds
Two intaglios – by Martin Henig

1. A nicolo intaglio depicting a victorious racehorse (FBE 97 408 SF900)

The intaglio is cut on an ovoid blank of onyx with a blue upper face on a dark ground (nicolo). It measures 10mm in length by 8mm in depth and is 2-5 mm thick. The edges bevel outwards (shape F4; see Henig 1978, fig.1) and form a blackish frame for the device which neatly fits into a field of no more than 8mm by 6mm. The subject is a racehorse standing to the left upon a ground-line with, behind it, a palm of victory (actual gem described).

The gem is of superb quality, very carefully cut in an assured classicising style characteristic of the mid-1st century. A cornelian intaglio from Pompeii, still set in its iron ring, shows the same device and is executed in a comparable manner though not so well (Pannuti 1983, 143 no. 257). Here the horse additionally has a wreath in its mouth. The same subject is figured still more schematically on another Pompeian gem in the same material (ibid., no. 256) and on an intaglio in Vienna (likewise cornelian, Zwierlein-Diehl 1991,92 no. 1840). Amongst gems from Britain, a number from the Main Drain at Bath depict racehorses, most notably a sard intaglio showing a horse prancing a lap of honour, with a wreath-holding rider on its back (Henig 1988,32 no. 20). However, the style of the Bath gems is not as precise as that of the Fishbourne gem, while a browsing horse on a nicolo from the site of the North Gate at Gloucester is executed in an even more stylised manner, verging on the slapdash (Henig l983). These are probably later than the Fishbourne intaglio which, stylistically, is far closer to the representation of the mythological winged horse Pegasus, engraved on a banded agate, one of a small cache of four gems found in Eastcheap, City of London, thought to have been produced in the reign of Nero, prior to the Boudiccan revolt (Henig 1984,12-13 no. 3).

It is tempting to ascribe the gem under discussion to the same period which means, at Fishbourne, that of the proto-palace. Certainly its very high quality (comparable with that of the well-known amethyst depicting the god Mercury, Henig in Cunliffe 1971,83-8 no.1) is not out of place in such a context and it is tempting to think it may originally have been mounted in a gold ring of a similar form to the child's ring from the aisled hall (Henig in Cunliffe 1971,88-9 no.2) or the more substantial all-metal signet of Tiberius Claudius Catuarus (Tomlin 1997). Its interest, however, extends beyond its artistic excellence or its probable luxurious setting to suggest another very Roman activity practiced at or near Fishbourne, not previously attested, but one which was very plausibly enjoyed by those who lived here (probably the family of Togidubnus), even though chariot racing would have had to be conducted on a makeshift racetrack rather than a purpose-built circus.

2. Iron ring set with a nicolo intaglio showing a lion with the head of an animal in its jaws. (FBE 98 564 SF4702)

The ring (diameter c.30mm externally; 20mm internally) is incomplete, the lower part of the hoop being lost, and rather corroded but can be assigned to type III (Henig 1978,36 and fig.1) with a somewhat flattened hoop broadening out from the narrowest surviving point (below the
midpoint of the hoop (c.7mm) to the bezel (width c.14mm). The nicolo setting is cut flat (c.12mm by 10mm) and has a bevelled edge. The field (10mm by 8mm) is a somewhat lighter blue than the racehorse gem and the device is a lion with the head of an animal in its jaws, walking to the left; there is a ground line (actual gem described).

The ring form is found as early as the mid-1st century and is well represented at Pompeii (e.g. Pannuti 1983,143 no.257, cited above) although it continued to be common well into the 2nd century. The cutting of the gem is more schematic than the last, with coarser grooving, and this can be assigned to the 'small grooves style' which accords with a Flavian - Hadrianic date.

In its local context the subject invites comparison with that of a moulded glass gem from Tower Street, Chichester (Henig 1978,311 no. App.174) from a 3rd-century level. Intaglios engraved with the device are recorded in Britain from Wroxeter (yellow jasper; Henig 1973,311 no.App.173); Chesters (nicolo; Henig 1978,262 no.629) and Wallsend (mottled red-orange jasper; publication forthcoming) on Hadrian's Wall; Caernarfon (onyx; Henig in Casey, Davies and Evans 1993,206 no.489) from a Trajanic/Hadrianic context. There are numerous examples from other parts of the Empire including Herculaneum (mottled black and yellow jasper; Pannuti 1983,140 no.249); from Aquileia (yellow jasper; Zwierlein-Diehl 1991,83 no.1823) and the River Waal at Nijmegen (yellow jasper; Maaskant-Kleibrink 1986,65 no. 128). Especially close, both in style and material, is an unprovenanced nicolo in the Dutch Royal collection at Leiden, formerly in the Hague (Maaskant-Kleibrink 1978,266 no.718).

The lion was probably a memento mori as it is, for example, on the well-known 2nd century mosaic from Verulamium (Toynbee 1962,197 no.179; see Henig 1977,356-7), although Leo was a sign of the zodiac, and the Chichester intaglio where the lion is surmounted by a crescent may well have had that meaning. In any case the image would have been thought to protect the wearer from evil forces.

Figures

Fig.236 Two intaglios from the upper filling of the stream

Non-ferrous metal artefacts – by David Dungworth

Determination of alloy type

All of the objects were qualitatively analysed using energy dispersive x-ray fluorescence (EDXRF). The results are expressed as alloy names: bronze for alloys of tin and copper, brass for alloys of zinc and copper, gunmetal for alloys of tin, zinc and copper, and each of these described as leaded if more than trace levels of lead were detected. The analysis was carried out on the surface of the objects (i.e. no samples were taken) and the results show composition of the corrosion products rather than the actual metal. The composition of the surface corrosion products will usually be slightly different from the underlying unaltered metal. The surface
composition depends on the composition of the original metal and the nature of the burial environment.

Some of the objects submitted for examination turned out to be stone, silver, lead or pewter. Some objects are likely to be post-Roman because of the presence of substantial quantities of elements such as nickel, arsenic and antimony. A few objects are tentatively classed as Iron Age because of the absence of zinc but the presence of tin and traces of arsenic (cf. Dungworth 1996).

**Catalogue of Copper-Alloy Artefacts**

The catalogue provides the following information:

Type of object, illustration number, Small Find number, Context number, significant phasing (in italics) for illustrated items, composition of metal, followed by object description.

La Tène II brooch
1. SF 1615; context 496 Bronze
One-piece bow brooch (L = 45 mm) with the catch plate formed by bending the foot forward to join the bow. The extension of the foot bent up to meet the bow has been hammered flat and wrapped around the bow (21 mm from the end of the foot). The upper part of the bow (above where the foot joins) is decorated with a single incised longitudinal line. The spring consists of four loops with the chord free above the head. The position of the chord and the sort of alloy indicate that this is a genuine La Tène II brooch (and not one of the imitation La Tène II brooches of the mid-1st century AD, cf. Bushe-Fox 1949: 107–8, nos 2 and 3).

Nauheim derivative brooch
2. SF 11042; context 913 (red-clay capping – Phase BB) Bronze
One-piece ‘wire’ bow brooch (L = 51 mm). The spring consists of four coils with the chord passing under the bow. The bow is circular in cross-section (Ø up to 3.5 mm) and undecorated; the catch plate is solid.

Nauheim derivative brooch fragment
3. SF 7682; context 626.7 (robbing of boundary wall – Phase AC) Bronze
Pin, spring and part of bow of a one-piece brooch (L = 20 mm). The spring consists of four coils with the chord passing under the bow. The bow is rectangular in cross-section (2.5 by 1 mm).

Strip bow brooch, fragments
4. SF 1559; context 443.4 [Late 1st–2nd century] Bronze
Two fragments from a possible Nauheim derivative brooch (L = 15 mm). Rectangular section (1 by 4.5 mm); one side is decorated with longitudinal grooves. One end narrows to a circular section and curves upwards (probably the beginning of the spring).

Strip bow brooch
5. SF 5290; context 557 (demolition of Building 3 – Phase AG) Leaded Gunmetal

31/01/2005
Foot and catch plate of a possible Hod Hill or Nauheim derivative brooch (L = 41 mm). The bow is decorated with four transverse lines just above the top of the catch plate (cf. Olivier 1996: 251, no. 85).

Strip bow brooch
6. SF 6250; context 535 (upper fill of aqueduct – Phase AG) Leaded Bronze
Foot, catch plate and approximately half the bow of a possible Aucissa or Nauheim derivative brooch (L = 37 mm). The bow is rectangular in section (1 by 3.5 mm) and decorated with two lines of longitudinal dots and six transverse lines just above the top of the catch plate.

Hod Hill brooch
7. SF 7019; context 598 (midden – Phase AF) Brass
Hinged brooch (L = 29 mm) with bold transverse mouldings (raised portions of these have incised decoration, cf. Bushe-Fox 1932: 77, no. 8; 1949: 110, no. 13). Areas of the front of the bow are tin-plated. Foot and catch plate are missing.

Langton Down brooch.
8. SF 5644; context 585 (midden – Phase AF) Leaded Gunmetal
Two-piece brooch (L = 42 mm) with the spring enclosed in a cylindrical housing. The almost flat bow is decorated with three longitudinal lines of dots. The head of the brooch is decorated with radial incised lines (cf. Hawkes & Hull 1947: 317–9, no. 95).

Colchester brooch
9. SF 9381; context 713 Leaded Brass
One-piece brooch (L = 55 mm) very corroded, pin and catch plate missing. Four coil spring with the chord passing above the bow and secured by a rearward facing hook.

Colchester derivative brooch
10. SF 10280; context 905 (midden – Phase BE) Leaded Bronze
Two-piece brooch (L = 39 mm) with 8-coil spring held by an axial bar passing through the centre of the spring and a hole in a lug projecting from the head, and the chord passing through another hole in the same lug. The bow is D-sectioned with a slightly raised centre; the catch plate is solid.

T-shaped brooch
11. SF 7781; context 581 Leaded Gunmetal
Two-piece bow brooch (L = 43 mm) with no decoration. The pin is missing but the size and shape of the enclosed head suggests it would have been hinged rather than sprung.

Disc brooch
12. SF 7100; context 613 Leaded Bronze
Disc brooch (Ø = 32 mm) with raised (1 mm) edges. Traces of soft solder remain on the recessed face of the brooch. No sign of the glass boss which would probably have been fixed to the brooch (Bushe-Fox 1949: 121, no. 63).

Brooch pin and spring
13. SF 1062; context 417 Bronze

31/01/2005 168
One coil of a spring and part of a pin (L = 15 mm; Ø = 2 mm) from a brooch.

Ring fragment
14. SF 4682; context 577 Copper
Fragment of a possible penannular ring (outer Ø ~ 25 mm) with a bent back terminal (cf. Fowler 1960, type B or D).

Spiral ring
15. SF 7894; context 548 Bronze
Spiral ring with four spirals (internal Ø 12 mm, wire thickness = 1 mm).

Ring
16. SF 10234; context 701 Leaded Gunmetal
Plain ring, outer Ø = 27 mm, oval section (3 by 4 mm).

Ring
17. SF 11331; context 701 Leaded Bronze
Plain ring, outer Ø = 27 mm, oval section (2.5 by 3.5 mm).

Ring
18. SF 7700; context 639.2 (causeway – Phase AE) Leaded Bronze
Plain ring, probably not a finger ring, outer Ø = 38 mm, D-section (4 by 5 mm).

Ring fragment
19. SF 308; context 202 Leaded Bronze
Half of a ring, outer Ø = 23 mm, oval section (2 by 3 mm).

Ring
20. SF 7270; context 620 Bronze
Penannular ring, probably not a finger ring, outer Ø = 18 mm, circular section (Ø = 3 mm).

Ring
21. SF 3; context 9999 Brass
Outer Ø = 27 mm, hexagonal section, cf. Uley (Woodward & Leach 1993: 135–140, figs 114–5).

Ring
22. SF 357; context 204 Leaded Bronze
Outer Ø = 24 mm, hexagonal section, cf. Uley (Woodward & Leach 1993: 135–140, figs 114–5).

Ring
23. SF 909; context 9999 Leaded Copper
Outer Ø = 27 mm, hexagonal section, cf. Uley (Woodward & Leach 1993: 135–140, figs 114–5).

Ring
24. SF 1265; context 432 (possible medieval occupation – Phase AI) Leaded Bronze
Oval section 2.5 mm by 4 mm, L= 16 mm (reconstructed outer Ø ~ 30 mm).

Fluted rod
25. SF 7837; context 588 Leaded Bronze
Rod with longitudinal grooves (L = 47 mm, Ø = 2.5 mm). Possibly the handle of a surgical or toilet implement fragment (cf. Cool & Philco 1998: 88, no. 396).

Possible mirror fragment
26. SF 7669; context 525.5 Speculum (high tin bronze)
3 fragments (18 by 12 by 1 mm) of a rectangular mirror.

Possible mirror fragment
27. SF 9442; context 701 Speculum (high tin bronze)
Fragment (17 by 12 by 1 mm) of a mirror (possibly circular).

Possible mirror fragment
28. SF 10910; context 909 (northern pit – Phase BF) Speculum (high tin bronze)
Fragment (10 by 8 by 1 mm) of a mirror (possibly circular).

Mount
29. SF 3821; context 516 Leaded Gunmetal
Mount (27 by 19 by 10 mm) consisting of a rectangular central portion with seven transverse incisions filled with niello (copper sulphide), two knobs at either end, a crescent-shaped projection on one side, two pierced lugs for holding a suspended ornament (missing) on the other side and two spikes on the back for attachment. Simple rectangular objects like this with moulded ridges and knobs at either end are well-known and examples with niello decoration are known from Corbridge (Bishop & Dore 1988: no. 189–92, see also Oldenstein 1977: no. 861, for a similar object with crescent shape at one end, but no niello). However, no exact parallels could be found for this object.

Strap end
30. SF 9010; context 701] Leaded Gunmetal

Possible belt fitting
31. SF 7483; context 606 Leaded Bronze (no traces of silver on the surface)

Trumpet-shaped fitting
32. SF 8026; context 503 Leaded Gunmetal
Fitting (36 by 24 by 10 mm) consisting of several connected trumpet motifs, cf. Oldenstein (1977: Taf 69).

Crescentic fitting
SF 1543; context 9999 Leaded Bronze
Fragment of a circular fitting (Outer Ø ~ 35 mm, inner Ø ~ 20 mm). The surface is tinned. Possibly a military fitting.

Terret
33. SF 9003; context 701 Leaded Gunmetal
Fragment of a plain looped terret (outer Ø ~ 60 mm) including part of the attachment bar, see Bishop & Dore (1988: 173, no. 120) for an almost identical fragment and Macgregor (1976: 38) for a general discussion.

Strap distributor
34. SF 9395; context 710 Leaded Bronze
Hollow cruciform strap distributor (23 by 22 by 7 mm), cf. Verulamium (Waugh & Goodburn 1972: 122, no. 57) and Corbridge (Bishop & Dore 1988: 173, no. 119).

Belt fitting
35. SF 11595; context 778 Leaded Bronze
Pelta-shaped fitting which may have been a scabbard mount, cf. Colchester (Hawkes & Hull 1947: 339–40, nos. 31–2).

Belt fitting
36. SF 2934; context 507 Leaded Bronze
Fragment of an openwork belt fitting (19 by 14 by 1 mm), cf. Oldenstein (1977: nos 795–7).

Drop handle
37. SF 1976; context 403 Leaded Gunmetal
Drop handle which could have been used to carry a helmet (Bishop & Coulston 1993: 93) or fitted to a piece of furniture (Crummy 1983: 80–2).

U-sectioned binding
38. SF 10771; context 907 (midden – Phase BE) Bronze
U-shaped binding (75 by 5 by 4 mm) with extension and rivet hole. Possibly for a shield, although Bishop & Coulston (1993: 82) suggest that shield bindings were normally made from brass.

Enamelled mount
39. SF 7568; context 563 Bronze
Part of a circular mount (12 by 10 by 6 mm) with concentric decayed enamel (green and white) decoration, a lug on the reverse for attachment and traces of a broken loop.

Mount
40. SF 5548; context 578 (Palace demolition – Phase AH) Leaded Gunmetal
Lion-shaped mount with two lugs on the reverse for attachment.

Square buckle
41. SF 2018; context 502 Leaded Gunmetal
Square buckle (20 by 13 mm).
42. SF 9008; context 701 Leaded Gunmetal
Rim of a large vessel

Vessel fragment
43. SF 5593; context 585 (middlen – Phase AF) Leaded Gunmetal
Cup rim (Ø ~ 60 mm).

Vessel fragment
44. SF 2665; context 502 Leaded Bronze
Rim (Ø ~ 140 mm) and handle from a vessel.

Diamond clip
45. SF 2106; context 505 Leaded Bronze
Diamond-shaped piece of sheet which has two ends bent back on themselves. These have been identified at a number of Roman sites in Britain: Gadebridge, Hertfordshire (Neal 1974: 137, nos. 104–6), Gorhambury, Hertfordshire (Wardle 1990: 132, no. 269), Dalton Parlours, West Yorkshire (Cool 1990: 89, nos 51–7), Whitton, Glamorganshire (Jarrett & Wrathmell 1981: 187–8, nos. 99–100) and Brough-on-Humber, East Yorkshire (Wacher 1969: 89, no. 26). The illustrations of cauldrons in Macgregor (1976: 170–1, nos 300, 303, 306 and 309) show that at least one use was the repair of such vessels.

Fitting
46. SF 8038; context 502 Leaded Bronze
A truncated cone of sheet which may have been part of a candle stick.

Seal box
47. SF 11887; context 933 (northern pit – Phase BF) Leaded Bronze
SF 11816; context 918 (western pit – Phase BC) Leaded Bronze
Possibly two halves of a enamelled seal box.

Weight
48. SF 3905; context 562 Leaded Gunmetal
Hemispherical weight (27.96 g).

Weight
49. SF 11565; context 717 Brass
Hooked and decorated object which may be a weight (13.91 g).

Object
50. SF 963; context 417 Leaded Copper
Object damaged by heat but with a possible suspension loop. Possibly a pendant or a weight.

Terminal
51. SF 1542; context 9999 Leaded Gunmetal
Terminal of handle (L = 40mm), diamond section (Thickness = 4.5 mm) with circular terminal at one end and part of a loop (Ø ~ 20 mm) at the other end.

Buckle or staple
52. SF 2516; context 507 Leaded Bronze.

Circular Fitting
53. SF 1543; context 9999 Leaded Bronze
Fragment of a circular fitting (Outer Ø ~ 35mm, inner Ø ~ 20mm). The surface is tinned.

Circular Fitting
54. SF 2564; context 507 Leaded Brass
Fragment of a circular fitting (original Ø ~ 60 mm, thickness = 2 mm) with concentric mouldings on one surface.

Hinged fitting
55. SF 529; context 240 Leaded Bronze
Fragment of a hinged fitting (56 by 39 by 2.5 mm). Rivet holes on one half for attachment to leather or wood. The loops on the other half may be decorative or for attachment. Possibly a box fitting. The surface is tinned.

Object
56. SF 5313; context 557 (demolition of Building 3 – Phase AG) Gunmetal
Complete arcing (outer Ø = 100 mm) fitting (30 by 6 by 2.5 mm) with incised decoration. No indication of attachment.

Object
57. SF 8018; context 503 Leaded Bronze
Complete arcing (outer Ø ~ 300 mm) fitting (45 by 19 by 7 mm) with concave ends and two equally spaced circular recesses in one face. No indication of attachment.

Object
58. SF 9313; context 705 Leaded Bronze
Circular sectioned rod, slightly tapering (L = 30 mm; Ø = 5 mm). Broken at one end but with a complex terminal at the other end consisting of three equally spaced longitudinal ‘fins’; each with a small hole (Ø = 1 mm).

Object
59. SF 10513; context 905 (midden – Phase BE) Leaded Bronze
Fragment (21 by 12 by 2.5 mm) of a curving object. Possibly the rim of a vessel or a fitting.

Object
60. SF 9009; context 701 Leaded Gunmetal
Rod (L = 35 mm) with terminal consisting of collar and squared point.

Object
61. SF 431; context 203 Leaded Bronze
Rod (L = 38 mm) with terminal consisting of collar and cruciform point.

Finial
62. SF 2830; context 507 Leaded Gunmetal
Possible bell fragment
63. SF 9007; context 701 Leaded Bronze
Curving fragment surviving Ø = 13 mm). Suspension loop is small (internal Ø = 2 mm).

‘F’ shaped sheet
64. SF 9020; context 701 Copper
A piece of sheet which appear to be cut to form the letter F. Rather rough and compares badly with some Roman examples (e.g. Kelvedon, Rodwell 1988: fig. 47).

Rod
65. SF 5584; context 585 (*midden – Phase AF*) Brass
Square-sectioned rod (2 mm; L = 38 mm). Tapered and curved at one end.

Curved rod
66. SF 1975; context 408 Bronze
Circular-sectioned curving rod (L = 12 mm, Ø = 3 mm).

Curved and tapering rod
67. SF 827; context 402 Bronze (possibly tinned)
Curved and tapering rod (L = 28 mm); D-shaped section (4.5 by 3 mm). Inner Ø of curve ~ 40 mm. Possibly a handle.

Possible fish hook
68. SF 913; context 9999 Copper
Bent rod with point.

Collar
69. SF 8043; context 606 Copper alloy on lead
Bent washer (outer Ø = 23 mm; inner Ø = 7 mm) consisting of copper sheet on lead.

Hinged sheet fitting
70. SF 3929; context 511 Copper, tinned
Triangular sheet fitting hinged on one edge (13 by 13 mm).

Cylindrical object
71. SF 1044; context 419 Leaded Bronze
Hollow cylindrical object (L = 19 mm; outer Ø = 10 mm; inner Ø = 6 mm); closed at one end.

Damaged fitting
72. SF 845; context 9999 Leaded Gunmetal
Damaged fitting (L = 13 mm) with a bold waist (maximum Ø = 10 mm).

Pin
73. SF 2158; context 501 Leaded Bronze
Broken pin (L = 36 mm; Ø = 2 mm) with simple baluster moulded head (*cf.* Crummy 1983: 30, no. 508).
Pin
SF 5640; context 585 (*midden – Phase AF*) Leaded Bronze
Nearly complete pin (L = 78 mm; shaft Ø = 3 mm; head Ø = 8 mm) with globular head incised with three radiating lines (*cf.* Crummy 1983: 30, no. 500).

Offcuts?
74. SF 10299; context 905 Bronze
Fragment of pin/needle (L = 36 mm; Ø = 1 mm) with point and fragment of sheet (16 by 6 by 1 mm), possibly a brooch catch plate.

Rod
75. SF 9247; context 712 Leaded Bronze
Tapering, square-sectioned rod (28 mm by 5 by 3 mm).

Staple
76. SF 4351; context 558 (*midden – Phase AF*) Copper
Strip (28 by 9 by 5 mm) with ends bent at right angles.

Ferrule with hook
77. SF 7609; context 624 Brass
Tapering ferrule with end bent over to form a hook (L = 35 mm, maximum Ø of ferrule = 5 mm).

Lion headed stud
78. SF 804; context 401 Leaded Gunmetal
Lion headed stud (Ø = 19 mm), of a common type similar to that from the earlier excavations to the west (*Cunliffe 1971*: 118, no. 125) but not identical.

Enamelled stud
79. SF 9251; context 710 Leaded Bronze
Circular stud (Ø = 9 mm) with annular red enamel decoration, a small piece of enamel (Ø = 2 mm) missing from the centre, and lug on reverse for attachment.

Enamelled stud
80. SF 9315; context 710 Leaded Bronze
Circular stud (Ø = 9 mm) with annular red enamel decoration which contains four equally-spaced pieces of white enamel (Ø = 1 mm) and spaces for another 3 set in a circle 5 mm from the centre. There is a hole in the centre which may have contained more enamel (possibly white). A lug on the back would have been for attachment.

Stud
81. SF 8019; context 503 Leaded Bronze
Distorted stud (partially melted: may have been a bell-shaped stud).

Domed studs
SF 8021; context 503 Gunmetal
SF 5274; context 557 Copper
SF 5855; context 557 Brass
SF 11109; context 701 Leaded Brass
SF 9236; context 710 Gunmetal
SF 12248; context 907 Leaded Bronze

Flat headed studs
SF 345; context 202 Leaded Copper
SF 546; context 212 Leaded Bronze
SF 805; context 401 Leaded Brass
SF 3882; context 511 Leaded Copper with silver
SF 6091; context 557 Copper
SF 936; context 9999 Copper

Nails, tacks or rivets
SF 1086; context 408 Leaded Bronze
SF 961; context 417 Copper
SF 6373; context 503 Leaded Brass
SF 8021; context 503 Brass
SF 7925; context 507 Copper
SF 2822; context 512 Leaded Gunmetal
SF 3602; context 555 Copper
SF 6899; context 598 Copper
SF 7681; context 599 Leaded Gunmetal
SF 7233; context 610.5 Leaded Bronze
SF 8046; context 625 Leaded Gunmetal
SF 12197; context 701 Leaded Gunmetal
SF 11074; context 907 Gunmetal
SF 10849; context 908 Copper
SF 10844; context 909 Brass

Rod
SF 12062; context 713 Copper
Square-sectioned rod (15 by 2.5 by 2 mm).

Bent rod
SF 6001; context 593 Bronze
Rod (29 by 2.5 by 1.5 mm) bent into a u-shape (a staple?)

Tube
SF 8045; context 604.2 Leaded Gunmetal
Tube (L = 10 mm, Ø = 13 mm).

Tube
SF 7791; context 598 Leaded Brass
Tube (L= 12 mm, Ø = 10 mm).

Chain
SF 1971; context 403 Bronze
Two links of thick chain (8 by 4 by 2.5 mm).

Wire
SF 742; context 218 Brass
SF 3668; context 555 Copper
SF 7223; context 610.5 Copper
SF 9970; context 902 Brass
SF 10112; context 904 Brass

Strip
SF 861; context 403 Leaded Gunmetal
SF 8025; context 503 Gunmetal
SF 8024; context 503 Leaded Gunmetal
SF 3028; context 513 Bronze
SF 7382; context 598 Copper
SF 7830; context 650 Gunmetal
SF 9727; context 718.3 Bronze
SF 9623; context 718.3 Gunmetal
SF 9974; context 726 Bronze
SF 10895; context 780 Bronze

Sheet with hole
SF 9997; context 902 Leaded Gunmetal
Sheet (29 by 19 by 0.5 mm) with hole.

Sheet with rivets
SF 9934; context 902 Leaded Bronze
Sheet (59 by 27 by 0.7 mm) with two rivets (made from rolled sheet) in situ. Possibly part of a repair to a metal vessel.

Sheet
SF 306; context 202 Bronze
SF 860; context 402 Copper
SF 1188; context 416 Copper
SF 1377; context 432 Leaded Bronze
SF 8039; context 504 Brass
SF 2617; context 513 Bronze
SF 3532; context 514 Bronze
SF 5285; context 557 Bronze
SF 4609; context 577 Gunmetal
SF 7389; context 598 Bronze
SF 7390; context 598 Brass
SF 6467; context 598 Leaded Gunmetal
SF 10358; context 701 Leaded Bronze with some silver
SF 9454; context 701 Bronze
SF 9856; context 901.2 Brass
SF 10702; context 907 Bronze
SF 910; context 9999 Leaded Gunmetal
Metal 'spillages'
Irregular lumps of metal which have solidified on an irregular surface. These are very similar to the copper-alloy spillages found when casting is carried. However, the lack of crucibles or moulds from the site make it much more likely that this material was accidentally formed in a high temperature fire (cremation, house fire, etc). The individual finds are listed below for each alloy type.

*Copper*
SF 3681; context 555

*Bronze*
SF 382; context 202
SF 3366; context 508

*Brass*
SF 2184; context 501

*Leaded Copper*
SF 3651; context 517

*Leaded Bronze*
SF 458; context 202
SF 801; context 401
SF 1057; context 416
SF 1002; context 417
SF 1007; context 417
SF 1008; context 417
SF 1033; context 417
SF 1111; context 419
SF 1287; context 432
SF 1632; context 432
SF 2006; context 503
SF 5221; context 503
SF 2127; context 504
SF 8040; context 504
SF 3742; context 507
SF 3774; context 513
SF 3760; context 516
SF 3617; context 555
SF 3763; context 555
SF 4271; context 558
SF 5625; context 580
SF 8041; context 580
SF 8042; context 585
SF 9090; context 701
SF 11460; context 701
SF 12183; context 701
SF 12184; context 701
SF 9005; context 701
SF 9015; context 701
SF 9016; context 701
SF 9017; context 701
Leaded Brass
SF 7579; context 590

Leaded Gunmetal
SF 975; context 417
SF 1139; context 424
SF 2198; context 501
SF 2024; context 503
SF 2122; context 503
SF 5213; context 579
SF 4853; context 580
SF 10330; context 701
SF 9096; context 701
SF 9538; context 725
SF 9742; context 901.2
SF 10639; context 907

Fragments
These are too small and/or corroded to allow even the most basic of identification
SF 10851; unstratified; Leaded Gunmetal
SF 1230; context 416 Leaded Bronze
SF 964; context 417 Bronze
SF 8023; context 503 Leaded Gunmetal
SF 2458; context 507 Leaded Gunmetal
SF 2523; context 507 Leaded Gunmetal
SF 2570; context 507 Leaded Bronze
SF 3502; context 508 Leaded Bronze
SF 3487; context 508 Brass
SF 7939; context 512 Leaded Bronze
SF 8059; context 513 Leaded Bronze
SF 8044; context 516 Leaded Gunmetal
SF 4439; context 577 Copper with silver
SF 5619; context 579 Leaded Gunmetal
SF 5828; context 579 Leaded Bronze
Possible Iron Age objects
Four objects are tentatively identified as Iron Age because of the nature of the alloy (Bronze with trace arsenic, cf. Dungworth 1996).

Two fragments of sheet
SF 10398; context 716

Wire
SF 7714; context 599

Perforated plate
SF 10176; context 716

U-shaped fragment
SF 9317; context 710

Post-Roman objects
The form and/or decoration of some objects made it clear that they were post-Roman.

Zoomorphic hair grip
SF 947; context 418 Copper
Hair grip in the form of a coiled serpent. The metal is in very good condition with little patina. The surface of the metal is very regular and characteristic of rolled or stamped products. The front of the brooch is recessed and enameled. The enamel is green but this may be discoloration due to the corrosion of the copper.

Pendant/mount
SF 835; context 9999 Copper (Gilded)
Leaf shaped harness pendant (L = 37 mm) with suspension loop (cf. Ward-Perkins 1940: fig. 38 type I; fig. 40.1). EDXRF analysis detected gold and mercury indicating that the gold was applied as an amalgam.

Belt fitting
SF 9106; context 704 Leaded Brass
Curvilinear openwork belt fitting (30 by 24 by 1 mm). The surface finish of the metal suggests that it has been stamped from sheet, possibly modern.

Terminal
SF 8022; context 503 Leaded Brass
Possibly a Roman knife handle (cf. Crummy 1983: 110, no. 2938) but more probably a medieval strap end (cf. Ward-Perkins 1940: Pl. 75: no. 10).

Fitting
SF 1050; context 416 Leaded Bronze
Fragment of a baluster moulded fitting

Fragment of a casting
SF 9013; context 701 Bronze, with antimony
Possibly a leg

Fragment of curvilinear casting
SF 1594; context 427 Leaded Gunmetal

Thimble
SF 9006; context 701 Leaded Gunmetal

Thimble
SF 1977; context 401 Brass

Button
SF 10675; context 701 Copper
Hollow button with embossed decoration: crown and "SUSSEX VOLUNTEERS".

Hollow button
SF 10217; context 701 Brass

Buttons (flat, disc head)
SF 9213; context 701 Leaded Brass
SF 11258; context 701 Leaded Brass, tinned
SF 11101; context 701 Leaded Brass, tinned
SF 861; context 403 Leaded Gunmetal
SF 2; context 9999 Brass
SF 8020; context 503 Leaded Brass
SF 2013; context 504 Leaded Bronze

Buckle
SF 9868; context 901 Leaded Bronze

Buckle
SF 10381; context 701 Leaded Copper

31/01/2005
SF 3425; context 508 Leaded Bronze with silver
Large buckle pin (42 x 4 x 3 mm), possibly modern.

Buckle fragment
SF 1972; context 403 Leaded Bronze
Fragment from a large buckle (45 x 4.5 x 2.5 mm), possibly modern.

Eyelet
SF 54; 9999 Copper and Silver

Strap end
SF 2253; context 501 Leaded Copper
Post-Med? strap end

Knob or bell?
SF 8037; context 502 Leaded brass (tinned)
Knob or bell? Modern

Two objects are tentatively identified as post-mediieval (or possibly late-medieval) medieval
because of the nature of the alloy (leaded gunmetal with appreciable amounts of arsenic,
nickel bismuth and/or antimony].

Catalogue of Silver Artefacts

Ring
83. SF 644; context 216 Silver
Ring, outer Ø = 20 mm, diamond section (2 by 2 mm).

Stud?
SF 1582; context 487 Silver
Circular possible stud formed from filigree.

Decorated sheet
SF 1584; context 9999 Silver
Small fragment of sheet with repoussé decoration.

Figures

239.Copper-alloy finds 1-6
240.Copper-alloy finds 7-9
241.Copper-alloy finds 10-12, 15, 29
242.Copper-alloy finds 30-32
243.Copper-alloy finds 33-37
244. Copper-alloy finds 38-41
245. Copper-alloy finds 42-44
246. Copper-alloy finds 45-48
247. Copper-alloy finds 49, 50, 55-57
248. Copper-alloy finds 62, 77-80
249. Copper-alloy finds 81, 82, 83
253. Bar Chart indicating selected contexts with more than one Roman copper-alloy find
The Iron – by Luke Barber

**The Roman ironwork:** The range of ironwork definitely attributable to the Roman occupation of the site is somewhat limited. Most can be broadly classified into one of three general groups: nails (inc. hobnails), strips/sheeting/unidentified and other objects. Each of these groups is characterised below.

Methodology: All the ironwork from the site was visually inspected, using x-ray plates where available, and recorded on metalwork record sheets which form part of the paper archive. Despite the large size of the overall assemblage, much of the material is derived from unsealed contexts, particularly layers, of medieval or post-medieval origin and/or secondary re-working. As a result of this, and due to the problems with attributing ‘unstratified’ ironwork to specific periods, a further quantification was undertaken on the ironwork from only well-sealed Roman contexts which contained no post-Roman intrusive material (based on ceramic evidence). The results of this quantification are shown in Table 13.

Nails

As noted above, nails dominate both the post-Roman and Roman assemblages. A number of different nail types are present in the Roman assemblage. Due to the lack of sufficient large, tightly-dated groups, and to the incomplete nature of the majority of the nails, no statistical analysis was undertaken on the different types in order to identify any chronological or spatial trends that may be evident. However, enough measurements were taken, particularly from complete examples, to characterise the different types present at the site.

**Type 1**
This type dominates the assemblage on most Roman sites and Fishbourne is no exception. The type is characterised by a square-sectioned stem with flat or slightly domed circular head. The head diameters range between 10 and 19mm with complete lengths ranging from 41 to 90mm. These general-purpose nails appear in all context types, from layers to post-hole fills, and cover the entire Roman period. They equate to Manning’s type 1b (Manning 1985) and two examples are illustrated here (Fig. 255 No. 1, context 585-midden Phase AF, and No. 2, context 905-midden Phase BE).

**Type 2**
This type is the same as Type 1 in form but has been subdivided due its larger size (Manning’s type 1a, Manning 1985). These large heavy duty nails would have been used for securing larger, probably structural, timbers and are represented by very few examples at the current site (less than 25). This may be in part due to a systematic removal of the larger structural timbers from the site for reuse elsewhere. The size of these nails may also have made it worthwhile recycling them for their iron content. They are usually distinguished from nails of Type 1 by their much larger (and often more domed) heads which generally range between 24 and 33mm in diameter. Only two near-complete examples are present which give overall length measurements of 90 and 110+ mm. An example is shown in Fig. 255, No. 3 (context 585). This type of nail is far more
common from the 1998-9 excavation areas: only two examples are present from the 1995-7 areas (i.e. context 237 in 1996; central pit fill – Phase AH).

Type 3
Fewer than five nails of Type 3 are present in the Roman assemblage. The type is distinct in having a steeply domed circular head with square-sectioned stem. The head diameters range from 11-13mm with the head height ranging from 7-10mm. No complete lengths are present but an overall length in excess of 76mm can be shown (a complete length of 136mm is recorded from a complete nail of similar type at Gorhambury (Neal et. al. 1990, No. 734)). This type was found predominantly in 1st- to 2nd century contexts. An example is illustrated in Fig. 255, No. 4.

Type 4
This type consists of headless nails of which only one probable example could be ascertained in context 585, though more may not have been detected during analysis. These nails are notoriously difficult to isolate as they are virtually indistinguishable from Type-1 nails which have lost their heads. The type simply consists of a tapering square-sectioned stem, sometimes with a slight widening at the head, and would have been used where the nail had to sit flush with the timber. No example is illustrated.

Type 5
This small group consists of studs and tacks with short square-sectioned stems and large circular flat or low domed heads. They are distinguished from definite hobnails by the large head diameter and lack of a pronounced dome. Only four are present from the current site with most (three) coming from context 905 (midden – Phase BE). Head diameters range between 10-15mm. Although no complete lengths are present, it appears they did not exceed 20mm. An example is illustrated in Fig. 255, No. 5 (Context 598- possible lower layer of midden – Phase AF).

Type 6 (Hobnails)
Hobnails are relatively well represented at the site (see Tables 12 and 13). They are characterised by their small diameter circular head with pronounced dome. Head diameters are mainly between 7-9mm although some examples are as large as 11mm. Head heights are usually between 4-6mm but again some larger examples are up to 7mm. Where overall length could be determined 15-17mm appears the most common. An example is illustrated in Figure 255, No. 6 (context 905). Hobnails were found in numerous types of context (including post-Roman ones) of all Roman phases, although it is interesting to note that the largest single group came from a 2nd century road surface (context 511-flint road Phase AE, contained 13 examples). A further six were found in association with a 1st century road (context 717-greensand road Phase AD).

Strips, sheeting and unidentified
A number of sheeting and strip fragments were located in both sealed Roman and later contexts (Tables 12 and 13). These items are all very fragmentary and few show any detail such as fixing holes despite x-ray. As such, although it is possible to classify them by form, it is not possible to ascertain their function. It is possible that many relate to bindings from buckets, tyres from vehicles and hipposandals, although this cannot be proven. It is equally possible some may simply be waste off-cuts.
The poor state of preservation of the iron from the site has meant that even the general shape/form of the original artefact is not apparent in many cases. This is often the case even after x-ray as most still do not show any form or internal structure. Some 69 such objects are present from secure Roman contexts. Most consist of small amorphous lumps, presumably fragments from larger objects, and to none can a function be assigned.

Objects

Identifiable objects from secure Roman contexts are rare at the site: 36 in total. Structural fixtures and fittings are scarce and consist of two wall suspension-hook fragments (contexts 598 and 909) and a right-angled bracket (context 598; midden – Phase AF). A split pin and ‘U’ staple are present from contexts 718 (fill of linear slot, Phase AD) and 650 respectively. No fittings such as hinges or door locking mechanisms have been noted in the assemblage, although three key fragments are present. These are represented by two probable shank fragments from a late 1st- to 2nd century layer (context 598) and the badly fragmented remains of a bit from a similarly dated layer (context 585; Fig. 255 No. 7). This fragment is from a double toothed long bit ‘L’-shaped lift key similar to an example from Gorhambury, St Albans (Neal et. al. 1990, No. 564) and common in the British Museum (Manning 1985, Nos O26-O31).

Other items include a number of badly fragmented knife/shear blade fragments (ie. context 598 contains two and 590 contained the remains of a knife tip). None of the blade fragments from the securely dated Roman contexts are large enough to classify. A possible brooch was located in a 2nd century slot fill (context 718; Fig. 255, No. 8). However, the x-ray of this item does not show any discernible detail of the expected parts of a brooch and its square-sectioned ‘bow’, together with the generally rarity of iron brooches, suggests it may in fact be a nail which has been bent into a somewhat misleading curve. A single example of a stylus is present in the assemblage (1st- to 2nd century midden - context 905, Phase BE, Fig. 255, No. 9) although less diagnostic fragments of more may have been classified under nail fragments. The piece is diagnostic due to the presence of a flattened ‘eraser’ terminal and is a well-known type having been found at Gorhambury, St Albans (Neal et. al. 1990, No. 608) and classified as Type 1 by Manning (Manning 1985, 85).

Only four recognisable tools of probable Roman origin are present. These consist of a possible small wedge from post-hole fill 736; a possible punch from midden deposit 905; a tanged ? chisel/gouge fragment (context 437; Fig. 255, No. 10) and a probable mason’s ‘pick’ from context 434-pottery cache, Phase AG (Fig. 255, No. 11). The ‘pick’ is unusual in that its closest parallel is described as a mattock (Manning 1976, No. 78) with usual adze and axe blades; however, the current example is far too small and is more comparable to the size of fine tools used by masons.

Two complete examples, and a number of fragments of water-pipe collars, are present in the assemblage. All are of a form already recognised from previous excavations at Fishbourne and Lullingstone (Cunliffe 1971, 127, Nos 4-5 and Meates 1987, 101, No. 274). Examples from a secure Roman context consisted of nine fragments from a 2nd century deposit located during the 1996 season (context 295- gully, Phase AF). Two complete examples came from a 2nd century water-pipe trench (context 880 – Phase AE). The larger measures 161mm in diameter with the iron band being 58mm wide; the smaller measures 136mm in diameter with the iron band being 56mm wide. Though slightly larger, the two different sizes of collar from the recent excavations are closely comparable to those already excavated from Fishbourne. Some fragments of water-pipe were located in deposits of post-Roman date; for example a fragment from context 214 (general upper deposit in the south end of the 1996 excavation).
Figures

255. Iron finds 1-11
256. Iron water-pipe collars
258. Bar Chart illustrating selected contexts containing more than nine nails

Pewter – by David Dungworth

Pewter casting (fragment)
SF 1041; context 417 Pewter (with tin and antimony)
Fragment of a casting (right angles). The presence of antimony indicates that the pewter was manufactured some time after the 17th century.

Fragment of rod
SF 9011; context 701 Pewter (with tin and antimony)
The presence of antimony indicates that the pewter was manufactured some time after the 17th century.

Irregular lump or ‘spillage’
SF 9019; context 701

Lead objects – by David Rudkin

Figures

Fig.259 Lead finds 1-10
Fig.262 Bar Chart illustrating selected contexts containing lead finds

Gold objects – by David Rudkin

With the exception of a gold quarter stater of Tincomaros, (SF11914, context 900) which is separately reported under ‘Coins’, there were only two items of gold recovered from the excavations (Fig.263).
1. (SF 1380 context 432; upper layer overlying western end of Building 3; Phase AI). Hollow, spherical bead, crushed flat and perforated by two c. 0.5mm holes for threading. Estimated original diameter c.8mm. Weight: 0.44g.

2. (SF 11090 context 907; lower level of midden; Phase BE) Thin gold sheet, 35mm wide and of unknown length, tightly rolled and bent into an open ‘U’, presumably for recycling. Weight: 0.83g.

**Figures**

Fig.263 Gold finds 1-2

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**Worked Bone – by David Rudkin**

Fourteen items of worked bone were found during the excavations. The majority of them were bone pin fragments, but also included:

1. (SF 7249 & 7349 context 613.2; fill of aqueduct; Phase AC) Fragment of 33mm diameter cylinder hinge, with a 10mm diameter hole drilled through side. Outer surfaces highly polished.

2. (SF 4963 context 559; probably associated with demolition of Building 3; Phase AG) Tapering pin, with small rectangular indentation below the head end, possibly marking the position of an intended, but not executed, eye, to convert it into a needle.

3. (SF 7496 context 544; row 4 post-hole fill; Phase AE) Needle, missing both point and head end, but retaining part of the rectangular eye.

4. (SF 4286 context 558; midden; Phase AF) Plain counter of Kenyon’s Type A. (Kenyon 1948, 266, fig 91). The obverse is countersunk, with a central indentation from the lathe centre.

5. (SF 6150 context 585; midden; Phase AF) Decorated counter of Kenyon’s Type B. (Kenyon 1948). The obverse is decorated with four obliquely cut concentric grooves around the central indentation. The reverse has been lightly scribed with crossed lines, partially obscured by subsequent surface pitting.

**Figures**

Fig.264 Worked bone finds 1-5
**Worked Shale – by David Rudkin**

Only two artefacts of shale were recovered from the excavations, both from Roman contexts (Fig.265).

1. (SF 7931 context 556; demolition of Building 3; Phase AG) Fragment of armlet with an internal diameter of 75mm. Part of the width of the armlet has been lost, but it is probable that it was originally ovoid in cross-section, and c. 12mm wide. One decorative groove survives on its outer face.

2. (SF 7932 context 625; greensand causeway in stream; Phase AE) Fragment of an armlet with an internal diameter of 88mm. It would appear that almost half the width of the armlet is missing, but that its original cross-section was ovoid. The three grooves on the outer face are decorative, while the two on the inner face appear to relate to manufacture. The dimensions are large for an armlet.

**Figures**

Fig.265 Worked shale finds 1-2

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**Clay Pipes – by David Atkinson** (Fig.266,267)

This assemblage from Fishbourne covers a date range, from the evidence available, of c.1660-1880. There are no early 17th century pipes and no late 19th century ones.

Most of these pipes would probably have been made at Chichester, but before the end of the 17th century the City makers did not mark their pipes. About 1700 moulded marks began to appear (initials on spurs) and for most of 18th century the Taplin family stamped their names on stems. However, there are no examples in this collection.

In the later 18th century makers began putting their initials on spurs again, notably at Chichester with the Pitt family. There are two examples for William Pitt, who worked at St Pancras, and died in 1841 still in business. The other William, also at St Pancras, was probably his son but details are lacking. Pipes marked I/P for James Pitt I or II are common in West Sussex, but none appear in this assemblage.

The pipe factory in St Pancras appears to have been demolished soon after 1841 and the subsequent makers, the two Leighs, worked at Canal Basin and in Southgate. In the later 19th century the firm of Harrington of Brighton took over the business in the City until it died out by c.1900. There are, however, no Leigh or Harrington pipes in the assemblage, except for FBE99 701 SF11254, which is a common Sussex type of c1870, possibly Harrington.
Probably the most interesting piece from this assemblage is the fragment of ‘Sir Walter Raleigh’ pipe (SF11300, context 701 – topsoil). This shows his face on the bowl facing the smoker while the crocodile that spat him out is on the stem. Odd examples turn up here and there, and they are all of 17th century date, but no maker has been identified. They were also produced in Holland, which makes for some confusion. Late examples show only a debased remnant of the design.

**Distribution:** The figures indicate the distribution of clay pipe fragments across the site, and the contexts containing clay pipes. Unsurprisingly, most clay pipes occur in the two contexts which were hand-excavated from the present-day surface down – (ie. 901 in Area B and the north-east section of 701). The distribution map shows the clay pipe finds that were located in the field drainage ditch (contexts 203, 204, 206 and 428). The earliest of these are late 17th century in date, providing a *tag* for the digging of the drainage ditch of Phase AK.

**Figures**

Fig.266 Distribution of claypipes
Fig.267 Bar Chart illustrating contexts containing claypipes
Part 4 – The biological and environmental analyses

Marine Shell – by EM Somerville and JK Bonell

Methods: Shell was initially identified to species (Fish & Fish 1989), with effort concentrated on whole shell. Fragments smaller than approximately 1 cm² were discarded. Once identified, shell was weighed. Gastropods were counted as being either complete, an apex or a fragment. Bivalves were counted as complete right/left valves, right/left and unsidable umbos or as fragments. These counts were used for the calculation of the minimum number of individuals (MNI) for each context, and for groups of contexts associated with pottery of similar age (see Table 12). Where a species was only represented by fragments in a context an MNI of 1 was recorded.

The maximum length (from umbo to opposite margin) and width (orthogonal to length) were measured for whole oysters. Whole oyster shells were scored for a number of other characteristics including age and extent to which the surface bore the marks of infestation by the polychaete worms Polydora ciliata, P. hoplura and the burrowing sponge Cliona celata. In addition, the presence on the shell surface of calcareous tubes, sandtubes, bryozoans and barnacles were noted, and any damage to the shell by predatory molluscs (drill-holes) or the reuse of the shell by people (nail-holes - cf Holden 1963) was recorded. Because so few whole valves were recovered, the presence/absence of these species and marks were also noted for the right and left umbos. Much of the shell was abraded and the surface preservation was poor so that the traces of epifaunal and infesting species could not be detected.

A note on the soils – by Richard Macphail

Soils and stratigraphy: The area has a mapped Typical Argillic Gley Soil cover (Park Gate soil association, Jarvis et al. 1983), which are generally stone-free soils formed out of aeolian drift affected by groundwater. To the north and south of Fishbourne, Typical Argillic Brown Earths are present, some being formed on flinty drift. At the Fishbourne excavation the yellowish brown and prismatic structured (Hodgson 1974) natural subsoils can either be stone-free and formed from aeolian drift, or be stony where the underlying drift is flinty. The extant high groundwater, which causes the mottling in the topsoil, relates to the southerly flowing local brook which ultimately empties into Chichester harbour. The red colours noted in the deep subsoils of the site may well be of a palaeosolic (pre-Holocene) origin (cf. Clay-with-Flints) whereas the brickearth is dated to the late Devensian (Avery 1990, 211; see profile 66 from Barnham). It may be worth noting that the favoured building material of the Romans for clay and timber buildings is brickearth, which for example was used throughout 1st/2nd century London for walls and floors. This material has greatly contributed to the formation of destruction levels and dark earth (eg. Macphail 1994). Fishbourne Palace is therefore ideally
located as regards brickearth as a required building material. The courtyard pit and drain of Phase AH may well have been water-filled at times because of the extant high groundwater. On the other hand the prismatic structures and mottling in the subsoil testify to these soils only being intermittently wet. The destruction levels raised the ground surface, but it is likely that these and the modern topsoil were also occasionally water-saturated, as evidenced by soil mottling. Ground-raising may also have led to a local rise in groundwater, the massive-structured nature of the rubble layer (context 28) in the courtyard pit suggesting it was often wet. An examination of the flint and mortar wall of Building 3 (context 6) showed that weathering had affected it down to an approximate depth of 250 mm. Below this depth, mortar is well preserved (fig.179), except for weak decarbonation (weathering) that forms voids in the fine calcitic cement. The mortar that binds the flint wall is tempered with coarse sand-size to fine gravel-size sub-rounded chalk clasts (Macphail in press). When weathered (i.e., above 250 mm of the surface) such mortar walls yield calcium carbonate into the soil, as well as releasing flint and chalk gravel into the soil. On urban sites, such post-Roman/early medieval ‘soils’ are termed ‘dark earth’ (Macphail, 1994). The study of the weathered and unweathered mortar wall at Fishbourne Roman Palace has proven to be a useful analogue for understanding the processes involved in dark earth formation.

Figures

Fig.179 Thin sections of two samples of mortar from the walls of Building 3

pH report – by Patricia Wiltshire and Peter Murphy

An investigation was made on 20 August 1995 of soil reaction in the natural subsoils and fills of various features found in the excavation. It was considered that some knowledge of soil pH might aid some prediction of preservation of biological materials at the site.

Methods: Two sets of samples were obtained. The first series (samples numbered 1 -10) was collected in order to establish background pH values across the site and came from the excavated subsoil and in one case (sample 9) from the ploughsoil. The second series (11 -18) was taken from the fills of archaeological features. For the subsoil, the surface soil was scraped away and samples were taken from 2 cm below the excavated surface. However, samples 9 (base of ploughsoil) and 10 (top of subsoil) were taken from the northern section face of the excavation. The gully or drain (context 41; Phase AH) was sampled at two locations and, in each case, from the basal fill. Three samples (top, middle and bottom) were taken from the section of the courtyard pit (context 282; Phase AH). 10 g of soil were dispersed in 10 ml of deionised water, allowed to equilibrate for 60 seconds, and direct readings were taken with a calibrated electronic pH meter.
Animal Bone – by Lucy Sibun

Methodology: Full quantification of the selected material was undertaken. The resulting data produced NISP (Number of Identified Specimens) and MNE (Minimum Number of Elements) counts. The NISP totals include all skeletal elements such as skull fragments, ribs and vertebrae. However, to assist with the MNE calculations, the elements were recorded according to the part and proportion of the bone present in an attempt to avoid the distortion caused by differing fragmentation rates. The MNI (Minimum Number of Individuals) was calculated from the most common element according to the MNE, by taking sides into consideration. Wherever possible the bone was identified to species and the skeletal element represented. No attempt was made to differentiate between sheep and goat or horse and donkey (Sheep/goat will be referred to as sheep, and horse/donkey as equids from here forward). Undiagnostic fragments categorised as cattle size or sheep size have been included in the percentages of identifiable bone.

Epiphyseal fusion was recorded and subsequently interpreted using data provided by Silver (1969). Dental wear (for cattle, sheep/goat and pig) was recorded using Grant’s system (1982). Dental eruption was calculated using data from Silver (1969), and Levine (for the equids) (1982; quoted in Hillson 1990). Schmid (1972) was used to sex pig canines and the presence or absence of spurs on domestic fowl tarsometatarsi was recorded. Where measurements were possible these were undertaken using methods outlined by Von den Driesch (1976). Each fragment was then studied for signs of butchery, burning, gnawing and pathology. Table 80 tabulates the percentages of butchered, gnawed and burnt bone fragments.

Pathology: Three bones show evidence of trauma. A longbone shaft from context 905, cautiously identified as a sheep radius shows signs of a healed fracture, with periostial new bone growth and the resulting swelling in evidence. Cattle and sheep rib fragments from contexts 907 and 613 respectively show evidence for a healed fracture. A single fragment shows evidence of infection, a sheep longbone shaft where the infection has caused swelling and a reduction of the medullary cavity. Context 909 contains a cattle acetabulum that displays eburnation on the interior surface and slight erosion to the upper margin.

Body Part Data: The Table below shows the calculated MNE for the main domesticate species for a selection of elements. Contexts were grouped into three broad chronological phases.
Table 81  MNE table by phase.

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The data provide evidence for no dramatic changes in the proportions of different elements or different animals over time. Bones from the main meat joints and the skeletal extremities are all present. The most common cattle elements in all three phases are the skeletal extremities, the metapodials and mandible. However, the quantities of some meat joints do increase in the 2nd century. The difference in the proportions of meat to non-meat bearing elements has lessened in the 3rd-4th centuries.

Sheep provide slightly different evidence with less distinction between meat and non-meat-producing elements through the three phases. Pig mandibles and lower limbs are the most abundant elements in all three phases, but meat-bearing elements are also in evidence. Of note is the relative lack of metapodials and phalanges. This is particularly significant as the figures represent the actual numbers recovered with no account being made for the fact that pigs have twice as many metapodials as cattle or sheep. This may represent differential treatment of the pig and perhaps the extremities were being retained for a further purpose. Pig ribs and vertebrae were also rare in the assemblage further suggesting that pig were not being processed in the same manner or perhaps not in the same location as cattle and sheep. However, the influence of inter-element variation in preservation and recovery should not be overlooked.

The evidence for butchery is limited (Table 80) with only 2.7% of fragments providing the evidence. However, different butchery stages are in evidence. In the 1st-2nd century cattle ribs displaying cuts are the most common. Cuts to a cattle humerus are indicative of dismemberment and there is limited evidence for marrow extraction, suggested by the longitudinal splitting of longbones. The evidence for butchery of sheep and pig is small but a similar picture is provided by the limited data available. Cuts to ribs are evident as are dismemberment cuts. Butchery practices do not seem to have changed through the site’s occupation. There is evidence for skinning and dismemberment and further evidence for marrow extraction. This is in contrast to the earlier assemblage where Grant noted that splitting of longbones for marrow was not much in evidence (Grant 1971,381).

The presence of numerous metapodials as well as mandibles and skull fragments suggests that primary butchery and discard was carried out on site. A useful comparison can be made with the earlier assemblage at Fishbourne. It was noted by Grant that the ribs to vertebrae ratio was significant with ribs in greater abundance than vertebrae. A similar situation has
been noted in this assemblage with relatively few vertebrae being recovered. A possible explanation provided for this phenomenon at Fishbourne and Eldon’s Seat, Dorset, was that the flanks were being removed from the carcass at a separate butchery site (Phillipson, 1968 quoted in Grant 1971,381).

**Ageing data**

It was only possible to provide an approximate age for 16 cattle, 24 sheep and 20 pig mandibles. There are insufficient data to permit a meaningful study of any sort but the results are summarised here.

**Cattle**

<table>
<thead>
<tr>
<th>Age (yrs)</th>
<th>1-2nd</th>
<th>2nd</th>
<th>3-4th</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;2</td>
<td>2</td>
<td>3</td>
<td>0</td>
</tr>
<tr>
<td>2+</td>
<td>4</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>total</td>
<td>6</td>
<td>6</td>
<td>4</td>
</tr>
</tbody>
</table>

**Sheep**

<table>
<thead>
<tr>
<th>Age (yrs)</th>
<th>1-2nd</th>
<th>2nd</th>
<th>3-4th</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-1.5</td>
<td>4</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>1.5+</td>
<td>3</td>
<td>5</td>
<td>10</td>
</tr>
<tr>
<td>total</td>
<td>7</td>
<td>7</td>
<td>10</td>
</tr>
</tbody>
</table>

**Pig**

<table>
<thead>
<tr>
<th>Age (yrs)</th>
<th>1-2nd</th>
<th>2nd</th>
<th>3-4th</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-1.5</td>
<td>4</td>
<td>5</td>
<td>1</td>
</tr>
<tr>
<td>1.5+</td>
<td>6</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>total</td>
<td>10</td>
<td>7</td>
<td>3</td>
</tr>
</tbody>
</table>

The ageing data provided by epiphyseal fusion for the main domesticate species are tabulated in the Tables 82-90. The quantities involved are very small and as a result, the reliability of any interpretations based upon the data must be questioned. For this reason some general observations have been made without significant interpretations of the results.

**Cattle;** There are relatively few juvenile cattle remains in all periods. This is consistent with the findings of Noddle (1984) who states that during this time at approximately 3-5yrs prime meat-producing age would have been later than in modern times. This would imply that the Fishbourne site was a consumer not a producer, importing the cattle for food. During the 2nd century the proportion of cattle less than 3-4yrs increases. These animals probably represent the prime meat source. The increased number of mature animals in the 3rd-4th century could be a result of lower demand for the prime meat. It may also reflect the increased utilisation of cattle for working the land.

**Sheep;** The trends appear to show an increase in the quantities of both juvenile and mature animals. During the 1st-2nd and 2nd centuries the majority of sheep appear to have been culled at about 2-3 years. This compares well with other Roman sites and is regarded as the prime age for meat (Luff 1982,138). The initial lack of juvenile animals would suggest that the site’s occupants were importing such animals. There is an apparent increase in juveniles in the 3-4th century, but the numbers of fragments involved are too small for this observation to be considered reliable. The increase in mature sheep from the 1st to 4th century may represent their utilisation for wool.
Pig: There appear to be low numbers of both juvenile and mature individuals. The majority therefore appear to have been between 1 and 3 years, suggesting that this was perhaps the age for prime meat. The absence of the youngest animals again supports the idea of this as a consumer site.
Table 80: Percentage of animal bone fragments butchered, gnawed or burnt.

<table>
<thead>
<tr>
<th>NISP</th>
<th>Cut</th>
<th>Chop</th>
<th>Split</th>
<th>Rodent</th>
<th>Carnivore</th>
<th>Black</th>
<th>Grey</th>
<th>White</th>
</tr>
</thead>
<tbody>
<tr>
<td>3558</td>
<td>44</td>
<td>28</td>
<td>24</td>
<td>4</td>
<td>26</td>
<td>16</td>
<td>5</td>
<td>7</td>
</tr>
<tr>
<td></td>
<td>1.2%</td>
<td>0.8%</td>
<td>0.7%</td>
<td>0.1%</td>
<td>0.7%</td>
<td>0.4%</td>
<td>0.1%</td>
<td>0.2%</td>
</tr>
</tbody>
</table>

Tables 82-84: Epiphyseal fusion data for cattle

**Table 82: 1st-2nd century**

<table>
<thead>
<tr>
<th>Cattle</th>
<th>Fused</th>
<th>Unfused</th>
<th>Total</th>
<th>% Fused</th>
</tr>
</thead>
<tbody>
<tr>
<td>7-18 months</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>scapula</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>100</td>
</tr>
<tr>
<td>p. radius</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>d. humerus</td>
<td>2</td>
<td>2</td>
<td>4</td>
<td>75</td>
</tr>
<tr>
<td>phalanx 1</td>
<td>3</td>
<td>1</td>
<td>4</td>
<td>75</td>
</tr>
<tr>
<td>total</td>
<td>6</td>
<td>1</td>
<td>7</td>
<td>86</td>
</tr>
<tr>
<td>2-3 years</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>d. tibia</td>
<td>3</td>
<td>3</td>
<td>6</td>
<td>100</td>
</tr>
<tr>
<td>d. metapodia</td>
<td>2</td>
<td>2</td>
<td>4</td>
<td>100</td>
</tr>
<tr>
<td>total</td>
<td>5</td>
<td>5</td>
<td>10</td>
<td>100</td>
</tr>
<tr>
<td>3.5-4 years</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>p. ulna</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>100</td>
</tr>
<tr>
<td>p. humerus</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>p. femur</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>d. femur</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>100</td>
</tr>
<tr>
<td>d. radius</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>p. tibia</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>calcaneum</td>
<td>3</td>
<td>3</td>
<td>6</td>
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</tr>
<tr>
<td>total</td>
<td>5</td>
<td>3</td>
<td>8</td>
<td>40</td>
</tr>
</tbody>
</table>

**Table 83: 2nd century**

<table>
<thead>
<tr>
<th>Cattle</th>
<th>Fused</th>
<th>Unfused</th>
<th>Total</th>
<th>% Fused</th>
</tr>
</thead>
<tbody>
<tr>
<td>7-18 months</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>scapula</td>
<td>4</td>
<td>4</td>
<td>8</td>
<td>100</td>
</tr>
<tr>
<td>p. radius</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>d. humerus</td>
<td>4</td>
<td>4</td>
<td>8</td>
<td>100</td>
</tr>
<tr>
<td>phalanx 1</td>
<td>8</td>
<td>8</td>
<td>16</td>
<td>100</td>
</tr>
<tr>
<td>total</td>
<td>16</td>
<td>16</td>
<td>32</td>
<td>100</td>
</tr>
<tr>
<td>2-3 years</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>d. tibia</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>50</td>
</tr>
<tr>
<td>d. metapodia</td>
<td>15</td>
<td>3</td>
<td>18</td>
<td>83</td>
</tr>
<tr>
<td>total</td>
<td>16</td>
<td>4</td>
<td>20</td>
<td>80</td>
</tr>
<tr>
<td>3.5-4 years</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ulna</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>50</td>
</tr>
<tr>
<td>p. humerus</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>p. femur</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>d. femur</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>100</td>
</tr>
<tr>
<td>d. radius</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>p. tibia</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>calcaneum</td>
<td>2</td>
<td>2</td>
<td>4</td>
<td>100</td>
</tr>
<tr>
<td>total</td>
<td>5</td>
<td>5</td>
<td>10</td>
<td>50</td>
</tr>
</tbody>
</table>
### Table 84: 3rd-4th century

<table>
<thead>
<tr>
<th>Cattle</th>
<th>Fused</th>
<th>Unfused</th>
<th>Total</th>
<th>% Fused</th>
</tr>
</thead>
<tbody>
<tr>
<td>7-18 months</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>scapula</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>100</td>
</tr>
<tr>
<td>p. radius</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>50</td>
</tr>
<tr>
<td>d. humerus</td>
<td>13</td>
<td>2</td>
<td>15</td>
<td>87</td>
</tr>
<tr>
<td>phalanx 1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>total</td>
<td>15</td>
<td>3</td>
<td>18</td>
<td>83</td>
</tr>
<tr>
<td>2-3 years</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>d. tibia</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>100</td>
</tr>
<tr>
<td>d. metapodia</td>
<td>11</td>
<td>4</td>
<td>15</td>
<td>73</td>
</tr>
<tr>
<td>total</td>
<td>12</td>
<td>4</td>
<td>16</td>
<td>75</td>
</tr>
<tr>
<td>3.5-4 years</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ulna</td>
<td>2</td>
<td>1</td>
<td>3</td>
<td>67</td>
</tr>
<tr>
<td>p. humerus</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>d. humerus</td>
<td>5</td>
<td>1</td>
<td>6</td>
<td>83</td>
</tr>
<tr>
<td>d.femur</td>
<td>4</td>
<td>1</td>
<td>4</td>
<td>100</td>
</tr>
<tr>
<td>d. radius</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>100</td>
</tr>
<tr>
<td>p. tibia</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>100</td>
</tr>
<tr>
<td>calcaneum</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>total</td>
<td>4</td>
<td>1</td>
<td>5</td>
<td>80</td>
</tr>
</tbody>
</table>

### Table 85: 1st-2nd century

<table>
<thead>
<tr>
<th>Sheep</th>
<th>Fused</th>
<th>Unfused</th>
<th>Total</th>
<th>% Fused</th>
</tr>
</thead>
<tbody>
<tr>
<td>6-16 months</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>scapula</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>100</td>
</tr>
<tr>
<td>p. radius</td>
<td>5</td>
<td>1</td>
<td>6</td>
<td>83</td>
</tr>
<tr>
<td>d. humerus</td>
<td>4</td>
<td>1</td>
<td>4</td>
<td>100</td>
</tr>
<tr>
<td>phalanx 1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>total</td>
<td>11</td>
<td>1</td>
<td>12</td>
<td>92</td>
</tr>
<tr>
<td>18-28 months</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>d. tibia</td>
<td>4</td>
<td>1</td>
<td>5</td>
<td>100</td>
</tr>
<tr>
<td>d. metapodia</td>
<td>3</td>
<td>2</td>
<td>5</td>
<td>60</td>
</tr>
<tr>
<td>total</td>
<td>7</td>
<td>2</td>
<td>9</td>
<td>78</td>
</tr>
<tr>
<td>2.5-3.5 years</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>p. ulna</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>p. humerus</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>p. femur</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>d.femur</td>
<td>4</td>
<td>1</td>
<td>5</td>
<td>80</td>
</tr>
<tr>
<td>d. radius</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>p. tibia</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>calcaneum</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>50</td>
</tr>
<tr>
<td>total</td>
<td>5</td>
<td>6</td>
<td>11</td>
<td>45</td>
</tr>
</tbody>
</table>

Tables 85-87 Epiphyseal fusion data for sheep
### Table 86: 2nd century

<table>
<thead>
<tr>
<th>Sheep</th>
<th>Fused</th>
<th>Unfused</th>
<th>Total</th>
<th>% Fused</th>
</tr>
</thead>
<tbody>
<tr>
<td>6-16 months</td>
<td>scapula</td>
<td>2</td>
<td>2</td>
<td>100</td>
</tr>
<tr>
<td></td>
<td>p. radius</td>
<td>1</td>
<td>2</td>
<td>33</td>
</tr>
<tr>
<td></td>
<td>d. humerus</td>
<td>3</td>
<td>1</td>
<td>75</td>
</tr>
<tr>
<td></td>
<td>phalanx 1</td>
<td></td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>total</td>
<td></td>
<td>6</td>
<td>3</td>
<td>9</td>
</tr>
<tr>
<td>18-28 months</td>
<td>d. tibia</td>
<td>2</td>
<td>2</td>
<td>100</td>
</tr>
<tr>
<td></td>
<td>d. metapodia</td>
<td>4</td>
<td>4</td>
<td>100</td>
</tr>
<tr>
<td>total</td>
<td></td>
<td>6</td>
<td>6</td>
<td>100</td>
</tr>
<tr>
<td>2.5-3.5 years</td>
<td>ulna</td>
<td>1</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>p. humerus</td>
<td>1</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>p. femur</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>d.femur</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>d. radius</td>
<td>2</td>
<td>2</td>
<td>100</td>
</tr>
<tr>
<td></td>
<td>p. tibia</td>
<td>1</td>
<td>1</td>
<td>100</td>
</tr>
<tr>
<td></td>
<td>calcaneum</td>
<td>1</td>
<td>1</td>
<td>100</td>
</tr>
<tr>
<td>total</td>
<td></td>
<td>5</td>
<td>2</td>
<td>7</td>
</tr>
</tbody>
</table>

### Table 87: 3rd-4th century

<table>
<thead>
<tr>
<th>Sheep</th>
<th>Fused</th>
<th>Unfused</th>
<th>Total</th>
<th>% Fused</th>
</tr>
</thead>
<tbody>
<tr>
<td>6-16 months</td>
<td>scapula</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>p. radius</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>d. humerus</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>phalanx 1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>total</td>
<td></td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>18-28 months</td>
<td>d. tibia</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>d. metapodia</td>
<td>5</td>
<td>1</td>
<td>6</td>
</tr>
<tr>
<td>total</td>
<td></td>
<td>6</td>
<td>1</td>
<td>7</td>
</tr>
<tr>
<td>2.5-3.5 years</td>
<td>p.ulna</td>
<td>2</td>
<td>2</td>
<td>100</td>
</tr>
<tr>
<td></td>
<td>p. humerus</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>p. femur</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>d.femur</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>d. radius</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>p. tibia</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>calcaneum</td>
<td>1</td>
<td>1</td>
<td>100</td>
</tr>
<tr>
<td>total</td>
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Tables 88-90 Epiphyseal fusion data for pig

### Table 88; 1-2nd century

<table>
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<th>Pig</th>
<th>Fused</th>
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<th>Total</th>
<th>% Fused</th>
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<tbody>
<tr>
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</tr>
<tr>
<td>scapula</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>50</td>
</tr>
<tr>
<td>p. radius</td>
<td>2</td>
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<td>4</td>
<td>100</td>
</tr>
<tr>
<td>d. humerus</td>
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<td>2</td>
<td>4</td>
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<td>5</td>
<td>9</td>
<td>44</td>
</tr>
<tr>
<td>d. metapodia</td>
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<td>5</td>
<td>10</td>
<td>50</td>
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<td>10</td>
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</tr>
<tr>
<td>3-3.5 years</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>p. ulna</td>
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<td></td>
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<td></td>
</tr>
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</tr>
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<td>p. femur</td>
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<tr>
<td>d. femur</td>
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<td>4</td>
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</tr>
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<td>5</td>
<td>9</td>
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### Table 89; 2nd century

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<th>% Fused</th>
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</tr>
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<td>5</td>
<td>100</td>
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<td>d. metapodia</td>
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<tr>
<td>d. femur</td>
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<td></td>
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<tr>
<td>d. radius</td>
<td>2</td>
<td>2</td>
<td>4</td>
<td>50</td>
</tr>
<tr>
<td>p. tibia</td>
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Table 90; 3rd-4th century

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<th>Unfused</th>
<th>Total</th>
<th>% Fused</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 year</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>scapula</td>
<td>2</td>
<td>2</td>
<td>4</td>
<td>100</td>
</tr>
<tr>
<td>p. radius</td>
<td>2</td>
<td>2</td>
<td>4</td>
<td>100</td>
</tr>
<tr>
<td>d. humerus</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>total</td>
<td>4</td>
<td>4</td>
<td>8</td>
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</tr>
<tr>
<td>2 years</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>d. tibia</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>d. metapodia</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>0</td>
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<td>total</td>
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<td>4</td>
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<tr>
<td>3-3.5 years</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ulna</td>
<td>2</td>
<td>2</td>
<td>4</td>
<td>50</td>
</tr>
<tr>
<td>p. humerus</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>100</td>
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<td>p. femur</td>
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<td>d. femur</td>
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<td></td>
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</tr>
<tr>
<td>d. radius</td>
<td>2</td>
<td>2</td>
<td>4</td>
<td>100</td>
</tr>
<tr>
<td>p. tibia</td>
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<td>4</td>
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</tr>
<tr>
<td>total</td>
<td>5</td>
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<td>9</td>
<td>56</td>
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</table>
Charred Plant Remains – by Ruth Pelling

Introduction: During the excavations a series of soil samples was taken for the extraction of charred plant remains. Standard bulk soil samples of volumes 10 to 30 litres were processed by water flotation and the flots collected onto 0.5 or 1mm mesh sizes. Dried flots were submitted to the Oxford University Museum for assessment and comment. Occasionally only the 1mm flot existed, although in most cases the 0.5mm flot was also present. Residues were examined by volunteers at Fishbourne and any seeds, chaff or charcoal seen by eye were extracted. Six samples were submitted which consist of sorted seeds only, all of which were found to be preserved by waterlogging. One monolith column was taken from the lower fill of the central pit (sample 25, context 237 – Phase AH) and two small soil samples (samples 28 and 29) were submitted from context 237.2 (central pit – Phase AH).

Methods: Each flot was scanned under a binocular microscope at x10 to x 20 magnification. Any charred seeds or chaff were identified and counted. Identifications are made on well-established morphological criteria and by comparison with modern reference material held at the Oxford University Museum. Nomenclature and taxonomic order follow Clapham, Tutin and Moore (1989). Where charred seeds and chaff were present they are recorded in Tables 91 and 92. In addition occasional hand-picked charcoal samples also contained charred seeds and chaff which are included in Tables 91 and 93. Charcoal was fractured and examined in transverse section at magnification of x20 to x50. Identification of the ring porous charcoal (Quercus sp. oak) can be taken as reliable, while the identification of the diffuse porous taxa (Pomoideae and Corylus/Alnus sp.) must be taken as tentative. The charcoal identified is recorded in Table 92.

In addition to the waterlogged seeds which had been hand-picked from residues, occasional waterlogged seeds were also present in three of the charred flots (samples 98, 52 and 5). All the waterlogged seeds were identified as for charred seeds and their abundance is recorded as present (+) or frequent (+++) in Table 94.

Finally, 200g sub-samples were taken from the column and from the two soil samples. Sub-samples were processed in the laboratory using a simple wash-over technique. The flots were collected on to a 0.25 mm mesh and were examined under a binocular microscope at x10 magnification. No waterlogged remains or molluscs were present in either the column or the soil samples. The deposits in all three of these samples consisted of clay loam with occasional gravel inclusions, consistent with the deposits representing natural silting in the pit rather than deliberately dumped material.

Results: Charred remains were present in low concentrations in 21 samples. The preservation of the cereal grains was generally poor, possibly due to charring at high temperatures or post-depositional damage, such as wetting and drying or mechanical damage. Chaff and weeds were much better preserved. Cereal remains included grain and glume bases of Triticum spelta (spelt wheat), a single glume base of Triticum dicoccum (emmer wheat) in sample 81 (context 598 – lower level of midden – Phase AF), one grain of possible free-threshing Triticum sp. (bread-type wheat), and grain of both Hordeum vulgare (barley) and Avena sp. (oats). It was not possible to establish if the oats were wild or cultivated.
Occasional non-cereal economic remains were also present in the samples. Most significant were broken fragments of *Prunus domestica* (plum/bullace). It was not possible to identify the charred remains to sub-species as they were quite fragmentary. Cultivated pulses were also present including one possible *Lens culinaris* (lentil) and a possible *Vicia faba* (broad/field bean). Other large legumes could not be identified as they lacked *hila* and *testa*, so are recorded as *Vicia/Lathyrus/Pisum* sp. (vetch/bean/pea).

The infrequent weed seeds in the samples could all derive from arable fields, although some may have originated from ruderal habitats or grassland. In particular they included *Lolium perenne* (rye grass type) seeds, *Vicia/Lathyrus* sp. (vetch, tare/vetchling) *Carduus/Cirsium* sp. (thistle) and *Bromus* sp. (brome grass). The *Carex* sp. (sedges) form a large group of species which include plants of damp ground.

Charcoals present in both the flots and the hand-picked samples were dominated by *Quercus* (oak), including some large fragments. The charcoal was generally too encrusted with soil to enable identification of heart wood. Also present were occasional charcoal of *Corylus/Alnus* sp. (hazel/alder) and Pomoideae, a sub-species of the Rosaceae family which includes hawthorn and apple. All taxa are likely to have been used as firewood, while *Quercus* and Pomoideae would provide useful construction material.

The waterlogged seeds present in the charred flots were limited to *Ranunculus acris/repens/bulbosus* (buttercup), *Carduus/Cirsium* sp. (thistle) and *Sambucus nigra* (elder berry). The range of species in the waterlogged assemblages and amongst the hand-picked waterlogged seeds was more extensive. The species present are a mixture of arable/ruderal weeds and wet-ground species. Arable weeds include *Raphanus raphanistrum* (wild radish), a plant which favours, though is not restricted to non-calcareous soils, and *Anthemis cotula* (stinking mayweed) a plant of heavy clay soils. Plants more associated with ruderal habitats, although some also occur as arable weeds, include *Stellaria media* (chickweed), *Chenopodium album* (fat hen), *Plantago major* (plantain), *Arctium* sp. (burdock), *Sonchus oleraceus* (milk-/sow-thistle), *Urtica dioica* (stinging nettle) and *Carduus/Cirsium* sp. (thistle). All could have been growing in and around the site of Fishbourne Palace, and generally suggest fairly high levels of nitrogen. *Apium nodiflorum* (fools watercress) and *Lycopus europaeus* (gipsywort) are semi-aquatic species which occur in or on the banks of ditches, shallow ponds and rivers. *Eleocharis palustris* (common spikerush) requires at least seasonal flooding, and is characteristic of the wetter parts of meadows, or of arable fields adjacent to rivers. *Carex* sp. (sedges) and *Juncus* sp. (rush) are also likely to have derived from damp or marshy ground.
### Table 91: Charred Plant Remains: Samples 8-92

<table>
<thead>
<tr>
<th>Sample</th>
<th>8</th>
<th>10</th>
<th>11</th>
<th>27</th>
<th>71</th>
<th>72</th>
<th>74</th>
<th>78</th>
<th>81</th>
<th>82</th>
<th>85</th>
<th>87</th>
<th>90</th>
<th>92</th>
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<td>Context</td>
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<td>13</td>
<td>13</td>
<td>237.2</td>
<td>535</td>
<td>542</td>
<td>559</td>
<td>535</td>
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<td>598</td>
<td>616</td>
<td>575</td>
<td>613.2</td>
<td>617</td>
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<td>-</td>
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<td>-</td>
<td>1</td>
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<td>-</td>
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<tr>
<td><em>Triticum spelta</em></td>
<td>spelt wheat glume base</td>
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<td>15</td>
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<td>-</td>
<td>8</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td><em>Triticum dicoccum</em></td>
<td>emmer wheat glume base</td>
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<td>-</td>
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<tr>
<td><em>Triticum spelta/dicoccum</em></td>
<td>spelt/emmer grain</td>
<td>-</td>
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<td>-</td>
<td>-</td>
<td>-</td>
<td>2</td>
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<td>-</td>
<td>2</td>
<td>-</td>
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<tr>
<td><em>Triticum spelta/dicoccum</em></td>
<td>spelt/emmer glume base</td>
<td>-</td>
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<td><em>Hordeum vulgare</em></td>
<td>barley grain</td>
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<td>grain</td>
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<td>-</td>
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</tr>
<tr>
<td><em>Vicia/Lathyrus/Pisum sp.</em></td>
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<td>-</td>
<td>-</td>
<td>1</td>
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<td>-</td>
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<td><em>Corylus avellana</em></td>
<td>hazel nut shell fragments</td>
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<td>+</td>
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<td>plum/bullace</td>
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<td>-</td>
<td>-</td>
<td>-</td>
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</tr>
<tr>
<td>Quercus sp.</td>
<td>oak charcoal</td>
<td>-</td>
<td>++</td>
<td>+</td>
<td>++</td>
<td>-</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
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<td>+</td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td>Pomoideae</td>
<td>charcoal, hawthorn, apple etc.</td>
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<td>-</td>
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<td>+</td>
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+ = present; ++ = frequent; * see Table 94

### Table 92: Hand-picked charcoal

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<th>22</th>
<th>76</th>
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<td>218</td>
<td>580</td>
<td>237</td>
<td>227</td>
<td>209</td>
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</tr>
<tr>
<td><em>Quercus sp.</em></td>
<td>oak</td>
<td>+++</td>
<td>+++</td>
<td>+++</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>-</td>
</tr>
<tr>
<td>Pomoideae</td>
<td>hawthorn, apple etc.</td>
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<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>+</td>
</tr>
<tr>
<td><em>Corylus/Alnus sp.</em></td>
<td>hazel/alder</td>
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</tr>
</tbody>
</table>

+ = present; ++ = frequent; +++ = abundant

31/01/2005  204
Table 93: Charred Plant Remains: Samples 94-147

<table>
<thead>
<tr>
<th></th>
<th>Sample 94</th>
<th>Sample 97</th>
<th>Sample 96</th>
<th>Sample 98</th>
<th>Sample 95</th>
<th>Sample 104</th>
<th>Sample 109</th>
<th>Sample 98</th>
<th>Sample 125</th>
<th>Sample 133</th>
<th>Sample 129</th>
<th>Sample 131</th>
<th>Sample 135</th>
<th>Sample 136</th>
<th>Sample 138</th>
<th>Sample 137</th>
<th>Sample 147</th>
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<td>918</td>
<td>919</td>
<td>938</td>
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### Cereal Grain

- **Triticum sp. naked**
  - Bread-type wheat Grain - - - - - - - - - - 1
- **Triticum spelta**
  - Spelt Wheat Grain - - - - - - - - - - 1
- **Triticum cf. spelta**
  - Spelt Wheat Grain - - - - - - - - - - 2
- **Triticum**
  - Spelt/Emmer Grain - 1 1 - 1 - 1 - - - - 2
- **Triticum spelta/dicoccum**
  - Wheat Grain - - 2 - - 1 - - - 1
- **Hordeum vulgare**
  - Barley Grain 1 - - - - - - - - - - 3
- **Avena sp.**
  - Oat Grain - - - - - - - - - - 1
- **Cerealia indet**
  - Indeterminate cereal Grain - 1 - 1 1 1 1 1 - - 1

### Cereal Chaff

- **Triticum spelta**
  - Spelt Wheat Glume base - - - - 1 - - - - 1
- **Triticum cf. spelta**
  - Spelt Wheat Glume base - - - - 1 - - - - 1
- **Triticum spelta/dicoccum**
  - Spelt/Emmer Wheat Glume base - - - - 1 - - - - 1

### Other Economic Plants

- **Vicia/Pisum sp.**
  - Vetch/Pea Pulse - 1 1 - - - - - - 1
- **cf. Vicia faba**
  - Broad Bean Pulse - - - - - - - - - - 1
- **Corylus avellana**
  - Hazel Nut shell - - - - - - - - - - 1
### Weeds

<table>
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<tr>
<th>Species</th>
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<td><em>Vicia/Lathyrus</em> sp.</td>
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<tr>
<td><em>Lolium perenne</em></td>
<td>Seed</td>
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</tr>
<tr>
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<tr>
<td><em>Rye-grass</em></td>
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<td></td>
</tr>
<tr>
<td><em>Quercus</em> sp.</td>
<td>Charcoal</td>
<td></td>
</tr>
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### Charcoal

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<th>Count</th>
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</thead>
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<tr>
<td><em>Oak</em></td>
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</tbody>
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31/01/2005
Table 94: Waterlogged Seeds

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<tr>
<td></td>
<td></td>
<td></td>
<td>buttercup</td>
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<td>+</td>
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<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>docks</td>
<td>-</td>
<td>stinging nettle</td>
<td>hazel nut shell fragments</td>
<td>-</td>
<td>-</td>
<td>elderberry</td>
<td>stinking mayweed</td>
<td>burdock</td>
<td>thistle</td>
<td>milk-/sow-thistle</td>
<td>rush</td>
<td>common spike rush</td>
<td>sedge</td>
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<td></td>
<td></td>
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</tbody>
</table>

+ = present; ++ = frequent
Table 95: Samples with no plant macrofossils

<table>
<thead>
<tr>
<th>Sample</th>
<th>Context</th>
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</thead>
<tbody>
<tr>
<td>55</td>
<td>411</td>
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<tr>
<td>52</td>
<td>405.1</td>
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<tr>
<td>28</td>
<td>237.2</td>
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<td>29</td>
<td>237.2</td>
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<td>91</td>
<td>567</td>
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<td>69</td>
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</tr>
<tr>
<td>18</td>
<td>11</td>
</tr>
<tr>
<td>13</td>
<td>22</td>
</tr>
</tbody>
</table>

Stratigraphic Matrices

Figures

272. Stratigraphic Matrix – Phase AB walls
273. Stratigraphic Matrix – Phase AC aqueduct
274. Stratigraphic Matrix – Phase AC sump
275. Stratigraphic Matrix – Phase AD greensand road
276. Stratigraphic Matrix – Phase AD linear slot; Phase AE water-pipe
277. Stratigraphic Matrix – Phase AE stream fills
278. Stratigraphic Matrix – Phase AE flint road
279. Stratigraphic Matrix – Phase AE timber slots; Phase AF midden
280. Stratigraphic Matrix – Phase AH fills of courtyard pit
281. Stratigraphic Matrix – Phase AH drain
282. Stratigraphic Matrix – Phase AH central pit and three post-holes
283. Stratigraphic Matrix – Phase AK – late medieval ditch
284. Stratigraphic Matrix – Phase AL – bone lines
285. Stratigraphic Matrix – Phase AM – mole drains
286. Stratigraphic Matrix – Area B – all contexts
287. Stratigraphic Matrix – Area A – all contexts
Appendix A – Brick and Tile (Derek Turner)

Flue tile categorisation

Black (Cunliffe et alia 1996) has grouped flue tile combing/scoring into six categories:

(i) Angular or chevron combing
(ii) Lattice scoring
(iii) Wavy combing
(iv) Wavy combing
(v) Wavy combing
(vi) Squiggle combing

Items (iii) to (v) are variants in degree and all are a reflection of an individual tiler’s use of a comb to suit his purpose.

In the 1997 summary the terms wide and narrow were used to differentiate between combs as opposed to styles, but without any definition. The element of subjectivity in these terms and in the stylistic subdivisions makes it difficult for subsequent cataloguers to maintain a consistent standard and in 1998 and 1999 an attempt was made to produce and implement a more objective set of criteria which will permit groups of tile to be retrieved on the computer for visual comparison.

There were at least six comb variants noted, arbitrarily listed as:

C1 Rather flat, square-section tine, shallow combing
C2 Widely spaced narrow round/pointed tines
C3 Close-set broad, rounded tines
C4 Square-section tines, deep combing
C5 Widely set, wide rounded tines producing rounded troughs and peaks
C6 Widely set, wide rounded tines producing rounded troughs and flat peaks

Sub-divisions were set as:

(a) Narrow tines, narrow spacing
(b) Broad tines, narrow spacing
(c) Narrow tines, broad spacing
(d) Broad tines, broad spacing

In order to cater for cases of complete symmetry we would need to add categories:

(e) Narrow tine, equidistant spacing
(f) Broad tine, equidistant spacing
Finally Black’s stylistic scheme has been adopted with slightly less subjective definitions:

(i) Chevron combing, ie a series of straight strokes turning through a sharp angle
(ii) Lattice scoring is extended to rectilinear combing such as the ‘saltire’ and ‘bordure’ effects on some tubuli; curves turning corners being discounted
(iii) Wavy combing - sinusoidal form where amplitude exceeds wavelength
(iv) Wavy combing - sinusoidal form where amplitude is similar to wavelength
(v) Wavy combing - sinusoidal form where amplitude is less than wavelength
(vi) Sinuous - gentle curves/reversals, amplitude less than 10% of wavelength

Thus a combed surface could be categorised, for example C5d(iv); a grouping readily identified and ‘sorted’ in a data base. There is still however a degree of subjectivity in tine/width and spacing. It is quite straightforward to assess the width of the spacing as narrower or broader than the tine groove, but tine groove width should be made objective by defining narrow as a width of 5mm or less, measured at mid-point between peak and trough.

Similarly terms such as shallow and deep should be defined; 2mm or less can be ‘shallow’ and more than 2mm can be ‘deep’. Square combing is where the groove sides are vertical or near vertical with a near-flat bottom.

Appendix B– Brick and Tile (Derek Turner)

One method of avoiding under-representation of fabric types due to agglomeration or mis-identification is to report objectively in terms of perceived colour compared to the Pottery Colour Chart published by the CBA (rather than Munsell) and the observed inclusions using the Orton et al (1993) inclusions Table:

<table>
<thead>
<tr>
<th>Upper Case Letter</th>
<th>Inclusion</th>
</tr>
</thead>
<tbody>
<tr>
<td>C</td>
<td>Organic</td>
</tr>
<tr>
<td>F</td>
<td>Flint</td>
</tr>
<tr>
<td>G</td>
<td>Grog</td>
</tr>
<tr>
<td>H</td>
<td>Shell</td>
</tr>
<tr>
<td>I</td>
<td>Ironstone</td>
</tr>
<tr>
<td>L</td>
<td>Limestone</td>
</tr>
<tr>
<td>M</td>
<td>Mica</td>
</tr>
<tr>
<td>N</td>
<td>No obvious inclusions</td>
</tr>
<tr>
<td>S</td>
<td>Sand(quartz/quartzite)</td>
</tr>
<tr>
<td>V</td>
<td>Volcanic/igneous</td>
</tr>
<tr>
<td>X</td>
<td>Other/unknown</td>
</tr>
</tbody>
</table>

Colour perception is very subjective; the Pottery Colour Chart is better than Munsell for tile purposes but still requires a value judgement. For example a piece of Dell Quay fabric from the kiln site presents itself as a rose-pink colour with possibly grog inclusions rather like opus signinum; the best match against a fresh break is Red/Brown B5 but Brown A6 and Yellow/Brown B6 are also fairly close.
An objective solution would be to use a computer scanner programmed to give a colour conversion read-out. Computers reproduce colours in terms of a mix of Cyan, Magenta, Yellow and Black. On a colour chart the nearest match to our Dell Quay sample is Colour 15 whose ‘mix’ is 0/40/35/0, i.e. a mix of Magenta and Yellow. Such a four-value group would provide a good reference for computer matching.

Another identification pointer that can be used is the texture of the fabric using Orton et al (1993) classification for a freshly broken section using a number to identify the term:

<table>
<thead>
<tr>
<th>Term</th>
<th>Interpretation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Subconchoidal</td>
<td>breaks somewhat like glass or flint</td>
</tr>
<tr>
<td>2 Smooth</td>
<td>no visible irregularities</td>
</tr>
<tr>
<td>3 Fine</td>
<td>small, closely spaced irregularities</td>
</tr>
<tr>
<td>4 Irregular</td>
<td>larger, more widely spaced irregularities</td>
</tr>
<tr>
<td>5 Hackly</td>
<td>large and generally angular irregularities</td>
</tr>
<tr>
<td>6 Laminated</td>
<td>‘stepped’ effect</td>
</tr>
</tbody>
</table>

(Descriptions are with the naked eye; if a lens is used on ‘smooth’ fabrics the report should make this clear eg. ‘smooth; fine under lens’)

The aim is to produce alpha-numeric groups which the computer can filter to produce lists of possible associations. However, computer-assisted colour identification could produce an almost infinite variety of shades which would be counterproductive in initial sorting. This can be resolved by using a limited number of colour codes for initial sorting and reserving computer identified colours for closer analysis. A simple computer recording solution is to use different fields for each identification parameter.

A simple group would be colour/texture/inclusions; for the sample Dell Quay item this would produce ‘R/B B5/2/G’ - a moderately unique group. Separating the components into individual fields would reduce the possibility of syntax errors; for example in the single group missing out the space between R/B and B5 would alter the reference and would be unrecognised by the computer on interrogation.

Appendix C – individual responses to the excavations of 95-99 (John Manley)

As recorded at the start of this report, the main labour force for the five seasons of excavation was a mixture of paying trainees and more experienced volunteers. In all, probably about 500 such people participated in the excavations, some returning for more than one season. After the 1999 season a simple questionnaire was sent to a sample of the ‘diggers’. They were all asked 12 questions and these are detailed below:

1. When did you work on the dig?
2. Are you male or female?
3. What is your age (band)?
4. What did you do on the dig?
5. What did you most enjoy on the dig?
6. What did you least enjoy on the dig?
7. What did you feel about the archaeology? Did it excite or bore you?
8. What did you feel about the people you worked with on the dig? For example, the other volunteers, the supervisors, the directors, the visitors to the site?
9. Did the dig have a lasting effect on you? If so, what and how?
10. Did the dig have no lasting effect on you? If so, why?
11. What was your interpretation of the site? What did you think we found?
12. Please add any further comments.

Fourteen responses were received and these are reproduced below verbatim but anonymously.

Comment: These responses form a small and probably more favourable selection of comments, since I presume that those who had a good time on the dig were more likely to reply than those who did not. However, some themes do emerge, notably the ‘people’ aspect, that all of the diggers seemed to have enjoyed - the ‘team spirit’ and the ‘camaraderie’. In addition, some were thrilled by the prospect of finding the smallest pottery sherd that was Roman and therefore had not been touched for 1800 years or so. Some used the dig as a springboard to go on and take courses and further their interests in archaeology.

It would be dangerous to place too much weight on these responses. However, they do demonstrate that this kind of excavation can not only produce worthwhile academic results, but also has the capacity to engage people of all ages and backgrounds. For some of these people participation in the 95-99 excavations at Fishbourne constituted a memorable and meaningful experience, a milestone in their lives, a learning experience and a community experience. To an extent, and perhaps only for those who came for periods longer than one week, being on the excavations at Fishbourne meant being in a smaller and friendlier world than the one beyond the Fishbourne campus. Returning to the ‘real world’ after the excavations was a bit of a shock. It was for me anyway.

I also felt that, as a co-director of the site, the people whom I directed on the dig were a delight, as a workforce, to ‘manage’. If I could bottle up and market the Fishbourne ‘secrets of management’ and sell them to other industries I would be very rich indeed. However, I suspect that such secrets are less to do with the abilities of managers, but much more about letting people work together willingly in a creative environment on something they all believed in.

**Responses**

Excavator LA
1. 1996-99
2. F
3. 45-50
4. Trainee ’96. Volunteer ’97-99
5. Teamwork
6. Digging in the rain.
7. Exciting, challenged. Valued as member of team.
8. Most people worked closely together and were very hardworking and unselfish. Staff were friendly, patient, helpful and encouraging.
10. –
11. Not sure. 1st century military HQ seemed very possible but evidence of later occupation may imply later use for different purpose.

Excavator CJ
1. 1999
2. F
3. 30-35
4. Training week (never dug before) – first week of season. Then kept coming back & helping with finds (pot washing, marking, sorting, etc.) and a little data input with Derek in the office.
5. The thrill of uncovering things untouched for 2000 years. Anything – from broken nails to decorated pot/glass and the camaraderie of other diggers/crew.
6. The feeling of inexperience and slowness and clumsiness compared to those more practised.
7. Incredibly exciting, never boring. The excitement, for me, came more from the personal, emotional feeling of ‘contact’ that I got from finding small things, rather than the ‘bigger picture’ of the function of the site or construction of the features.
8. Felt very nervous initially (kept wondering how it was that someone like me who knew nothing could be ‘set loose’ on a site like Fishbourne!) But it was good to be part of a group of other novices, and supervisors took pains not to make me feel foolish even when I did do stupid things. Supervisors/directors were very good at getting across a large amount of information in an easy-to-understand way. Other trainees and regular volunteers were friendly, on the whole, and not too ‘exclusive’. The atmosphere at Fishbourne seemed to me to be one of friendliness and a constant buzz of excitement (as well as a fair bit of gossip and catching up of news between old friends!) In some ways, the experience was quite intense – over just a week I felt quite close to a few people I’d never previously met, and enjoyed the feeling of being part of a team who all wanted to be there because of a shared love for archaeology.
9. Yes! I realised archaeology was what I wanted to do full time, and have since taken archaeology ‘A’ Level and am now studying full time for a degree. In other words, I became completely addicted! And because the SAS staff are such a nice bunch of people, I was able to go back to Fishbourne after my training week and get a bit more experience – without being made to feel anything other than welcome. I appreciated this hugely, and the patience & effort put into the training I was given. If Fishbourne hadn’t been so good, I might have been put off, rather than thinking that yes, this was something I could pursue and not just a profession for an academic elite! I also met some great people, who I keep in contact with, and was able to volunteer at Clay Hill the year after Fishbourne – for free (which, again, I appreciated!) I love going back to Fishbourne, and think of it with great fondness & affection.

Excavator JB
1. From 1995 to 1999 inclusive.
2. M
3. 60-65
4. Mainly excavation using trowel and Leonia tools; some drawing of plans and sections; some finds recording; some surveying, i.e. plotting small finds and plans/section.
5. The team spirit. Also being given the responsibility to both excavate and record features, and discuss possible interpretation.
6. Reducing a cobbled flint road-surface layer by layer with a mattock. (But I know it needed to be done!)
7. We knew a great deal about the received wisdom on the history of the site, and here we had an opportunity to use our work to critically examine this wisdom and formulate new ideas.
8. There was an extremely good team spirit which was fostered by the two directors and the supervisors. There was also a happy blend of serious work and fun.
9. Yes! It gave everyone, especially myself, the opportunity to progress in archaeology. The result was I started as a trainee, and now I am doing an MA in Archaeology at Reading.
10. No!
11. The timber buildings and successive phases of masonry building, etc. indicate that the site was very early and very important. Possibly military, a detailed analysis of the small finds may shed more light.
12. A number of new questions remain which require further work. (I hope!)
Excavator FK
1. 1997-99
2. M
3. 40-50
5. All aspects: all information was shared and there was a good social atmosphere.
6. Bad weather (luckily there wasn’t much)
7. The archaeology was all interesting. What we were finding and doing covered many disciplines, and this gave a rounded view to the whole excavation.
8. As with all large mixes of people, there are those who you naturally feel an affinity with. If the supervisors noticed someone had a particular interest or skill, they would nurture it. Social interaction was encouraged – and particularly amongst the campers a close-knit core emerged.
9. It led to helping at Clay Hill and other digs, and the setting up of the spawn website for Fishspawn photographs. I think the photographs will show the affection in which we hold Fishbourne.
10. –
11. A building, possibly originally a principia, with stables and maybe peripheral timber-framed buildings. A ditch that possibly represents early Roman – or Roman-influenced – occupation of the site.

Excavator IP
1. 1998 and 1999
2. F
3. 35-40
5. The actual digging and the camaraderie and fun of all being together.
6. Wheeling the barrows up the spoil heap – the stress of wondering if it will spill out before you get there!
7. I was thrilled by the archaeology. Roman Britain is a personal favourite and to be digging at Fishbourne, a place I had first visited as a child, was very exciting. The first year as a trainee (1998) was very rich in finds, great for a beginner.
8. The people I worked with made it very special. In 1998 as a trainee it was fantastic to spend a week with like-minded enthusiasts, many digging for the first time like myself. Many people glaze over at the mention of archaeology – not so at Fishbourne! We all seemed to gel as a group and had a lot of laughs. The supervisors were great fun too, except one who was likened to a camp commandant – bit of a sense of humour failure! In 1998 as a volunteer I palled up with a group of ladies (two of them worked at Fishbourne, one as a guide and one as an education officer) and again we had a lot of fun! The directors were excellent – always happy to discuss our theories and look interested into the bargain!!!
9. The dig certainly had a lasting effect. I achieved a life-long ambition at Fishbourne – to take part in a dig – and loved every minute. I now dig with my local society in Basingstoke and am addicted for life – never happier than with a trowel in my hand!
10. –
11. It’s a while since I read the interim reports, but if memory serves me correct – I go for the military HQ theory – similar plans in previous towns, etc., plus the lack of finds (a building always swept clean and tidy, etc.) The post-holes of 1999 – I go for the lean-to building rather than fence posts. Perhaps a lean-to for storage, or stabling, or even a temporary extension – a Roman portacabin?

Excavator CE
1. 1996, 97, 98 & 99
2. F
3. 30-35
4. Mattocked, trowelled, washed pots, made tea!, some planning work.
6. Trying to get the wheelbarrow up the spoil heap and across narrow planks!
7. The archaeology was exciting; to feel that I was seeing things unseen for so long and feeling part of the long history of the site was great.
8. I formed a good friendship with a girl from our first year there and we met up every year after that, which was nice. Every year there was a good team spirit and I met many nice people on the digs.
9. It gave me a lot of confidence in myself as I had never gone off and done something like that before so it had a lasting effect in making me believe I could do things if I wanted to!
10. –
11. Early military buildings?
12. I enjoyed each week at Fishbourne and I hope if excavations are re-started, we will all get the chance to come back!

Excavator WP
1. Two years
2. M
3. 20-25
4. Studied archaeology for a week. Did two weekends and a week volunteering to dig/potwash.
5. The people, and taking part in something quite fascinating.
6. –
7. Despite archaeology often being viewed as a destructive process, it was very creative building up a picture of the site, and trying to understand what had been there. It was entertaining trying to do this.
8. There was a great mix of people on the training course. Some didn’t seem to be entirely suited to archaeological work, but this was no problem. Volunteers were a great bunch. Supervisors and directors ran the dig excellently.
9. Yeah, a bad knee. Sorry just a little joke. It gave me a good appreciation of the practicalities involved with doing a dig. And how such things are organised.
10. –
11. Ouch! Big question! We found evidence of the road and military building leading from Palace gates.
12. Camping is essential for building up a great team/community.

Excavator SJ
1. 1995-1999
2. F
3. 40-50
4. Bit of everything – excavation, finds processing, etc.
5. Excavation.
6. Surveying (sore knees!)
7. Very interesting and exciting. Felt good to handle items last touched nearly two thousand years ago and also to help solve the puzzle of the past.
8. Felt good to work with people of all ages and levels who were interested in the same thing.
9. Yes, have taken courses in archaeology and also obtained a job at English Heritage
10. –
11. Did not disagree with the main interpretation.
12. Pleasant dig to work on with a happy and relaxed atmosphere.

Excavator BS
1. Five years
2. M
3. 65-70
4. I dug! Volunteer with pick, mattock and shovel.
5. Everything – the anticipation (and thrill) of a find. The camaraderie and the making of many friendships.
6. Bailing out after heavy rain – and slipping in the mud – and even that was enjoyable.
7. It’s the excitement of the unexpected and the challenge of interpretation. I don’t think I could ever find it boring.
8. There is something about the Fishbourne dig that engenders friendship and fun at all levels.
9. Yes, it made me want to learn more.
10. –
11. I think it was the principia and that to the west of the stream lay the residence of the commander which later became the Palace. Charting the other finds in the area could suggest that there was an extensive military camp, with civilian followers, covering an extensive area.
12. My wife gave me a place on the Basic Training Course on Year 1 of the dig – and I was hooked. The Advanced Course followed in Year 2, and 3, 4 & 5 were volunteer years for me. I like everything about the dig – hard work, anticipation of a find, not knowing what each day will bring and, possibly most of all, the people, all of the people associated with the dig and, indeed, with Fishbourne Palace. I can’t wait to get started again.

Excavator BA
1. 1998
2. F
3. 20-25
4. I took part in Week 1 of the ’98 excavations, so most of the time was spent moving earth out of the trench, into a wheel-barrow and up onto the spoil heap! For the last couple of days we trawled back over the trench, lots of small finds emerged, as well as the obligatory small walls.
5. Finding some tiny droplets of copper alloy and a small amount of mauve pigment then thought to have been imported from Egypt.
6. Spending most of my week transporting earth from one location to another, but someone has to do it, don’t they!?!?
7. I have to admit that I have been on more exciting sites, but they were also further advanced, had I been working on the trench at a later stage of the season I might well have felt differently.
8. From what I can remember, everyone I met was very friendly and helpful and there was a good atmosphere in the on-site camping area.
9. –
10. I’ve worked on a few sites where turf cutting and earth shifting were the staple tasks of the day, and none have had a lasting effect on me so it’s nothing personal!
11. Small finds, and small walls!
12. Free access to the museum, mosaics, gardens, etc was greatly appreciated.

Excavator OG
2. M
3. 50
4. First year as a student; second year as a volunteer. Specialised in barrow-pushing.
5. Fresh air and exercise. Meeting others.
6. –
7. Developed interest in Roman Britain – subsequently attended SAS Conference on Claudian invasion.
9. Encouraged me to go with LAMAS to Southwark in 1999 (no vacancies) and this year with KAS to Minster and (hopefully) Silchester with Reading.
10. –
11. The treasury (and possibly keeping an eye on Togidubnus).
12. Pleased with my introduction to practical archaeology. Now on Birkbeck BA with hopes for Roman Archaeology options.

Excavator TD
1. 1999
2. M
3. 65
4. Digging (plus some pot washing).
5. Trowelling and close contact with excavation surface.
6. Mattocking – don’t know why. Personally I prefer pick and discreet use of a fork to loosen soil.
7. Excited – the thrill of the chase; always hoping to make the vital connection, etc.!!
8. Generally speaking the workers operated well as a team which is more than can be said for many other organisations.
9. Yes but not quantifiable – one of a series of cumulative experiences in the learning process.
10. –
11. A ‘substantial’ early RB site close to a known IA site but, as usual, producing more questions than answers so far. I would like to see a greater length of the ditch and its relation to the stream. ? is it possible that it was back-filled from the material used as an associated bank. A generous cross-section would be nice.
12. When does the next phase start?

Excavator PM
2. M
3. 65
5. Standing alongside John Manley in the rain, swinging a mattock and exposing a bronze coin.
6. The rain.
7. Very exciting.
8. Nice people. Great, as volunteer, living on site (in tent).
9. Student of archaeology part-time at University of Sussex.
10. –

Excavator SC
1. 1998
2. F
3. 25-30
4. As it was my first experience of attending a dig, I started from the very beginning. A group of us ‘first-timers’ spent a week being given valuable training in numerous archaeological aspects – from digging to drawing site diagrams, from cataloguing to cleaning our finds, from surveying to making the drinks!
5. All of the dig was excellent! The most exciting times were when the finds started to appear. Even the smallest finds, such as small pieces of pottery, brought a big smile to my face! Although it was hard work, it really was a pure pleasure to carry out even the most mundane tasks. The weather was fantastic all week, the people were all great fun to be with, and the atmosphere was great.
6. Going home! But I returned for several weekends afterwards just to see the supervisors again and, of course, to see how the dig was progressing.
7. The whole experience was very exciting, especially as I was learning all the time. Fishbourne Roman Palace is a fantastic site; the museum is packed full of very interesting archaeological information which only helped to increase the excitement and anticipation of what we might find under the soil.

8. Everyone was great – there was a good team atmosphere going on, and the whole group seemed to be enjoying themselves thoroughly. The supervisors and directors were all very approachable and thoroughly knowledgeable, which made them easy to learn from. All of the site supervisors had great personalities and were very good fun, and became great companions for the duration of my visits. Our evening jaunts to the local public houses to reflect on the day’s developments also added to the general merriment, especially with our regular joke-telling competitions!

Definitely. The experience was one which I shall always remember. It was great to meet so many different people with a common interest, in such a wonderful setting. I have memories and experiences that I shall never forget.