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Excavations at the Sewage Treatment Works, Dymock,  
Gloucestershire, 1995**

by Toby Catchpole  
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## Excavations at the Sewage Treatment Works, Dymock, Gloucestershire, 1995

By TOBY CATCHPOLE

With contributions by Marianne Cole, Hilary Cool, David Dungworth, Rowena Gale,  
Peter Guest, Claire Ingrem, Julie Jones, David Mullin, Joanna Richards, Jane Timby,  
Felicity Wild and David Williams

### INTRODUCTION

Archaeological fieldwork was carried out by Gloucestershire County Council Archaeology Service for Severn Trent Water Ltd on the site of an extension to the sewage treatment works at Dymock. The works are to the east of the modern village just above the southern edge of the floodplain of the river Leadon. They are reached from the B4216 Ledbury road, via Longbridge Farm (Fig. 3).

The site is situated on Silurian siltstones and mudstones of the Raglan Mudstone formation close to alluvial deposits from the Still House stream and the Leadon. Deposits of Head and a gravel terrace are located immediately to the east of the stream (BGS 1988), perhaps explaining the variation in the natural deposits encountered. Ground levels rose from c.30 m above OD at the north-eastern extent of the excavation to over 33 m OD above at the south-western. When the sewage treatment works were constructed Gethyn-Jones (1991, 94) made a brief record of the Romano-British material that was uncovered:

In the spring of 1951 finds were reported at the site of the new filter-bed. The contractors stopped work for three days; the soil already scooped out was sifted, the face of the pit was probed, and an exploratory trench was cut on the south side with the help of many willing hands. Few objects were stratified and it was mainly a case of salvage and recording; in the trench and pit, the bulk of the specimens came from a band 18 to 48 in deep. When the contractors resumed a careful watch was maintained. Thousands of fragments of pottery, numerous oyster shells and bones, several metal objects and bone pins, and much iron-slag were found.

The current location of these finds has not been ascertained.

As a response to proposals to extend the sewage works, an evaluation comprising the excavation of four trenches was carried out in January 1994 (Emmanuel 1994). Subsequent open area excavation took place in two areas in January and February 1995 (Fig. 3). The main area, located to the south of the existing sewage works and centred on OS Nat. Grid SO 70243123, measured 48 m E–W by an average of 25 m N–S. The smaller area was located to the east of the sewage works and measured 18 by 14 m, centred on SO 70303126.

The surviving upper surface of the natural deposits sloped down by c.1.75 m from south-west to north-east in the main excavation area. The north-east area was much less steep, dropping by only 0.15 m from south-west to north-east. To the north of both areas, the ground fell away steeply

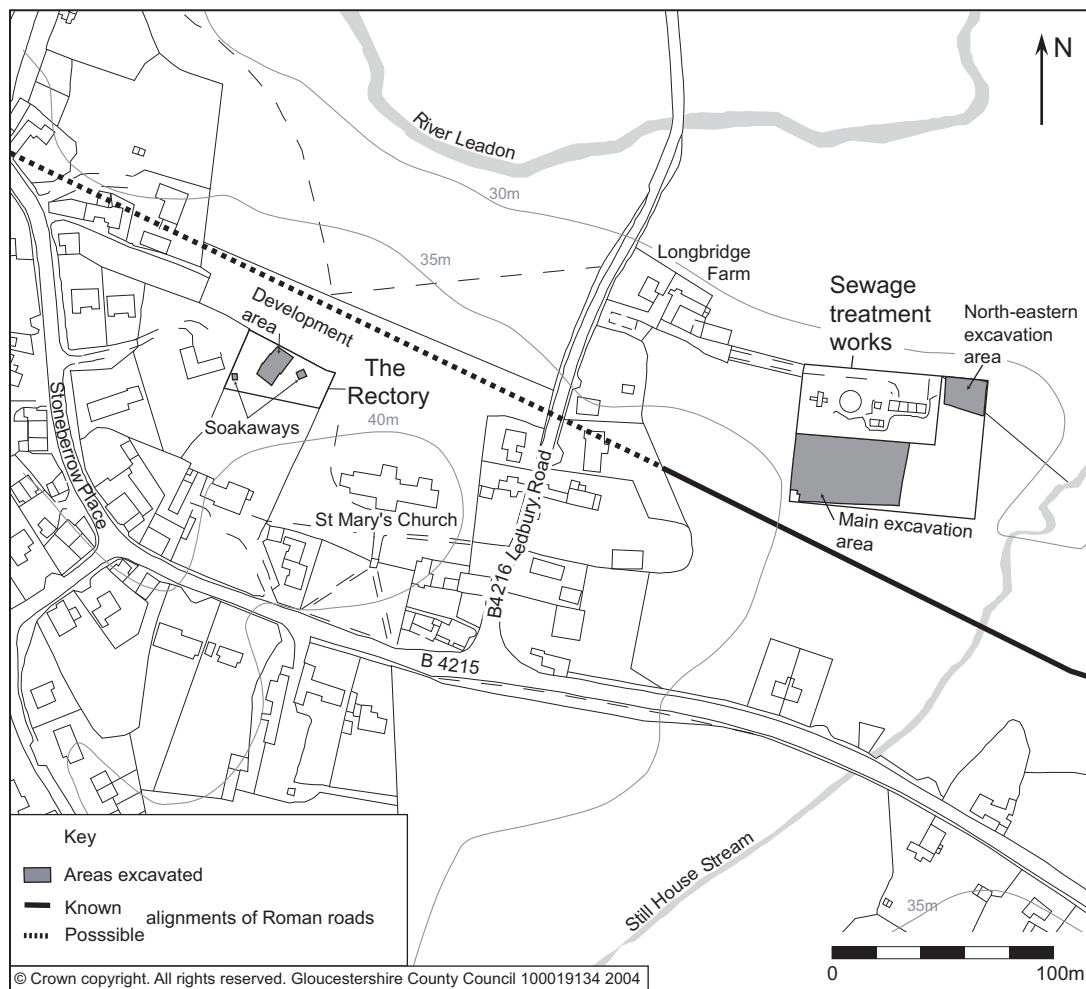


Fig. 3. Excavated areas at the sewage works and Rectory.

to the floodplain of the river Leadon, although the topography had been much altered during construction of the sewage works. The natural deposits encountered varied across the site. They mostly comprised reddish sandy clay containing bands of sandy gravel of variable depth. The upper parts of the clay had an indistinct interface with the overlying plough soil. The gravel deposits were thicker and more extensive in the north-eastern part of the site. Truncation resulting from post-medieval ploughing was also encountered to varying extents across the site, particularly in the north-east area.

Excavation was carried out in difficult, wet, winter conditions. Even when it was not raining, features were difficult to identify because of the similarity of fills and the natural subsoil. These conditions restricted the amount of excavation possible. Structures A and G and all graves were fully excavated. All linear features and other structures were sampled, with the exception of ditch

[1253]. The majority of the isolated pits and posts were sampled except where they were clearly of post-medieval or modern date, leaving several pits in the south-eastern part of the site and some smaller posts and stakes associated with the gated entrance through the Phase 1 enclosure unexcavated.

## THE EXCAVATIONS

### Phase 1: late 1st – early 2nd century

The major features recorded comprise the southern and eastern boundary ditches of a 1st-century enclosure, and the group of rectangular timber buildings which it contained. The north-eastern part of the enclosure had been destroyed during the construction of the sewage works but the remainder should lie preserved under the field to the west of the excavated area.

#### *The Enclosure*

A rectilinear enclosure was indicated by three ditches, [1087], [1156] and [208/1267] (Figs. 4 and 8a–c). Its southern arm was represented by [1087], which was evident over a distance of 17 m aligned NW–SE across the south-west side of the main excavation area. It measured 2.25 m in width and 0.8 m in depth, with a steeply cut slope on its south (outer) side and a much more gradual slope on its north side. The majority of the feature was filled with a single homogenous deposit (1086) interpreted as the result of rapid backfilling. (1086) sealed a thin primary silting (1109) datable only broadly to the later 1st century. An upper fill (1088) probably filled a depression resulting from slumping of the main fill.

It is assumed that [1087] continued north-eastwards as [1156], although they did not meet within the excavated area. [1156] ran SW–NE to a rounded terminal, which formed the south side of an entrance, c.18 m from the site boundary. It measured 2.5 m in width and 1.1 m in depth. The majority of the feature contained a single homogenous fill (1131), interpreted as the result of rapid backfilling and dating to the late 1st century. The shallow upper fill (1130) is interpreted as either natural or deliberate filling of a depression resulting from slumping of (1131), and pushes the final backfilling of the feature into the mid 2nd century (Timby, below).

The alignment of [1156] was continued by ditch [208/1267] to the north of the entrance. It measured 2.5 m in width and 1.7 m in depth and had a flat base 0.5 m in width. Seven individual fills were recorded, the lowest (220) being a silty clay with no finds, while the upper six fills all produced material of the late 1st century as well as fuel ash slag and a fragment of iron ore. Although the fills differed from those in the rest of the enclosure ditch it is thought that this represents a localised change in the materials used to backfill the ditch, rather than any difference in phasing or function. Both [1156] and [208/1267] were cut more steeply on their outer than inner sides although not to the marked extent visible in [1087].

There was no surviving evidence of any bank or rampart associated with the enclosure ditches.

#### *The Gate*

The east-facing enclosure entrance between the terminals of ditches [208/1267] and [1156] appeared to have been closed by a timber gate, with fence lines behind the ditch to either side. The gate posts were between the ditch terminals not behind them, as would have been the case if a rampart were present.

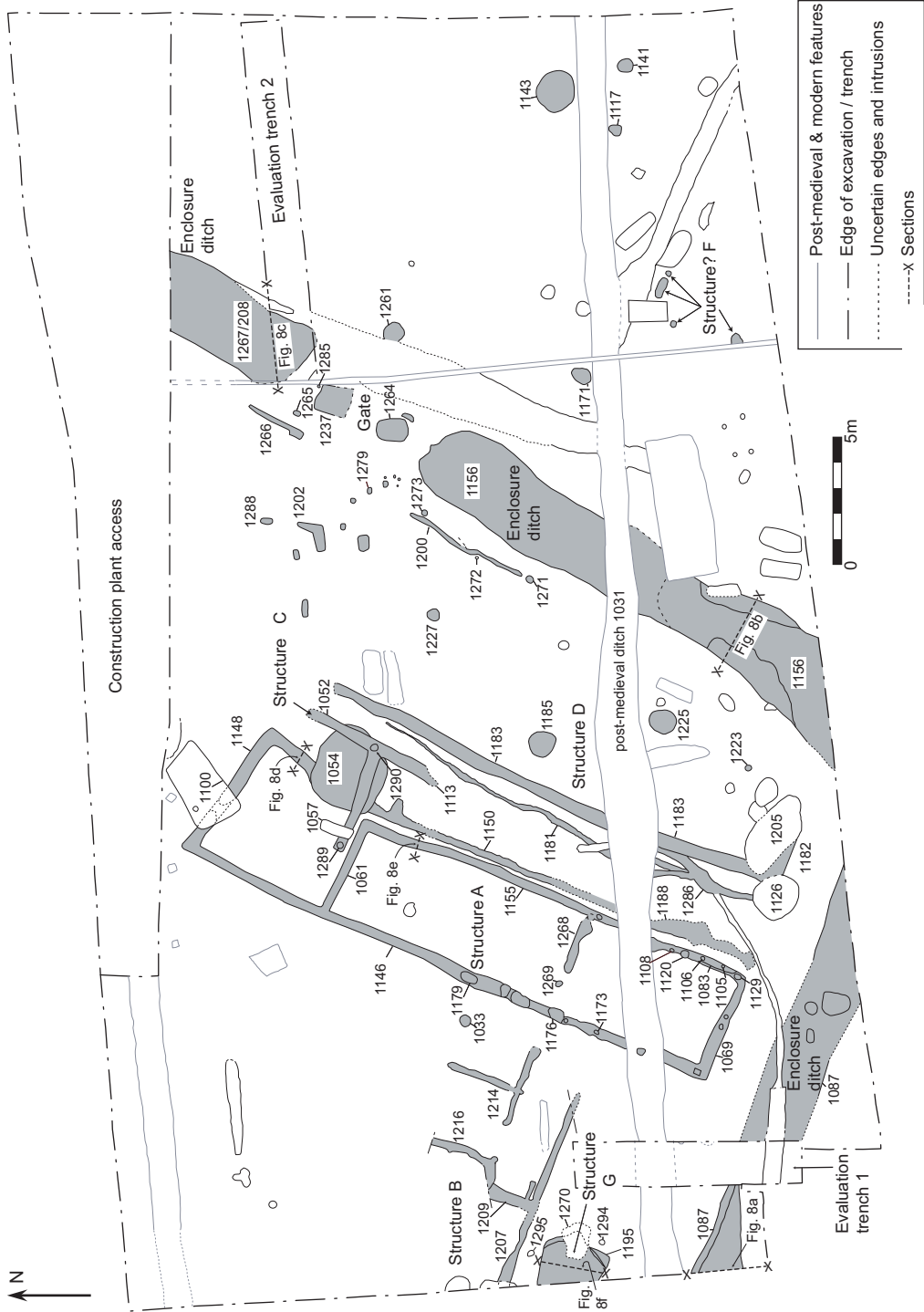


Fig. 4. Sewage works: Phase 1 features in main excavations (shaded).

The gap between the ditch terminals measured 6 m. The features interpreted as gate post pits were [1237] on the north side and [1264] on the south side. The gate so formed would have been no more than 2.7 m in width, assuming posts 0.5 m in diameter placed at the outer extremities of the post pits. Significant spaces would have been left on either side between the gate posts and ditch terminals and it is uncertain how these gaps were closed. It is possible that barriers were attached to the outside of the gate posts and that these left no archaeological trace. The only dated feature in the gateway area was [1237], which was backfilled in the late 1st century. A further unexcavated post [1261] was located c.3.5 m outside the centre of the gateway.

A linear slot representing a fence line [1200] with associated posts [1271], [1272] and [1273], was located inside ditch [1156] on the south side of the entrance. A second shorter fence line [1266] with stake [1285] and post [1265] was located inside ditch [208/1267] on the north side of the entrance.

Several other posts and stakes were located to the west of the gate. These may indicate that a gatehouse structure was present, although no clear pattern has been identified to explain what form this may have taken. If however, as proposed below (Fig. 7), several of the cut features in the area inside the gate relate to the north-east corner of Structure D, there is no need to suggest a gatehouse, merely a fence represented by a line of stakes running from the south-west side of the gateway to the east side of Structure D.

### *Timber Buildings*

A group of rectangular timber buildings stood inside the enclosure, only one of which (Structure A) was well defined. Other adjacent buildings were either partly outside the excavation or survived only in part. The evidence for the buildings comprised postholes and narrow gullies with flattened 'U'-shaped profiles and flat bases.

### Structure A

Structure A was rectangular, aligned SW-NE, its sides parallel with enclosure ditches to the south and east (Figs. 4 and 8d-e). Its west side measured 22.5 m in length and it was an average of 4.5 m in width. There were internal partitions, one, [1061], 16.5 m from the south end and a second, represented by construction trench [1268] and posthole [1269], 6 m from the same end and apparently continuing the alignment of Structure B. The structure was built on a slope, the surviving levels dropping by 0.81 m from the south-west to north-east corner (Fig. 5).

The majority of the structure was represented by a single construction trench cut by later features. The elements of the trench, given different context numbers ([1069], [1146], [1148], [1061] and [1155]), were 'U'-shaped in section and 0.4-0.5 m in width and they survived to depths of 0.2-0.4 m. Irregularly spaced posts and stakes were excavated in the base of the trench but these only extended as far north as the northern side of adjacent Structure B.

The east side of construction trench [1148], at the north-east of the building, did not align well with the rest of the building to its south. Construction trench [1155], which represented the majority of the east side of the structure, turned westwards as [1061] rather than continuing north towards [1148].

An ephemeral drip gully, [1150] and [1188], was identified to the east of the structure. The fact that it appeared to end at pit [1054] may be of relevance to the interpretation of the relationship between Structures A and C.

An indistinct rectangular pit [1100], containing no finds, was cut through the north side of trenches [1146] and [1148], removing the relationship between these two contexts. Consideration was given to the possibility that it represented a northern entrance but as the truncated terminals

of the construction trenches were only 0.40 m apart it is more likely to have been a shallow pit of unknown function truncating the earlier continuous construction trench.

A single phase of backfilling was identified in most of the construction trenches. The fill was a single continuous deposit, apart from in the south-east corner, and contained large quantities of burnt daub, especially over its southern half. The homogenous nature of the fill suggests that timber was systematically removed and the site of the building cleared.

A better preserved sequence was encountered on the east side of the building, to the south of post-medieval ditch [1031]. The earliest deposit in trench [1069] was a silty fill (1114), which was cut by two postholes, [1120] and [1129], and therefore may have been contemporary with construction; unfortunately it was not closely datable and a sample taken from it provided little information. When the building went out of use a deposit of burnt daub (1083) collapsed around a line of stakes ([1105], [1106], [1107] and [1108]), preserving their outlines and sealing (1114) and postholes [1120] and [1129]. The collapsed daub (1083) was sealed by the general burnt backfill found elsewhere.

### Structure B

Structure B was a poorly preserved rectilinear timber structure, the outline of which was represented by construction trenches [1207/1209], [1214] and [1216] and post [1033]. The features were insubstantial and ill defined, only surviving to depths of 0.1–0.2 m. Despite the poor level of preservation at least four spaces (B1–B4) are defined and these are indicated on Fig. 6.

B1 was enclosed by [1216] to the west and [1214] to the south and east, forming a roughly square space measuring 2.65 m across. The full northern extent of [1216] had not survived but the northern arm of [1214] measured 2.9 m in length. An entrance into the south-west side of B1 was suggested by the shape in plan of the construction trenches.

B2 measured  $2.95 \times 2.9$  m and was defined by [1214] to the south and west and post [1033] to the north. The presence of post [1033] and the lack of a northern construction trench to B1 and B2 suggests a roof above an open fronted structure. The eastern extent of B2 was formed by Structure A construction trench [1146] between posts [1176] and [1179]. The gap at the east end of [1214] may represent a further access to B3 to the south.

B3 measured  $c.2 \times 7$  m and was defined by [1207] to the south, [1209] to the west, [1216] and [1214] to the north and construction trench [1146] of Structure A to the east. The eastern part of [1207] had been lost and it is uncertain whether it continued as far east as Structure A. It was physically continuous with [1209].

B4 was of indeterminate extent as construction trenches [1209] and [1216] were truncated to the north and west and only [1207], which formed its south side, continued to the western edge of the excavation. It likely that [1216] turned west, continuing the line of the division between B1 and B3.

A single backfill was present in [1207/1209] and also in [1214]. The fills were similar to those of the Structure A construction trenches. The fill (1215) of trench [1216] was clearly later than (1208), which filled [1209]. The deposit was stony and compacted and it was indicated by the excavator that it constituted 'packing', suggesting a foundation for a later structure, for which there was no further evidence.

### Relationship between Structures A and B

Structure B appears to have formed a block at right angles to Structure A. No physical relationship had survived between Structures A and B but the following evidence suggests that they were continuous. Structure A posts [1173], [1176] and [1179] were on the alignment of the sub-divisions of Structure B. Structure A construction trench [1268] and posthole [1269] continued the line of



Fig. 5. Sewage works: Structure A during excavation looking north-east.

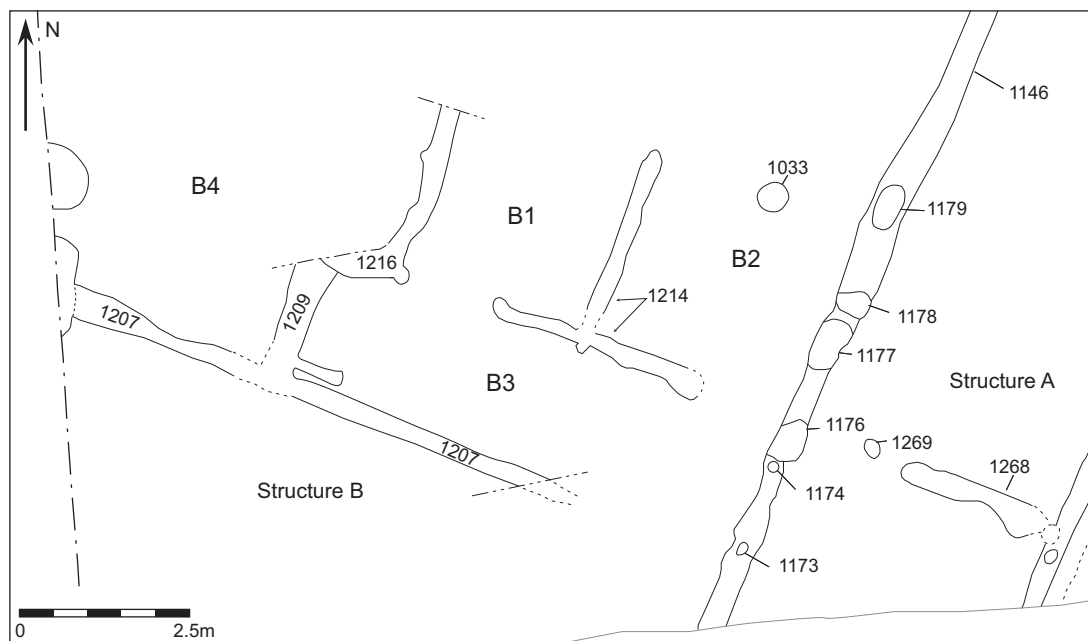


Fig. 6. Sewage works: detail of Structure B.



[1216] and [1214] across Structure A. [1214] clearly ended *c.*1.2 m to the west of Structure A, but the continuation of the above ground structure may be indicated by post [1176]. The construction trenches of Structure A were fully excavated and the posts and stakes shown on Fig. 4 indicate the full surviving extent of those features within the building. No posts or stakes were present to the north of Structure B. Therefore, it seems likely that Structures A and B were built at the same time as part of the same building complex.

The function of Structure B remains unclear as no evidence was uncovered that pointed to a specific purpose. The structure resembles stabling or animal pens, B1 and B2 being only slightly larger than the  $2.74 \times 1.82$  m required for a Roman cavalry horse (Frere and St Joseph 1974, 24), in which case B3 represents an access corridor. Less likely, given the absence of evidence for hearths or furnaces, the presence of open-fronted structures might be explained in relation to the evidence for metal working from the site as the burning of significant quantities of charcoal required well ventilated structures due to the amounts of carbon monoxide produced (Hammer 2003, 21).

### Structure C

This structure was represented by a 'T'-shaped construction trench [1052]/[1113], the eastern arm of which had not fully survived. Posts ([1289] and [1290]) were located at either end of the E–W member. The layout of the feature is best ascertained from its plan (Fig. 4). It was cut by a shallow rectangular pit [1057] which produced no finds.

Structure C is difficult to explain as a free-standing structure. As the ground level drops by 0.8 m from south-west to north-east across Structure A, the construction of a level boarded floor would require it to be raised at the north-east side of the building and Structure C may therefore represent the foundations of a wooden external stair giving access to Structure A.

This interpretation of Structure C is complicated by the presence of a large shallow pit [1054], which had been cut into the backfilled Structure A construction trench [1148] and was itself cut by the construction trenches of Structure C. A case can be made for Structures A and C being elements of the same building if the pit is interpreted as the result of water from a roof collecting in the area. The ground is unusually level at this point, only dropping by 2 cm from the south to the north side of the pit. As drip gully [1150] runs along the east side of Structure A only as far north as pit [1054] it is possible that the pit resulted from the pooling of water, which created an area of disturbance around the base of the building and the stair. If the area had dried out before demolition of the building the construction trench might look to be later than the disturbed ground that had in fact surrounded the *in-situ* timbers. Pottery evidence indicates a late 1st-century date for the backfilling of the Structures A and C and the pit that separates them.

### Structure D

This poorly preserved structure was represented by a single 'L'-shaped construction trench [1183] measuring *c.*19 m in length, with a short return to the east at its southern end, truncated after 2 m by undated pit [1205]. It was also cut at its south-west corner by pit [1126]. Structure D was oriented SW–NE, roughly parallel to both Structure A and enclosure ditch [1156].

A linear feature, [1181]/[1286], identified to the west of the structure could have been an associated eaves drip gully. The single homogenous backfill (1182) was superficially similar to those in Structures A and B in that it contained charcoal and burnt daub. It was not closely dated as it only produced undiagnostic Severn Valley ware but there is no reason why it could not have been contemporary with the other Phase 1 features (Timby, below) and its location and alignment strongly suggest that it was part of the same group of structures.

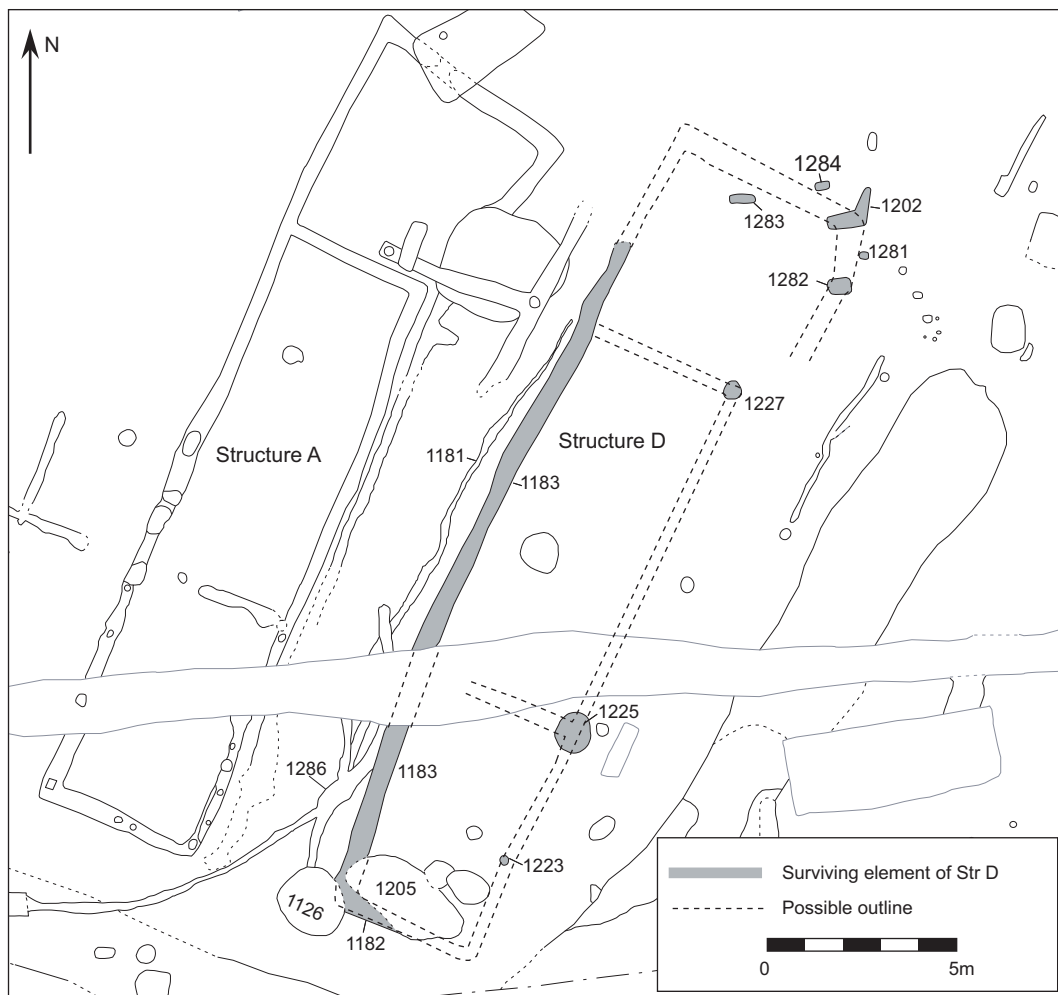


Fig. 7. Sewage works: possible layout of Structure D based on Structure A.

The only other features which could have been part of Structure D were a series of post- and stake holes to the east of [1183]. These features ([1223], [1225], [1227], [1281]–[1284] and [1202]: Fig. 7) do not fall into an immediately recognisable pattern either in being regularly spaced along the length of [1183] or in providing the width of the structure that can be plotted. It is possible, however, that Structure D was similar to Structure A, although there was not sufficient space for an equivalent of Structure C. A postulated outline for the building can be seen on Fig. 7. Structure A was far from perfectly rectangular and there is no reason to assume that Structure D was any different. Other posts could equally be suggested as part of the structure, particularly to the north-east. The suggested layout implies that post [1202] may have been part of a strip building rather than part of a gatehouse structure.

### Structure G

A large flat bottomed negative feature [1195] (Figs. 4 and 8f), only partly within the excavated area, was interpreted as a possible sunken floored building (SFB). The feature measured 2.6 m N–S and at least 1.8 m E–W, continuing beyond the west edge of excavation, and was c.0.4 m in depth. The eastern corners were rounded, suggesting a sub-rectangular shape. The south and north sides were almost vertical, the east less so. It was cut by small pit [1270], which was thought to be later and unrelated. The base was flat and contained no post- or stake holes. Stake holes [1294] and [1295] were located by the east and north sides of the feature respectively but may not have been associated with it. The lower fill of the feature (1198) was burnt and possibly represented the remains of a timber superstructure; it was recorded as comprising mostly ash, especially at its base, and contained daub. This burnt material appeared to have been deliberately sealed by a layer of gravel (1197) to allow continuing use of the feature. The upper fill (1196) was a homogenous silty clay, typical of Phase 1 backfills. Pottery evidence suggests that the backfill of the feature is of Flavian or Trajanic date (Timby, below), and its abandonment may therefore have been slightly later than the majority of features in this phase.

### *Other 1st-century Features within the Enclosure*

A number of pits, postholes and gullies were present within the enclosure. Not all were excavated and several produced no finds. Only one was datable to the 1st century. [1185], a circular pit within the area of Structure D, was c.1.0 m in diameter and 1.1 m in depth with vertical sides. It produced Flavian samian and an earlier stamped sherd dated to AD 50–65 (Wild, below). The feature's lower two fills, (1186) and (1191), contained much ash and charcoal and produced one of the better assemblages of archaeobotanical remains from the site (Jones, below) and quantities of burnt brushwood (Rowe, below), suggesting its use for disposal of domestic waste.

### *1st-century Features outside the Enclosure*

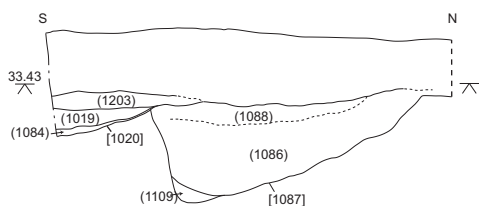
A number of features outside of the enclosure, comprising posts, pits and a probable well, can be allocated to Phase 1. The evidence is poorly defined but clearly indicates activity to the east of the main enclosure. No such features were encountered north of the gateway or in the north-east excavation area, perhaps suggesting that the activity was focused on the road located as close as 12.5 m to the south of the enclosure ditch (discussion, below).

Pit [1143], c.1.5 m in diameter, may have been a well. It was excavated to the modern water table, encountered at a depth of 1.25 m. Only a single backfill (1144), dated to the 1st century (Timby, below), was encountered.

[1117], a small circular pit or posthole, dated broadly to the 1st century. It contained burnt material together with rodent and frog bone (Ingrem, below) and small amounts of tap and fuel ash slag. An adjacent small shallow pit, [1141] containing only Severn Valley ware, similarly had a fill comprising mostly ash and charcoal.

[1171], a small oval pit or post, was clearly dated to the late 1st century. It had been backfilled with refuse which included sherds of Flavian samian and tap slag.

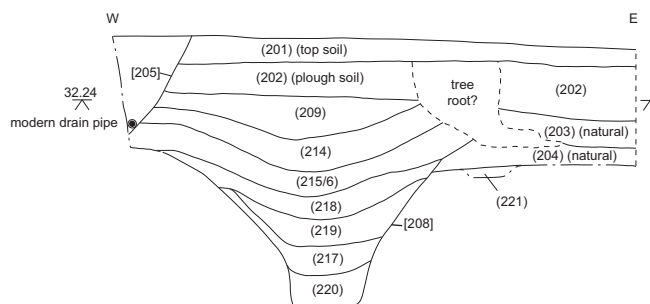
The north and west sides of a possible structure (F) can be formed of three posts and a small linear feature but no feature indicating a south-east corner was noted. Only the linear feature [1243] produced any finds, dating it only broadly to the late 1st–early 2nd century (Timby, below). It is worth noting that small post-built structures were typically intended to keep rain from smelting furnaces (Hoyle *et al.* 2004, 103), although there was no further evidence to support such an interpretation in the case of Structure F.



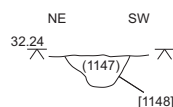
8a. E facing trench section across enclosure ditch [1087]



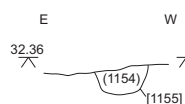
8b. SW facing across enclosure ditch [1156]



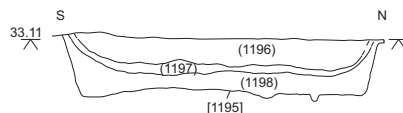
8c. S facing section across enclosure ditch [208]



8d. NE facing across structure A construction trench [1148]



8e. N facing across structure A construction trench [1155]



8f. E facing section across structure G [1195]



Fig. 8. Sewage works: Phase 1 sections.

### Phase 2: mid 2nd century

Phase 2 comprises features post-dating the backfilling of the Phase 1 enclosure (Figs. 9 and 10). Three features, pits [1038], [1043] and [1007], are thought to have been used for the disposal of Phase 1 material but are themselves later in date, possibly indicating a short hiatus followed by

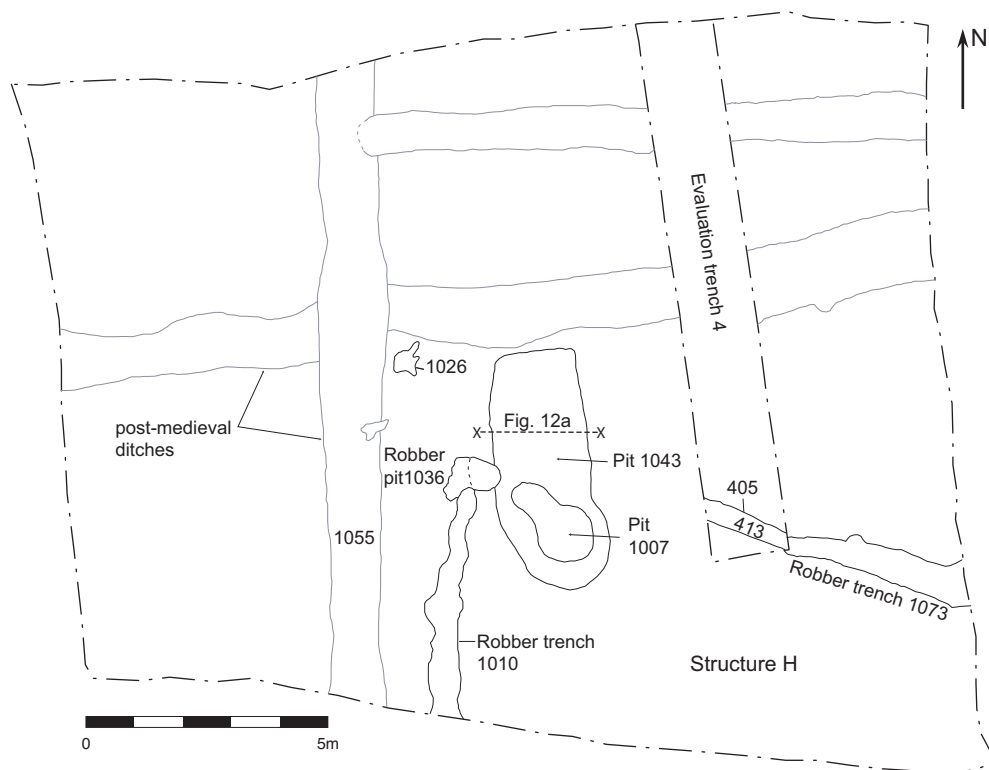


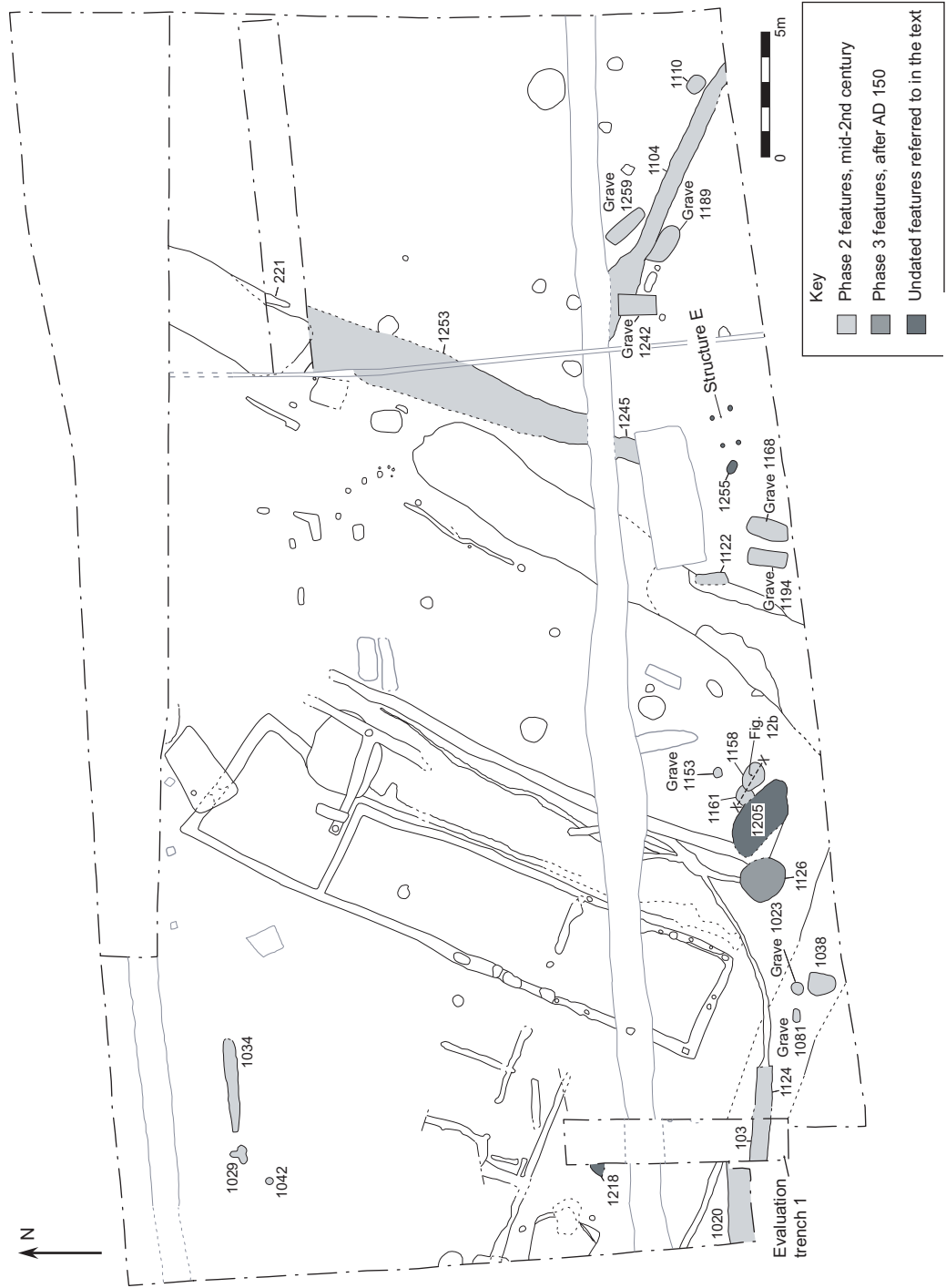
Fig. 9. Sewage works: all features in north-eastern excavation area.

clearance of the site in the mid 2nd century. Ill-defined ditches [1020] and [103]/[1124] may also have served the same purpose when backfilled.

#### *Pit containing Bronze Casting Debris*

In the north-east excavation area a large amorphous pit [1043] measuring  $4.9 \times 2.0$  m in plan and 0.65 m in depth included debris from the production of bronze brooches and other tools (Figs. 9 and 12a). The pit is interpreted as having been originally dug to provide gravel but finds from its backfill included three brooch moulds and a mould of less certain type, furnace lining, tap slag, and iron ore (Dungworth, below), and a *terminus post quem* (*t.p.q.*) for the feature was provided by Central Gaulish samian form 33, thought to be of Antonine date (from AD 138) (Wild, below).

There was strong evidence that one of the moulds was used to produce an unstratified Chester type trumpet brooch, of late 1st–early 2nd-century date, from the excavation (Cool, below: catalogue no. 7; Dungworth, below: Rf. 23). The two other brooch moulds from the feature were probably used to produce Colchester derivative brooches of late 1st-century date (Dungworth, below). This suggests that datable bronze working activity is contemporary with the structures excavated in the main excavation area, rather than later, as implied by the *t.p.q.* for the pottery from the feature in which the moulds were found.



The lowest fill of the feature (1066) comprised much charcoal, including pieces of small roundwood thought to have been used in the production of bronze items (Gale, below), as well as a mould for a lunate fitting (Dungworth, below). The deposit is therefore interpreted as waste from metal working. The upper layers within the pit contained far less charcoal but produced the three brooch moulds already mentioned, daub and tap and undiagnostic iron slag.

Pit [1043] was cut by a shallow and truncated pear-shaped pit, [1007]. The fill (1005) produced pottery dated to the early 2nd century but stratigraphically it was later than [1043] and therefore must have been mid 2nd-century or later in date. Careful consideration was given to the feature during excavation since its shape suggested that it was a possible hearth or furnace, the narrow north-west extension of the feature representing a flue or tapping pit. No evidence was found to support such an interpretation; there was no indication of *in-situ* burning and it was one of the few features that produced no slag. The pit was thought more likely to have resulted from slumping of the fills of pit [1043] below.

### *Inhumations*

Five adult and three infant inhumations were excavated (Figs. 10 and 11). Where datable they were of mid 2nd-century or later date (Timby, below). Infant graves [1023] and [1081] were cut through the backfill of enclosure ditch [1087]. [1023] also cut the spread upper fill of Phase 2 pit [1038].

The adult inhumations were all outside the Phase 1 enclosure, suggesting that the enclosure was still considered an area inappropriate for adult burial. All graves were shallow. No grave goods were retrieved except coffin fittings and hobnails.

### Adult Inhumations

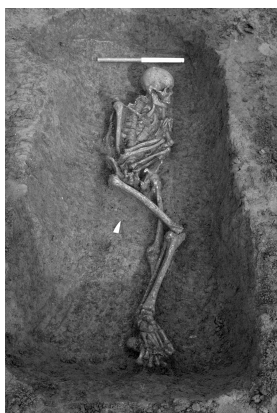
Skeleton (1241) in rectangular grave [1242] was aligned N–S. It was supine, with its head to the north, its arms were folded, the left leg was straight with the right leg bent across it and the chin rested on the left shoulder. The fill around the skeleton (1232=1240) produced a small fragment of iron ore and coffin nails (Cool, below: catalogue no. 58). The grave cut ditch [1104].

Skeleton (1258) in grave [1259] was aligned NW–SE. It lay on its left side, with its head to the north-west, the right arm flexed, the left arm bent underneath the ribs, and the legs straight with the right foot on the left. The skull was damaged during machining. No evidence for a coffin was present in fill (1257).

(1258) may have been paired with (1190), an adjacent skeleton on the same alignment in grave [1189]. (1190), with the head to the north-west, was in poor condition, lying crouched face down with its left arm around the neck, the right arm bent and pointing upwards and the knees tightly bent with the right leg over the left. Fill (1170) produced 36 registered finds, suggesting a slightly more ornate coffin (Cool, below: catalogue no. 56) as well as tap and undiagnostic iron slag. The relationship of the grave with ditch [1104] could not be determined.

Skeleton (1193) in grave cut [1194] and skeleton (1167) in grave [1168] lay adjacent and on the same N–S alignment. (1193) was supine with the head to the north, the arms were folded across the waist and the legs were straight. The skeleton was in good condition except for the spine and ribs. The fill (1192) produced coffin nails and a number of hob nails (Cool, below: catalogue nos. 13 and 57) as well as several pieces of iron slag.

Skeleton (1167) was supine, the upper body at the north had been ploughed away. The legs were bent over to the left and the left leg was also damaged. The fill (1166) produced coffin nails and a number of hob nails (Cool, below: catalogue nos. 14 and 55).



(1241)



(1258)



(1190)



(1193)



Infant (1080)

Fig. 11. Sewage works: inhumations.

### Infant Inhumations

[1081], a small sub rectangular grave, contained infant (1080) and cut backfilled boundary ditch [1087]. The skeleton was in poor condition, aligned E-W with the head to east and lying on its left side in a crouched foetal position.

Circular grave cut [1023] contained infant (1021). It cut the backfills of pit [1038], which was cut through backfilled boundary ditch [1087]. (1021) was in poor condition, aligned E-W with the head to east and lying on its left side in a crouched foetal position.

Infant (1152) was in circular grave cut [1153]. It was in a very fragile state, aligned SW-NE with the head to the south-west and lying on its left side in a crouched foetal position.



*Other Features*

In the main excavation area (Fig. 10), feature [1038] was either an amorphous pit cut into the backfill of the Phase 1 southern enclosure ditch [1087] or a concentration of material filling a hollow caused by slumping of the ditch fill. As excavated it was only 0.20 m in depth by c.1.00 m in diameter, but it produced a very rich assemblage apparently of material cleared from the burnt Phase 1 structures. The lowest fill (1059) appeared to be a layer of decayed timber, possibly the remnant of a wood lining or discarded timber from the adjacent structures. The upper two fills were remarkably rich. (1045) produced 70 pottery sherds dating it to the mid 2nd century (Timby, below), the only stratified coin from the excavation (a *sestertius* of Domitian: Guest, below), the only well-preserved assemblage of cereal grains from the site (Jones, below), charcoal interpreted as fuel debris from iron working (Rowe, below) and much burnt clay. (1037), the top fill, spread over the sides of the feature and produced 38 sherds of pottery (see Fig. 14, nos. 20 and 21), a mould for the production of a conical headed pin (Dungworth, below: Rf. 17), a spindle whorl (Cool, below: catalogue no. 16) and tap slag.

Sub-rectangular pit [1122], may also be of this date. It was cut into the backfills of the eastern enclosure ditch [1156] and contained a single backfill, comprising mostly charcoal and burnt clay/daub.

Ditch [1020] was recorded in the south-west part of the main excavation area, but was not visible to the east of evaluation trench 1. Its eastward continuation may have been truncated or it may be represented by gully [103]/[1124], which is broadly contemporary. [1020] was cut into the backfill of boundary ditch [1087] (Fig. 8a). The lowest fill was silty with few finds but the upper backfills, (1084), (1019) and (1203), produced large amounts of pottery, including samian of AD 120–130. Small finds from the feature included a penannular brooch and hairpin (Cool, below: catalogue nos. 8 and 12), of earlier date than the pottery and thus a further instance of mid 2nd-century features containing residual 1st-century finds. The upper fills contained a high proportion of ash, daub and charcoal.

Gully [103]/[1124] also cut the backfilled enclosure ditch [1087]. It produced a significant pottery assemblage of mid 2nd-century date, together with a large amount of charcoal and burnt daub. The gully apparently merged with [1286], a series of drip gullies to the west of Structure D, although it is unlikely that they were contemporary. Their relationship was not explored.

On the site of the Phase 1 Structure D was [1161] (Figs. 10 and 12b), an irregular shallow-sided and clay-lined feature interpreted as a hearth or oven. The charcoal rich upper fill (1159) produced an iron goad, a couple of fragments of ceramic building material and two sherds of Severn Valley ware. It therefore could not be closely dated but it was cut by [1158], a very similar oval pit without a clay lining but containing a burnt fill and pottery of mid 2nd-century date. These features were similar in form to casting hearths (Hammer 2003, 16–20) but, in the absence of conclusive evidence, their purpose is unknown. The stratigraphic relationship with undated pit [1205] was unclear.

[1034] was a shallow gully located in the north-western part of the main excavation area. No more than 50 mm in depth, on site it was interpreted by its alignment as a medieval or later plough furrow but it produced 74 sherds of Roman pottery, dating the feature to the early 2nd century, as well as 1077 g of tap slag and a small amount of other slags. [1029] was an irregular pit, not closely dated, adjacent to the west end of [1034]. The fill (1028) produced a fragment of iron ore and some daub. A small adjacent posthole [1042] produced no finds. Despite the finds retrieved from them the forms of this group do not resemble metal-working features recorded elsewhere. [1034] was compared with known roasting hearths but was too shallow, displayed no sign of burning and contained tap slag and not crushed ore.

A few other excavated features were firmly dated to this phase but were isolated and produced no clear evidence of function.

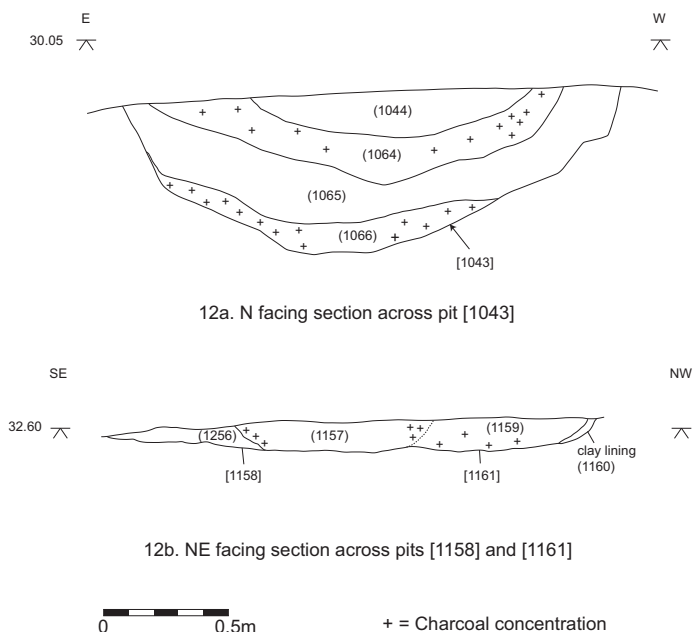


Fig. 12. Sewage works: Phase 2 sections.

### *Possible Secondary Enclosure*

A group of three ditches, [1253], [1245] and [1104], may represent an enclosure of this phase. Ditch [1253] ran NNE–SSW immediately to the east of Phase 1 enclosure ditch [1156]/[208] and across its entrance. The northern extent of [1253] is unclear. It appeared to cut Phase 1 ditch [208] although it was indistinct throughout and was not noted at all during the evaluation when the southern terminal of [208] was excavated. It is possible that feature [221], identified as animal burrow disturbance on the east side of [208], represented the ephemeral remains of this ditch. It was truncated to the south by post-medieval ditch [1031], but its continuation was probably represented by ditch fragment [1245]. This was truncated to the south so that only 1.2 m of its length was apparent. It produced significant amounts of 2nd-century pottery.

Ditch [1104] ran NW–SE in the south-east part of the main excavation area. Truncated to the north-west by post-medieval ditch [1031], it was at right angles to, and may have terminated at, ditch [1253]. Two excavated segments of the feature produced no datable finds but its backfill was cut by a mid 2nd-century grave. The enclosure formed by [1104], [1245] and [1253] was on almost the same alignment as the Phase 1 enclosure but both would have been roughly parallel to the road to the south and the earlier enclosure may have not determined the layout of the later.

### **Phase 3: Roman activity after AD 150**

Evidence for activity at this date is restricted to a single pit and an undated structure robbed out in the later Roman period.

### *Structure H*

Ephemeral rectilinear structure H (Fig. 9) was located in the north-east excavation area. On the north side an unstructured sandstone gravel and rubble deposit (413), 0.52 m in width, was recorded during the evaluation. It was interpreted as a sub-base for a foundation in cut [412]. No other *in-situ* remains of the structure survived below robber trenches. The majority of the structure was indicated by those trenches: [1010], [405]=[1073] and possible quoin or post robbing pit [1036]. More substantial sandstone foundations were suggested by the rubble in the backfills of the robber trenches and in small spreads within the post-medieval ploughsoil to the north-west of the feature.

As no finds were retrieved from (413) the date of the original structure is unclear. Its alignment was similar to Roman features in the main excavation area rather than to those of post-medieval features in both trenches. Only the west and north sides of the structure were within the excavation trench, the area of the structure within the excavation measuring 10 m ESE–WNW by 5 m NNE–SSW. The western half of the structure's north wall could not be located. Either there was a gap in the building wall at this point or, more likely, the robber trenches had been entirely truncated. Where excavated the robber trench on the north side of the structure was 0.15–0.20 m in depth and that on the west side 70 mm–0.14 m in depth.

The nature of the structure is hard to clarify. It had been almost entirely robbed out and the robber trenches had then been heavily truncated. On the west side of the structure it was uncertain if the robbing had been made through the post-medieval ploughsoil or predated it. With the exception of a single sherd of (presumably intrusive) modern china the latest material from the robber trenches was Roman, of 3rd-century or later date (Timby, below). The other finds from the robber trenches included 1st–2nd-century pot, tap slag, iron ore, daub and a single sherd of Central Gaulish stamped samian dating to the Hadrianic or early Antonine period, all of which have to be regarded as residual as do similar finds from the grid of post-medieval ditches recorded in the trench. The Phase 2 pits [1007] and [1043] shared the alignment of, and had an uncertain relationship with, Structure H. It seems probable that they were built over by it, but this could not be demonstrated stratigraphically.

In the main excavation area, a circular pit, [1126], was cut through the south-west corner of the backfilled Structure D construction trench. The fill, (1125), produced 3 fragments of tap slag but they may well have been residual as the fill also contained samian of both pre-Flavian and late 2nd-century date. The feature produced no evidence of function beyond its final use for rubbish disposal.

### **Undated and post-Roman Activity**

Structure E (Fig. 10) was very small (1.3 × 0.8 m) and formed by four posts. All were excavated but no datable finds were retrieved. The fill of one post produced a small amount of tap slag. A small oval pit, [1255], was in close proximity but also produced no indication of date and function.

A fragment of a pit, [1218] located to the south of Structure B, was truncated to the east and south. The fill (1217) produced no finds. It appeared to have been burnt *in situ* but contained no burnt grain (Jones, below).

A scatter of isolated post- and stake holes was also present. They were either not excavated or produced no finds.

### **Medieval and Later Features**

The only recorded medieval feature was a gully producing 14th–16th-century pottery. It was identified in evaluation trench 3 outside the excavation areas.

Post-medieval ditches were mostly on N–S or E–W alignments (Figs. 4 and 9). They included E–W ditches along the northern edge, and [1031] across the width, of the main excavation area. A grid of closely spaced post-medieval ditches recorded in the north-east excavation area yielded much residual Roman material and slag. It included ditch [1055] which produced several of the illustrated Roman sherds. Several shallow E–W aligned features were interpreted as remnants of post-medieval plough furrows.

A modern fence line and square pit were recorded in the north-western part of the main excavation area near Structure A. A large modern pit was also cut into enclosure ditch [1156].

## THE FINDS

**Pottery** by Jane Timby with notes on the samian by Felicity Wild  
and on an amphora sherd by David Williams

An assemblage of some 2,865 sherds of Roman pottery weighing  $\approx$  67.65 kg was recovered. In addition a small group of 95 sherds dating to the medieval and post-medieval periods was also found, largely from topsoil/ploughsoil or cleaning contexts. The part of the assemblage from the latter contexts was significant, accounting for 34 per cent of the total assemblage by count and 41.65 per cent by weight. A further 8 per cent of the Roman sherds came from post-Roman features. Overall the pottery shows a date range spanning the pre-Flavian period through to the 3rd century AD. The sherds were well preserved with a good average sherd weight of 23.6 g. There are a number of joining sherds and some reconstructable profiles.

The pottery was sorted into fabric types on the basis of the type, size and frequency of the inclusions. The fabrics were coded according to either the Gloucester City type fabric series (Ireland 1983) or the National Roman reference collection (NRFC) (Tomber and Dore 1998). Fabrics not familiar to either series and specific to this assemblage are described separately.

### *Description of Fabrics and Associated Forms*

Pottery fabrics are summarised on Table 1, which includes a list of the abbreviations used in the text.

### *Continental imports: finewares*

#### *SAMIAN* by Felicity Wild

The site produced 62 sherds from about 52 vessels, ranging in date from the pre-Flavian period to the late 2nd century AD (see Table 2). Forms were as follows:

*South Gaulish*: 29 (5), 37 (2), 27 (2), Ritt. 8? (1), 18 (3), 18–18/31 (2), 35/36 (1), Ritt. 12 or Curle 11 (1), uncertain cup (1), enclosed vessels (3), dish (1).

*Central Gaulish (Les Martres-de-Veyre)*: 37 (2), 24/25 (1), 46 (1), dish (cf. Lud. Tb) (1)

*Central Gaulish (probably all Lezoux)*: 37 (3), 33 (4), 18/31 (4), 18/31–31 (1), 31 (1), 31R (1), 35 (1), 42 (1), 79 (2), bowl (38, 44 etc.) (1), scraps (6).

Although the assemblage is too small for statistics to be reliable, 22 vessels, 42 per cent of the total material, were South Gaulish and of 1st- to early 2nd-century date. The earliest material is likely to have been made in the pre-Flavian period: the base of a small cup from Structure A construction

Table 1. Sewage works: quantification of pottery by sherd count, weight (in grams) and estimated vessel equivalents.

	<b>Fabric</b>	<b>NRFC</b>	<b>Description</b>	<b>No.</b>	<b>%</b>	<b>Wt.</b>	<b>% EVE</b>	<b>%</b>
Imports	8A		Central Gaulish samian	38	1.3	466	0.7	88 2.2
	8B		South Gaulish samian	24	0.8	213	0.3	52 1.3
	12Q	KOL CC	Cologne colour-coat	4	0.1	17	0.0	0 0.0
	12S	ARG CC	Argonne colour-coat	1	0.0	2	0.0	0 0.0
	10		Dressel 14	1	0.0	55	0.1	0 0.0
	10A	BAT AM	Dressel 20 amphora	15	0.5	1,807	2.7	0 0.0
	9C	NOG WH	North Gaulish mortaria	1	0.0	96	0.1	8 0.2
	29		?imported white ware	1	0.0	17	0.0	0 0.0
Native ware	2		hm grog-tempered	92	3.2	1,016	1.5	24 0.6
	18	MAL RE	Malvernian rock tempered	76	2.7	995	1.5	122 3.0
	30		sandstone-tempered grey ware	11	0.4	151	0.2	27 0.7
	31		shale and limestone/calcite	6	0.2	23	0.0	0 0.0
	33/216		Malvernian limestone-tempered	27	0.9	304	0.4	55 1.4
	L00		Jurassic limestone-tempered	1	0.0	4	0.0	0 0.0
Regional	3		?Wiltshire mica-slipped	11	0.4	96	0.1	50 1.2
	4	DOR BB1	Dorset black burnished ware	132	4.6	1,702	2.5	299 7.4
	6	SAV GT	Savernake ware	10	0.3	237	0.4	41 1.0
	9A	OXF WH	Oxon whiteware mortaria	1	0.0	24	0.0	0 0.0
	9F	VER WH	Verulamium whiteware mortaria	1	0.0	122	0.2	9 0.2
	12A	OXF RS	Oxon colour-coated ware	6	0.2	30	0.0	0 0.0
	13	OXF WH	Oxon white ware	6	0.2	65	0.1	0 0.0
	15	SOW OX	SW oxidised ware	4	0.1	44	0.1	8 0.2
	19		Malvernian ware	19	0.7	273	0.4	16 0.4
	201		Wiltshire black burnished ware	30	1.0	357	0.5	25 0.6
Severn Valley	11B	SVW OX	Severn Valley ware	1,220	42.6	20,114	29.7	1,729 42.6
	11BG		SVW black/grey variant	58	2.0	484	0.7	73 1.8
	11CC		SVW colour-coated variant	3	0.1	18	0.0	0 0.0
	11D		early SVW variant	16	0.6	249	0.4	66 1.6
	17		SVW charcoal variant	53	1.8	1,359	2.0	23 0.6
	23	SVW OX	SVW hm storage jar	583	20.3	32,502	48.0	679 16.7
Local/ Un-known	9		unknown mortaria	1	0.0	56	0.1	3 0.1
	12		misc. colour-coated ware	5	0.2	26	0.0	0 0.0
	21		oolitic limestone-tempered	2	0.1	3	0.0	0 0.0
	24?		Kingsholm-type flagon ware	2	0.1	11	0.0	0 0.0
	GREY		miscellaneous grey wares	64	2.2	538	0.8	41 1.0
	GREY1		grey, micaceous variant	261	9.1	3,240	4.8	501 12.3
	GREY2		grey sandy wares	37	1.3	587	0.9	55 1.4
	BW		black ware	15	0.5	109	0.2	0 0.0
	MICBW		micaceous blackware	1	0.0	4	0.0	0 0.0
	MICGYF		micaceous fine greyware	12	0.4	109	0.2	22 0.5
	OXIDF		fine oxidised sandy	4	0.1	56	0.1	41 1.0
	MICOX		micaceous oxidised ware	3	0.1	13	0.0	2 0.0
	WSOXID		white-slipped oxidised ware	3	0.1	29	0.0	0 0.0
	WW		miscellaneous whiteware	4	0.1	24	0.0	0 0.0
<b>Total</b>				<b>2,865</b>	<b>100.067</b>	<b>647,100.0</b>	<b>4,059</b>	<b>100.0</b>

NRFC = National Roman Fabric Reference Collection

Table 2. Sewage works: samian by context

<b>Context</b>	<b>Origin</b>	<b>Form</b>	<b>Date</b>	<b>Other</b>
104	CG	18/31	Hadrianic or early Antonine	gully [103]
104	CG	33	Antonine	gully [103]
104	CG	42	Hadrianic	gully [103]
104	CG	bowl or dish	Hadrianic (or Antonine)	gully [103]
215	SG	Cup	Flavian? or earlier	enclosure ditch [208]
406	CG	uncertain	Hadrianic or Antonine	wall robbing [405]
1003	CG	79	2nd half 2nd century	cleaning
1003	CG	33	Antonine	cleaning
1003	CG (MdV)	37 (decorated)	100–125	cleaning
1003	CG (MdV)	37 (decorated)	100–125	cleaning
1003	CG	37 (decorated)	120–130	cleaning
1003	SG	37 (decorated)	67–75	cleaning
1003	SG	37	Flavian or Trajanic	cleaning
1003	SG	27	Flavian?	cleaning
1003	CG	uncertain	Hadrianic or Antonine	cleaning
1004	SG	Inkwell?	Flavian?	cleaning
1005	CG	18/31	Hadrianic or early Antonine	pit in NE area [1007]
1019	SG	35/36	Flavian or Trajanic	ph 2 ditch [1020]
1024	CG	18/31 (stamp Attius)	130–160	stone spread in [1036]
1039	SG	29	70–85 at latest	cleaning
1046	CG	bowl	Antonine	post-med ditch [1055]
1046	CG (MdV)	dish – uncertain form	Trajanic	post-med ditch [1055]
1046	CG	18/31 or 31	Hadrianic or Antonine	post-med ditch [1055]
1046	CG	uncertain	Hadrianic or Antonine	post-med ditch [1055]
1047	CG	31R	2nd half 2nd century	robber trench [1073]
1053	SG	29	Neronian or early Flavian	pit/pooling [1054]
1060	SG	prob Ritt 8	Claudian	construction trench [1061]
1065	CG (MdV)	uncertain – 46?	Trajanic – early Antonine	pit [1043]
1067	CG	33	prob Antonine	pit [1043]
1067	SG	dish footstand?	Flavian or Trajanic	pit [1043]
1071	CG (MdV?)	37	Trajanic-Hadrianic	post-med ditch [1072]
1084	CG	37 (decorated)	120–130	ph 2 ditch [1020]
1086	SG	27g	pre-Flavian or Flavian	ditch [1020]
1086	SG	bowl (Ritt 12 or Curle 11)	pre-Flavian or Flavian	ditch [1020]
1088	SG	29 (decorated)	50–65	ditch [1020]
1125	SG	29	prob pre-Flavian	pit [1126]
1125	SG	beaker?	prob Flavian or earlier	pit [1126]
1125	CG	79	2nd half 2nd century	pit [1126]
1130	CG	18/31	Hadrianic or early Antonine	SE enclosure ditch [1156]
1169	SG	18	prob Flavian	small pit [1171]

1169	SG	18	prob Flavian	small pit [1171]
1184	SG	18 (stamp C)	prob Flavian	pit [1185]
1186	SG	18	prob. Flavian	pit [1185]
1191	SG	29 (decorated – stamp Murranus)	50–65	pit [1185]
1192	CG?	35	Hadrianic or Antonine	grave [1194]
1196	SG	18 or 18/31	Flavian – Trajanic	Structure G [1195]
1198	SG	18 or 18/31	Flavian – Trajanic	Structure G [1195]
1206	CG (MdV)	24/25	Flavian – Trajanic? but after 100	Structure B [1207]
1210	prob CG	Scrap	2nd century	furrow? [1211]
1230	CG	37	Hadrianic or early Antonine	ditch [1245]
1239	SG	67?	Flavian?	cleaning
1257	CG	31	Antonine	grave [1259]

trench [1061], probably Ritt. 8, in a pale fabric suggesting Claudian, or at latest Claudio-Neronian, manufacture and two decorated fragments of form 29 (nos. 1 and 2 below), one stamped by Murranus, *c.*AD 50–65. The other fragments, particularly of plain forms, are less closely datable, but, of the decorated forms, form 29 outnumbers form 37, which rapidly superseded it as the commonest decorated form after *c.*AD 70. Of particular interest in this connection is no. 3 below, which is likely to be among the earliest examples of form 37. The presence of so high a proportion of South Gaulish pieces seems to suggest activity on the site certainly from the early Flavian period. The relatively high number of decorated vessels (five examples of form 29, including base fragments, two of form 37) may suggest contact with the military.

The three scraps of enclosed vessels pose more of a problem. None shows decoration. The commonest beaker form of the Flavian period is form 67, though the mouth of the beaker is wide enough to allow the slip to coat the interior of the vessel without forming an airlock. On two of the scraps the interior is not completely coated. It is possible that one at least may come from a form such as an inkwell, where the interior is often not fully slipped. If this is so, and it is by no means certain, its presence may also suggest the military.

The other 30 vessels are Central Gaulish, though the majority are likely to date from the first half of the 2nd century. Five vessels in the fabric of Les Martres-de-Veyre include an example of form 24/25. The form, of South Gaulish origin, is normally pre-Flavian when found in Britain, though some examples continued to be made in southern Gaul during the Flavian period and the form was occasionally copied in Central Gaul. Export from Les Martres-de-Veyre to Britain is not thought to have started until *c.*AD 100. Only five of the Central Gaulish vessels are from decorated forms, all form 37, and all but one (from Phase 2 ditch [1245], fill (1230)) are likely to be Hadrianic at latest. Two, possibly three, are in the fabric of Les Martres-de-Veyre. All three sherds showing decoration (nos. 4–6 below) are in a style associated with Rogers's (1974) potter X.13. Only about five vessels (forms 31, 31R, 79 (2) and the bowl fragment (38, 44 or similar)), all plain, are likely to date to the second half of the 2nd century AD.

The Roman material previously found at Dymock has been usefully collected and published by Gethyn-Jones (1991). Although the largest collection of samian ware to be reported upon, by Brian Hartley from work in 1951 at the sewage treatment works, contained no 1st-century material (*ibid.* 94, cat. no. 9), Gethyn-Jones describes it as 'a representative collection' of the items found and

draws a contrast with the coarse pottery, which clearly did contain 1st-century material. However, it is clear from the other finds that he lists that 1st-century, and indeed pre-Flavian, material has already been recorded from Dymock. The excavation of Grave 97 in the churchyard (*ibid.* cat. no. 6) produced samian forms 18 and 27, both 1st-century forms, the 27 with a stamp identified by Dr Grace Simpson as of Volus of La Graufesenque, *c.*AD 45–55. Also mentioned is the finding of various pre-Flavian coins, a *denarius* of Tiberius in ‘almost mint condition’ (*ibid.* cat. no. 15), two coins, one a *dupondius*, of Claudius I (*ibid.* cat. nos. 17, 21), and an *as* of Nero (*ibid.* cat. no. 4). Although coins remain long in use and it is possible that they only reached the site well after their date of minting, this seems less likely for the samian cup. That there should be occupation at Dymock by the Flavian period at latest should not therefore cause undue surprise. The Roman army was present in the Gloucester area from *c.*AD 50, first at Kingsholm and from the late AD 60s at Gloucester itself. Contact with the military need not necessarily imply a fort on the spot.

The absence of decorated ware of Antonine date from the present collection may simply be fortuitous, as Antonine decorated sherds have been recorded by Gethyn-Jones: an early Antonine form 37 in the group studied by Brian Hartley (*ibid.* cat. no. 9) and ‘two Antonine decorated pieces, form 37’ from the school garden (*ibid.* cat. no. 21). It may well have been that less of this prestige ware was reaching Dymock from the mid 2nd century than hitherto, though the quantities involved, in all cases, are too small and, in the case of the older finds, possibly selective for an accurate assessment to be made. The presence of rivet holes in two of the three 2nd-century decorated bowls (nos. 4 and 6 below) suggests that such bowls were carefully preserved and not easily replaceable.

#### *Catalogue of illustrated decorated samian ware* (Fig. 13)

Figure types are quoted from Oswald 1936–7 (O.), Central Gaulish decorative motifs from Rogers 1974 (Rogers).

1. Form 29, South Gaulish. Fragment of lower zone, showing straight, plain, gadroons, with a stamp of Murranus in the mould, parallel with the gadroons. *c.*AD 50–65. (1191) [1185].
2. Form 29, South Gaulish. Fragment of upper zone showing a scroll with tendrils ending in rosettes, of a type common in the Neronian-early Flavian period. The small dots were also used by a variety of potters, e.g. Albus (Knorr 1952, Taf. 2) and Calvus (Knorr 1919, Taf. 17, 23), and on a bowl from Kingsholm (Wild 1985, D25). There is little here to indicate a particular potter, but the date is likely to be *c.*AD 50–70. (1088) [1087].
3. Form 37, South Gaulish. Rim fragment from a small bowl. It is likely that this is a very early example of the form, as the rim is very short, slightly incurved and more similar in form to the rim on form 29, though it lacks the rouletting. Finds at La Graufesenque have revealed cases where the bowl finisher, clearly unfamiliar with the new form, has given the bowl the rouletted rim, base and footstand of form 29. This piece is likely to be in the same general tradition. The ovolo, with trident tongue, is a common one in the early Flavian period. It is generally considered that form 37 was first made at La Graufesenque *c.*AD 65, though it is unlikely to have reached Britain before *c.*AD 70, certainly not in any quantity. A single example of an early form 37, though with normal rim, occurs at Kingsholm (Wild 1985, D18), which, from its context, may or may not have reached the site before the evacuation of the pre-Flavian fortress. The date of the present piece is likely to be *c.*AD 65–75, though more probably after AD 70. (1003) cleaning.
4. Form 37, Central Gaulish. Two fragments, including base containing a lead rivet, probably from the same bowl in the fabric of Les Martres-de-Veyre. The ovolo (Rogers B14) was used by his potter X.13, as was the Triton (O.18) (Stanfield and Simpson 1958, pl. 45, 525). The motif at the left-hand side of the sherd may be the same leaf tuft (Rogers L19) as appears with the Triton on the bowl published in 1958. *c.*AD 100–120. (1003) cleaning.



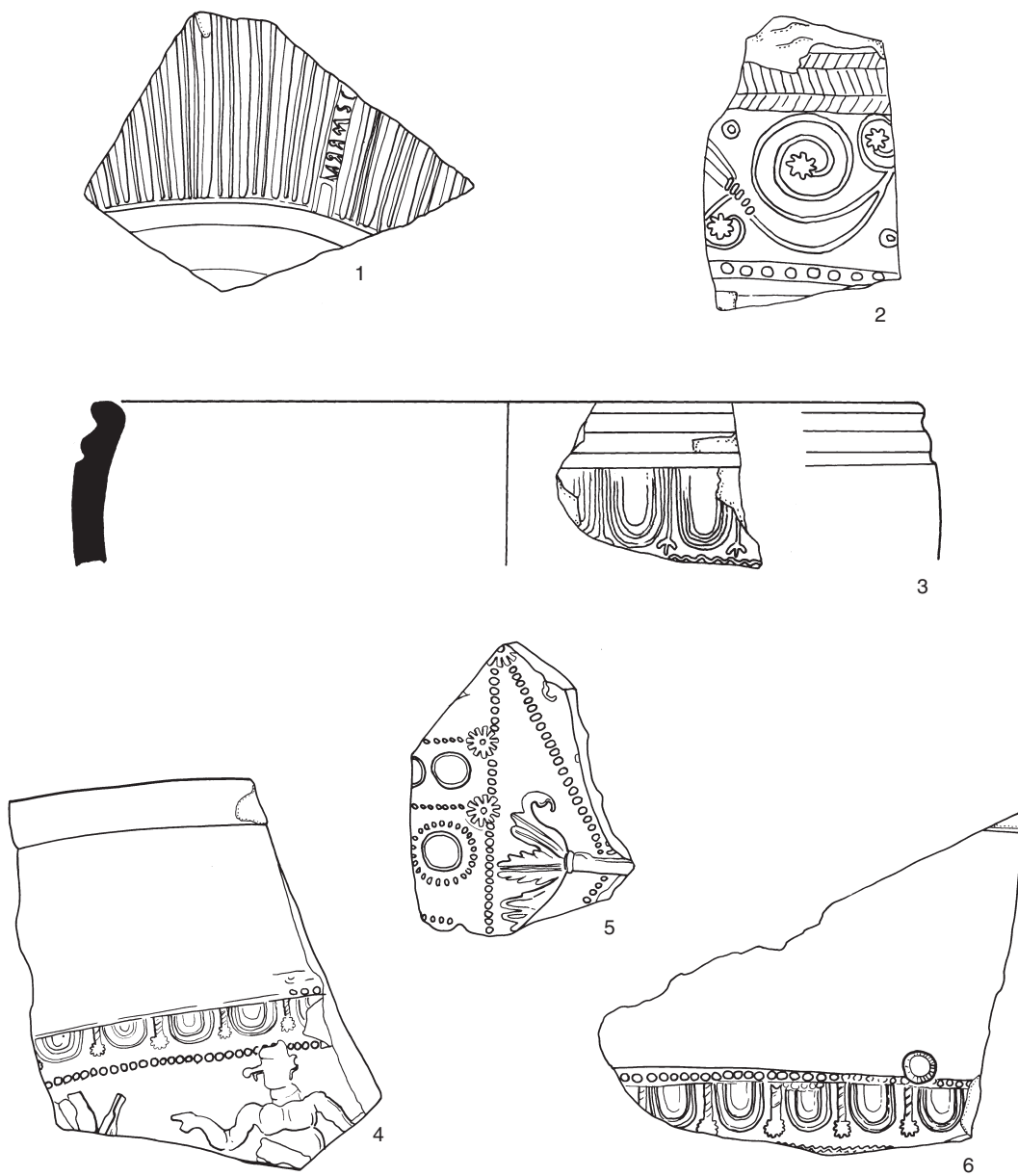


Fig. 13. Sewage works: decorated samian.

5. Form 37, Central Gaulish, in similar style to no. 4, showing neat, beaded panels with the rosette (Rogers C229) masking the junctions, the beaded ring (Rogers C293) and a saltire with the acanthus (Rogers K11). All the motifs occur on pieces in the style of X.13. The fabric is heavily over-fired, so that it is not possible to tell whether the piece is likely to have come from Les Martres-de-Veyre or Lezoux, where work in this style was being produced c.AD 120–130. It is not likely to have been from the same bowl as no. 4. c.AD 100–125. (1003) cleaning
6. Form 37, Central Gaulish, with a neat ovolo, probably Rogers B14, as on no. 4 above, but with a bead row above it as well as below. Although clearly a different bowl, the parallels are again with X.13, who sometimes uses a bead row above the ovolo (Stanfield and Simpson 1958, pl. 48, 567 etc.). There is a rivet hole through the rim, just above the ovolo. The fabric here seems more likely to be that of Lezoux. c.AD 120–130. (1084) [1020].

### *Other finewares*

*Cologne colour-coated ware* (KOL CC) (Tomber and Dore 1998, 57). Four sherds are present, all from beakers. Three came from gully [103], two from an indented beaker and one from a beaker with roughcast decoration (see Fig. 14, no. 17). The fourth sherd, also with roughcast decoration came from ditch [1020]. The indented beakers are more likely to be mid–later 2nd century. The roughcast beakers could date from the Flavian period into the 2nd century.

*Argonne colour-coated ware* (ARG CC) (Tomber and Dore 1998, 46). A single small sherd of roughcast beaker came from gully [1124]. Probably early 2nd century.

#### *DRESSSEL 14 AMPHORA* by David Williams

A plain amphora bodysherd, possibly from the lower section of the vessel, in a coarse sandy fabric with some rock inclusions, light buff outer surfaces (7.5 YR 8/6) and light red inner surface and core (2.5 YR 6/8), was recovered from fill (1086) of enclosure ditch [1087]. A small sample from the sherd was made into a thin-section and then studied under the petrological microscope. This showed ill-sorted grains of quartz, a number of them large and polycrystalline in texture, flecks of mica, sparse discrete grains of plagioclase feldspar, and with some fragments of chert, metamorphic rock and limestone.

Given the small size and featureless nature of this sherd, it is difficult to be certain of the particular form involved here. However, consideration of the fabric, both in the hand specimen and in thin-section, suggests that it may belong to the Dressel 14 type of amphora (Peacock and Williams 1986, Class 20). This form seems to have carried various types of fish sauce such as *garum*, *muria*, *liquamen* and *ballex* and was current during the first three centuries AD. Kilns producing Dressel 14 are known at Calahonda in southern Spain (Beltrán Lloris 1970) and along the banks of the river Sado in Portugal (Mayet *et al.* 1996). The petrology of the Dymock sherd would appear to favour a Portuguese origin, although as yet no fabric details are available for the Spanish vessels.

### *Continental imports: other amphorae*

*Dressel 20 amphora* (BAT AM) (Tomber and Dore 1998, 84–5). A total of 15 sherds (1,807 g) of this Southern Spanish olive-oil amphora are present. This is the commonest amphora type to be found on Romano-British sites with an exporting period spanning the 1st–3rd centuries. A handle recovered from cleaning has a battered illegible stamp (Fig.15, no. 47).

### *Continental imports: mortaria*

*North Gaulish mortaria* (NOG WH4) (Tomber and Dore 1998, 75). A single rim was recovered from post-medieval ditch [1055].

*Coarsewares: native wares*

Native wares, that is to say hand-made wares with pre-Roman origins that continue to feature up until the 2nd century AD, are moderately well represented in the assemblage accounting for just under 8 per cent by sherd count.

*Grog-tempered ware* (Glos TF 2). Hand-made jars, mainly small vessels with everted rims (see Fig. 14, no. 18) but with at least two very large hammer-rim bowl fragments, both from enclosure ditch [1087]. The fabric first appears in Gloucestershire in the early years of the 1st century AD and continues to occur into the Roman period.

*Malvernian rock-tempered ware* (MAL RE A) (Tomber and Dore 1998, 147). Represented in similar quantities to the grog-tempered ware and broadly contemporary. Forms include squat jars (Fig. 15, no. 42), everted rim jars, plain-rimmed dishes and lids. A perforated lid knob came from cleaning [1003]. A sherd from gully [1034] has a burnished line lattice decoration.

*Palaeozoic limestone-tempered ware* (Glos TF 33/216) (Peacock 1968, Malvernian B ware). Represented by 27 sherds in forms similar to the grog-tempered wares with at least one large hammer-rim bowl from pit [1038].

*Sandstone-tempered ware* (Glos TF 30). Eleven sherds from hand-made jars. 1st century.

*Shale and limestone-tempered ware* (Glos TF 31). Six hand-made sherds, probably from the Malvern area.

*Jurassic limestone-tempered ware*. A single sherd of hand-made ware came from cleaning.

*Coarsewares: regional*

Regional imports account for a similar proportion of the assemblage as the native wares, 7.5 per cent by sherd count. The commonest by far is Dorset black burnished ware which accounts for 4.7 per cent of the total assemblage, 63 per cent of the regional imports. Smaller quantities of material came from the Oxfordshire industries, Savernake kilns, the *Verulamium* region, the Malverns and possibly Wiltshire.

*Savernake ware* (SAV GT) (Tomber and Dore 1998, 191). Represented by just 10 sherds, mainly storage jar, probably dating from the 1st–early 2nd century. South-west oxidised ware (SOW OX) probably dating to the later 2nd–3rd centuries is represented by just four sherds. A single mortarium from the Verulamium industries (Fig. 15, no. 30) came from cleaning.

*Dorset black burnished ware* (DOR BB1) (Tomber and Dore 1998, 127). A range of forms is present spanning the 2nd to later 3rd century, for example jars (Fig. 15, no. 37), flat rim bowls/dishes (Figs. 14, no. 16; 15, no. 36), plain-rimmed dishes and grooved-rim dishes (Fig. 15, no. 27). No featured sherds from flanged-rim conical bowls which become common from the later 3rd–4th century are present. Part of a miniature jar was recovered from ditch [1020]. Over 40 per cent of the BB1 was recovered from cleaning layers.

*Oxfordshire wares* (OXF RS; OXF WH) (Tomber and Dore 1998, 175–6). Represented by just 15 sherds in total. A single whiteware mortarium sherd came from grave [1189]. There were seven unfeatured whiteware sherds, probably from flasks or similar, one each from graves [1242] and [1259] and pit [1185], three from pit [1007] and one from cleaning. Six colour-coated sherds came from the cleaning horizons, one from a beaker with painted and barbotine decoration.

*Black sandy ware* (Glos ?TF 201). Thirty sherds of a black sandy ware similar to a 1st-century–early 2nd-century burnished wheel-made ware thought to come from Wiltshire were present (cf. Rigby 1982, fabric 5). The fabric appears a little harder than the usual TF 201 and

could come from a slightly different source. Forms include bowls, some with burnished lattice decoration (Fig. 14, no. 15), lids (Fig. 15, no. 45) and closed forms.

Also possibly a Wiltshire product is a small oxidised sandy beaker with traces of a mica slip (Fig. 14, no. 13) from ditch [1020].

A few sherds (19) came from vessels belonging to the later Malvernian industry (Glos TF 19), which includes both wheel-made and hand-made forms.

#### *Coarsewares: Severn Valley wares*

The largest single component of the Dymock assemblage comprises wares belonging to the Severn Valley industry within which there are a number of variants. As a group SVW accounts for 69 per cent by count, 82 per cent by weight.

*Severn Valley ware* (SVW OX). (Tomber and Dore 1998, 148–50). The standard oxidised wheel-made SVW is numerically the largest category with some 1,226 sherds. A diverse range of forms is present with particularly high numbers of tankards/or carinated bowls/cups (Figs. 14, nos. 5, 11 and 24; 15, nos. 28, 34–5 and 43), necked jars (Fig. 15, no. 31), carinated bowls, handled jugs (Fig. 15, no. 29), dishes/platters (Figs. 14, no. 12; 13, no. 38), handled bowls (Fig. 15, no. 32), other small bowls/dishes (Figs. 14, nos. 10 and 12; 15, nos. 33, 38 and 41), colander and beakers (Figs. 14, no. 4; 15, no. 46). The emphasis is very much on products typical of the earlier Roman industry. Also present is a smaller amount of the same fabric in a reduced version occurring in the same form range.

*Early SVW* (Glos TF 11D). Earlier SVW is distinguished by a much less consistent fabric with clay pellets and organic matter in oxidised and, less commonly, black or brown fired fabrics. It generally dates from around the middle of the 1st century AD, possibly earlier (cf. Timby 1990). Most of the featured sherds are from carinated bowls or everted rim jars.

*Hand-made SVW* (Glos TF 23). A hand-made variant generally reserved for large storage vessels (Figs. 14, no. 3; 15, no. 30). These are exceptionally well represented in this assemblage with several slight seconds, which begs the question as to whether they might be locally made. One vessel had VI incised into the rim (Fig. 14, no. 25).

*Charcoal-tempered variant* (Glos TF 17). This variant, also generally a feature of the earlier industry, often occurs in a grey fabric and can be hand- or wheel-made. Mainly found in jar forms.

*Colour-coated variant*. Three sherds of what appears to be a colour-coated SVW variant were noted, all from pit [1038]. This rare facet of the SVW industry has recently been recognised in Warwickshire in a distinct SVW form (P. Booth pers. comm.).

#### *Coarsewares: unknown/local*

Several sherds encountered were not easily identifiable to the Gloucester fabric series or were perhaps subsumed into some of the less well-defined or less common categories. Most of these have been given broad generic terms here reflecting the broad category. Two fabrics have been identified. Three very small sherds were of Glos TF 21, an oolitic limestone-tempered ware, and two sherds were of a fabric greatly resembling Glos TF 24, the Kingsholm military fabric, both from ditch [1087].

*Unknown mortaria*: An oxidised mortarium was recovered from ditch [1156]. Moderately soft fabric with sparse dark orange-red sub-angular to rounded ?iron up to 2 mm, fine quartz and occasional fine white inclusions. No trituration grits visible.

*Grey micaceous ware* (GREY1). A moderately soft greyware, finely micaceous with few other visible inclusions. The range of associated forms suggests a date for this ware of Flavian to early

2nd century. Vessels include carinated and other bowls (Fig. 14, nos. 2 and 19), rusticated jars (Fig. 14, no. 22), tankards in the SVW style, flanged handled bowls, curved wall and other dishes (Fig. 14, no. 21), dishes imitating moulded forms (Fig. 14, no. 9), beakers (Fig. 14, no. 20) and necked jars and a possible carinated jar (Fig. 14, no. 23). Decoration includes impressed comb, combed wavy line, rustication, irregular ridges (Fig. 14, no. 7) and burnished line.

*Fine micaceous greyware* (MICGYF). A small group, including a necked jar and a platter, all from ditch [1020].

*Micaceous black ware* (MICBW). Moderately fine, highly micaceous black ware. No featured sherds.

*Black sandy ware* (BW). A fine-medium black sandy ware. No featured sherds.

*Fine-medium grey sandy ware* (GREY2). A moderately hard pale grey sandy ware with fine, but macroscopically visible quartz sand. Forms include a flanged bowl from cleaning, everted rim jars and a sherd decorated with a barbotine line.

*Other miscellaneous greywares* (GREY). Featured sherds include a carinated bowl (Fig. 14, no. 1) and a hand-made dish decorated with radiating burnished lines (Fig. 14, no. 14).

*Fine oxidised ware* (OXIDF). Just four sherds but including a ring-necked flagon and a beaker from ditch [1087], a curved-wall dish (Fig. 15, no. 44) and a segmental bowl from ditch [1020] with white painted decoration (Fig. 14, no. 8). The last is possibly an Oxfordshire or North Wiltshire product (cf. Young 2000, fig. 72, type 39).

*Micaceous oxidised ware* (MICOX). Three sherds, one from a curved wall dish, possibly originally mica-slipped, from ditch [1020].

*White-slipped oxidised ware* (WSOXID). Three sherds, probably flagon.

*Miscellaneous white ware* (WW). Four sherds from a fine white, globular-bodied, beaker decorated with white barbotine circles and raised dots (Fig. 14, no. 6) from ditch [1087]. Possibly from the North Wiltshire/Oxfordshire region.

### Forms

Table 3 presents a breakdown of the main forms present based on rim estimated vessel equivalents (EVEs). Overall, jars account for 55 per cent of the assemblage followed by beakers at 22 per cent and bowls/dishes at 18.3 per cent. Other forms, platters, cups, flagon, jugs, mortaria and lids are only present in minor amounts. Within the jar category storage jars constitute just over 30 per cent followed by necked everted rim jars at 26 per cent. High proportions of storage jar tend to be a feature of rural as opposed to urban sites perhaps reflecting the activities carried out at such sites. Normally assemblages are dominated by jars followed by bowls/dishes but a high proportion of drinking vessels is a phenomenon of the Severn Valley ware region (Evans 2001, 30) and is thus not that unexpected at Dymock.

### Discussion

The pottery recovered from the fills of the construction trenches associated with Structure A suggests a 1st-century date for the use of the building. No pottery was recovered from the posts and stake holes associated with the construction trenches. Pottery was recovered from the backfilled construction trench [1061]/[1068]/[1069], a total of 46 sherds (866 g). Most of the group, some 34 sherds are unfeatured Severn Valley wares. Associated with these is a single piece of South Gaulish samian of probable Claudian date, three sherds of Dressel 20 amphora and sherds of GREY1, 201 variant, MAL RT and two pieces of DOR BB1. Pit [1054] cutting the backfilled construction trench produced a sherd of Neronian or early Flavian South Gaulish decorated samian (Drag. 29), SVW OX and a carinated bowl (Fig. 14, no. 1).

Table 3. Sewage works: pottery forms.

Form	Sub-type	EVE	%	% total
JAR		202	8.9	
	necked, everted rim	596	26.2	
	beaded rim	134	5.9	
	neckless	113	5.0	
	storage jar	694	30.5	
	expanded rim, necked	77	3.4	
	bifid rim	15	0.7	
	hooked rim	13	0.6	
	cavetto rim	263	11.6	
	native internally expanded	165	7.3	
<i>Sub-total</i>		2,272	100.0	55
BEAKER	general	217	23.8	
	poppyhead beaker	29	3.2	
	tankard	666	73.0	
<i>Sub-total</i>		912	100.0	22
BOWL	general	167	21.9	
	fineware bowl	6	0.8	
	beaded rim	3	0.4	
	bifid rim	21	2.8	
	flat rim	81	10.6	
	carinated	48	6.3	
	flanged	38	5.0	
	hammer-rim	24	3.2	
	bowl/tankard	33	4.3	
DISH	general	16	2.1	
	fineware dishes	86	11.3	
	straight-sided plain rim	85	11.2	
	curved wall	103	13.5	
	grooved rim	34	4.5	
	flanged	8	1.1	
	bifid rim	8	1.1	
<i>Sub-total</i>		761	100.0	18.3
PLATTER		40		0.96
CUP	coarseware	2		
	fineware	10		0.3
FLAGON	ring-necked	45		1
JUG		74		1.8
MORTARIA		27		0.65
LID		11		0.26
<b>Total EVE</b>		<b>4,154</b>		<b>100.0</b>

The only pottery associated with Structure B came from [1214], [1209] and [1207], a total of 35 sherds. Most are SVW OX, the exception being a Central Gaulish cup (Drag 24/5) of presumed Flavian/Trajanic date and two native ware sherds (TF 30). The group would appear to date well within the second half of the 1st century. Probable later plough furrow [1211] yielded a single small sherd of probable Central Gaulish samian broadly of 2nd-century date.

The small group of 15 pottery sherds recovered from construction trench [1052], Structure C, appears also to date to the 1st century. Stratigraphically it is suggested that C postdates Structure A. SVW OX dominates, as with Structure A, but at least four sherds are of the earlier charcoal variant (TF 17). These are associated with a sherd of Dressel 20 amphora, a GREY 1 jar and a grog-tempered (TF 2) sherd. If fabric GREY1 dates to the Flavian period as is likely then this suggests a Flavian or later date for the backfilling of the structure. Structure D produced just 12 sherds, all SVW OX and including a curved wall dish. All again potentially could potentially date to the 1st century but equally be early 2nd century.

The rectilinear enclosure defined by ditches [1087], [1156] and [208]/[1267] produced a good assemblage of pottery, particularly [1087] and [208]. Ditch [208]/[1267] yielded 121 fairly well-preserved sherds (2,483 g) of which 108 are SVW OX accompanied by native wares (TF 2, 33), Dressel 20, one sherd of fabric GREY 1 and two small sherds of fine greyware barbotine dot-decorated beaker. All these wares suggest a late 1st-century date. Ditch [1087] produced 123 sherds (5,354 g), a very high average sherd weight again being partly the result of a high proportion of SVW OX (TF 23) storage jar. This ditch also produced the Dressel 14 amphora sherd, decorated white ware beaker (Fig. 14, no. 6), a ring-necked flagon, possible Kingsholm flagon and three sherds of South Gaulish samian of pre-Flavian or Flavian date. The group might suggest a Flavian or slightly later date of deposition. The 32 (1,248 g) sherds from ditch [1156] mainly comprise SVW OX, particularly storage jar, accompanied by a flat rim DOR BB1 bowl, a mortarium sherd and a Central Gaulish samian dish (Drag. 31). The samian and DOR BB1 push the date into the first half of the 2nd century, conflicting slightly with the evidence from ditches [1087] and [208] suggesting an unrecognised later cut, disturbance or ongoing accumulation as those sherds derived from the upper fill (1130). Gatepost [1237] contained 15 sherds, mostly TF 23 and nothing that need date later than 1st century.

Of the other structures no pottery was associated with Structure E and just seven sherds came from gully [1243], possibly linked to Structure F. All seven are of broadly later 1st- or early 2nd-century currency.

Pit [1195] (Structure G) produced 94 sherds (2,651 g). The high average sherd weight is again the result of several substantial sherds of TF 23 storage jar, including that with the number incised into the rim (Fig. 15, no. 47). In contrast to many of the above-mentioned groups the assemblage, although again dominated by SVW OX, contains a significant amount, 21 sherds, of the grey micaceous fabric (GREY1) including rusticated ware. Two South Gaulish samian dishes (Drag. 18/31) suggest a date in the Flavian–Trajanic period. Two early DOR BB1 sherds are also present.

The robber trenches associated with Structure H, [405]/[1010]/[1073], collectively produced 52 sherds (722 g) in more fragmented condition. Apart from a piece of modern china the latest material is DOR BB1 jar with oblique lattice, which must be 3rd century or later. Pit [1036] produced a single sherd of Central Gaulish stamped samian dating to the Hadrianic or early Antonine period.

Of the eight inhumation burials, five contained pottery in the backfills of graves [1168], [1189], [1194], [1242] and [1259]. That pottery, 105 sherds in total, suggests that all the burials belong to the 2nd century. Graves [1242] and [1259] with mainly SVW OX and native ware may be of slightly earlier date (2nd century); [1259] contained a sherd of Central Gaulish Antonine samian and both graves had very small sherds of whiteware, possibly from the Oxfordshire kilns. Grave

[1168] included three sherds of DOR BB1 whilst grave [1189] contained DOR BB1 and a sherd of Oxfordshire mortarium

Among other assemblages of note, 135 sherds recovered from gully [103] (104) in evaluation trench 1 included three sherds of Cologne beaker and seven sherds of samian indicating a date from around the middle of the 2nd century. Ditch [1020] cut into the backfill of [1087] produced 163 sherds with a significant number of vessels in GREY1, the mica-slipped beaker (Fig. 14, no. 13), a miniature DOR BB1 jar, Cologne ware and a sherd of decorated Central Gaulish samian (Drag. 37) dated AD 120–130, broadly contemporary with gully [103]. Gully [1124] also produced a significant quantity of pottery, 94 sherds, with examples of rusticated greyware, North Gaul roughcast ware suggesting it is contemporary with ditches [103]/[1020].

Of the pits on the site [1171], with two sherds of South Gaulish samian, and [1185], with five such sherds including a stamped bowl (Fig. 13, no. 1) and a sherd of probable imported whiteware flagon, are probably the earlier, dating to the Flavian period. Pits [1007] and [1038] would seem to be early 2nd century in date. The gravel extraction pit, [1043], contained several sherds of 2nd-century DOR BB1 including a lid fragment alongside SVW OX and a sherd of mica-slipped oxidised ware. Pit [1126] cutting Structure D seems to contain one of the later stratified assemblages on the site with a grooved rim DOR BB1 bowl and a samian dish (Drag. 79) indicating a 3rd-century date. Possible well [1143] produced just 54 sherds, a mixture of SVW OX and native ware suggesting it is quite early in the sequence and was functional in the 1st century. The burnt contents of pit [1117] produced 20 sherds, including five SVW OX pieces alongside native wares indicating a likely 1st-century date.

### *Conclusions*

The assemblage recovered from the sewage works is slightly enigmatic in its composition and character. The presence of several sherds of South Gaulish samian, along with a smattering of other curiosities such as the Dressel 14 amphora, stamped Dressel 20 amphora, North Gaulish mortaria and possible imported whiteware, would suggest that this is not a typical rural site. On the other hand the dominance of Severn Valley wares, particularly the storage jars and the native wares, is completely in keeping with a 1st–2nd-century rural site. The incidence of samian at 2.2 per cent by sherd count is also perhaps a level to be expected from a rural site in Gloucestershire but the pre-Flavian element is odd and suggests something official. The overall composition of the assemblage and the forms do not argue for a military group although reference has been made in the past for the siting of a military fort at Dymock. If this were the case one might expect to see a much greater proportion of specialist wares and imports and a higher incidence of flagons as at sites like Kingsholm, Gloucester and Usk. There is also nothing present to point necessarily to a pre-Conquest origin for the occupation as the native wares always occur alongside SVW proper or other wares. Also of interest is the presence of a greyware industry dating to the later 1st–early 2nd century. Appearing to be local, it produced a completely different repertoire of forms compared to the indigenous SVW industry. It is an introduced Roman pottery production not dissimilar to some of the greywares produced at the Gloucester kilns although not as well fired.

Until recently there has been very little work done at Dymock to understand the chronology, development and nature of the settlement. Most published knowledge derives from a gazetteer of information assembled and published by Gethyn-Jones (1991). The pottery data provided there would suggest a 1st-century Roman origin. Other recent excavations on land adjacent to the Rectory (for report, see Simmonds, below) and adjacent to Rose Cottage (Tavener 2001) have also yielded small assemblages of pottery. The pottery from the former only comprised some 339 sherds and appears to date to the later 1st–2nd century through to the 3rd century. The assemblage from



Rose Cottage is of comparable size to this group and again suggests a focus of activity in the 1st and 2nd centuries with limited evidence of 3rd-century occupation. Neither assemblage contained early samian or other unusual imports. Aside from the pre-Flavian component the sewage works groups broadly fit in with the slightly later chronology of these other assemblages, suggesting a focus of activity in the later 1st–2nd centuries, limited 3rd century activity and a complete decline by the 4th century.

*Catalogue of illustrated sherds* (Figs. 14 and 15)

1. Carinated bowl. Fine, dark grey fabric with a gritty texture: GREY. [1054] (1053).
2. Carinated bowl with combed wavy-line decoration. GREY1. [1061] (1060).
3. Hand-made storage jar. Glos TF 23. [1087] (1086).
4. Globular jar/beaker with a vertical rim. SVW OX. [1087] (1086).
5. Carinated cup. SVW OX. [1087] (1086).
6. Fine white ware beaker bodysherd decorated with barbotine circles and raised dots in white. WW. [1087] (1086).
7. Bodysherd from a jar or beaker decorated with irregular raised ridges. GREY1. [208] (215).
8. Segmental bowl in a fine oxidised ware with white painted decoration on the flange. OXIDF. [1020] (1084).
9. Platter imitating a moulded form. GREY1. [1020] (1084).
10. Small bowl. SVW OX. [1020] (1084).
11. Small carinated cup. SVW OX. [1020] (1084).
12. Small flanged dish. SVW OX. [1020] (1084).
13. Small mica-slipped beaker, slightly distorted. Fine oxidised sandy ware: Glos TF 3. [1020] (1019).
14. Hand-made dish imitating a moulded form. Decorated with radiating burnished lines on the interior. Burnished exterior. GREY. [1020] (1019). Similar vessels are documented from Wanborough, Wiltshire (Seager-Smith 2000, figs. 85 and 91).
15. Short flanged wheel-made bowl with burnished lattice decoration. Glos 201 variant. [1020] (1019).
16. Flat rim bowl. DOR BB1. [1020] (1019).
17. Cornice rim beaker with a roughcast finish. KOL CC. [103] (104).
18. Hand-made grog-tempered jar. Glos TF 2A. [1020] (1019).
19. Flanged, 'S'-profile bowl. Fine, grey, slightly micaceous fabric: GREY1. (1037).
20. Beaker or small jar with everted rim. GREY1. (1037).
21. Dish with faint traces of rouletted decoration. GREY1. [1121] (1122).
22. Globular jar with rusticated decoration. Fine greyware: GREY1.
23. Fine grey sandy ware jar, probably carinated. GREY1. [1195] (1998).
24. Large tankard. SVW OX. [1195] (1198).
25. Hand-made storage jar. Glos TF 23. Incised VI on rim made after firing. [1195] (1198).
26. Jar. Hard, fine light greyware with sparse grog: ?SAV GT. [1195] (1198).
27. Grooved rim dish. DOR BB1. [1055] (1046).
28. Tankard. SVW OX. [1055] (1046).
29. Handled jug. SVW OX. [1055] (1046).
30. Hand-made storage jar. Glos TF 23. [1055] (1046).
31. Everted rim jar. SVW OX. [1055] (1046).
32. Handled bowl. SVW OX. [1055] (1046).
33. Grooved rim, hemispherical bowl. SVW OX. Cleaning (1003).
34. Carinated bowl. SVW OX. Cleaning (1039).
35. Small carinated cup. SVW OX. Cleaning (1039).
36. Flat rim bowl with burnished line lattice decoration. DOR BB1. Cleaning (1039).
37. Hand-made beaded rim jar. DOR BB1. Cleaning (1039).
38. Dish. SVW OX. Cleaning (1039).

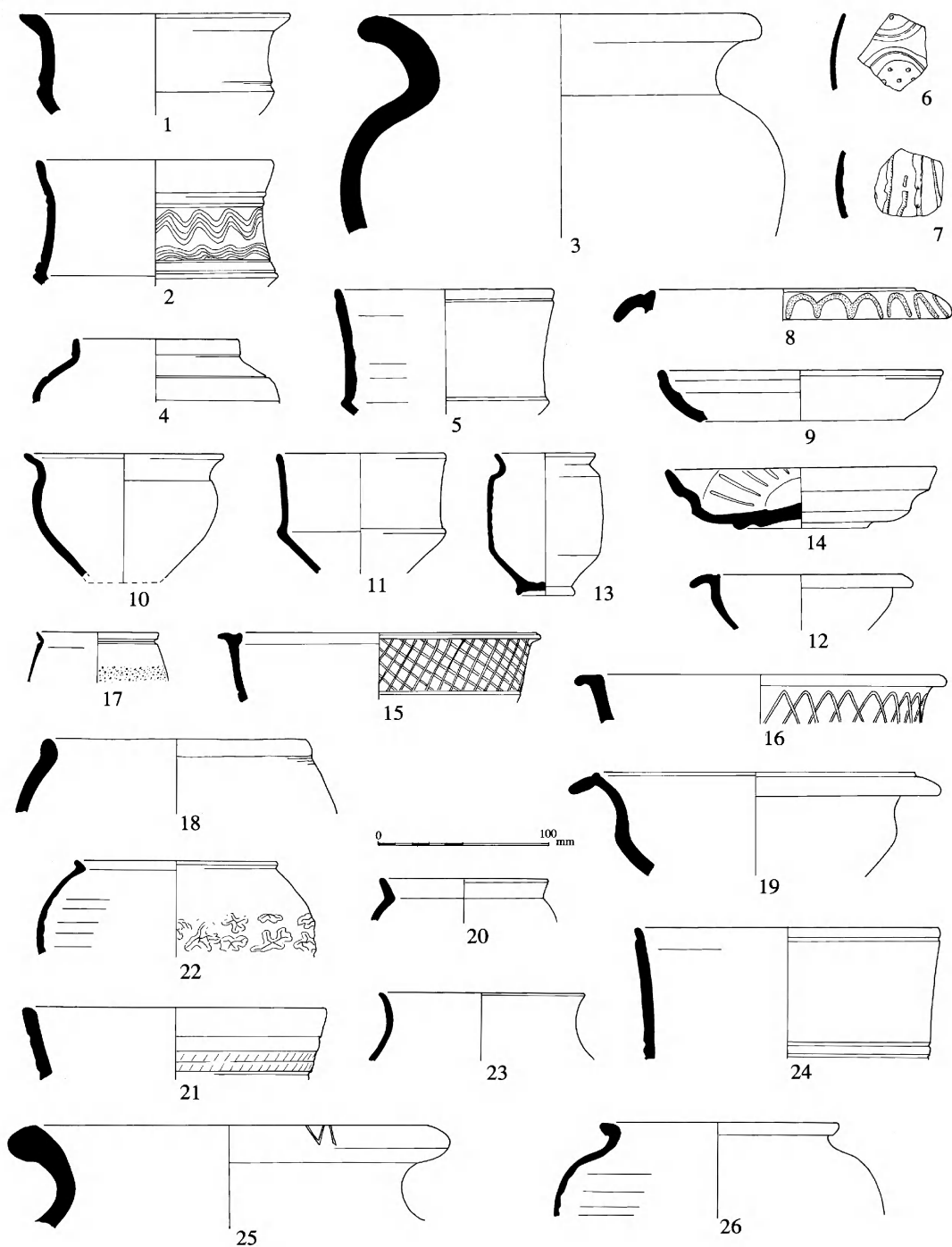


Fig. 14. Sewage works: pottery.

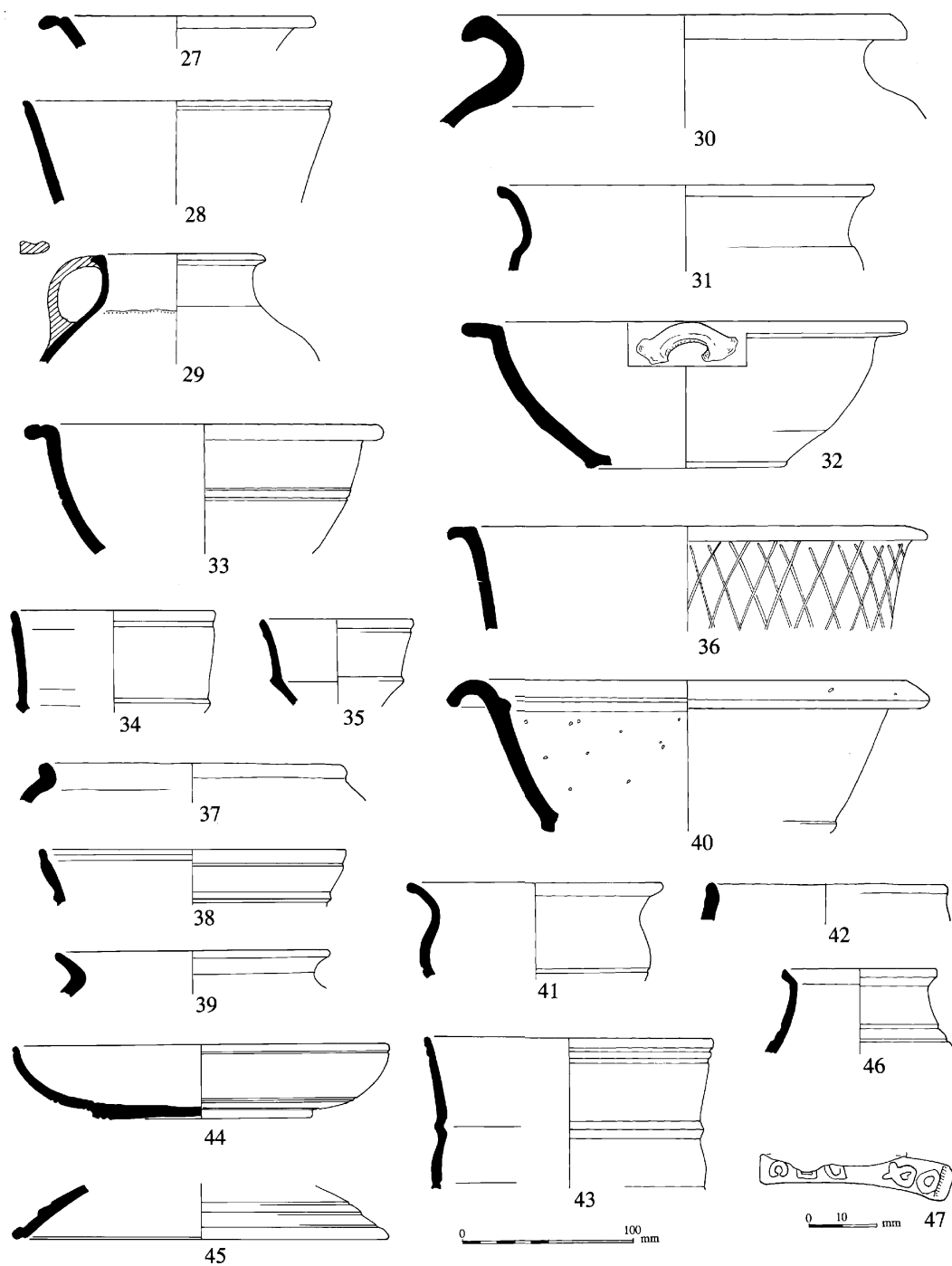


Fig. 15. Sewage works: pottery.

39. Everted rim wide-mouthed jar. Glos TF 19. Cleaning (1039).
40. Whiteware mortaria, probably VER WH. Flint trituration grits with some iron. Cleaning (1039).
41. Small necked bowl. SVW OX. Cleaning (1039).
42. Hand-made Malvernian jar. MAL RT, Glos TF 18. Cleaning (1039).
43. Carinated cordoned bowl. SVW OX. Cleaning (1039).
44. Curved wall shallow dish. Fine oxidised sandy ware: OXIDF. Cleaning (1239).
45. Black sandy lid with a sooted interior. Glos 201 variant. Cleaning (1239).
46. Butt beaker. SVW OX. Cleaning (1239).
47. Dressel 20 handle with damaged illegible stamp. BAT AM. Cleaning (1003).

### **Metal and Glass** by Hilary Cool

The excavations at Dymock produced a small but interesting assemblage of finds of 1st and early 2nd-century date (Figs. 17, 18 and 19). Those from the non-funerary contexts are summarised in Table 4 according to whether they were found stratified or not and to function. In addition, four graves produced iron coffin fittings (nos. 55–8) and two had groups of hobnails (nos. 13–4). In the following report the material will first be discussed by functional category with a brief note on definite post-Roman items placed at the end. Following this the assemblage will be considered as a whole.

Table 4. Sewage works: summary of the non-funerary metal and glass finds.

<b>Category</b>	<b>Stratified</b>	<b>Unstratified</b>	<b>Total</b>
Personal Ornaments	3	9	12
Toilet equipment	1	–	1
Textile equipment	1	–	1
Household items	3	1	4
Structural items	8	1	9
Fasteners	–	6	6
Agricultural items	–	2	2
Miscellaneous	14	3	17
Post-Roman items	1	2	3
<b>Total</b>	<b>31</b>	<b>24</b>	<b>55</b>

At the outset it is appropriate to signal that the group includes finds of national importance as for the first time a site has produced both a mould and the brooch (no. 7) that may have been made in it (Fig. 16). The implications of this are considered below.

### *Personal Ornaments and Clothing*

The items in this category consist of ten brooches, two hairpins and, in two of the graves, groups of hobnails from shoes. Most were found unstratified and thus cannot be associated with particular buildings or areas of activity, but they do cast interesting light on the general occupation of the site.

The number of brooches in the assemblage is not surprising as the West Country is an area of very high brooch use in the 1st and 2nd centuries. The types recovered strongly support the pottery evidence with regard to the date of the occupation, in that this is a mid 1st- to 2nd-century assemblage with the emphasis on occupation in the 1st century. One brooch, the rosette (no. 1),



16a. Moulds, clockwise from top left rf. nos. 23, 22, 21, 17 and 176



16b. Brooch cat no. 7 in mould rf. 23

Fig. 16. Sewage works: moulds.

may be dated to the mid 1st century and thus precede the main date range suggested by the pottery. It is of the type with an arched bow and lozenge-shaped plate (Hattatt 1987, 48 class B; Feugère 1985, 288 type 19d). On the whole the rosette family appears to be a pre-Conquest type going out of use during the mid 1st century. There is evidence, though, that the form with the lozenge-shaped plate was one of the later variants in the sequence. Feugère (1985, 292) notes that in Gaul rosette brooches are most commonly recovered from contexts belonging to the second and third quarters of the 1st century. At the King Harry Lane cemetery at *Verulamium* most of those with lozenge plates come from phase 3 contexts and the majority of those with circular plates from the earlier phase 2 contexts (Stead and Rigby 1989, 93–4). No. 1, therefore, cannot be taken as definite evidence of pre-Conquest occupation, but certainly it would not have been in use after the third quarter of the 1st century. Nauheim Derivative brooches, represented here by no. 2, were another pre-Conquest type which became increasingly common after the Conquest (Hull types 10–11: see Bayley and Butcher 2004, 147). No. 2 has a rod bow with an unusual moulded decoration on the upper part. Rod bow Nauheim Derivatives continued in use into the later 1st century and were out of general use by the early 2nd.

Three brooches belong to post-Conquest types in use during the second half of the 1st century. One (no. 5) is an Aesica brooch (Hull type 37: see Mackreth 1982; Hattatt 1987, 54). The other two (nos. 3 and 4) are Colchester derivatives. Generally these may be dated from the mid 1st century into the 2nd century; those with perforated catch-plates tend to be early examples and may be dated to the 1st century. The form found at Dymock is the Polden Hill (Bayley and Butcher 2004, 159) where the spring is held by a perforated lug and a bar in the perforated ends of the spring cover. Polden Hill brooches were the preferred form of Colchester derivative in the West Country. Both Dymock examples belong to a variant that appears to be particularly common in the Gloucestershire region (Cool 2007; see also Mackreth 1998, 118, nos. 17–20), scant dating evidence suggesting that it was in use during the second half of the 1st century. One (no. 4) was among the very small number of brooches found stratified. Coming from the backfill of the enclosure ditch together with late 1st-century pottery, it provides useful additional confirmation of this dating.

No. 3 was in poor condition and was subjected to investigative conservation. As far as can be seen neither the head loop nor the ends of the spring covers have been perforated to take the chord of the spring and the ends of the spring bar respectively. The return plate also appears more of a solid ridge and would have provided very little seating for the pin. This, therefore, appears to be brooch from a mould that needed to be finished. The ridge down the catch-plate, for example, would have been hammered out, the head loop and spring covers perforated, the spur on the catch-plate filed away, and the central rib on the bow probably transversely grooved. Though none of the mould fragments need have come from a brooch of this type, it seems very likely that the workshop also produced this form of Polden Hill brooch.

Two trumpet brooches (nos. 6 and 7) have a slightly later *floruit* as they belong to a variant in use during the later 1st and into the early 2nd century. This variant (Hull type 154: see Hattatt 1985, 109) is commonly called the Chester trumpet brooch, though there is increasing evidence that its main concentration was in the Gloucestershire region. The concentration in the Cirencester area strongly suggested that there was a workshop in the vicinity (Mackreth 1998, 134; Cool 2007); and the mould evidence from this site (see Dungworth, below) has confirmed this, Rf. 23 being part of a mould for a Chester brooch. In as far as is possible to tell given that it retains its spring, no. 7 fits very neatly into the mould no. Rf. 23, and it seems reasonable to conclude that it was made in that mould or in another created by the same craftsman.

To the author's knowledge, the possibility of directly linking a finished Romano-British brooch and the mould in which it could have been made has never been possible (for a survey of brooch

moulds see Bayley and Butcher 2004, 35–6). These discoveries, therefore, provide a unique opportunity for tracing the distribution area of a particular workshop. The finished trumpet brooches have two very distinctive features. Both have a band of rocker arm ornament on the catch-plate either side of the junction with the bow. No. 6 was definitely coated with white metal and a sheen on the surface of no. 7 hints that it might have been. The use of a white metal coating and the rocker arm ornament do not appear to be normal on brooches of this type. It was certainly not present on the seven published examples from the Kingscote area (Mackreth 1998, 134 nos. 102–7, 326 no. 19) and on eleven from the Cotswold Waterpark sites (Cool 2007). These features might well be diagnostic for the Dymock workshop, as might the highly arched bow seen on no. 6, and future research should make it possible to plot the distribution of the products. Unfortunately the other brooch mould fragments from the site are not sufficiently diagnostic to link them to particular types of brooch.

The other two brooches (nos. 8 and 9) are both penannular brooches where the notched terminals are bent back onto the hoop (Fowler 1960, type D5). No. 8 came from a ditch infill together with 2nd-century pottery and a hairpin (no. 12 below). Penannular brooch types tend not to be closely datable but it has been noted the Fowler D5 form has quite often been found in mid to late 1st-century contexts (Manning *et al.* 1995, 94 no. 76; Mackreth 2000, 157). These two examples would fit happily into this assemblage predominantly of the second half of the 1st century.

This is a small brooch assemblage so conclusions about the occupation on the site drawn from it have to be cautious. The 1st-century date though is very clear as is the paucity or absence of common local types that might be expected in the 2nd century such as the lower Severn ‘T’-shape brooches (Hattatt 1987, 120; Bayley and Butcher 2004, 167). Also noticeable is the absence of Hod Hill brooches (Hattatt 1985, 56; Bayley and Butcher 2004, 152). This may be a function of chronology as they would not have been in use in the final quarter of the 1st century, but as already noted the assemblage does contain some brooches which would have been contemporary with them. Their absence, however, does fit a pattern observed in studying the Cotswold Water Park sites (Cool 2007) where they did not seem to be a type particularly popular amongst the rural population in the area.

As well as the brooches, there are two copper-alloy hairpins. No. 11 is a 2nd-century form, common across the province (Cool 1991, 154 Group 3A). No. 12 is a slightly unusual variant. The cross-hatched unit recalls a common West Country hairpin type (*ibid.* 170 Group 23) though differing in precise details. The nearest parallels fall within my Group 5c where the head is only slightly larger than the shank (*ibid.* 157). Examples with a variety of terminal types have been recovered from Shakenoak (Brodribb *et al.* 1973, fig. 55 no. 203). Alchester (Iliffe 1932, pl. XVIII nos. 2 and 3) and Ditchley (Cool 1991, fig. 4 no. 7). The Shakenoak pin came, as did one of the Alchester examples, from a context with a *t.p.q.* of the early 2nd century, the context predating a house dated to the Domitianic/Hadrianic period. No. 12 adds to this dating evidence as it came from a 2nd-century context. At present a late 1st- and 2nd-century date may be suggested for the type, which is clearly a regional one. Very possibly it was made by the workshops making the grooved collar form of nail cleaner (Crummy and Eckardt 2004, 54), which was in production by the mid 2nd century. The recovery of two 2nd-century hairpins at Dymock fits a regional pattern in which the Romanised hair-styles requiring them were adopted only in the 2nd century (Cool 2007).

Finally, two of the graves contained small numbers of hobnails (nos. 13 and 14). In neither case have enough nails survived to guarantee that shoes were deposited with the body. Even a lightly nailed shoe can have 25 nails, and numbers of *c.*100 are not unusual (Cool and Booth 2007). Although the site was plough damaged, the lower parts of the bodies in the two graves were well preserved and it might have been expected that more hobnails would have been recovered. Second-

century pottery recovered from the fills of both the graves suggests a 2nd-century or later date for the burials. Philpott (1991, 171) has noted that nailed shoes started to be placed in burials from the 2nd century onwards.

*Catalogue of personal ornaments and clothing (Figs. 17 and 18)*

1. Rosette brooch. Copper alloy. Remnants of cylindrical spring cover with groove along upper edge retaining fragments of spring; curved reeded bow; diamond-shaped plate with grooved semi-circle, punched oval motifs with transverse ribs; upper part of catch-plate on back of plate. Present length 28 mm. (1000): Rf. 34.
2. Nauheim Derivative brooch. Copper alloy. Spring of four turns with chord passing below bow, pin missing; 'D'-sectioned tapering rod bow angled at head; broken at upper part of catch-plate. Transverse mouldings on upper part of bow below angled head. Present length 55 mm. (1000): Rf. 33.
3. Polden Hill brooch. Copper alloy. Short semi-cylindrical spring covers with closed ends; cast loop on head extending as raised rib on upper half of bow; 'D'-sectioned bow tapering to broken foot; triangular catch-plate with triangular perforation; groove down return plate which appears closed with spur at top. Much corroded surface and details obscured. Wing width 27 mm, original length c.59 mm. (1003): Rf. 155.
4. Polden Hill brooch. Copper alloy. Short semi-cylindrical spring covers with perforated ends and vertical groove at either end; one end broken; cast loop on head extending as raised finely ridged rib on upper half of bow; 'D'-sectioned bow tapering to foot; triangular catch-plate with triangular perforation. Much corroded and bent out of shape. Wing width 19 mm, original length c.55 mm. (1086): Rf. 46.
5. Aesica brooch. Copper alloy. Open-backed semi-cylindrical spring case with closed ends with notch at margins in which rest bar runs through centre of spring of three turns on either side; chord held by stump of forward facing hook; curved upper bow expanding to small knobs at corners with central lug for junction to (missing) lower bow. Length 24 mm, maximum width 29 mm. (1000): Rf. 35.
6. Trumpet brooch. Copper alloy. Small trumpet head with flange around edge, perforated lug behind retaining central bar, probably lower edge of loose wire headloop, and spring of one turn on either side with broken pin. Arched and waisted upper bow with central vertical rib, moulding above and below central button, pair of lentoid mouldings and narrow rib on lower part of button, upper part obscured by corrosion; triangular-sectioned lower bow with central moulding and groove parallel to each edge; small double ribbed foot trapezoidal catch-plate with band of rocker arm ornament on each side by junction with bow. Traces of white metal coating in places including lug. Length 42 mm. (1000): Rf. 31.
7. Trumpet brooch. Copper alloy. Small trumpet head; perforated lug behind retaining central bar, probably lower edge of loose wire headloop, spring of one turn on either side with pin. Waisted upper bow with central vertical ridge, moulding above and below central button with narrow rib on top and bottom of rib; triangular-sectioned lower bow; small double ribbed foot trapezoidal catch-plate with band of rocker arm ornament on each side by junction with bow. Possible traces of white metal coating. Length 42 mm. (1004): Rf. 5.
8. Penannular brooch. Copper alloy. Circular-sectioned hoop with terminals bent back on top of hoop, one terminal has transverse depression; circular-sectioned pin tapering to point at one end and flattening at other where it wraps around hoop. Diameter 26 mm, hoop section 2 mm. (1019): Rf. 15.
9. Penannular brooch. Copper alloy. Circular-sectioned hoop with flattened terminals bent back over hoop; terminals have three transverse grooves. Circular-sectioned pin flattening and wrapping around hoop. Diameter 37 mm, hoop section 3 mm. (1004): Rf. 18.
10. Brooch (not illustrated: stolen during an open day). (1003): Rf. 10.
11. Hairpin. Copper alloy. Circular-sectioned tapering shank with decoration for head cut into top of shank; pointed knob terminal with two ribs below; biconical unit; two grooves below forming two ribs. Bent out of shape. Original length c.105 mm, head section 3 mm. (1003): Rf. 14.



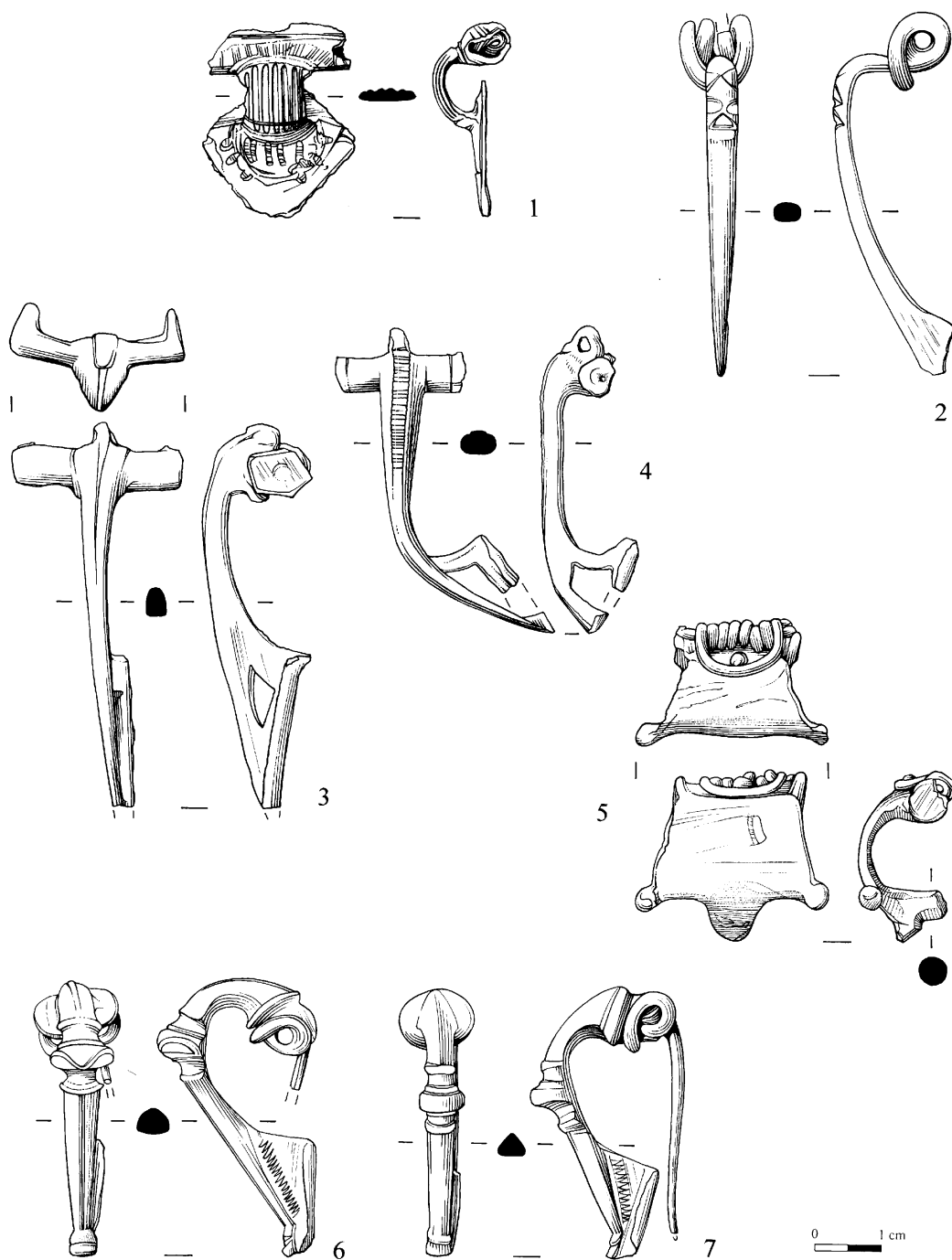


Fig. 17. Sewage works: copper-alloy objects.

12. Hairpin. Copper alloy. Cylindrical head with conical terminal, sides decorated with very fine diagonal cross-hatched grooves with horizontal groove above and below cross-hatched zone; circular-sectioned shank tapering to point. Length 89 mm, head diameter 4 mm, shank section 2 mm. (1019): Rf. 16.
13. Hobnails (not illustrated). Iron, in poor condition. At least 10 head fragments, also shank and unidentifiable pieces. Head diameters c.10 mm. (1192): Rf. 120.
14. Hobnails (not illustrated). Iron. Eight retaining conical heads, also shank fragments. Head diameters 9 mm. (1166): Rf. 14.

### *Toilet Equipment*

The only item of toilet equipment is a nail cleaner with a bone head (no. 15). This is a form that was in use during the later 1st and 2nd century and has a regional distribution centred on the Gloucestershire/Oxfordshire area (Crummy and Eckardt 2004, 53, illustration 5). The find, given the associated pottery, appears to be from a 1st-century ditch fill. The green staining to the bone head is almost certainly deliberate rather than the result of corrosion; the habit of staining bone appears to be an early Roman fashion (Crummy 1983, 20).

### *Catalogue of toilet equipment* (Fig. 18)

15. Nail cleaner. Circular-sectioned shank flattening to notched end; upper end has cross-hatched groove pattern; ovoid bone knob head fitted over end, head stained green. Length 46 mm, knob head section 6 mm. (1086): Rf. 45.

### *Textile Equipment*

Of the three whorls (nos. 16, 41 and 42) recovered, only no. 16, which is symmetrical and carefully made, could have functioned effectively as a spindle whorl. The other two would not have provided an even twist. The perforation diameter is large for a Roman spindle which normally requires perforations of c.5–7 mm (Walton Rogers 1997, 1735). However, given the rarity of medieval material on the site, and the fact that it was found stratified in a Roman context, its Roman date is undoubted.

### *Catalogue of textile equipment* (Fig. 18)

16. Spindle whorl. Oxidised coarse pottery (SVW OX) sherd cut into disc with smoothly ground sides and central cylindrical perforation. Diameter 40 mm, thickness 8 mm, perforation diameter 8 mm. (1037): Rf. 51.

### *Household Equipment*

The assemblage of household items hints at an establishment of some pretensions. No. 17 is the neck of a globular or conical jug of Isings's (1957) form 52 or 55 (Price and Cottam 1998, 150–7). In general this was in use in the second half of the 1st century with some variants continuing into the mid 2nd century. Despite being found in a 2nd-century context, the very dark yellow/brown glass of this example indicates it is a 1st-century vessel as such strong colours disappear by the end of the century. No. 18 may have been from the same jug but it appears to be of a less intense shade and so may be from another vessel. The fact that a glass jug is the only identifiable vessel from the site is interesting as it is far more common for rural sites in the 1st century to have utilitarian glass bottles or large bowls, if they have glass vessels at all (Cool and Baxter 1999, 84). Jugs are more typical of urban sites.

No. 19 is a metal shank of an item such as a hairpin, a toilet implement or a spoon. The white metal coating strongly suggests a spoon, the only one in the range of possibilities that is regularly treated in this way. If it is from a spoon this again argues for the pretensions of the settlement, as during the 1st to 2nd centuries spoons are much more associated with urban than rural sites (Cool 2004, 29–30) and this was found in a late 1st-century context.

The final item (no. 20) that may be assigned to this category is a fragment of lead alloy that might come from a dish or bowl. It is too small and distorted to be identified with certainty.

#### *Catalogue of household equipment* (Fig. 18)

17. Jug neck fragment. Dark yellow/brown glass. Cylindrical neck expanding out slightly to constricted tooled junction with missing body. Very faint traces of diagonal ribs on lower part of neck. Present length 88 mm, neck thickness 3 mm. (1123): Rf. 128.
18. Body fragments (2: not illustrated). Dark yellow/brown glass. Convex-curved, broken at carination; parts of two vertical optic blown ribs. Dimensions (larger) 32 × 24 mm. (1039): Rf. 44
19. Spoon handle (not illustrated). Copper alloy coated with white metal. Circular-sectioned tapering to point at one end and broken at other. Present length 58 mm, section 2.5 mm. (1088): Rf. 50.
20. Bowl or dish rim fragment (not illustrated)? Lead alloy. Rounded rim bent out slightly; the whole fragment bent out of shape. Dimensions 30 × 11 mm, wall thickness 1 mm. (1004): Rf. 2.

#### *Structural Equipment*

Iron nails came from a variety of pits, gullies and other features. Where they are complete, or near complete, most (nos. 22–3, 27, 29) are of lengths typically used for timber cladding and similar purposes (Manning 1985a, 291 group E) and tend to be very common in Roman assemblages. A much longer nail (no. 28) would have been used for a more substantial piece of joinery. If this is indeed a later 1st- to mid 2nd-century site as the pottery and other finds discussed so far suggest, the number of nails is of some interest. There is some evidence that iron did not become plentiful on some rural sites in the area until well into the Roman period (Cool 2007). Here the inhabitants were clearly using Roman building methods earlier than some of their neighbours.

#### *Catalogue of structural equipment*

21. Nail. Iron. Two head and shank fragments also one shank fragment. (1066): Rf. 166.
22. Nail. Iron. Tip missing. Length 55 mm, head diameter 11 mm. (1065): Rf. 165.
23. Nail. Iron. Complete. Length 50 mm, head diameter 16 mm. (1157): Rf. 170.
24. Nail. Iron. Shank, two fragments. (1045): Rf. 164.
25. Nail. Iron. Shank fragment. (1035): Rf. 163.
26. Nail. Iron. Shank fragment. (1005): Rf. 162.
27. Nail. Iron. One complete and one shank fragment. Complete – length 50 mm, head diameter 11 mm. (104): Rf. 160.
28. Nail. Iron. Complete. Length 125 mm, head width 20 mm. (1019): Rf. 156.
29. Nail, Iron. Complete, bent. Length 68 mm. (1000): Rf. 44.

#### *Fasteners and Fittings*

The underlying theme of modest affluence continues with the fasteners. The presence of a lift key (no. 30; see Manning 1985b, 90) indicates at least one door with a simple tumbler lock. The studs (nos. 31 and 32) are likely to have come from a box or chest. No. 31 is not intrinsically datable, but no. 32 is from a stud or mount comprising a copper-alloy sheet over a lead-alloy core into

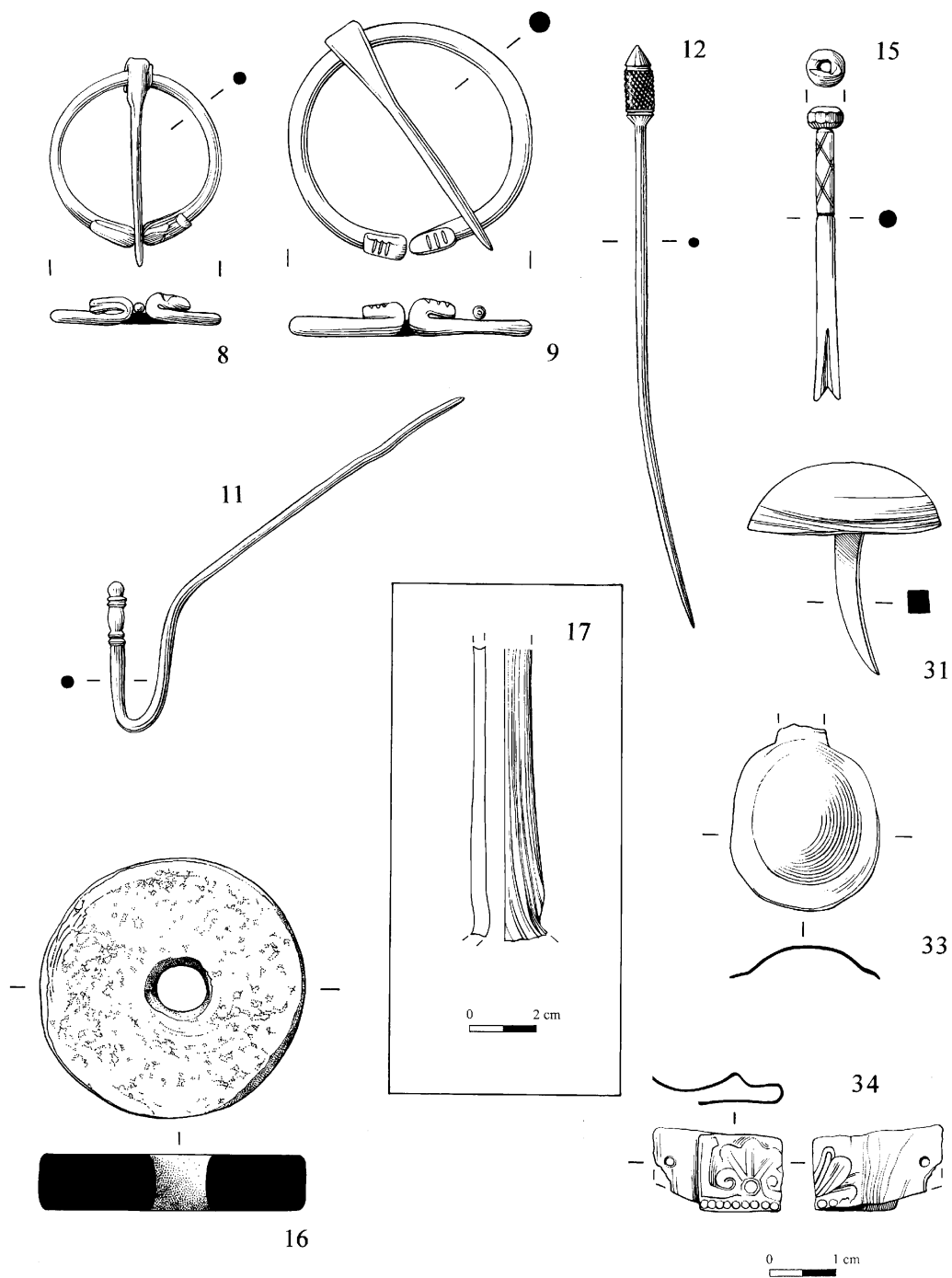


Fig. 18. Sewage works: copper-alloy, glass and other objects.

which an iron shank would have been inserted. This construction technique was used on box fittings throughout the Roman period as can be seen on a casket used in a mid to late 2nd-century burial at Skeleton Green, Hertfordshire (Borrill 1981, 305), and on another from a 4th-century burial at Colchester (Crummy 1983, 85, nos. 2179–82). It is possible that no. 33 came from a similar stud or mount as clearly the interior was not designed to be seen. Alternately, given the stump of a projection on one side, it might have been half of a pendant or *bullae*. The repoussé palmette design on no. 34 strongly suggests it is of Roman date, though it is difficult to see whether it would have been mounted flat or would have acted as a terminal like a strap-end. No. 35 does appear to have acted as a strap-end but it is not intrinsically datable and may not be of Roman date.

#### *Catalogue of fasteners and fittings* (Figs. 18 and 19)

30. 'T'-shaped lift key. Iron. Handle with loop end tapering evenly to stem with single tooth on each side. Loop at 90 degrees to teeth. Length 178 mm, width teeth 50 mm, diameter of loop 16 mm. (1003): Rf. 8.
31. Stud. Copper alloy. Hollow hemispherical head; square-sectioned tapering shank. Length 32 mm, head diameter 30 mm. (1000): Rf. 37.
32. Stud head or mount (not illustrated). Copper-alloy shallow domed circular sheet head, approximately two thirds extant; fragments of lead alloy infill. Diameter 31 mm. (1003): Rf. 11.
33. Mount? Copper alloy. Domed hollow oval with flat flange and broken stump at one side; interior less well-finished. Length 29 mm, width 22 mm. (1003): Rf. 12.
34. Mount. Copper alloy. Rectangular sheet strip with one corner missing. Two thirds decorated with repoussé palmette design, plain end has small central perforation. Fragment now bent in two across palmette design but crease at end of the design suggests the piece may originally have been bent at that point. Total length 37 mm, length of repoussé panel 22 mm, width 11 mm, thickness 0.5 mm. (1000): Rf. 41.
35. Strap-end (not illustrated). Copper alloy. Rectangular plate with small perforation in each corner and lower end tapering to point. Bent in half. Original length c.60 mm, width 14 mm. (1000): Rf. 39.

#### *Agricultural Equipment*

Agricultural activities on the site are represented by a goad (no. 36) and a reaping hook (no. 37). The goad is clearly of Roman date given its context. The hook, an unstratified find, is more open to question. It is in relatively good condition, still retaining the nail that held the handle in place. Roman reaping hooks are more often tanged than socketed as here (Manning 1985b, 53). Whilst many undoubted Roman items have come from the unstratified finds, reaping hooks had a long life, and the possibility that this find was associated with post-Roman agriculture must be borne in mind.

#### *Catalogue of agricultural equipment*

36. Goad. Iron. Single ring of spiral with pointed tang extant. Length 25 mm, diameter of spiral 16 mm. (1159): Rf. 171.
37. Reaping hook. Iron. Curved blade tapering to point; open socketed handle with perforation for fixing nail retaining nail shank. Length 97 mm, handle width 19 mm. (1000): Rf. 32.

#### *Catalogue of miscellaneous items*

The following cannot be dated other than by their contexts.

38. Chape? Copper alloy. Rectangular sheet bent over at one long edge, broken on lower edge and on other long side; upper edge also broken but retains two small perforations at side and centrally (correspond-

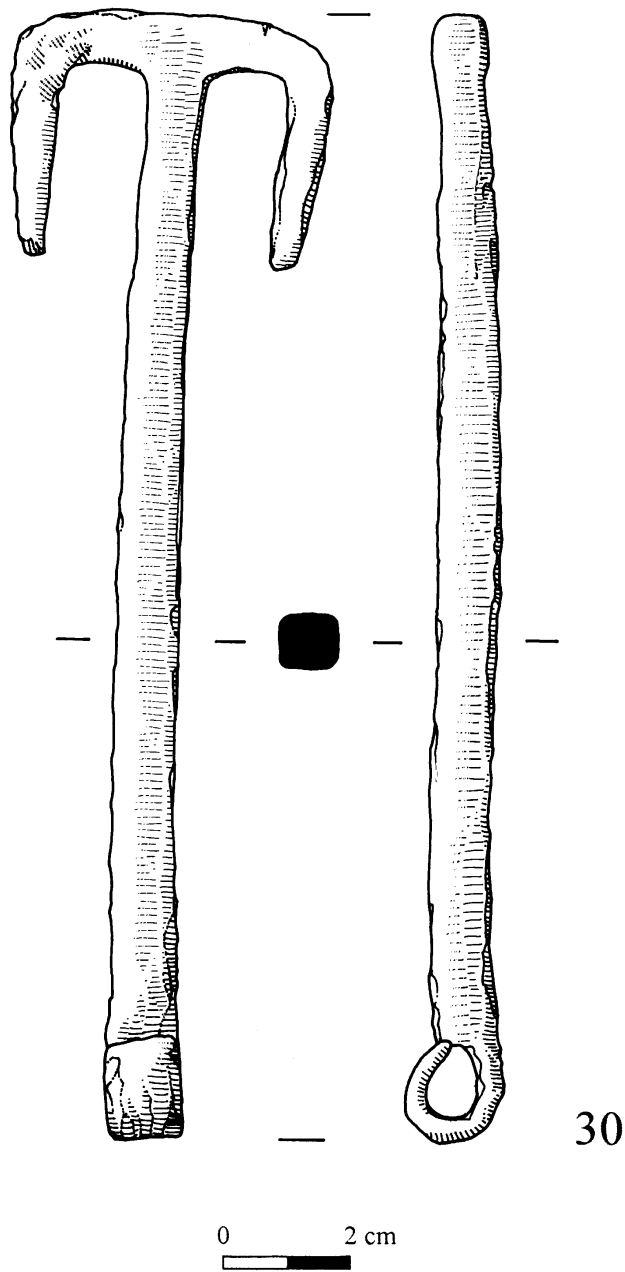


Fig. 19. Sewage works: iron latch lifter.

- ing area on other side missing); possibly broken across lower edge of much larger central perforation above. Bent and distorted. Present length 40 mm, width 26 mm. (1000): Rf. 40.
39. Chain. Iron. Four inter-locked figure of eight links. Dimensions of links 38 × 17 mm, 40 × 38 mm, 40 × 18 mm, 42 × 21 mm. (1084): Rf. 167.
  40. Ring. Copper alloy. Diamond-sectioned. Diameter 27 mm, section 5 mm. (1005): Rf. 27.
  41. Whorl. Lead alloy. Irregular plano-convex with off-centre square perforation. Weight 19g. Diameter 22 × 20 mm, thickness 8 mm, perforation diameter 4 mm. (1000): Rf. 38.
  42. Whorl fragment. Tile. Retaining one original face, other side mainly spalled and missing; edges broken; irregular perforation with conical cross section. Dimensions 41 × 40 mm, thickness 17 mm, maximum perforation diameter 11 × 8 mm. (1046): Rf. 24.
  43. Sheet. Copper alloy. Rectangular with one end bent over. Original length c.52 mm, width 20 mm, thickness 0.5 mm. (1043): Rf. 25.
  44. Strip. Copper alloy. Narrow rectangular strip rolled into tapering point over two thirds of length. Length 43 mm, maximum width 3 mm. (1039): Rf. 49.
  45. Strip. Copper alloy. Oval-sectioned and curved; in two pieces all ends broken. Present length c.55 mm, section 3.5 × 3.0 mm. (1060): Rf. 20.
  46. Rod. Iron. 'L'-shaped. Length 94 mm. (1086): Rf. 168.
  47. Rod. Iron. Tapering and bent. Length 265 mm, width 6 mm. (1003): Rf. 9.
  48. Bar. Iron. Length 72 mm, width 15 mm, thickness 12 mm. (1226): Rf. 174.
  49. Bar. Iron. Present length 75 mm. (1198): Rf. 172.
  50. Bar or nail shank. Iron. Curved. Present length 30 mm. (216): Rf. 161.
  51. Plate. Iron. Folded fragment. Dimensions 30 × 27 mm. (1045): Rf. 175.
  52. Plate. Iron. Fragment. Dimensions 60 × 34 mm. (1125): Rf. 169.
  53. Fragment. Iron. (1125): Rf. 157.
  54. Off-cut. Lead alloy. Tapering rectangular with bevelled long edges. Weight 3 g. Length 43 mm, width 7 mm, thickness 2 mm. (1039): Rf. 48.

### *Funerary Finds*

Iron fittings for coffins were found in four graves. In three cases (nos. 55, 57 and 58) only nails were found but in the fourth (no. 56) there were additional fittings such as a loop-headed spike (56a), two possible angle brackets (56b and c), two unusual nails (56d and e) which may have been decorative rather than strictly functional and two possible decorative plates (56f and g). This coffin also stands apart in the length of the nails used in its construction. Table 5 summarises the minimum number of nails in each coffin judged by the extant heads, the length of complete and near complete nails, and the average diameter of the head. The coffin represented by no. 56 (1189), as well as having possible decorative elements, was more substantial than the other three judged by the lengths of its nails and the sizes of their heads. Interestingly it was associated with the tallest of the females. She was 9 cm shorter than the only male and his coffin (grave 1242) in comparison was of light construction. As stature does not appear to have been the reason for her having a more substantial coffin, the elaboration may have been because of her position in the community.

Table 5. Sewage works: comparison of the sizes of nails from the coffins.

Grave	No. of nails	Length: more than 80 mm	Length: less than 80 mm	Average head width in mm
1168	17	2	7	18
1189	25	9	11	21
1194	15	3	3	16
1242	20	—	20	15

*Summary catalogue of funerary finds*

A full catalogue of coffin nails is to be included in the site archive.

**55.** Iron fittings from Grave 1168

a-t Twenty-one coffin nails. (1166)

**56** Iron fittings from Grave 1189

a Loop-headed spike. Rectangular-sectioned bar bent into almost closed loop with tapering spike. Length 50 mm, loop diameter 28 mm, loop width 16 mm. (1170): Rf. 97.

b Angle bracket? 'L'-shaped with shorter arm wider than longer. Length 40 mm, maximum width 22 mm. (1170): Rf. 129.

c Angle bracket? Maximum length 37 mm. (1170): Rf. 130.

d-e Two coffin nails. (1170).

f Coffin fitting. Bar with ends bent up and in. Length 63 mm, depth 25 mm. (1170): Rf. 121.

g Coffin fitting? Bar tapering to one end. Length 50 mm, maximum width 12 mm, thickness 10 mm. (1170): Rf. 132.

h-aj Twenty-nine coffin nails. (1170).

**57** Iron Fittings from Grave 1194

a-v Twenty-two coffin nails. (1192).

**58** Iron fittings from grave 1242

a-x Twenty-four coffin nails. (1240).

*Post-Roman Finds*

Compared with the number of undoubted Roman finds, post-Roman material was rare. The frame of a post-medieval jew's harp (no. 59; see Lawson 1990) was unstratified and a button of relatively modern date (no. 60; see Biddle and Cook 1990, 573 type F) came from the fill of a post-medieval ditch. The binding (no. 61) is also probably of modern date as it appears to be machine made.

*Catalogue of post-Roman finds*

**59.** Jew's harp. Copper alloy?. Diamond-sectioned frame with slightly asymmetrical legs; filed rebate on loop for seating of tongue. Length 52 mm. (1000): Rf. 36.

**60.** Button. White metal. Flat head with loop behind and traces of maker's name. Diameter 21 mm. (1071): Rf. 26

**61.** Binding. Copper alloy. Straight length of semi-circular binding; small strip wrapped over at one end retaining rivet. Length 27 mm, width 5 mm. (1004): Rf. 4.

*Conclusions*

These finds support the evidence of the pottery (Timby, above) that occupation started in this part of Dymock in the later 1st century and that there may have been an establishment of some status in the area. Household items such as the glass jug and the spoon certainly indicate occupation with pretensions above a basic rural existence as may the lift key, the mounts and studs from furniture, and possibly the early adoption of Roman joinery techniques indicated by the nails. In general the finds are typical of this region in the 1st to 2nd century and provide useful confirmation of the patterns that have been observed further east in the county as part of the Cotswold Water Park project.

Of great importance is the discovery of not only moulds for making copper-alloy articles but also at least one finished brooch which would have come from them and an unfinished brooch of a different form. Future research to track the distribution of products from this workshop might



prove informative, but to date extensive enquiries amongst fellow specialists have not yet produced other brooches with the distinctive features of nos. 6 and 7.

### **Slag and Moulds** by David Dungworth

#### *Iron-Working Slags*

In all, 192 pieces of slag and other debris weighing in total 11,485 g were recovered (see Table 6). A large portion of the slag is tap slag that would have been produced while smelting iron from ore. Given the lack of any distinctive smithing slags, the large quantity of undiagnostic slags probably relate to smelting. The small size of this assemblage (in particular the small quantity of furnace lining) suggests that the smelting took place not within the area excavated but near by.

It is possible that the slags from post-Roman contexts are Roman in origin and residual in the later contexts. The large quantity of undiagnostic slag in post-Roman contexts, however, may relate to other iron working, e.g. iron smithing, but the lack of diagnostic iron-smithing slags (in particular smithing hearth bases) makes this no more than a possibility.

Table 6. Sewage works: weight of slag (in grams).

	<b>Coal</b>	<b>Ore</b>	<b>Daub</b>	<b>Furnace Lining</b>	<b>Fuel Ash Slag</b>	<b>Tap Slag</b>	<b>Undia- gnostic</b>	<b>Total</b>
Roman		175	34	23	61	1,979	507	2,779
Post-Roman	1	—	86	—	—	1,279	3,791	5,157
Unphased	2	406	—	130	—	1,665	1,346	3,549
<b>Total</b>	<b>3</b>	<b>581</b>	<b>120</b>	<b>153</b>	<b>61</b>	<b>4,923</b>	<b>5,644</b>	<b>11,485</b>

#### *Explanation of Terms Used*

The fragments of dense, fayalitic (iron silicate) tap slag show a characteristic 'ropy', flowed morphology on their upper surface and low vesicularity at their fracture surfaces. They are diagnostic of iron smelting (i.e. primary extraction from the ore) and are typical waste products of the bloomery furnace, in use during the Roman period, from which the molten slag was tapped and run out rather than collected within its interior.

Fifteen iron-rich stones were examined and classed as ores. These were either reddish-orange and moderately friable or grey-black and very hard. Analysis of two fragments, one of each type, by X-ray diffraction indicated that the reddish-orange ore is hematite and the grey-black ore goethite. Both hematite and goethite can be found in the Forest of Dean (Fulford and Allen 1992, 188).

Vitrified furnace lining is produced by a high temperature reaction between the clay lining of a hearth or furnace and the alkali fuel ashes or fayalitic slag. It can be formed by iron smelting, iron smithing, non-ferrous metal working and other pyrotechnical processes. Its composition is usually graded, from un-modified clay on one side to a glazed surface or irregular cindery material on the other.

Fuel ash slag is the very light, in weight and colour (grey-brown), and highly porous material that results from the reaction between alkaline fuel ash and silicates from soil, sand or clay at elevated temperatures. The reaction is shared by many pyrotechnological processes and the slag is not diagnostic. Energy Dispersive X-ray Fluorescence (EDXRF) analysis shows the presence of silicon and alkalis such as calcium, potassium and sodium with little or no iron.

Most assemblages of slag include undiagnostic iron-working slag, which is also of fayalitic composition and can be formed during iron smelting or iron smithing. However, in the absence of any clear evidence for the latter, it is probable that the undiagnostic slag also derives from smelting. It is possible that while some slag was removed in the molten state from the furnace, some may have remained inside the furnace.

### *Moulds*

Four mould fragments were submitted for examination and a fifth was discovered during the assessment of the iron-working slag (Fig. 16). The first four are all in the same condition and were all made from a grey-green clay tempered with mica, limestone, sandstone and an unidentified black mineral. The mica and the black temper are generally fine (up to 0.5 mm across) while the limestone and sandstone temper is coarser (up to 3 mm across). The softness of the clay fabric of the moulds suggests that they have not been fired to a high temperature. The fifth fragment is superficially similar to the others; the outer surface is a grey-green colour but the inner surface is black. The range of tempers used is similar but the particle size is smaller. The first four moulds would have been used in pairs (front and back or left and right) as two-piece moulds; not enough survives of the fifth mould to be certain whether it was a piece mould or a lost wax mould. The shapes of the individual moulds (and of the artefacts which would have been cast from them) are discussed below.

The EDXRF spectra collected from each mould showed the presence of zinc, lead and copper at levels far above what might be expected naturally in the clay or temper. While tin was not detected, previous work has established that tin rarely penetrates mould fabrics to the same extent as lead and zinc. The differences in vapour pressure and other factors make the reconstruction of the alloy used (bronze, brass, gunmetal, etc.) impossible. Nevertheless the moulds clearly have been used, probably to produce copper-alloy objects.

#### Rf. 17 (context 1037)

Dimensions 41 mm by 25 mm by 13 mm. The impression is of a conical-headed pin. The head is 10 mm in diameter at its base and 13 mm high. The shaft is incomplete but c.3 mm in diameter and at least 23 mm in length.

#### Rf. 21 (context 1066)

Dimensions 35 mm by 20 mm by 6 mm. The impression is of a fairly thin curvilinear artefact (surviving dimensions are roughly 25 mm by 20 mm by 2 mm). The depth of the impression and the flatness of the mould suggest that this portion of the mould was the back into which the pattern was first impressed. The surviving portion can be reconstructed as a lunate fitting such as those used to decorate horse harness (cf. Allason-Jones 1991, fig 112, no. 57) or as a brooch (cf. Hawkes and Hull 1947, plate XCVIII, 1703.)

#### Rf. 22 (context 1067)

Dimensions 22 mm by 20 mm by 10 mm (approximate). The impression is of a rib or fin emerging from a larger curved object. One possible artefact which could have been produced from such a mould is a Colchester derivative brooch, the fin being the end of the rib running along the bow and terminating at the spring end of the brooch. This mould appears to have been subjected to some localised heating, which has turned the clay orangey-brown. This may be associated with the use of the mould or may have occurred accidentally after the mould was discarded. The shape of the mould, in particular its curvature, suggests that it was the front valve of the two mould halves.

Rf. 23 (context 1065)

Dimensions 28 mm by 21 mm by 11 mm. This mould is one side of a left–right mould of a Trumpet brooch (see Hattat 1982, 106) and is similar to one found at Prestatyn (Bayley 1988, fig. 7). The mould is incomplete but shows the brooch from the head to approximately half way down the catch-plate. The discernible features are described in turn, starting at the head. The flat lug protruding from the back of the head has a single opening for an axial pin. The head shows the usual trumpet expansion and the tight angle to the axis of the bow. The central moulding is fairly plain and conforms to Collingwood's R(i). Ceramic brooch moulds have also been found at Compton Dando, Somerset (Bayley 1985), and Prestatyn, Clwyd (Bayley 1988). See also Cool (above: catalogue no. 7) for evidence of a brooch made in this mould.

Rf. 176 (context 1067)

Dimensions 30 mm by 16 mm by 8 mm. This fragment appears to have been fired. The interior surface is reduced-fired black although the outer surface is still a grey-green colour. The fragmentary nature of the mould makes it difficult to be sure that this was a piece mould rather than a lost wax mould. Given the nature of the other moulds from this and other Roman sites in Britain a piece mould is the more likely. The impression is of a curving bar with a single rib. One artefact type that could possibly have been made using this mould is a Colchester derivative brooch but not enough survives of the mould for this to be a certain interpretation.

*Conclusions*

The iron-working slags from Dymock that can be clearly related to a particular process are of types indicative of iron smelting, a finding supported by the recovered ore fragments. The iron was smelted from hematite and goethite using the bloomery process. The small amount of furnace fragments and the small size of the slag assemblage as a whole suggest that smelting did not take place within the area excavated. As it is unlikely that such material would be transported over large distances, the smelting would have taken place somewhere close to the area excavated. The five moulds recovered indicate that copper-alloy casting took place near by. They do not include joining fragments and may represent a small fraction of the total number of moulds originally produced.

Full quantification of slags and other metallurgical debris was included in the assessment report (Catchpole 2000) and will be contained in the archive. The 12 kg of slag collected represent a small fraction of that encountered on site.

**Coins** by Peter Guest

Twelve Roman bronze coins and a single 19th-century farthing were recovered during the excavations (see Table 7). The Roman coins include four 1st-century issues, three coins struck during the later 3rd century and four coins of the period 330–348. Although it is statistically unwise to attempt to extract too much information from such a small group, the four coins struck during the 1st century are particularly noteworthy. They include a copy of a Claudian *as*, *dupondii* of Nero and Vespasian, and a *sestertius* of Domitian. All would have been in circulation during the 1st and early 2nd centuries and are most commonly found in south-west Britain on military and urban sites occupied during the early years of the Roman period. Excavations at the legionary fortresses at Usk and Kingsholm, the Sacred Spring at Bath and the fort/town at Cirencester all produced relatively large quantities of the high-value bronze denominations issued by the Roman mints during the 1st century (Boon 1982; Reece 1985; Walker 1988; and Reece 1998). It would appear, therefore, that in terms of coin loss the settlement at Dymock is similar to settlements that were

Table 7. Sewage works: coins.

Registered Find	Context	Denomination	Date	Obverse	Reverse	Mint Mark	Mint	Reference	Remarks
29	1000	as copy	43–64	as Claudius	as Minerva – SC	–	–	as RIC: 100	16mm diam; 8.0 gm
28	1000	dupondius	66–7	NERO	VICTORIA AVGVSTI – SC	–	Lugdunum	RIC: 522/600	–
01	u/s	dupondius	71	VESPASIAN	PAX AVG – SC	–	Rome/Lug	RIC: 475	–
19	1045	sestertius	87	DOMITIAN	IOVI VICTORI – SC	–	Rome	RIC: 342	–
13	1003	radiate	268–70	VICTORINUS	uncertain	–	–	–	–
159	u/s	barb. radiate	268–96	as Victorinus	as Pax	–	–	–	–
30	1000	barb. radiate	270–96	uncertain	uncertain	–	–	–	–
07	1004	AE3	330–35	CONSTANS Caesar	GLORIA EXERCITVS (2 stds)	branch//TRP	Trier	HK: 84	–
06	1004	AE4 copy	330–48	as House of Constantine	as Gloria Exercitus (1 std)	//[.....]	–	–	l. facing bust
03	1004	AE3	337–40	House of Constantine	GLORIA EXERCITVS (1 std)	chi-rho//[.....]	–	–	–
42	1001	AE3	347–48	House of Constantine	VICTORIAE DD AVGGQNN	M//[TRP]	Trier	HK: 137–8	–
43	1001	AE3/4	Late 3rd/ 4th century	uncertain	uncertain	–	–	–	–
158	Evaluation T2	farthing	1882	VICTORIA	–	–	–	–	–

supplied with and used coins from the beginning of the Roman period. This suggests either that Dymock itself was a relatively Romanised settlement (i.e. urbanised or militarised) as early as the later 1st century (Claudian copies do not seem to have circulated long into the 2nd century) or that these coins arrived at Dymock as a result of the settlement's position on the junction of two Roman roads connecting other urban and military sites.

### **Flint** by David Mullin

A total of 28 pieces of struck flint was recovered from the excavation at Dymock. Many (12) were from unstratified context (1003). The assemblage is dominated by waste flakes and narrow blades of Late Mesolithic/Early Neolithic date. Of particular note is an ?Early Neolithic side scraper from context (1114) and a small, Early Neolithic, borer from context (215). A single burnt fragment of flint was recovered from context (219).

### **Other Finds**

A very small assemblage of ceramic building material was retrieved, mostly from post-medieval contexts. The Phase 1 enclosure ditch backfills produced 6 fragments with a combined weight of 127 g. Four Phase 2 contexts produced 9 fragments with a combined weight of 185 g.

In contrast a total of 10.6 kg of daub was recovered during the excavation and from slag samples. Due to the high quantities present not all daub was collected during the excavation and a sample amount was collected from each context found to be rich in the material. Of the daub collected 74 per cent came from Phase 1 features, 7 per cent from dated later Roman features and the remainder from undated, post-Roman and unstratified contexts. It seems likely that all the daub on the site originated from the Phase 1 structures. Given the amount of iron smelting being carried out in the vicinity there is a possibility that a proportion of this material may have originated from the structure of shaft furnaces but in the absence of any identifiable furnace lining material this is unproven.

Querns were notably absent from the finds assemblage.

## **ENVIRONMENTAL EVIDENCE**

### **Human Skeletal Remains** by Marianne Cole

Eight articulated skeletons comprising five adults and three sets of infant remains were recovered. The adult skeletons were found in discrete grave cuts all concentrated in the eastern area of the excavation, outside the boundary ditch of the rectilinear enclosure. There was evidence that four of the inhumations were coffin burials. The infant remains were also found in discrete cuts, two of which were circular in form. Two of the burials were aligned east-west. Some of the grave cuts had been truncated by later activity which had an effect on the condition of some of the remains.

All eight sets of remains were presented for examination to establish the sex of each individual, the age at death and the living stature. Note was made of the presence of any non-metric traits and also of any changes to the bones indicating trauma or disease. Summaries of all data are shown on Tables 8 and 9.

Table 8. Sewage works: summary of the inhumations.

Skeleton	Condition	% bone present	Sex	Age	Stature	Bones Used	Features
1167	Poor	50%	Female	Unknown	Unknown		None
1190	Good	95%	Female	25-30	1.58.68 +/- 3.66	Tibia	None
1193	Fair-Good	75%	Female	25-35	1.53.8 +/- 3.72	Femur	Mild osteophyte growth
1241	Good	98%	Male	25-30	1.68	Femur & Tibia	Schmorls Nodes. Mild osteophyte growth
1258	Fair	90%	Female	25-35	1.56	Humerus	Os acromiale (Bilateral) Supra-orbital foramen
Infant 1021	Good	50%	Unknown	8 months (in utero)			
Infant 1080	Fair	40%	Unknown	+/- 2 months 8 months (in utero)		-	-
Infant 1152	Good	80%	Unknown	+/- 2 months 8 months (in utero)		-	-
						-	-

Table 9. Sewage works: human adult burial dental health and non-metric traits.

Skeleton	Ante-mortem Loss	Caries	Calculus	Cranial non-metrics	Post-cranial non-metrics
1167	No data	–	–	Traits absent	–
1190	0	6	Medium	Traits absent	–
1193	2	0	Medium	Traits absent	–
1241	0	3	Slight	Lambda wormians (3) Parietal Foramen (2)	–
1258	1	5	Medium	Supra-orbital foramen (1)	Os acromiale (Bilateral)

### *Condition*

Apart from (1167), the overall condition of the assemblage was good. The skeletons were from 40 to 98 per cent complete. Evidence of *post-mortem* breakage, in some cases extreme, was possibly due to post-deposition ploughing that had truncated some of the graves.

### *Sex and Age*

The completeness of the assemblage enabled sex and age to be determined with a degree of accuracy. The features used to establish the sex of the skeletons included pelvic morphology, notably the sub-pubic angle (Bass 1995), the sciatic notch (Brothwell 1981) and the presence of a pre-auricular sulcus. Cranial morphology was also used by looking at such features as the prominence of the brow ridges, mastoid process and occipital protuberance (Bass 1995). In addition, measurements were taken of the femoral and humeral heads to confirm the sex using standards set out by Buikstra and Ubelaker (1994). It is widely believed that using the pelvis and crania together can determine the sex with 90–95 per cent accuracy. Each of the adult skeletons possessed at least one bone usable for determining sex. No sex estimation was attempted for the infant remains. Determining sex in sub-adult remains is highly unreliable because the skeletal traits that are used do not usually manifest themselves until the onset of puberty.

Age determination for the adult skeletons was performed using the teeth and the pubic symphysis. For the teeth the amount of wear present on the occlusal surface can be attributed to age (Brothwell 1981). The morphology of the pubic symphysis, the surface of which changes with age (Webb and Suchey 1985), can be used for both males and females but the degree to which it is affected by pregnancy and childbirth should be considered in studying females. Only skeleton (1167), a very fragmentary set of remains lacking the necessary criteria, could not be aged.

Infant ages were established using a chart devised by Powers (unpublished). This chart was constructed using modern infant measurements and this may affect its applicability to this group. The measurement of surviving long bones is a standard technique for estimating sub-adult age, although at present no technique for infant ageing is considered as reliable as those used on adult skeletons. All three infant skeletons possessed at least one bone that could be measured. All three were of approximately the same age, 8 months *in utero*, suggesting that all died at or around birth. It is likely that Romano-British infant birth lengths were shorter than those of modern infants, which would explain the slight underestimate of infant age. One infant skeleton contained a jaw fragment and the developing crowns were used to confirm the age estimate (Ubelaker 1978).

*Stature*

Stature could be calculated for four of the five adult skeletons. Again skeleton (1167), due to its fragmentary nature, was the exception. The stature for the other four was calculated using long bone measurements. Where possible the long bones with the least margin of error were used. The measurements were taken and then compared to an equation set out by Trotter and Gleser (1952). Given the data from other contemporary sites the skeletons from Dymock are within the normal range of expected stature.

*Dental Health*

All of the adult skeletons except 1167 had dentitions available for examination. The four adults possessed both mandibles and maxillae in varying states of completeness. The number of teeth present out of a total of 128 ( $4 \times 32$ ) was 103. Some 2.9 per cent of the teeth ( $n=3$ ) were lost *ante mortem*, 4.8 per cent ( $n=5$ ), wisdom teeth, had not erupted, either bilaterally or on one side only, and 19.4 per cent ( $n=20$ ) were lost *post mortem* and were unaccounted for. There was no evidence for periodontal disease, enamel hypoplasias or abscesses. Three of the skeletons showed evidence of dental caries. Skeleton 1190 displayed decay on 25 per cent ( $n=6$ ) of the teeth present.

Calculus deposits were recorded on all of the dentitions (Brothwell 1981). The quantity varied from slight to moderate in most cases. Calculus is a deposit of mineralised plaque that tends to be very brittle when found on buried remains. It often flakes off during excavation or examination and the level of calculus found in death is not a reliable indicator of the amount in life. The build up of calculus is thought to reflect poor dental hygiene.

Infant 1152 possessed a mandible in which four developing crowns were found. The other two infants had loose crowns but no mandibles or maxillae associated with them.

*Non-Metric Traits*

Non-metric variation 'is generally taken to encompass any minor anomaly of skeletal anatomy not normally recorded by measurements' (Mays 1998). There is a large quantity of features that classify as non-metric traits, for example parietal foramen, lumbar sacralisation and the retention of the metopic suture. For the purposes of this study 21, made up of 11 cranial and 10 post-cranial, traits were noted only for the adult skeletons.

Skeletal non-metric traits would have had no effect on the living individual. Some research suggests that they may be genetically predetermined and could thus be of use in establishing familial relationships. This is by no means conclusive and it is currently accepted that non-metric traits could simply be a manifestation of natural variation within a population.

*Evidence of Trauma or Disease*

There was no evidence of trauma on any of the remains. There was limited evidence of spinal change in some of the adult skeletons. Skeleton (1241) displayed Schmorls Nodes on the lumbar spine. They represent the herniation of an intervertebral disc into the body of the vertebrae and the proposed causes of this phenomenon include extended activity, trauma, degenerative disease and possibly metabolic disorders. Several of the adult skeletons also showed the beginning of osteophyte growth around some of the vertebrae. This is usually found in greater profusion as the individual ages. The small amount found on this set of remains is consistent with the proposed ages of the skeletons. There was no further evidence of disease.



### *Conclusions*

This set of human remains represents five adults, one male and four female, and three infants. All the adults were aged between 25 and 35 and none of their remains showed any evidence as to mode of death. There were no indicators of disease or poor health and, consistent with their age, there was little or no degenerative change to the skeletons. The dental health of the adult assemblage remains within the range of variation displayed at sites of this period. The Dymock skeletons had generally good dental health with no abscesses, and the distribution of caries was again within the normal range. The stature of the individuals from Dymock falls within the standard range and the non-metric traits found on the assemblage is again within the expected range. The presence of *os acromiale* on skeleton 1258 is a reasonably rare finding but would have had no effect on the individual during life.

The group also included three infant skeletons all approximately 8 months (*in utero*) in age. This finding is based on a chart devised using modern data and longer birth lengths in modern infants will account for the discrepancy in age. It is likely that these infants died at birth. Mays in his 1995 paper argues strongly in favour of infanticide as a major cause of infant death in this period. He suggests that infanticide 'until recently was a widely practised and tolerated means of population control'. The age at which such deaths commonly occurred corresponds to the ages at death of the infants at Dymock. As no actual manner of death is agreed upon for cases of infanticide it is difficult to prove infanticide conclusively. There was no cause of death visible on these remains and it is impossible to tell whether these infants were victims of infanticide, were stillborn or died naturally.

### **Animal Bone** by Claire Inghem

Animal bone was recovered from numerous features, including ditches, pits, other linear features and a possible well, and was analysed with the aim of investigating animal husbandry and general economic practices. Details of a small quantity of animal bone recovered from medieval and post-medieval deposits can be found in the earlier assessment report (Baxter 1999).

### *Methodology*

The animal bones were identified and recorded at the Centre for Applied Archaeological Analyses (CAAA), University of Southampton. All anatomical elements were identified to species where possible with the exception of ribs and vertebrae, which were assigned to size categories. Mandibles and limb bones were recorded using the zonal method developed by Serjeantson (1996) to calculate the minimum number of individuals (MNI); this is based on the most numerous zone of a single element taking into account side. In addition, all bone fragments over 10 mm in the hand-recorded material were recorded to species or size category to produce a basic fragment count of the Number of Identified Specimens (NISP). Fragments categorised as large mammal are likely to belong to horse or cattle and those in the medium mammal category to sheep/goat or pig. For the purposes of this report these are included in the count of identifiable fragments.

The presence of gnawing and butchery together with the agent responsible was recorded as was evidence for burning. Measurements were taken according to the conventions of von den Driesch (1976). The wear stages of the lower cheek teeth of cattle, sheep and pig were recorded using the method proposed by Grant (1982) and age was attributed according to the method devised by Payne (1973) and Legge (1992). The fusion stage of post-cranial bones was recorded and age ranges estimated according to Getty (1975). Measurements of the crown height of horse teeth were recorded and age was estimated according to the method of Levine (1982).

A selected suite of elements was used during recording to differentiate between sheep and goat according to the methods of Boessneck (1969) and Payne (1985). These were the distal humerus, proximal radius, distal tibia, metapodials, astragalus, calcaneus and deciduous fourth premolar. No elements belonging to goat were positively identified. Birds identified as galliforms can include domestic chicken, pheasant, and guinea fowl, but as there is little or no good evidence for either of the last two in Roman Britain, assemblages from this period will mainly be chicken or 'domestic fowl'. Amphibians were differentiated according to the morphology of the ilium (Holman 1985).

### *Data*

A total of 966 fragments of animal bone was recovered by hand collection of which 63 per cent is identifiable to taxon or size category. Most of the animal bone came from deposits dated to the 1st–early 2nd century AD and mid 2nd century AD with only a small quantity recovered from late 2nd-century or later deposits (Table 10a). Overall, sheep/goat are the most numerous taxa according to NISP, although a consideration of the large and medium mammal categories suggests that cattle may have been equally numerous.

Sieved samples taken from selected features produced 919 fragments of animal bone of which 177 (19%) were identifiable to taxa or size category. Again, most came from deposits dated to the 1st–early 2nd century AD and mid 2nd century AD (Table 10b). The species lists for the two recovery methods are similar although sieving has allowed the recovery of a few bones belonging to small species such as woodcock (*Scolopax rusticola*), rodents and amphibians which may have been missed by hand collection.

### 1st–early 2nd century AD

Caprines dominate the remains from 1st–early 2nd-century AD deposits. They are almost twice as numerous as cattle (Table 11a) and represent 21 per cent of the identifiable assemblage. Pig is the least frequent of the major food animals (8%). Horse is represented by a few bones and, apart from eleven galliform specimens, is the only other domestic animal present.

The remains of wild mammals are scarce. Roe deer (*Capreolus capreolus*) is represented by a fragment of antler, red deer (*Cervus elaphus*) by a metacarpal with an unfused distal epiphysis, and hare (*Lepus europaeus*) by a radius and ulna and a molar tooth. Several bones belonging to rodent and frog (*Rana* spp.) were recovered from a pit and probably represent pit fall victims.

Cattle and caprines are fairly equally represented in the boundary ditch and beam slots but cattle are almost absent from non-boundary ditches and poorly represented in the pits (Table 11a). The predominance of the most robust elements such as loose teeth, mandible and tibial fragments is an indication that the assemblage has been biased by the effects of density mediated preservation. Despite this bias, and the small sample size, cattle, caprines and pig are represented by elements from all parts of the body – both major meat bearing bones and extremities (Table 12a). Tables 11a and 12a also indicate that whilst horse is present in small numbers their bones were recovered from a variety of feature types. Most of the galliform remains came from a pit (context 1198) and probably represent a partial skeleton.

Ageing data from both tooth eruption and wear (Table 13) and epiphyseal fusion are scarce. A single cattle mandible is able to provide ageing data; it belonged to an animal aged between 15 and 26 months at the time of death. Thirteen sheep/goat specimens provide dental ageing data: five derive from animals slaughtered between one and two years of age; one belonged to a caprine that died between six and twelve months; and the remainder were from individuals aged over three years at the time of death. Both of the two ageable pig mandibles belong to immature animals. Epiphyseal fusion data, although scarce, suggests a similar picture indicating that at least one of

Table 10. Sewage works: animal bone species representation according to phase (NISP).

a) hand collected	1st-early 2nd century AD	mid 2nd century	late 2nd century or later	Unspecified Roman	?RB	Total	n	%
Horse	8	—	—	—	—	8	8	1
Cattle	46	42	2	1	3	94	94	16
Sheep	11	4	—	—	—	15	15	2
Sheep/goat	72	51	—	—	4	127	127	21
Pig	29	15	1	—	—	45	45	7
Red deer	1	—	—	—	—	1	1	<1
Hare	1	1	—	—	—	2	2	<1
Galliform	10	2	—	—	2	14	14	2
Bird	2	2	—	—	—	4	4	1
Large mammal	72	89	9	—	10	180	180	30
Medium mammal	74	38	—	—	1	113	113	19
Small mammal	1	—	—	—	—	1	1	<1
Unidentifiable	237	117	1	2	5	362	362	
<b>Total</b>	<b>564</b>	<b>361</b>	<b>13</b>	<b>3</b>	<b>25</b>	<b>966</b>		
No. identifiable	327	244	12	1	20	604	604	
% identifiable	58	68	92	33	80	63		

b) sieved samples	1st-early 2nd century	mid 2nd century	Total	No.	%
Cattle	—	—	3	3	2
Sheep/goat	8	17	25	25	14
Pig	4	3	7	7	4
Roe deer	1	—	1	1	1
Hare	1	—	1	1	1
Galliform	1	1	2	2	1
Woodcock	—	2	2	2	1
Bird	2	10	12	12	7
Rodent	3	8	11	11	6
Frog	2	—	2	2	1
Amphibian	54	—	54	54	31
Large mammal	1	11	12	12	7
Medium mammal	12	8	20	20	11
Small mammal	22	3	25	25	14
Unidentifiable	323	419	742	742	
<b>Total</b>	<b>434</b>	<b>485</b>	<b>919</b>		
No. identifiable	111	66	177	177	
% identifiable	26	14	19		

Table 11. Sewage works: animal species representation according to feature (NISP).

a) 1st–early 2nd century AD	Beam slot	Boundary ditch	Ditch	Gully/ linear feature	Pit	Probable well	Total n	%
Horse	2	2	3	–	1	–	8	2
Cattle	9	19	2	3	11	2	46	11
Sheep/goat	8	15	21	3	39	5	91	21
Pig	5	4	9	1	11	3	33	8
Roe deer	–	–	–	–	1	–	1	<1
Red deer	–	–	1	–	–	–	1	<1
Hare	–	–	–	–	2	–	2	<1
Galliform	1	1	–	–	9	–	11	3
Bird	–	2	–	–	2	–	4	1
Rodent	–	–	–	–	3	–	3	1
Amphibian	–	–	–	–	54	–	54	12
Frog	–	–	–	–	2	–	2	<1
Large mammal	15	29	2	2	22	3	73	17
Medium mammal	11	12	6	2	50	5	86	20
Small mammal	–	–	–	–	23	–	23	5
<b>Total</b>	<b>51</b>	<b>84</b>	<b>44</b>	<b>11</b>	<b>230</b>	<b>18</b>	<b>438</b>	

b) mid 2nd century AD	Ditch	Grave	Gully/ linear feature	Pit	Total No.	%
Cattle	4	3	32	6	45	15
Sheep/goat	9	26	21	16	72	23
Pig	1	4	8	5	18	6
Hare	–	–	1	–	1	<1
Galliform	1	–	2	–	3	1
Woodcock	2	–	–	–	2	1
Bird	8	1	3	–	12	4
Rodent	4	3	1	–	8	3
Sm. mammal	2	1	–	–	3	1
Med. mammal	9	7	16	14	46	15
Lg. mammal	10	6	53	31	100	32
<b>Total</b>	<b>50</b>	<b>51</b>	<b>137</b>	<b>72</b>	<b>310</b>	

Table 12. Sewage works: anatomical representation of major species (NISP).

<b>a: 1st-early 2nd century</b>	<b>Horse</b>	<b>Cattle</b>	<b>Sheep/ Goat</b>	<b>Pig</b>	<b>Roe Deer</b>	<b>Red Deer</b>	<b>Galli- form</b>	<b>Hare</b>	<b>Large Mammal</b>	<b>Medium Mammal</b>
<b>AD</b>	—	—	—	—	—	—	—	—	—	—
Zygomatic	—	1	—	—	—	—	—	—	—	—
Occipital condyle	—	1	—	—	—	—	—	—	—	—
Frontal	—	1	—	—	—	—	—	—	—	—
Premaxilla	—	1	1	—	—	—	—	—	—	—
Maxilla	—	2	1	5	—	—	—	—	—	—
Mandible	1	4	17	4	—	—	—	—	—	—
Teeth	3	16	12	1	—	—	—	1	—	—
Hyoid	—	—	1	—	—	—	—	—	—	—
Atlas	—	1	—	—	—	—	—	—	—	—
Scapula	—	3	4	2	—	—	—	—	2	1
Coracoid	—	—	—	—	—	—	1	—	—	—
Humerus	—	—	4	2	—	—	1	—	—	1
Radius	—	2	12	—	—	—	1	—	—	—
Radius & ulna	—	—	—	—	—	—	—	1	—	—
Ulna	—	1	1	5	—	—	2	—	—	—
Pelvis	—	2	5	2	—	—	—	—	1	—
Femur	2	—	1	—	—	—	—	—	—	—
Tibia	—	3	13	3	—	—	—	—	1	1
Fibula	—	—	—	—	—	—	1	—	—	—
Tibiotarsus	—	—	—	—	—	—	2	—	—	—
Astragalus	—	—	1	—	—	—	—	—	—	—
Calcaneus	1	—	1	1	—	—	—	—	—	—
Metacarpal	—	1	5	—	—	1	—	—	—	—
Metatarsal	—	2	9	—	—	—	—	—	—	—
Carpometacarpal	—	—	—	—	—	—	3	—	—	—
Lateral metapodial	—	—	—	2	—	—	—	—	—	—
1st phalanx	—	1	2	—	—	—	—	—	—	—
3rd phalanx	1	—	1	1	—	—	—	—	—	—
Sacrum	—	1	—	—	—	—	—	—	—	—
Thoracic vert.	—	—	—	—	—	—	—	—	1	2
Lumbar vert.	—	—	—	—	—	—	—	—	—	1
Caudal vert.	—	—	—	—	—	—	—	—	—	2
Rib	—	—	—	—	—	—	—	—	4	10
Skull frag.	—	3	—	5	—	—	—	—	2	—
Antler frag.	—	—	—	—	1	—	—	—	—	—
Long bone frag.	—	—	—	—	—	—	—	—	15	21
Vertebra frag.	—	—	—	—	—	—	—	—	7	7
Rib frag.	—	—	—	—	—	—	—	—	17	40
<b>Total</b>	<b>8</b>	<b>46</b>	<b>91</b>	<b>33</b>	<b>1</b>	<b>1</b>	<b>11</b>	<b>2</b>	<b>50</b>	<b>86</b>

<b>b: mid 2nd century AD</b>	<b>Cattle</b>	<b>Sheep / Goat</b>	<b>Pig</b>	<b>Galli- form</b>	<b>Hare</b>	<b>Large Mammal</b>	<b>Medium Mammal</b>
Premaxilla	—	1	—	—	—	—	—
Maxilla	2	1	1	—	—	—	—
Mandible	—	3	2	—	—	—	—
Tooth	5	14	3	—	—	—	—
Atlas	—	1	—	—	—	—	—
Scapula	3	3	—	—	—	2	1
Humerus	3	4	3	—	—	—	1
Radius	2	4	1	—	—	—	—
Ulna	2	1	—	—	—	—	—
Radius & ulna	—	—	—	—	1	—	—
Pelvis	2	3	—	—	—	—	—
Synsacrum	—	—	—	1	—	—	—
Femur	—	3	2	2	—	—	—
Tibia	2	12	1	—	—	1	—
Lateral malleolus	2	1	—	—	—	—	—
Astragalus	1	1	—	—	—	—	—
Calcaneus	1	—	—	—	—	—	—
Navicular cuboid	1	—	—	—	—	—	—
Cuneiform	1	—	—	—	—	—	—
Sesamoid	—	—	—	—	—	1	—
Metacarpal	1	2	—	—	—	—	—
Metatarsal	1	1	—	—	—	—	—
Metapodial	3	3	—	—	—	1	—
Lateral metapodial	—	—	1	—	—	—	—
1st phalanx	2	1	1	—	—	—	—
2nd phalanx	—	1	1	—	—	—	—
3rd phalanx	2	1	—	—	—	—	—
Caudal vert.	—	—	—	—	—	—	1
Rib	—	—	—	—	—	1	4
Skull frag.	9	—	2	—	—	5	—
Long bone frag.	—	—	—	—	—	9	15
Vertebra frag.	—	—	—	—	—	2	4
Rib frag.	—	—	—	—	—	41	20
<b>Total</b>	<b>45</b>	<b>61</b>	<b>18</b>	<b>3</b>	<b>1</b>	<b>100</b>	<b>46</b>

<b>c: late 2nd century AD or later</b>	<b>Cattle</b>	<b>Pig</b>	<b>Large Mammal</b>
Mandible	1	—	—
Lower premolar	—	1	—
Metatarsal	1	—	—
Long bone frag.	—	—	4
Rib frag.	—	—	1
<b>Total</b>	<b>2</b>	<b>1</b>	<b>9</b>

Table 13. Sewage works: estimated animal age according to tooth eruption and wear.

	P4	M1	M2	M3	Estimated age
<b>Cattle</b>					
1st – early 2nd century	(j)	f	–	–	15–26 months
<b>Sheep/Goat</b>					
1st – early 2nd century	(g)	b	–	–	6–12 months
1st – early 2nd century	(h)	f	b	–	12–24 months
1st – early 2nd century		f	d	–	12–24 months
1st – early 2nd century	(l)	f	d	–	12–24 months
1st – early 2nd century	(n)	g	–	–	12–24 months
1st – early 2nd century		g	d	e	12–24 months
1st – early 2nd century	h	k	g	e	3–4 years
1st – early 2nd century		–	–	e	3–4 years
1st – early 2nd century	g	h	g	d	3–4 years
1st – early 2nd century	h	g	f	e	3–4 years
1st – early 2nd century		–	h	g	4–8 years
1st – early 2nd century		m	j	h	8–10 years
1st – early 2nd century	l	m	m	j	8–10 years
mid 2nd century	(k)	g	d	–	12–24 months
mid 2nd century		–	–	e	3–4 years
<b>Pig</b>					
1st – early 2nd century		f	b	–	
1st – early 2nd century		–	c	e	

the cattle died before reaching 24–30 months; that most caprines had been slaughtered before reaching four years; and that pigs were slaughtered whilst immature. In addition, the presence of a radius with the proximal epiphysis unfused is evidence for the death of at least one lamb/kid below four months of age. The only ageing data available for horse comes from a mandibular molar recovered from a ditch; it belonged to an animal aged between seven and three quarters and nine and a quarter at the time of death. Two pig maxillae able to provide sexing information both belonged to males.

A few bones show evidence for gnawing by canids (Table 14a). Several bones exhibit evidence for butchery; the majority have cut (rather than chop) marks which were seen on the remains of all the major domestic taxa (Table 14b). A considerable number of bone fragments have been burnt although few burnt bones were identifiable to either taxa or size category (Table 14c).

Metrical data is shown in Table 15. Apart from a cattle radius that is slightly smaller, where comparison was possible all measurements fall within the range collected from contemporary sites and held on the Animal Bone Metrical Archive Project (ABMAP) (<http://ads.ahds.ac.uk/catalogue/specColl/abmap/index.cfm>).

#### Mid 2nd century AD

The assemblage recovered from mid 2nd-century AD features is slightly smaller in terms of NISP than that dated to the 1st–early 2nd century AD, with a total of 310 identifiable fragments

Table 14. Sewage works: incidence of taphonomy according to phase (NISP).

<b>a: gnawing</b>	<b>1st-early 2nd century AD</b>		<b>mid 2nd century</b>	
Cattle	–			4
Sheep/goat	4			1
Pig	3			1
Large mammal	1			1
<b>Total</b>	<b>8</b>			<b>7</b>

<b>b: butchery</b>	<b>1st-early 2nd century AD</b>		<b>mid 2nd century</b>	
	Cut	Chop	Cut & chop	Cut
Cattle	1	2	–	2
Sheep/goat	3	–	–	3
Pig	2	1	1	1
Galliform	2	–	–	1
Large mammal	7	–	–	8
Medium mammal	3	–	–	4
<b>Total</b>	<b>18</b>	<b>3</b>	<b>1</b>	<b>19</b>

<b>c: burning</b>	<b>1st-early 2nd century AD</b>		<b>mid 2nd century</b>		<b>late 2nd century or later</b>	
	Calcined	Charred	Calcined	Charred	part burnt	Charred
Cattle	–	1	–	1	1	–
Sheep/goat	–	2	–	2	–	–
Pig	–	2	–	–	–	–
Hare	–	1	–	–	–	–
Large mammal	1	–	–	2	–	–
Medium mammal	2	5	–	5	–	–
Small mammal	1	–	–	–	–	–
Unidentifiable	85	77	60	16	–	1
<b>Total</b>	<b>89</b>	<b>88</b>	<b>60</b>	<b>26</b>	<b>1</b>	<b>1</b>

recovered (Table 11b). Species representation is similar, although sheep/goat (23%) and cattle (15%) are slightly better represented in this phase at the expense of pig (6%) and horse. This later assemblage does however differ in terms of fragments assigned to mammal size categories with fragments belonging to large mammals twice as numerous as those belonging to medium size mammals (Table 12b). Three bones belonging to galliforms are the only other remains of domestic



Table 15. Sewage works: animal metrical data

<b>Phase</b>	<b>Taxa</b>	<b>Element</b>	<b>Measurement type</b>		<b>BG</b>	<b>SLC</b>
1st-early 2nd century	Cattle	Scapula	<b>LG</b>	<b>GLP</b>	44.3	43.2
			49.5	57.1		
mid 2nd century	Cattle	Radius	<b>Bp</b>	<b>BFp</b>		
1st-early 2nd century	Sheep	Radius	60.2 (E)	57.6		
1st-early 2nd century	Sheep	Radius	27.7	24.3		
			30.5	27.6		
1st-early 2nd century	Sheep	Tibia	<b>Bd</b>	<b>Dd</b>		
1st-early 2nd century	Sheep	Tibia	22	17.2		
mid 2nd century	Sheep	Tibia	24.4	19.8		
			23.5	23.2		
			<b>GL</b>	<b>GLm</b>		
mid 2nd century	Cattle	Astragalus	56.3	50.8		
			<b>GL</b>	<b>Bp</b>	<b>Dp</b>	<b>SD</b>
					53.6	
1st-early 2nd century	Cattle	Metacarpal				
mid 2nd century	Cattle	Metatarsal	–	39.5	41.3	–
1st-early 2nd century	Sheep/goat	Metatarsal	–	16.5	17.3	–
1st-early 2nd century	Sheep	Metatarsal	122.1	19.1	17.4	11.9
					23.5	23.6
1st-early 2nd century	Galliform	Humerus	<b>GL</b>	<b>BP</b>	<b>BD</b>	<b>SC</b>
			69.1	19.1	14.3	6.4
1st-early 2nd century	Galliform	Ulna	<b>Bp</b>	<b>Dip</b>	<b>SC</b>	<b>Did</b>
1st-early 2nd century	Galliform	Ulna	10	–	4.9	8.9
			8.5	13	–	–
mid 2nd century	Galliform	Femur	<b>GL</b>	<b>Lm</b>	<b>Bp</b>	<b>Dp</b>
mid 2nd century	Galliform	Femur	85.7	81.5	17.2	12
			<b>Dd</b>	81.5	–	12
1st-early 2nd century	Galliform	Tibiotarsus	12.7			
					<b>Bd</b>	<b>Dd</b>
					16.3	14.1
					17	15

animals present. Wild species are again poorly represented, this time by a radius and ulna belonging to hare retrieved from a probable gully and two bones belonging to woodcock retrieved from a ditch.

While the assemblage is too small to examine body part representation in detail, the major domesticates (cattle, caprines and pig) are represented by elements from all parts of the body. As in the case of 1st–early 2nd-century deposits there is clearly a predominance of tibia fragments belonging to sheep/goat. Caprines are more numerous than cattle in all feature types except gullies and other linear features. Consideration of the large and medium size mammal categories, however, suggests that the remains of cattle may be as numerous as caprines in the pits (Tables 11b and 12b).

Ageing data is again scarce. There is no evidence for immature cattle: of the seven bones that could provide epiphyseal fusion data all were fused. Two specimens, a mandible and an isolated mandibular molar, were able to provide data for sheep/goat suggesting that at least one animal was between one and two years old at the time of death and another between three and four years. The presence of several bones with unfused epiphyses provides evidence for the presence of immature sheep/goat; a distal humerus attests to the death of a lamb/kid aged less than four months. As in earlier phases there is no evidence for mature pigs. The one pig mandible able to provide sexing information belonged to a male.

A few bones display evidence for gnawing (Table 14a). The frequency of butchered bones is highest in this period with nineteen possessing cut marks (Table 14b). A large number of fragments have been burnt. Most are calcined and are unidentifiable whilst several of the charred specimens are identifiable (Table 14c).

Metrical data is shown in Table 15. Where comparison was possible all measurements fall within the range collected from contemporary sites and held on ABMAP (<http://ads.ahds.ac.uk/catalogue/specColl/abmap/index.cfm>).

#### Late 2nd century AD or later

This phase produced few identifiable bone fragments: two (a mandible and metatarsal) belonging to cattle, one (a premolar) to pig and nine to large mammal (Table 12c) and all coming from pits. Ageing data are absent. None of the bones shows evidence for gnawing or butchery. A single, unidentifiable fragment is charred.

#### *Discussion and Interpretation*

The relative frequency of the major domesticates (cattle, caprines and pig) represented at Roman sites has for some time been shown to vary according to the type of site and the degree of 'Romanisation'. Thus high frequencies of sheep/goat are commonly found on native rural sites whilst military and other 'Romanised' settlements tend to display higher frequencies of cattle and pig (King 1978; 1991). More recently it has been suggested that differences in the proportion of the major food animals reflect not only changes in dietary choice but also fundamental shifts in animal husbandry strategies, all occurring in response to the socio-economic change that followed the Conquest (Hamshaw-Thomas 2000, 168). At Dymock, whilst caprines are more numerous than cattle in terms of fragment counts, the larger size of cattle suggests that beef was the meat more often eaten. The increased relative frequency of fragments belonging to large mammal in mid 2nd-century deposits hints that the numbers of cattle increased over time.

The small sample of ageing data suggests that caprines were valued for both meat and wool. During the 1st–early 2nd century AD a number of caprines were slaughtered before reaching two years. That suggests that the production of prime meat was important. However, an almost equal number were kept until they reached at least four years of age and this is likely to reflect animals

being managed for their wool. King (1991, 17) notes that caprine assemblages from both urban and rural sites tend to be adult-dominated and suggests that reflects the development of a wool economy. This has also been argued by Maltby (1994, 96) who observed that sheep from both Winchester Northern Suburbs and nearby Owslebury were aged over three years old when slaughtered. At Dymock there is no evidence to suggest that either cattle or pigs were kept into adulthood. For pigs the explanation for the lack of such evidence might be their primary role as meat producers. For cattle it might possibly be the small sample size.

The possibility that Dymock was a consumer, rather than a producer, site is suggested by the presence of male pigs; most males would have been sent for slaughter as soon as they reached the required meat weight and females kept into adulthood for breeding purposes. The presence of bones belonging to foetal or neonatal animals reveals that sheep/goat at least were being bred in the surrounding hinterland and the presence of elements belonging to all parts of the carcass indicates that cattle, caprines and pig arrived at Dymock on the hoof. This is unsurprising for a site of this period. The mixed nature of the deposits recovered from urban sites such as Silchester (Ingrem n.d.) and Exeter (Maltby 1979, 87) suggests that all parts of the skeleton were distributed along with the meat. At some Roman sites large dumps of primary butchery waste have been found (Maltby 1985) and, although this is not the case at Dymock, the variation in species frequency between the boundary ditch, other linear features and pits does suggest the existence of differential disposal practices related to animal size. It has often been suggested that primary butchery, especially of large animals, is most likely to have taken place on the periphery of settlements with the waste being dumped away from the main settlement areas whilst smaller animals such as caprines and pigs are more likely to have been cooked whole with their bones disposed of in centrally located pits (*ibid.*).

The effects of taphonomy on bone survival should not be forgotten as it is likely to have created considerable bias in the archaeological record. Bone preservation is well known to be density dependant and for this reason the bones of sheep-sized animals are less likely to survive than are those of cattle-sized animals (Lyman, 1994). The burial context is also likely to have a considerable effect on bone survival; pits generally offer protective micro-environments more likely to preserve the bones of small species than conditions pertaining in ditches and shallow features. At Dymock fragments belonging to cattle and large animals tend to be better represented in ditches and other linear features. Although this could be a genuine reflection of size-related disposal practices it could equally represent differential survival of the remains of cattle-sized animals.

Horses are generally relatively poorly represented at Roman sites, especially on urban sites and in deposits representing butchery waste (Maltby 1981, 184). This may result from their treatment being different from that of animals whose main purpose was to provide food, both during and after life. Variation in the proportion of horse bones recovered from rural, compared to urban, sites in Britain has been noted by Maltby (1994 89) who suggested that a greater emphasis on the acquisition of beef by the urban population resulted in the retention and disposal of working animals at rural settlements.

Wild species are commonly found in small numbers on Roman sites and the presence of roe deer, red deer, hare and woodcock suggests that hunting was an occasional pursuit.

### *Conclusions*

The assemblage of animal bone recovered from Dymock, although relatively small in terms of the number of identifiable fragments, in general conforms to the pattern displayed by contemporary sites. The high proportion of caprines and correspondingly low proportions of cattle and pig during the 1st–early 2nd century AD suggest that the site was not particularly ‘Romanised’ in character.

However, there is some evidence to suggest that, in line with national trends, wool was of considerable importance and that the contribution made by cattle may have increased with time.

### **Archaeobotanical Evidence** by Julie Jones

#### *Methodology*

Samples for environmental assessment were taken during the excavation from features associated with two of the timber buildings, from pit and ditch fills and deposits associated with the inhumations.

The samples, which varied from 1.55 kg/1.5 litres to 28.8 kg/30 litres, were wet sieved in a flotation tank to a minimum mesh size of 250 microns for the float and 500 microns for the residue. The floats and residues were then dried and examined for charred plant remains. An assessment of the charred plant remains (Jones 2000) showed that in general most deposits produced low concentrations of charred material with variable quantities of charcoal. Preservation of the charred cereal grain and chaff was poor, with many grains fragmented, although the weed seeds were in good condition for species identification. Two samples were recommended for full analysis, a wood fill (1045) from Phase 2 pit [1038], which included the greatest concentration and best preserved assemblage of cereals, and the fill (1186) of a Phase 1 pit [1185], which had a fairly rich weed assemblage. Despite the low concentrations of charred remains in the remaining samples the results from all samples are shown in Tables 16 and 17 and are included in the following discussion. Plant nomenclature and habitat information are based on Stace (1997).

#### *Phase 1 Features*

##### Structure A (contexts 1119, 1128, 1127, 1219)

Four samples were examined from features associated with Structure A. Context (1119), the fill of post pit [1120] and the fill of construction trench [1069], is thought to be the only deposit contemporary with the use of Structure A. A small float (<1ml) from the feature consisted of small charcoal fragments with a single unidentifiable cereal grain plus two weed seeds. The residue included a few large pieces of burnt clay, with several examples showing the impressions of plant material including grain and possible stem fragments. One of the smaller pieces contained the impression of what appeared to be textile.

Context (1128), the fill of posthole [1129] in construction trench [1069], may also be contemporary with the construction phase, but contained only charcoal fragments and a single grass (Poaceae) caryopsis. Both (1119) and (1128) were sealed by a deposit of burnt daub, (1083), associated with the destruction of the building. The small float from (1128) only produced fine charcoal fragments.

The fill (1127) of a post pipe [1129] from within the wall of Structure A (1127) included burnt clay fragments with only four charred weed seeds. (1219) was a sample of weathered natural from within the interior of Structure A. Apart from a few charcoal fragments only a single barley, one unidentifiable cereal grain, and one seed of cleavers (*Galium aparine*) were recovered.

##### Structure B (context 1032)

Only one sample was recovered from Structure B. This came from context (1032) which formed the burnt fill of post [1033]. A single grass caryopsis (*Poa/Phleum*) and several dock (*Rumex*) seeds were recorded.

### Structure G (context 1198)

Context (1198) was the lower fill of Structure G [1195]. Three wheat (*Triticum*) and three oat (*Avena*) grains were present together with a small assemblage of arable and grassland weeds including narrow-fruited cornsalad (*Valerianella dentata*) and barren brome (*Anisantha sterilis*). The single hazel (*Corylus avellana*) nut fragment is likely to relate to hazel wood used as a fuel that had become incorporated in this deposit.

### Pits (contexts 1186, 1118 and 1053)

Circular pit [1185], which lay within the area of Structure D, contained an ashy secondary fill (1186), including a small assemblage of cereal grains, such as wheat, hulled barley (*Hordeum*) and oats, with a few spelt wheat (*Triticum spelta*) and other hulled wheat glume bases and several silicified wheat/barley awns. Although the cereal component of the sample was limited, 461 weed seeds were recorded from several habitat groups. Arable weeds, likely to have been associated with the cereal crop, include fat-hen (*Chenopodium album*), orache (*Atriplex*), black bindweed (*Fallopia convolvulus*), cleavers and scentless mayweed (*Tripleurospermum inodorum*). There are, however, also many grasses (Poaceae), fescues (*Festuca*), meadow-grass/cat's-tail (*Poa/Phleum*) and brome (*Bromus*), with other taxa such as yellow rattle (*Rhinanthus minor*), dock, vetches (*Lathyrus/Vicia*), clover/medick (*Trifolium/Medicago*) and ribwort plantain (*Plantago lanceolata*), typical of grassy habitats, with further indications of damp ground taxa such as sedge (*Carex*), spike-rush (*Eleocharis palustris/uniglumis*) and rush (*Juncus*).

Context (1118) was the fill of a small circular pit or posthole [1117]. The fill had an ashy nature with fragments of burnt bone and it was originally thought that this represented a cremation. Bones, including some burnt fragments, were fairly numerous and have been identified as amphibian and rodent remains (Ingrem, above). The float included few charcoal fragments, with several wheat and oat grains, a single wheat glume base and weed seeds including dock, sedge and meadow-grass/cat's-tail.

Context (1053), the fill of a large sub-rectangular pit [1054] which cut the backfilled construction trenches of Structure A, only produced small charcoal fragments and a single dock seed.

### *Phase 2 Features*

### Inhumations (contexts 1192 and 1166)

Samples were taken from fills of two of the adult inhumations. Context (1192) was the fill of grave cut [1194]. The charred remains included a single oat grain, a wheat glume base, plus several weed seeds. The fill (1166) of grave cut [1168] produced five wheat and five oat grains, with 22 wheat glume bases and 7 spelt glume bases. The weed assemblage was fairly limited with the arable weeds brome and redshank (*Persicaria maculosa*), plus grasses and a few vetches (*Lathyrus/Vicia*).

### Ditch (context 1084)

Context (1084) was the secondary fill of ditch [1020]. It produced abundant charcoal, although cereal remains were sparse with three wheat, five barley and four oat grains plus spelt wheat, glume bases and an oat awn. A small assemblage of weed seeds included the same range of arable weeds as found in the gully fill (1123 below), plus weeds more typical of grassland including buttercup (*Ranunculus acris/repens/bulbosus*), dock, ribwort plantain and grasses.

### Gully (context 1123)

Context (1123) was the fill of gully [1124]. Larger charcoal fragments were associated with a few possible oat grains (cf. *Avena*), a single barley grain, and several wheat glume bases showing the





<i>Valerianella dentata</i> (L.) Pollich	Narrow-fruited Cornsalad	-	-	-	-	1	-	-	-
CD									-
ASTERACEAE									
<i>Tripleurospermum</i> <i>indorum</i> (L.) Schultz-Bip	Scentless Mayweed	-	-	-	-	-	7	-	CD
JUNCACEAE									
<i>Juncus</i> spp	Rush	-	-	-	-	-	2	-	GMR <sub>w</sub>
CYPERACEAE									
<i>Carex</i> spp	Sedge	-	-	1	-	-	5	5	GMPRW
<i>Eleocharis palustris</i> / <i>uniglumis</i>	Spike-rush	-	-	-	-	-	6	-	MP <sub>w</sub>
POACEAE									
<i>Agrostis</i> spp	Bents	-	-	-	-	-	7	-	CDGM
<i>Anisantha sterilis</i> (L.) Nevski	Barren Brome	-	-	-	-	1	1	-	CD, G-o
<i>Bromus racemosus</i> / <i>bordaceus/secalinus</i>	Smooth/Soft/Rye Brome	-	-	-	-	-	-	-	- 10
-	DG/DG/CD								
<i>Cynosurus cristatus</i> L.	Crested Dog's-tail	-	-	-	-	-	10	-	G
<i>Festuca</i> spp	Fescue	-	-	-	-	-	114	-	DGHW
<i>Poa/Phleum</i> spp	Meadow-grass/ Cat's-tail	-	-	-	1	-	101	1	G
Poaceae indet	Grass	1	1	-	-	1	82	-	G
<b>Total</b>	<b>Total</b>	<b>2</b>	<b>1</b>	<b>4</b>	<b>1</b>	<b>5</b>	<b>15</b>	<b>1</b>	<b>461 8</b>

## Habitats:

B: bankside; C: cultivated/arable; D: disturbed; E: heath/moor; G: grassland; H: hedgerow; M: marsh; P: ponds, ditches – stagnant/slow flowing water; R: rivers/streams; S: scrub; W: woodland.

c: calcareous; d: dry soils; l: light soils; n: nitrogen rich soils; o: open habitats; p: phosphate rich soils; w: wet/damp soils.

# cultivated plant/of economic importance.



characteristic veins of spelt wheat. A small assemblage of arable weeds included brome, cleavers, chickweed (*Cerastium*) and orache. The few grass caryopses plus buttercup and dock may relate to field edge species gathered with the cereal crop or possibly with hay.

#### Pits (contexts 1066, 1045 and 1217)

Burnt material (1066) from the base of pit [1043] was sampled. A small assemblage of cereal remains included wheat grain and glume bases, with oat and brome also present. The seeds are mostly typical grassland weeds with spike-rush suggesting damper ground conditions.

Context (1045) formed the burnt fill of pit [1038]. The float produced an abundance of charred cereal grains and, although c.30 per cent of these were so poorly preserved they were classified as 'cereal indeterminate', there were over 200 wheat, 50 barley and 20 oat grains. The majority of the wheat was identified as a hulled variety from the slender parallel-sided grains showing a rounded dorsal profile. The presence of well-preserved glume bases and spikelet forks of *Triticum spelta* confirm the presence of spelt wheat. These show the typical sharp keel with clear lengthwise striations on the glume face and, although this is not so clearly visible on many of the other examples found, these have been identified as chaff from hulled wheat. A small proportion of the wheat grains (<6%) were of a more rounded profile, typical of free-threshing wheat, so, although no accompanying chaff was recovered, it seems likely that two varieties were present. Barley was less abundant. Some of the grains were well enough preserved, with traces of the lemma and palaea visible, to confirm the presence of hulled barley; in some cases straight grains were also recorded, suggesting that both two and six row forms may have been present. A single rachis internode was the only barley chaff. There were also a few oat grains. Several examples of wheat/barley awns and a wheat glume beak were preserved in a silicified form. The bulk of the charred weed assemblage is brome (*Bromus racemosus* /*bordaceus* /*secalinus*) caryopses. Rye brome (*Bromus secalinus*) is a typical weed of cereals and marginal and waste ground; it may have grown amongst the crops with the other arable weeds such as corncockle (*Agrostemma githago*) and knotgrass (*Polygonum aviculare*). Smooth/soft brome (*Bromus racemosus* /*bordaceus*) is more typical of grassy places, as are the other grasses, meadow-grass/cat's-tail and fescues. Clover/medick, vetch, ribwort plantain and dock are also typical of grassy habitats. There are also indications for damp ground species with spike-rush, sedge and lesser spearwort (*Ranunculus flammula*).

The fill (1217) of truncated pit [1218] appeared to have been burnt *in situ* and has been interpreted as an oven. The small float (<1 ml) only produced fine charcoal fragments and several dock seeds.

#### *Conclusions*

Unfortunately much of the evidence associated with the timber buildings is from small assemblages of charred plant remains from features such as fills of postholes, construction trenches and gullies. As such it represents secondary deposition of debris scattered around the buildings. Similarly samples from the enclosure ditch and fills associated with inhumations outside the enclosure produced only limited evidence and are likely to represent stray occurrences from activity around the site.

There is, however, evidence for wheat and barley from cereal grains with chaff, including some well-preserved spelt wheat spikelet forks and glume bases. Spelt is a hardy cereal which thrives on heavy soils, is ideal for winter sowing and is the form most commonly recovered in the Roman period.

The best evidence comes from two pit fills located inside the enclosure. The ashy fill (1186) of circular pit [1185] within Structure D included many charred weed seeds with the cereal

Table 17. Sewage works: archaeobotanical results – Phase 2 inhumations and features.

Context		1192	1166	1084	1123	1045	1066	1217	Habitat
Feature	Sample	1194	1168	1020	1124	1038	1043	1218	
Sample size kg/litres		517	512	503	515	500	502	514	
	Size of residue (kg)	14.4/14	23.8/55.7	23.7/26	28/28	4/4	19.8/20	23.9/28	
	Size of float (ml)	0.65	1.62	3.0	2.12	0.12	2.75	4.1	
Charred cereal remains		25	50	120	90	<1	120	90	
<b>Grain</b>									
<i>Triticum</i> sp	Hulled Wheat	–	5	3	–	204	2	–	#
<i>Triticum</i> sp	Free-threshing Wheat	–	–	–	–	14	–	–	#
cf. <i>Triticum</i> sp	Wheat	–	–	–	–	29	2	–	#
<i>Hordeum</i> sp	Barley	–	–	5	1	8	–	–	#
<i>Hordeum</i> sp (hulled)	Hulled Barley	–	–	–	–	32	–	–	#
<i>Hordeum</i> sp		–	–	–	–	–	–	–	
(hulled/straight)	Hulled Barley	–	–	–	–	6	–	–	#
cf. <i>Hordeum</i> sp	Barley	–	–	–	–	4	–	–	#
<i>Avena</i> sp	Oat	1	5	4	3	20	5	–	#
Cereal indet		–	–	3	–	130	3	–	#
	<b>Total:</b>	<b>1</b>	<b>10</b>	<b>15</b>	<b>4</b>	<b>447</b>	<b>12</b>	<b>0</b>	
<b>Chaff</b>									
<i>Triticum spelta</i>									
(glume base)	Spelt wheat	–	7	2	3	14	3	–	#
<i>Triticum</i> sp									
(glume base)	Hulled Wheat	1	22	1	3	58	4	–	#
<i>Triticum spelta</i>									
(spikelet fork)	Spelt Wheat	–	–	–	–	3	–	–	#
<i>Triticum</i> sp									
(spikelet fork)	Hulled Wheat	–	2	–	–	25	–	–	#
<i>Hordeum</i> sp									
(rachis internode)	Barley	–	1	–	–	1	–	–	#
<i>Triticum/Hordeum</i> spp									
(silicified awns)	Wheat/Barley	–	–	–	–	<10	–	–	#
<i>Triticum</i> sp (silicified glume beaks)		Wheat	–	–	–	–	1	–	–
<i>Avena</i> sp (awn)	Oat	–	–	1	–	–	1	–	#
Cereal indet (embryo)		–	–	–	–	3	–	–	#
	<b>Total:</b>	<b>1</b>	<b>32</b>	<b>4</b>	<b>6</b>	<b>104</b>	<b>8</b>	<b>0</b>	



<i>Galium aparine</i> L. JUNCACEAE	Cleavers	-	-	6	1	-	-	CHSo
<i>Juncus</i> sp CYPERACEAE	Rush	-	-	1	-	-	-	GMRw
<i>Carex</i> spp <i>Eleocharis palustris</i> / <i>uniglumis</i> POACEAE	Sedge	-	-	2	1	1	1	GMPRW
<i>Bromus racemosus</i> / <i>hordeaceus/secalinus</i> DG/DG/CD	Spike-rush	-	-	-	-	3	2	MPw
<i>Cynosurus cristatus</i> L. <i>Festuca</i> spp <i>Poa/Phleum</i> spp Poaceae indet	Smooth/Soft/Rye Brome	1	4	5	2	82	5	-
	Crested Dog's-tail	-	-	-	-	-	3	G
	Fescue	-	-	-	-	30	-	DGHw
	Meadow-grass/Cat's-tail	1	-	-	-	12	-	G
			2	16	4	5	6	G
<b>Total:</b>		<b>3</b>	<b>10</b>	<b>55</b>	<b>22</b>	<b>171</b>	<b>21</b>	<b>2</b>

## Habitats:

B: bankside; C: cultivated/arable; D: disturbed; E: heath/moor; G: grassland; H: hedgerow; M: marsh; P: ponds, ditches – stagnant/slow flowing water; R: rivers/streams; S: scrub; W: woodland.

c: calcareous; d: dry soils; l: light soils; n: nitrogen rich soils; o: open habitats; p: phosphate rich soils; w: wet/damp soils.

# cultivated plant/of economic importance.

component restricted to a few wheat and barley grains and accompanying chaff. The arable weed component includes species typical of disturbed ground habitats which are likely to have grown with the cereal crops. Cleavers and black bindweed are both twining species which could easily have become attached to cereal stems and cut with them at harvest. Other species such as fat-hen and orache have no preferences for soil type and will thrive wherever soil disturbance occurs.

Phase 2 pit [1038] contained a burnt fill (1045) with a rich assemblage of charred cereal grains, accompanying chaff and weed seeds. Grain morphology suggests that both hulled and free-threshing varieties of wheat were present and well-preserved glume bases and spikelet forks confirm the presence of spelt wheat. There is also evidence for both barley and oats although these were less abundant than the wheat. The oats may represent an additional crop but no floret bases were preserved to confirm whether they were cultivated or wild forms, the latter frequently present as crop weeds. The most common weeds are brome, which grows as a crop weed but is also considered to have been utilised as an additional grain to help bulk out crops. Other common arable weeds which would have been gathered with the crops at harvest include corncockle and knotgrass.

Many of the charred weeds from both the above contexts are more commonly thought of today as grassland species. They include dock, vetch and clover/medick as well as grasses brome, fescue, meadow-grass/cat's-tail, many of these typical of grassy places, rough and cultivated ground. Ribwort plantain, meadow-grass/cat's-tail and bents (*Agrostis*) are typical of a range of grassland habitats from damp meadows and pastures to rough ground while crested dog's-tail (*Cynosurus cristatus*) is found in meadows and pastures on a wide range of soils (Fitter, Fitter and Farrer 1987).

There are also indications in both samples for areas of damp ground with the presence of rush in (1186), sedges and spike-rush, the latter a plant of damp places frequently found in association with charred cereal assemblages. The common occurrence of these damp ground elements suggests that parts of fields used for crop cultivation in the past may have been poorly drained or that use was made of marginal land (Jones 1978). Some species may have invaded from adjacent unploughed fields or have continued to grow as residual species once the fields were cultivated.

In both samples there were a few examples of silicified wheat/barley awns. Silicification is a process shown to occur in high-temperature oxidising conditions, typical of a bonfire burnt down to a heap of glowing charcoal. All the carbon is burnt, leaving only the silica skeleton of remains such as cereal chaff. Silicified remains have been recovered from other sites from contexts such as ovens or kiln floors and corn drier flues (Robinson and Straker 1991) and it may be possible that this material originated from a similar feature.

Although there is only fairly limited evidence for cereal crop cultivation, spelt wheat and barley are shown to have occurred in several features. Oats and brome may have occurred as weeds or have been used as a valuable food source to help bulk out the crops. Much of the evidence comes from the abundance of weed seeds, many of them typical of disturbed ground or grassland habitats today and frequently recovered in association with charred cereal remains in archaeological contexts. This suggests that they were growing with the cereal crops, on field margins, or adjacent to boundary ditches which may have been wet and were harvested with the cereals. The presence of the charred remains in secondary contexts makes interpretation of crop-processing activities difficult, but small weed seeds, items of chaff and silicified awns are likely to have originated from cereal processing on the site, for example from cleanings from ovens or kilns or from the remains of fine sievings used in hearths as tinder. It seems likely that crop production was local with fields of wheat and barley cultivated by the inhabitants of the settlement at Dymock.

**Charcoal** by Rowena Gale

Charcoal was recorded in most of the environmental samples but usually in insufficient quantities to warrant examination. This report presents the analysis of comparatively charcoal-rich samples from three Roman pits, [1185], [1038], and [1043], two of which contained metal-working debris. The study was undertaken to provide environmental data and to assess the economic use of woodland resources for industrial purposes.

*Methodology*

The charcoal was fairly well preserved and reasonably abundant. That from [1185] and [1043] consisted almost entirely of narrow roundwood. The samples were prepared using standard methods (Gale and Cutler 2000). Anatomical structures were examined using incident light on a Nikon Labophot-2 compound microscope at magnifications up to  $\times 400$  and matched to prepared reference slides of modern wood. When possible, the maturity of the wood was assessed (i.e., heartwood/sapwood) and stem diameters recorded. It should be noted that during the charring process wood may be reduced in volume by up to 40 per cent.

*Results*

The taxa and number of fragments identified are presented in Table 18. Classification follows that of *Flora Europaea* (Tutin, Heywood *et al.* 1964–80). Group names are given when anatomical differences between related genera are too slight to allow secure identification to genus level. These include members of the Pomoideae (*Crataegus*, *Malus*, *Pyrus* and *Sorbus*) and Salicaceae (*Salix* and *Populus*). When a genus is represented by a single species in the British flora it is named as the most likely origin of the wood, given the provenance and period, but it should be noted that it is rarely possible to name individual species from wood features and that exotic species of trees and shrubs were introduced to Britain from an early period (Godwin 1956; Mitchell 1974). The anatomical structure of the charcoal was consistent with the following taxa or groups of taxa:

Aceraceae. *Acer campestre* L., field maple

Corylaceae. *Corylus avellana* L., hazel

Fagaceae. *Quercus* sp., oak

Rosaceae. Subfamilies:

Pomoideae, which includes *Crataegus* sp., hawthorn; *Malus* sp., apple; *Pyrus* sp., pear; *Sorbus* spp., rowan, service tree and whitebeam. These taxa are anatomically similar; one or more taxa may be represented in the charcoal.

Table 18. Sewage works: charcoal from Roman contexts.

Context	Sample Description	<i>Acer</i>	<i>Corylus</i>	Pomoideae	<i>Prunus</i>	<i>Quercus</i>
Salicaceae	<i>Ulmus</i>					
1045 500	Fill of pit 1038 –	–	2	1	42h, 32s–	–
1066 502	Fill of pit 1043 16r	25r	21r	4r	3r 4r	1r
1186 511	Fill of pit 1185 2r	8r	1r	29r	1h, 3s 2r	–

Key: h = heartwood; r = roundwood (diameter <20 mm); s = sapwood (diameter unknown)

Prunoideae, which includes *Prunus* sp., possibly both *P. spinosa* L., blackthorn and *P. avium* L., cherry or gean  
Salicaceae, which includes *Salix* sp., willow, and *Populus* sp., poplar. In most respects these taxa are anatomically similar  
Ulmaceae. *Ulmus* sp., elm.

Pit 1185 (context 1186)

Charcoal was recovered from the fill (1186) of pit [1185] within the area of Structure D. The function of the pit is unknown but since it also contained cereal grains and bone it seems likely to have been used as a repository for domestic waste. The charcoal consisted of burnt brushwood ranging in diameter from <1 mm–4 mm, mainly from blackthorn (*Prunus spinosa*) but also including hazel (*Corylus avellana*), field maple (*Acer campestre*), oak (*Quercus* sp.), willow (*Salix* sp.) or poplar (*Populus* sp.) and the hawthorn/*Sorbus* group (Pomoideae). There was no evidence to indicate that it was used in conjunction with largewood fuel, e.g. as kindling. Without the addition of a more substantial fuel, these twiggy bits and pieces would have provided a very short-lived (although probably fairly hot) fire. It is possible that the sample represents the disposal of twiggy brushwood trimmed from roundwood or wider stems or, perhaps, the sweepings from fallen tree debris.

Pit 1038 (context 1045)

Charcoal was recovered from the fill of [1038]. The pit also contained burnt clay and a mould fragment associated with metal working. The charcoal was mostly very fragmented. The sample indicated the predominant use of oak (*Quercus* sp.) largewood but also included the hawthorn/*Sorbus* group (Pomoideae) and *Prunus* (probably cherry, *P. avium*).

Pit 1043 (context 1066)

The gravel extraction pit (1066) [1043] contained a large amount of burnt roundwood. Pieces of mould and slag, including tap slag, were also present. The charcoal included hazel, field maple, blackthorn, oak, willow or poplar, the hawthorn/*Sorbus* group and elm (*Ulmus* sp.). Much of the charcoal was fragmented and, although it was not possible to assess whether it derived from coppice stems, four intact segments of roundwood provided the following (charred) dimensions:

willow/ poplar – diameter 12 mm, 6 growth rings  
hazel – diameter 12 mm, 4 growth rings  
oak – diameter 30 mm, 5 growth rings  
field maple – diameter 15 mm, 13 growth rings.

*Environmental Evidence*

The species identified included field maple, oak, elm, blackthorn, the hawthorn/*Sorbus* group, hazel, willow or poplar and, possibly, cherry. This list is probably biased towards the economic use of wood, particularly for firewood and charcoal making, and is therefore unlikely to represent the entire range of woodland species growing in the vicinity. It does, however, indicate the presence of mixed deciduous woodland. While there was insufficient evidence from the samples available to indicate the use of coppice stems, the frequency of narrow roundwood in context (1066), probably debris from metal working, could imply managed woodland as a source of fuel for industrial activities.

*Industrial Fuel*

Iron-smelting slag and mould fragments in contexts (1045) and (1066), the fills of pits [1038] and [1043], testified to the production of small tools and brooches. Associated charcoal probably represents fuel debris. The reducing atmosphere required for iron smelting can only be obtained through the use of charcoal fuel (Horne 1982). Interestingly, the charcoal from (1045) indicated the extensive use of mature oak obtained from largewood, whereas that from (1066) demonstrated the preferred use of narrow roundwood from a wide range of taxa. These differences may reflect fuel selection for specific processes but could relate to the availability or supply of fuel at any given period. Although the use of oak heartwood is frequently associated with Roman metal working in many parts of Britain (Gale 2003a), evidence of iron-working fuel composed almost exclusively of narrow roundwood was recorded at five other Roman sites on the fringes of the Forest of Dean: at Woolaston (Figuera 1992), Blakeney (Gale 2000) and thrice at *Ariconium* (Leyall 1923; Gale 2003b). Some aspects of the iron-working practices at Dymock therefore appear to parallel those of places elsewhere in the environs of the Forest of Dean.

*Conclusions*

Environmental evidence from charcoal deposits in three pits associated with the Roman settlement identified deciduous woodland, composed of field maple, oak, elm, blackthorn, the hawthorn/*Sorbus* group, hazel, willow or poplar and, possibly, cherry. These woodlands supplied fuel for the local metal-working industries. It is suggested that differences in the character of metal-working fuel associated with pits (1045) [1038] and (1066) [1043], mature oak wood in the former as opposed to narrow roundwood in the latter, may be related either to specific processes or to fuel supply. The use of narrow roundwood for metal working at Dymock correlates with similar evidence from other Roman sites in the Forest of Dean.

## DISCUSSION

**Summary of Evidence**

During the later 1st century AD a series of timber structures was constructed within a ditched and gated enclosure on a previously unoccupied site. The structures were made of wattle and daub. Nails of a type generally used for timber cladding were also retrieved (Cool, above). The backfilled construction trenches and postholes contained quantities of daub, much of it burnt, some pieces having impressions left by small timbers. Clear evidence for wattling stakes was recovered from the south-east corner of Structure A. The lack of evidence for ceramic or stone roofing materials suggests that these were of thatch or timber. That Structures A and D were roofed is indicated by drip gullies.

Little evidence survived to indicate for what the buildings were used. If Structure A had a timber floor as suggested by the presence of steps (Structure C) at its down slope end it seems highly unlikely that it was used for metal working. Instead it may have been used as living accommodation or storage. The apparently open fronted spaces on the north side of Structure B and the small posthole structures, such as E, may be better candidates for metal-working locations but direct evidence for this was lacking and they may have been for stabling or storage.

Structure G was recorded as a possible sunken featured building (SFB). Although this seems unlikely at this date, there are a large number of more complex examples, of 2nd-century date, excavated at Monkton, Kent (Hicks *et al.* forthcoming). On the evidence available however, it is



difficult to support an interpretation that Structure G was an SFB with conviction.

The environmental evidence is entirely in keeping with a normal rural, and thus agricultural, settlement of the date. It indicates a mixed farming economy involving the growing of wheat, barley and possibly oats and brome. Significant areas of grassland and meadow (Jones, above) and of mixed deciduous woodland (Gale, above) were also exploited. The small assemblage of animal bone suggests cattle and sheep (or goats) were bred for food and that the latter were also kept for their wool. Pigs were less important. It is unclear if they were kept or carcasses brought in. In common with most sites of the period, the amount of beef eaten increased through time. Some hunting of wild animals took place (Ingrem, above). Agricultural tools were recovered in the form of a goad and reaping hook (Cool, above) and a high proportion of Severn Valley ware storage jars was present (Timby, above).

A major significance of the site lies in the evidence for smelting of iron and casting of copper-alloy objects. This industrial activity was presumably prompted by wider changes in society and economy in the early Roman period and may help explain differences between Dymock and other rural sites of the same date. There are suggestions from the pottery that local industry was not restricted to the manufacture of metals; hand-made Severn Valley ware is 'exceptionally well represented with several slight seconds' and there is some evidence to suggest that greywares were being produced locally to satisfy a demand for Roman pottery styles (Timby, above).

The nature of household items hints at an establishment of some, if fairly modest, pretensions but the brooches lost on the site indicate styles of dress that were those of the local indigenous population (Cool, above). A possible source of the high-status objects recovered is exchange for the industrial products already discussed (but see below). The coin evidence suggests that monetary exchange became important at Dymock earlier than at most rural sites in the area (Guest, above), perhaps indicating interaction with the Roman military (discussed below). Claudian copies are generally associated with military pay and one unstratified example was retrieved (Guest, above).

The enclosure and timber structures were relatively short lived, being removed and backfilled by the early 2nd century. Continuing activity of a less well-defined nature in the mid 2nd century is indicated by inhumation burials, isolated pits and a series of ditches difficult to group into recognisable enclosures. There is evidence for iron smelting in the period AD 120–150 but none to suggest that industry continued beyond 150.

The adult burials indicate that the area to the east of the Phase 1 enclosure was considered outside the settlement area by the mid 2nd century. They demonstrate a rite of crouched or stretched inhumation burial, common in rural Gloucestershire at the time and thought to be a continuation of late Iron-Age tradition. They can be compared to those from the larger Hucclecote cemetery (Thomas *et. al.* 2003). Whether the Dymock burials can be described as being within a cemetery or simply scattered burials near a settlement is difficult to say without further excavation. At Dymock, admittedly from a small sample, there is a similar numerical dominance of female over male as at Hucclecote, 4 being female and 1 male. The only burial (1190) that included anything other than a very simple coffin was female. The implication that a more substantial coffin was required so that the body could be crouched within it (Fig. 11: 1190) indicates the continuing importance of the rite. Proximity and alignment of the graves suggests that the females were buried in pairs. Hobnails found only in the graves of two adjacent females may support the slightly later date of those graves, [1168] and [1194], suggested by the presence of BB1 sherds (Timby, above). All the Dymock burials had their heads on the northward side of their graves. There was a smaller proportion of crouched burials at Dymock than Hucclecote; two of the females were crouched, the male and one female were on their backs and the remaining female was on her side.

The putative second phase of enclosure is uncertain in its nature and extent. It must have been very short lived, as the burials cutting the backfilled ditches could not be separated from it in date.

Evidence for activity after AD 150 was scant, comprising an entirely robbed building and an isolated pit.

### Dating

Activity on the site had clearly commenced by the early Flavian period (AD 69 onwards: Wild, above). An unstratified rosette brooch (Cool, above: catalogue no. 1) provides the only and uncertain indication of activity in the first half of the 1st century. The pre-Flavian samian and coins recovered during the excavation may indicate activity of that date but the items may not have been new when brought to the site. Unfortunately in this regard much of the earliest material was unstratified and few contexts could be regarded as relating to the construction or use phases of the timber structures and enclosure; the excavated features mainly provided information regarding the destruction of both. The base of the southern enclosure ditch contained a small amount of silt which only produced loosely datable Severn Valley and oxidised sandy wares. Other than that, the great majority of the fills of Phase 1 features were interpreted as the result of a single episode of deliberate destruction and backfilling. Therefore most finds retrieved from these features must, in any attempt to closely date the phase, be seen as residual. A sherd of Les Martres-de-Veyre samian from the backfill (1206) of a Structure B construction slot is of a product thought to have only been imported after AD 100, although it was a copy of an earlier form (Wild, above). This provides a *t.p.q.* date for the removal of the Phase 1 enclosure and timber structures. There was no sign that the main enclosure ditches had been cleaned out or re-cut, suggesting a short-lived phase of activity.

There appears to have been a hiatus from *c.*AD 100 to 120, although, given the short time involved, that is difficult to prove. A number of mid 2nd-century features included much residual material, dating to the 1st century. Where undatable material is present, such as iron slag, it is impossible to say what was contemporary and what was residual. That metal working may have continued is suggested by the form of pits dated to Phase 2 but conclusive evidence was lacking.

### Evidence for Military or 'Official' Involvement

The layout of the enclosure, the form and construction methods of the structures and the unusually 'Romanised' material culture at Dymock at such an early date all require further examination. The high level of decorated samian pieces suggest military contact (Wild, above), a local greyware industry producing non-local forms has been identified and sherds of a fabric greatly resembling that from the Kingsholm military kilns were recovered (Timby, above). Objects such as high-status glassware, plated spoon handles and door keys are also unusual in a rural context of this date. The large number of iron nails indicate that 'the inhabitants were clearly using Roman building methods earlier than some of their neighbours' (Cool, above), and the assemblage of 1st-century coins resembles that typically found on military and urban sites in the region (Guest, above). The short-lived nature of the Phase 1 enclosure ditches and timber buildings and their apparent deliberate destruction and backfilling are also suggestive of the military (Timby 2001, 79).

Despite this, there is insufficient evidence from the excavation to support an assertion that a military unit was based on the site. Arguing against the presence of a military garrison are the facts that the bulk of the pottery (Timby, above) and the diet of those living at Dymock (Ingram, above) are typical of rural 'native' sites of the period. In addition, not one piece of military equipment has been identified, while the brooches that were being made and/or lost on the site were of civilian not military type. Recent critical re-examinations of the evidence for military origins at many Romano-British 'small towns' have found it to be ambiguous at best. It is hard to improve on Jackson's (2003, 151) recent examination of the evidence for a formal military presence directly

controlling the iron industry at *Ariconium*, suffice it to say that so far there is a similar lack of convincing evidence for this at Dymock.

Even the smallest Roman fortlet was defended by rampart(s) as well as by at least one ditch. The lack of space for a bank and gate posts located between the ditch terminals of the Dymock enclosure provides a clear indication that there was no rampart here. There is evidence for a fence line near the gate but none elsewhere despite the fact that ephemeral features such as drip gullies have survived near the enclosure ditches. It therefore seems that we can discount a military defensive enclosure. Any proposal that the enclosure might be a fort annexe would require evidence for a fort.

Whilst Structure A was similar in size to barracks at smaller Roman military establishments (see Wachter 1998, figs. 13, 17 and 21), it was not a single stand-alone structure; it is very likely that Structures A and B were adjacent and stood at right angles to each other. The part of Structure A resembling officer accommodation was also located furthest from the enclosure ditch, at the wrong end for a barrack block.

Black's (1995) survey of the empire-wide background and the British archaeological evidence for the *Cursus Publicus* (the official transport system) and its network of *mansiones* and other facilities provides an alternative context in which to consider the Dymock enclosure (M. Corney pers. comm.). Black lists a number of features that are to be expected at a *mansio*. These include barrack-like standard accommodation; grander first-class accommodation, often with entrance halls and heated rooms; separate staff accommodation and stabling; and large granaries used as fodder stores. Buildings were often grouped around one or more yards. Separate wagon parks might also be present. Many possible *mansiones* were located in a position well away from the main road but that would have not been possible at Dymock due to the proximity of the river Leadon. Not all elements were necessarily present at every site, and in some cases elements were dispersed around a deliberately founded roadside settlement. Accommodation might be provided in the homes of local residents or in local *tabernae*, and facilities intended mainly for slower moving pedestrian and wagon traffic might not include all the higher-status elements.

An attempt to find similarities between the enclosure and buildings at Dymock and other possible *mansiones* has highlighted the lack of uniformity in those sites rather than furnished direct parallels. It seems that they were sensibly designed to meet specific needs rather than to a general blueprint. For example at Keays Lane, Carlisle (McCarthy *et. al.* 1982, 79–82), similarities to Dymock included date, the size of the enclosure ditch, the lack of a rampart and the presence of a barrack-like timber structure with a boarded floor (although the Carlisle building was larger, measuring 31 × 10 m), and the final deliberate dismantling of the compound. Brandon Camp, near Leintwardine, Herefordshire, thought by Frere (1987) to be a campaign base, was re-interpreted as a *mansio* of Neronian date by Black (1995, 26–7). There a large number of timber-framed structures of differing designs and sizes may have been *tabernae* but there were also a large granary and a discrete group of timber buildings, possibly comprising first- and standard-class accommodation with separate stores and staff accommodation.

Certain elements of the site at Dymock fit the general pattern of early *mansiones* described by Black. They include the roadside setting; an enclosure lacking a rampart; 'Romanised' rectangular timber structures, especially barrack-like structures, built using ground beams; the arrangement of Structures A and B at right angles, perhaps suggestive of a further west wing around a courtyard; and finally the high-quality pottery and glass. There was, however, little clear evidence for the purpose of the excavated structures. If Structure B was stabling, as suggested by its form, the attached Structure A is more likely to have been used for storage or staff accommodation than as accommodation for travellers.

The presence of a small early *mansio* at Dymock is far from completely proven due to the absence of first-class accommodation, granaries or bath house. More complete excavation of the enclosure

may have allowed a more certain interpretation but, even so, the presence of a bath house or heated rooms should have been evident in the form of dispersed ceramic building materials, which were notably lacking. Occasional flue tiles have been reported as stray finds from Dymock but as these are not dated they cannot add to this discussion. The high-status finds from this site might be explained as the result of exchange for the industrial and agricultural products of the area; early coins have certainly been found elsewhere at Dymock but, as Timby has noted, neither of the other two recently excavated contemporary pottery assemblages from Dymock contained the early samian or other unusual imports which so far are limited to the sewage works site and chance finds at the nearby graveyard. Domestic timber strip buildings are not unknown in 1st-century Britain (M. Corney pers. comm.; Perring 1987), and there is no reason to assume that the indigenous population lacked the joinery skills required for their construction (Millet 1990, 69–72) but the fact that they have been recorded in settlements such as *Verulamium* and London hardly makes them any less unusual when recorded in north-western Gloucestershire.

In conclusion, on current evidence, given the parallels with contemporary sites thought to be *mansiones*, we can tentatively interpret the enclosure and structures at Dymock as a short-lived establishment of the *Cursus Publicus* although their exact function within that system remains obscure. The results of the excavation presented here are of an incomplete sample of one early enclosure. They point to the desirability of future re-assessment of this discussion once further information becomes available.

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Brenda Dickinson confirmed the identification of the samian stamps. Phil Parkes at Cardiff Conservation conserved several of the brooches and coins allowing full identification; Vanessa Fell at Oxford Institute of Archaeology X-rayed the metal finds.

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### *Archive*

The finds and archive will be deposited at Dean Heritage Centre, Soudley, under accession number SOYDH 2005.8.