# A ROMANO-BRITISH SITE AT SWANSCOMBE, KENT

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# A ROMANO-BRITISH SITE AT SWANSCOMBE, KENT

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**Summary**

In April and May 1997, the Museum of London Archaeology Service (MoLAS), known since October 2008 as Museum of London Archaeology (MOLA), excavated a Romano-British site in the grounds of the former Swanscombe High School in advance of the construction of the Swan Valley Community School. The approximate centre of the excavation (site code SSF97) was at Ordnance Survey National Grid Reference (NGR) 560814 173926).

The principal archaeological features defined on the site were all Roman in date and included a rectangular walled enclosure, formed by 1.0m wide chalk walls and measuring 37.0m by 34.60m, which surrounded a robbed stone foundation, probably for a shrine or monument. In the late 2nd century AD the enclosure became part of a farmstead. A corn drier, rubbish pits and a concentration of postholes, probably the remains of several timber buildings, were present within it. The farmstead was part of a wider, rural landscape and several ditches provided evidence of field boundaries outside the enclosure. The enclosure lay to the east of a Roman road, encountered during the evaluation of the site, running north-west from the small town of *Vagniacis* at Springhead.

The ditches were backfilled in the later 3rd century AD with dumped material which included debris from ironworking taking place nearby. All the features within the walled enclosure were excavated but the walls themselves were largely preserved beneath the new school building.

## Introduction

In February 1997, an archaeological evaluation (site code SWS97) was undertaken by the Canterbury Archaeological Trust (CAT) in the playing fields of the former Swanscombe High School, Southfleet Road, Swanscombe, Kent (Fig 1) as part of preparatory works for the construction of Swan Valley Community School (Pratt 1997). Twenty-seven trenches, distributed across the whole site, were examined.

The discovery of Roman archaeological features led to a further phase of work, undertaken by MoLAS, involving the excavation of those areas within the footprint of the new school buildings which were considered to have a high archaeological potential (Fig 2). This article reports, in an integrated format, on the results of the excavation. More detailed coverage of the environmental and finds assemblages can be found within the appendices.

Following the identification of Pleistocene gravels and the discovery of a hand axe during the CAT evaluation, a separate investigation of the Palaeolithic aspects of the site was undertaken by a team from University College London (UCL), led by Dr Francis Wenban-Smith. Several Palaeolithic hand axes recovered by MoLAS as residual artefacts from later archaeological features are included in the UCL report (Wenban-Smith & Bridgland 2001).

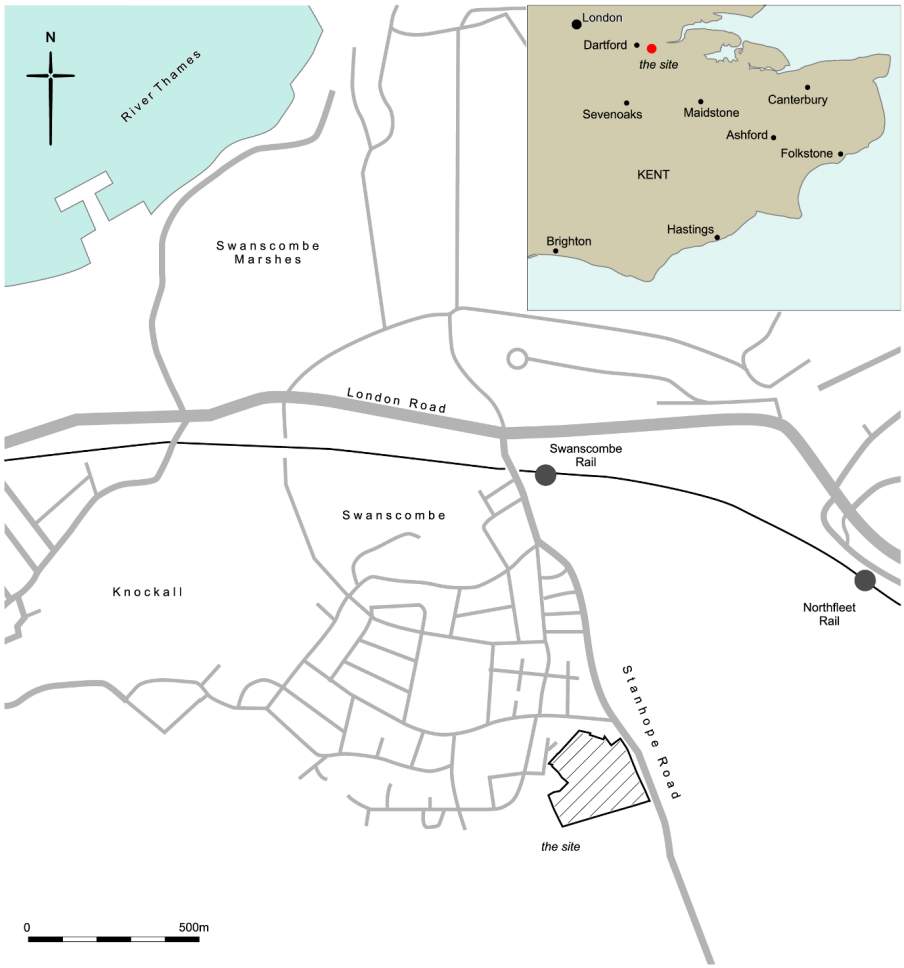


**Figure 1 Site location**

The archaeological sequence was excavated on a single context system although, during the analysis of the archaeological work, a hierarchy of larger units is employed to describe the activity on the site. Contexts are arranged into subgroups and groups which are then interpreted in terms of land use and period. A land use is an entity such as a Building (B), Structure (S) or Open Area (OA). Within this report, archaeological context numbers are denoted [1] etc, accessioned finds <1> etc, and illustrated pottery <P1> etc.

All stratigraphic and specialist data were recorded using standard MoLAS procedures and subsequently entered into an Oracle database. This database, housed in the LAARC, is the medium through which the finds, environmental and field records may be interrogated.

More detailed coverage of aspects of the site can be found in the specialist archive reports listed in the bibliography. These reports and the remainder of the site archive (site code SSF97) remains with MoLAS awaiting deposition with the appropriate local repository.

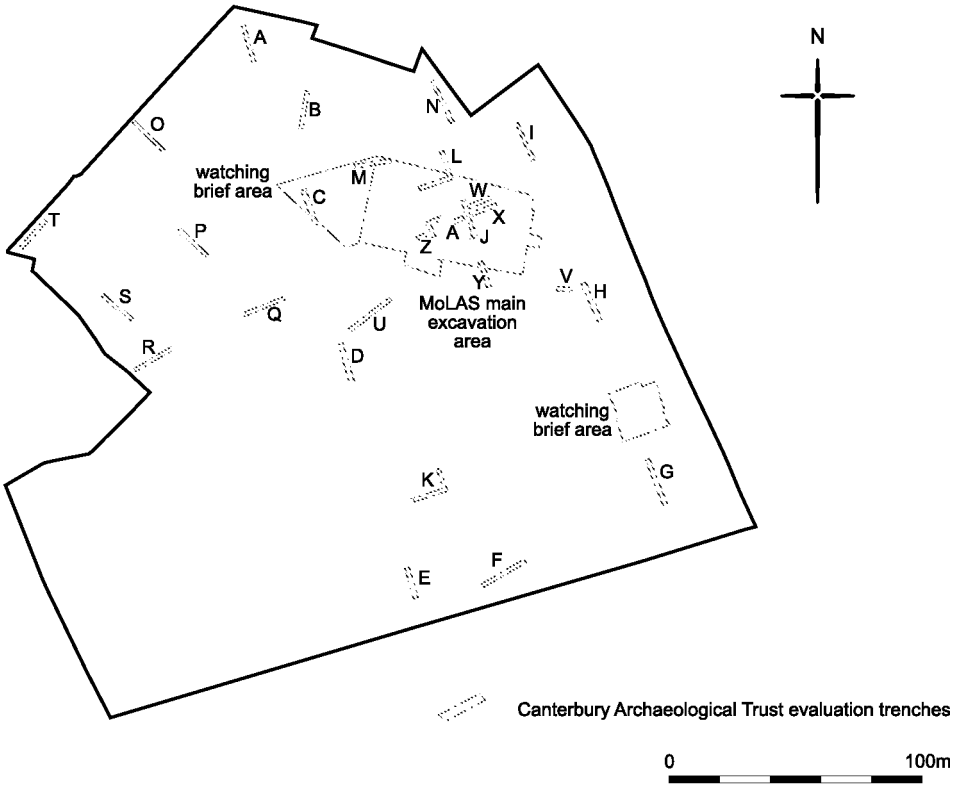


**Figure 2 The areas of investigation**

## Geology and topography

The upper drift geology of the area is formed by the sand and gravels of the Boyn Hill/Orsett Heath formation. These cap both the Thanet Sands and, in places, the naturally cemented chalk rubble that seals the Cretaceous chalk found beneath much of Kent. The site is located on the high ground on the western side of the Ebbsfleet Valley: the land further to the east of Southfleet Road has been extensively quarried.

## Archaeological background

The site is located in an area known for its important Palaeolithic and Roman remains. To the east colluvial and solifluction deposits filling the Ebbsfleet valley have produced a significant quantity of Palaeolithic material including hand axes and worked flints at the Baker's Hole and Ebbsfleet Levalloisian sites (Bridgland 1994, 263).

About one kilometre to the north-west, is the famous Swanscombe Palaeolithic site at Barnfield Pit (Wymer and Bonsall 1977), now a National Nature Reserve. Here, during a temperate (interglacial) episode, the Thames laid down a series of gravels and loams containing abundant mammalian and molluscan fossils. Investigations in 1935, 1936 and 1955 found fragments of a human skull, probably that of a woman, which dated to c 400,000 BP, making Swanscombe one of only two sites to produce evidence of pre-Modern humans in England (Bridgland 1994, 193). There is little evidence for later prehistoric activity in the immediate area apart from Ebbsfleet ware pottery from the Middle Neolithic discovered c 500m to the east at Ebbsfleet in 1938, with an excavation in 1960 finding more pottery and horizontal timbers (Sieveking 1960).

During the Roman period a settlement developed at Springhead, two kilometres to the south-east of the site. This small Roman town, *Vagniacis,* lay on the main Roman road (Watling Street) from London *(Londinium*) to Dover *(Dubris)*. The settlement may have originated as a military post or supply base during the Roman conquest – a triple-ditched, rectangular enclosure dated to the earliest part of the Roman period has been archaeologically defined (Smith 2004). Any specifically military function was, however, short-lived and by the later 1st century AD a number of religious shrines had been erected by the Roman road (Penn 1965). *Vagniacis* developed around these sanctuaries and temples which came to occupy a central precinct within the town (Detsicas 1983). A Roman road crossed the south-western part of the site: its alignment suggests that it ran from *Vagniacis* to the Swanscombe area (Smith1997; Boyle 1999). The town may have been in decline from the later 3rd century but it is also possible that the scarcity of 4th century activity is a result of truncation (Davies 2001, 163–4). There has been further excavation in Springfield in advance of the Channel Tunnel Rail Link (CTRL) Section 2 (Andrews et al forthcoming).

At Northfleet, c 750m to the east (VCH 1932), lay a Roman villa site which had developed by the later 2nd century AD into a large complex, complete with bath and aisled buildings set around a courtyard. The villa may have continued to function in the late 4th or early 5th century, despite the apparent decline of *Vagniacis* (Williams 2003, 230–1). Roman tile can be seen reused in the medieval fabric of St Peter and St Paul church, Swanscombe, about one kilometre away. An inhumation grave, tile-lined and roofed, was uncovered in 1955 immediately south-east of the site and may relate to the nearby villa (Williams 1956). Otherwise, the known cemeteries associated with *Vagniacis* lie to the south of the town at Pepper Hill (Biddulph 2006) and at a walled cemetery found in 1801 at New Barn Road, c 300m north of Pepper Hill (Rashleigh 1808; Jessup 1959, 14, 29–30).

Important medieval remains, including a Saxon water mill (dating to AD 700) and an early Saxon cemetery have been found at Ebbsfleet as part of the CTRL programme. (Andrews et al forthcoming). The medieval settlement of Swanscombe was focused on the parish church of St Peter and St Paul. The entry for *Svinescamp* (Swanscombe) in Domesday Book suggests that by 1086 it was a substantial and prosperous village (VCH 1932, 220). The manor, which was owned by the bishop of Bayeux, included land for 14 ploughs, meadow, woodland and five fisheries. The area remained largely agricultural with extensive watercress beds around Ebbsfleet and

Springhead in the mid–9th century. From the early 20th century the area was heavily quarried for chalk for the cement industry.

## Methodology

A single trench measuring 65.0m x 32.0–35.0m was located within the footprint of one of the new buildings. A tracked machine was used to strip c 1.0m of overburden comprising a mixture of tarmac and soil from the playing fields. All features found were numbered and located by Penmap to produce an overall plan of the site. A site grid was laid out by the MoLAS survey section, and a temporary bench mark of 28.21m OD was provided by the site engineers. The main trench was subsequently extended to the east and south by excavation areas measuring 5.0m x 5.0m and 15.0m x 6.0m respectively. In addition to the main excavation, archaeological work included the monitoring of ground reduction within a triangular area between Buildings 1 and 2, where one additional feature was located, and a further watching brief in an area next to Southfleet Road (Fig 2).

All worked flints found during the excavation were numbered and their positions recorded. Those found within archaeological features were given context numbers of the deposit in which they were found. Following the MoLAS excavation all the flints found during the excavation were passed to the UCL team for analysis.

## Archaeological results

Although several fragments of possible prehistoric pottery were found, no features could be assigned to a pre-Roman period.

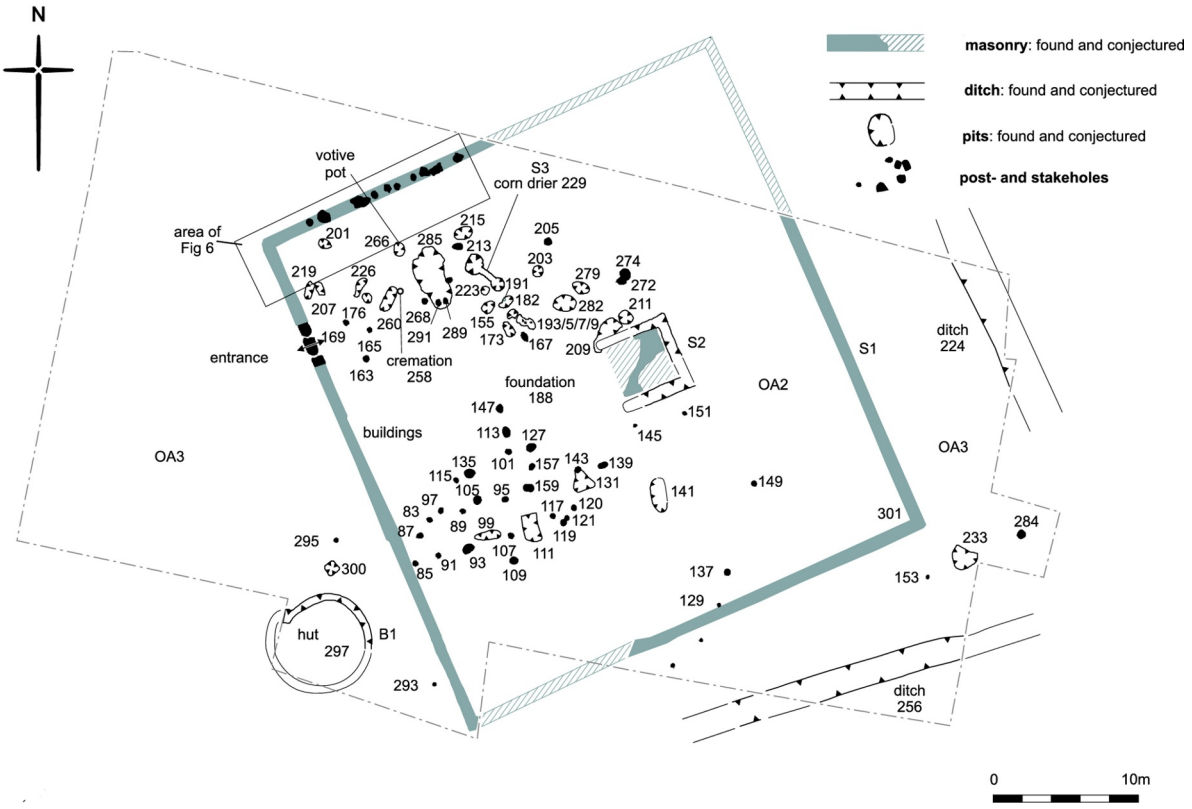


**Figure 3 A plan of the main excavation area showing the walled enclosure and other principal features**

### *A Romano-British walled enclosure*

The largest feature found on the site was a rectangular walled enclosure, Open Area 2 (OA2), measuring 37.0m north-west to south-east and 34.60m south-west to north-east (Fig 3, Fig 4). The wall foundations, Structure 1 (S1), were constructed of alternating bands of flint nodules and crushed chalk and were 1.0m wide and 0.3m deep.

**Figure 4 An elevated photograph, looking south-west, of the walled enclosure showing the centrally placed foundation and robbed walls of a shrine or monument within it**

The foundations of the northern side of S1 contained pockets of subsoil suggesting it was less well made than the rest of the structure. It may well have been unstable and ten postholes or small pits cutting through this part of the wall suggest that timber posts were inserted either to reinforce it or, perhaps, to replace it with a fence after it had collapsed (Fig 5, Fig 6). As the north side of S1 extended beyond the excavated area, it is not known if the postholes continued along the whole length of this wall. Towards the north end of the western side of S1, three adjacent cuts through the foundation suggested robbing rather than reinforcement or rebuilding and formed a gap 3.0m wide, possibly an entrance into the enclosure (Fig 3). Whether this event and the repairs to the north-west wall are related is impossible to confirm, though this is the only part of the walled circuit showing such alterations. The three sherds of Roman pottery recovered from these features were in Roman shell-tempered fabrics which cannot be closely dated. A context associated with the entrance ([240]) also contained a shell-tempered sherd of possible medieval date (Rayner 2000).

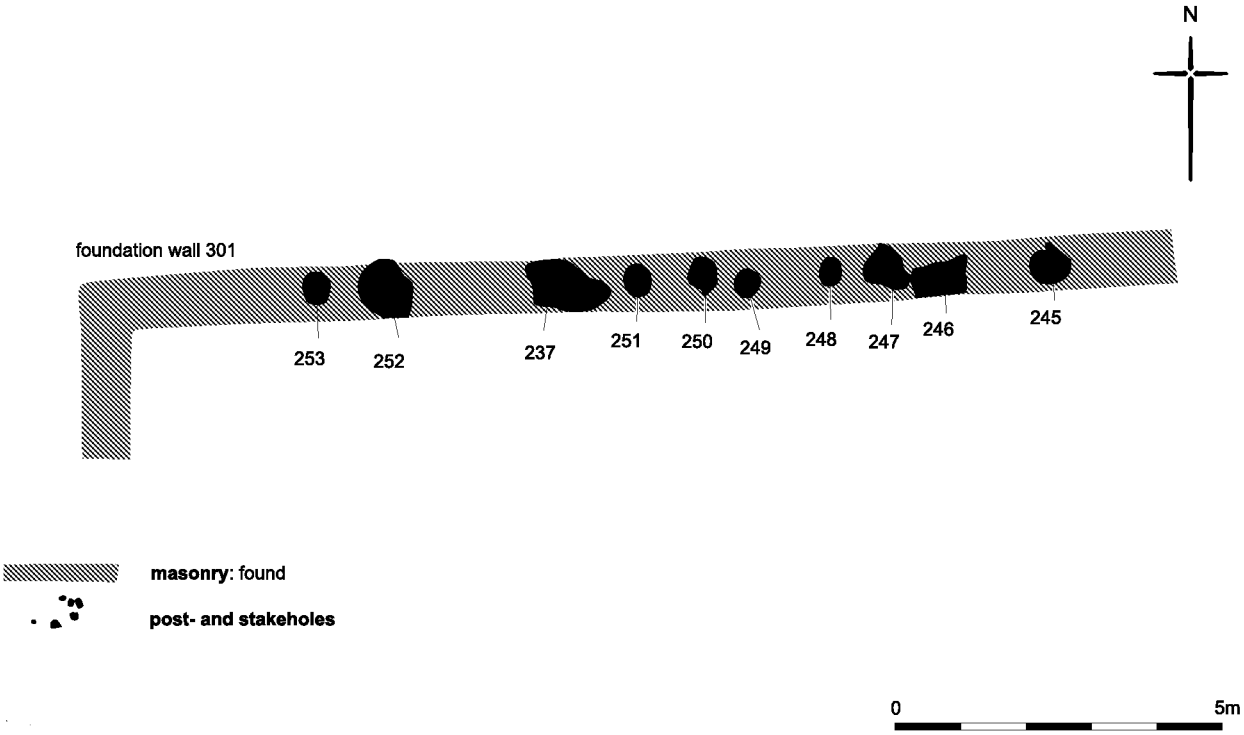


**Figure 5 A detailed plan of the north-western corner of the enclosure wall**

**Figure 6 The north-western part of the enclosure wall ([301]) under excavation looking south**

Structure 2 (S2) was a 3.6m square foundation constructed from three rough courses of flint and mortar ([188]) set within the OA2 enclosure, though not at its exact centre (Fig 3, Fig 4). It was c 0.50m thick and surrounded on three sides by a vertically sided, linear cut 0.60–0.80m wide, probably a wall trench surrounding the foundation. No dateable material, nor anything to indicate how the wall may have been built, was found in the wall trench backfill. Foundation [188] was also largely robbed and/or truncated. Two large pits had removed its north-west and south-east corners. These may be robbing cuts but as flint is a relatively common building stone, it is possible that the primary intention of the robbing was to remove something more valuable, such as any ragstone superstructure above the foundation. Several sherds of early medieval sand and shell tempered pottery (EMSS) date this robbing activity to the 11th–12th centuries (Appendix 3).

**Figure 7 Photograph, looking south-west, of the flint foundations ([188]) of the central shrine or monument under excavation**

It seems probable that S2 was Roman in date. The small group of residual Roman pottery (discussed in Rayner 2000) comprised predominately undiagnostic body sherds of probable local manufacture, including examples of north Kent shelly ware (NKSH) and black burnished ware 2 (BB2). BB2 and other wheel-thrown sandy wares in forms imitating black burnished wares and necked jars were produced from kilns located around Cliffe to supply the local market from c AD 120 and continued to dominate the reduced coarse ware market until the late 3rd century (Pollard 1988, 87). Also present was a bead-rimmed jar of a type found on numerous sites in West Kent and Surrey. The bead-rimmed jars at Stone Castle Quarry, Greenhithe are dated to the 2nd century AD and have very similar rim forms to the example from context [183] (Detsicas 1966, 156–61, fig 7 & 8). Pollard considers the bead-rimmed jars to have probably declined in use in the third quarter of the 2nd century AD (Pollard 1988, 90). A single sherd of pottery, of Alice Holt/Farnham ware (AHFA), in context [185] dates to the later 3rd or 4th century (ibid, 125).

Within the OA2 enclosure there were two areas with activity dating to the Roman period. To the south-west was a large group, most of which were probably postholes, although some may have been small pits. Some of these postholes were stone-packed and there was also one possible beam slot. The amount of truncation and lack of dating evidence prevents any meaningful interpretation but the clustered rather than linear configuration of the postholes may suggest that they are evidence for buildings rather than features such as fence lines. Although some alignments are evident within the posthole group, no convincing building plans can be defined. It seems possible that one or more timber buildings stood in this area of the enclosure, and that these may have been rebuilt several times.

To the north-west, the features within the enclosure were indicative of both agricultural and ritual activity. One significant feature was a corn drier, Structure 3 (S3; [229]) (Fig 8). This was 3.10m long with a circular stoke-hole at one end with an oven at the other and linked by a flue that contained charcoal fragments. Corn driers were either for parching grain before pounding and winnowing to allow dehusking or for drying grain before storage or milling. The corn drier was infilled with flint nodules, fragments of ragstone and tile from the robbed or collapsed superstructure. A charcoal deposit [228] within the main structure produced 133 sherds of pottery (Rayner 2000); 129 of these are from a single square-rimmed necked jar in a reduced sandy fabric (Fig 10 <P1>). This vessel is very similar to an example from Cooling, which is dated late 2nd to 4th century AD (Pollard 1988, 137 fig 50 no 197). The jar is not extensively burnt or scorched, suggesting it was not in situ when the structure was in use and presumably was discarded once broken (the rim is 62% present). Fragments from a wide-mouthed jar or bowl were also recovered in [228]. The vessel (Fig 10 <P2>) has pale grey burnished surfaces with a reddish-brown sandy fabric; burnished decoration of interlocking wavy lines occurs at the base of the neck. Comparative vessels have been dated late 2nd to early 4th century AD (Pollard 1988, 137 fig 50 no 194).

The assemblage from the backfill of S3 dates to the later 3rd–4th century AD (Rayner 2000). Context [227] includes pottery sherds from an Alice Holt/Farnham ware (AHFA) storage jar and Oxfordshire red colour-coated ware (OXRC) bowl, both of which are not found in west Kent until the later 3rd or 4th century AD, when they become characteristic wares for the period. Also present is a necked everted-rim jar (Fig 10 <P3>), in a reduced sandy ware, of probable local manufacture and contemporary with the AHFA and OXRC vessels. Amongst the unslipped grey wares in west Kent in the 4th century the forms are commonly necked, round or angular roll-rim jars and this vessel falls into this class (Pollard 1988, 145).

Charred plant remains recovered show that spelt wheat, free-threshing wheats and barley were being used on the site. The oats are probably arable weeds while the emmer and einkorn grains are also weeds or relics from previous harvests. Most of these were found in association with the corn drier, which was probably being used for either drying the cereals before storage or milling and/or to facilitate the threshing of the glume-based wheats. Most of the weed seeds were of a size that would be expected at an advanced stage of crop-processing and also in storage deposits, being of a similar size to the grains and therefore difficult to separate out other than by hand sorting. The other weed seeds that were found in much smaller numbers may represent plants used as tinder, although some of these seeds may also be from

arable weeds, eg stinking mayweed. It is not possible on the basis of the plant assemblages to establish whether or not the site was producing its own crops or importing grain from elsewhere. There was little evidence, however, for cereal debris from the earlier stages of crop processing, eg stem and rachis fragments, expected from a producer site (Giorgi 1997; see also Appendix 1).

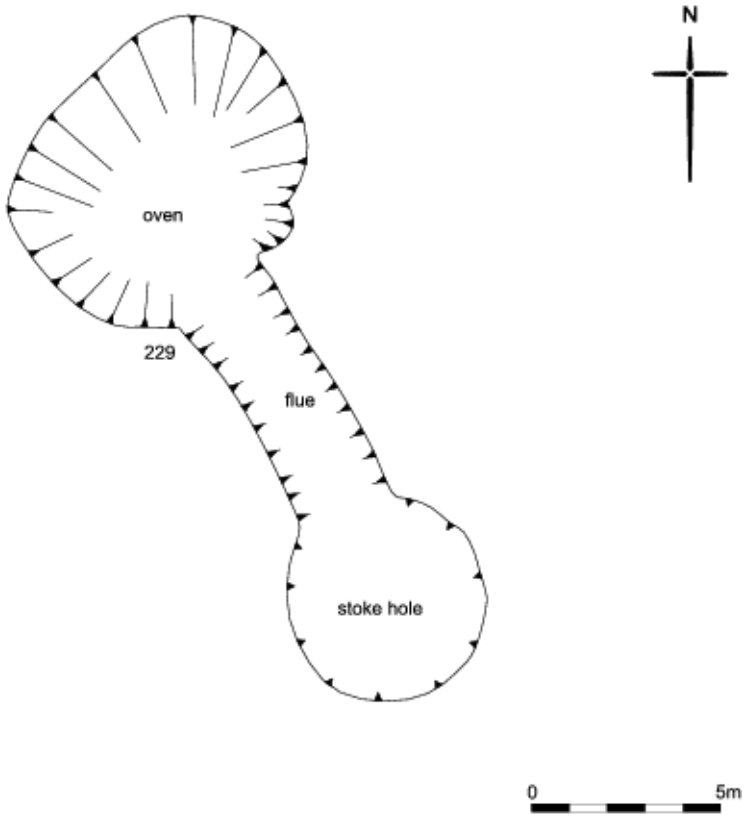


**Figure 8 A detailed plan of the corn drier ([229])**

Located close to the S3 corn drier was a large shallow cut [285]. This contained frequent flint nodules and fragments of ragstone, which could represent debris from the demolition or robbing of a small stone structure that was possibly an activity related to the corn drier. This event was also dated to the later 3rd–4th century AD (Rayner 2000). A small assemblage of 14 sherds of pottery recovered from a fill [280] was predominately from grey ware jars but the shoulder from a grog-tempered everted-rim jar is also present. Late Roman grog-tempered ware emerged in west Kent in the 4th century AD, possibly not until the second half of the century (Pollard 1988, 211).

There were also a number of pits near S3. One small pit [258] contained some cremated human remains and a single unburnt glass bead. Unfortunately the remains were too fragmentary to draw any conclusions as to the individual's age or sex (White 1999). From a nearby pit [266] 21 pottery sherds were recovered, these included the intact body of an Oxfordshire red colour-coated ware (OXRC) beaker that has been buried upright. The necked beaker (Fig 10 <P4>) is a miniature example with four round indentations and five comb-stamped vertical impressions. The vessel is intact

up until the base of the neck; no other sherds from the rim or neck were identified from the site assemblage. The beaker is comparable to a published example (Type C108.1) but is shorter and squatter in size; the extant height of the vessel is 69.1mm and the maximum girth is 67.4mm (Rayner 2000). The type is undated but in general the use of indentations on Oxfordshire beakers is not attested before the 4th century (Young 1977, 129; 174).

Miniature vessels form a distinct group within the Oxfordshire red colour-coated wares and are primarily copies of beakers and bowls from the standard range. Young suggests the miniature vessels were possibly produced to be symbolic of the larger vessels in circumstances where a symbol would suffice. Many of these miniature vessels have come from cemeteries (Young 1977, 127). The placing of this beaker in an upright position within the pit suggest it was probably deposited as a votive offering, possibly as part of a religious or ritual act. The pit also contained bones of a chicken (see also Appendix 2). The excavation of the nearby pit containing cremated human bone suggests the use of this area of the enclosure for burial and associated votive activity (Rayner 2000).

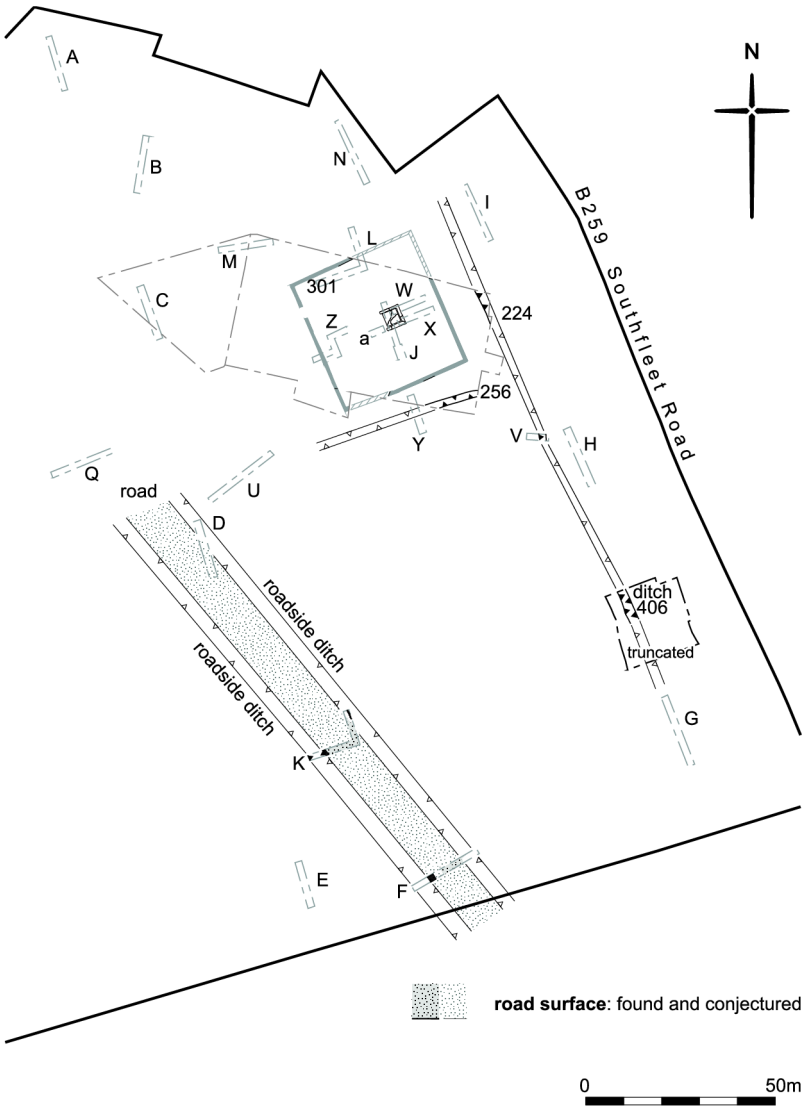


**Figure 9 Other archaeological features outside the walled enclosure**

Four rectangular features, [207], [219], [226] and [260], could be the remains of pits or possibly even graves, but if so no identifiable bone survived. These linear features produced two sherds of residual prehistoric pottery, possibly from the same vessel, of Late Bronze Age/Early Iron Age date. Nearby three postholes [163], [165] and [169] may belong to a small structure, the only dating evidence was a single sherd of prehistoric pottery which was probably also residual.

Features were noticeably absent within the south-east and north-east quadrants of the OA2 enclosure. It is likely that this reflects a genuine lack of activity there rather than simply a greater degree of truncation of archaeological features.

***Features outside the walled enclosure***

There were several features in Open Area 3 (OA3) immediately outside the walled enclosure (Fig. 3, Fig 9). To the north-east, and running parallel to the enclosure, was a ditch [224]. It was 0.50m deep and its fill yielded three fragments of smithing hearth bottom, an agglomeration of charcoal, hammerscale, and slag droplets which form at the bottom of a smithing hearth (see Appendix 5). The presence of this material is, therefore, an indicator of smithing having taken place nearby. Ditch [224] was on the same alignment as a ditch previously recorded in the CAT evaluation trench V. During the later watching brief another section of the same feature was recorded 75m to the south-east, where it appeared to be two separate ditches [406] and [407], suggesting that there may be a recut.

Fill [220] within ditch [224] contained only six sherds of pottery. The presence of black burnished ware (BB2) indicates a date after AD 120 but this cannot be further refined. The upper ditch fill [216] produced pottery dated to the 4th century AD including both Oxfordshire red colour-coated ware (OXRC) and Alice Holt/Farnham ware (AHFA) (Rayner 2000). Sherds of imported Mayen ware pottery from the Eifel region are also recorded, which seems to have been in use primarily in the 4th century AD in west Kent (Pollard 1988, 143; 148). This fill also includes the only example of a mortaria from the site, an oxidised bead and flanged vessel, probably from the Oxfordshire region kilns (Young 1977).

To the south-east of the enclosure was another ditch [256], running close to, but not quite parallel to the enclosure wall. Again this was 0.50m deep with slag fragments in the upper fill including fragments of vitrified hearth lining. There may have been a bank on the northern side as indicated by several tip lines. This ditch was also recorded in evaluation trench Y where it appeared to be two separate ditches. This would suggest there was more than one phase of activity present with the ditch being recut. The ditch must terminate as it was not recorded in evaluation trench U situated 40m further to the south-west. An upper ditch fill [261] produced a further pottery assemblage of 4th-century date (Rayner 2000). Alongside sherds of Alice Holt/Farnham ware (AHFA) storage jars and Nene Valley colour-coated ware (NVCC), are three joining sherds of grey fine sandy ware from Much Hadham (BHAD), another grey ware that emerges in Kent in the 4th century AD (Pollard 1988, 143). The sherds are from an everted-rim jar decorated with bosses and dimples (Fig 10 <P5>). A further sherd of BHAD (<P6>) was recovered from ploughsoil in an evaluation trench (SWS97 [14]). This sherd, also from a jar, has stamped decoration

on the shoulder. These motifs are part of a style termed ‘Romano-Saxon’ and vessels of this type are relatively rare in Kent, although other vessels are known (Pollard 1988, 141).

Another fill from this ditch [254] includes a sherd from a German marbled flagon of mid 3rd- to 4th- century date (Rayner 2000). The flagon (Fig 10 <P7>) is a double-handled type with a collar or flange on the neck (Göse type 262) which is one of the more common types of this ware imported into Britain. Other examples are known from Kent, including from Ospringe cemetery and Richborough (Bird & Williams 1983). Both these ditches were infilled in the mid 3rd–4th century AD. The absence of any ditches to the north-west and south-west of the walled enclosure suggests these ditches were not directly related to it but were part of a larger field system established later.

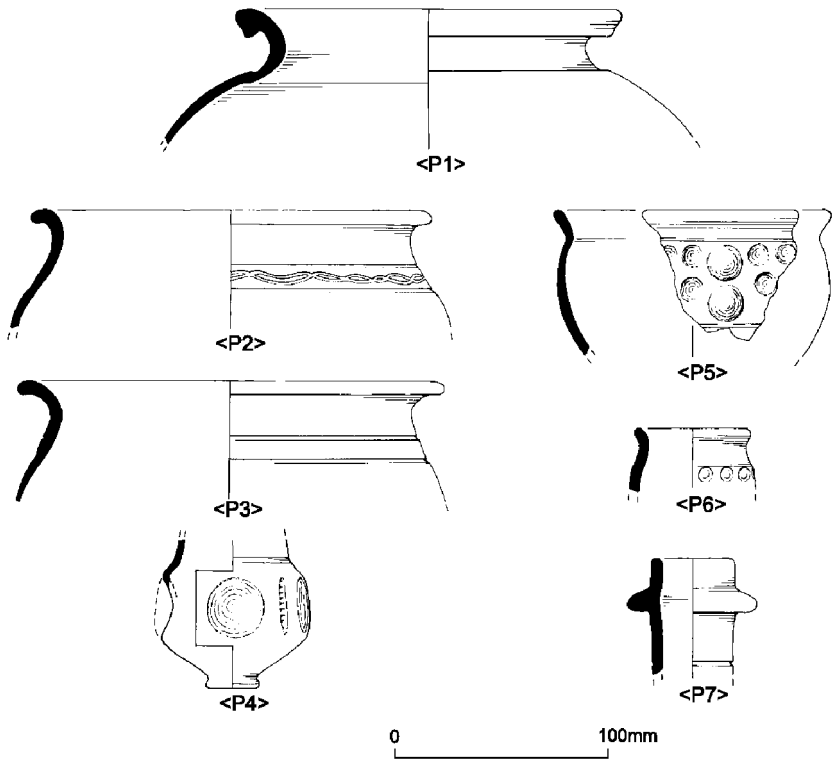


**Figure 10 Pottery from the site**

Located near the walled enclosure was a 5m diameter, semi-circular gulley [297], possibly the eaves drip gulley to a roundhouse – Building 1 (B1). There was no indication of any internal postholes or a hearth, possibly because of truncation, but nearby pit [300] contained burnt pebbles which have come from a hearth. Roundhouses built of timber and thatch are known from the Bronze Age, but continue into the Romano-British period and on rural sites persist into the 2nd and 3rd centuries AD (Hingley 1989). This structure may alternatively represent an outbuilding used for storage or the site of a hayrick. There were nine highly abraded sherds from this ditch including rim sherds from necked rolled-rim jars and a sherd of late Baetican Dressel 20 amphorae (BAETL), which dates to c AD 170–300 (Rayner 2000).

During the CAT evaluation, a number of gravel deposits and ditches, found in trenches F and K, were interpreted as a north-west to south-east road. This was at least c 12m wide, and possibly over 15m wide as some gravel was observed spreading beyond one of the ditches in trench K. The few pottery sherds recovered from these trenches cannot be closely dated but confirm it was Roman. Although this road was not observed in the later excavation, it probably continued further to the north-west as there is a reference to gravel being observed in evaluation trench U. The road appears to be on the same alignment as the Roman road found at the Springhead Nursery (Smith 1997) and CTRL sites (Boyle 1999). It is tempting to see this road as a continuation of the spur road, known as R2, that was found leading off Roman Watling Street by Penn in the 1960s (Penn 1965) and linking *Vagniacis* with the site. Without further investigation this cannot be confirmed at present.

Outside the enclosure there were several undated stakeholes and pits, and at least one pit was where a tree had either blown over or been deliberately cleared.

### *Post-Roman activity*

The only evidence of medieval activity on the site was two pits, dated to the 11th/12th century, dug to rob the Roman foundation. In addition, several medieval finds recovered from the overlying soil horizon confirm there was some limited activity in the area (see Appendix 4).

Two other features within the enclosure were found to be modern. One was a 'T' shaped cut [103] that contained timber baulks similar to railway sleepers, which appeared to be the anchor for a 20th-century post. This cut an earlier feature [305] that was a deep trench containing yellow stock brick foundations around a chalk outcrop. The function of this feature is unknown.

## Conclusions

It should be noted that no pre-Roman features were defined on the site

During the Roman period the site lay about two kilometres north-west of the settlement at *Vagniacis*. By the late 1st century AD this small town, on the main Roman road from London to Dover, had grown up around a number of shrines and temples associated with the springs feeding the head of the River Ebbsfleet. The site lay within a developed rural landscape – a minor Roman road from *Vagniacis* passed over the south-western part of the site and an imposing villa lay c 750m to the east – and the archaeological sequence should be seen within this context. Two principal phases of Roman activity were identified.

### *A first phase of Roman activity – a walled enclosure and shrine*

In the earlier phase, which is not closely dated but occured before the late 2nd century AD, a large walled enclosure measuring 37m by 34.60m was constructed. Within this a well-built mortared foundation (3m square), probably the base for a monument or shrine structure, was set in a slightly off-centred position and would

have formed the focal point within the enclosure. The superstructure of the monument or shrine was defined by a wall trench which ran round three sides of the foundation. It was open on its south-west side and almost certainly designed to be viewed, and approached, from that direction, that is from the road.

Parallels for walled enclosures from the Roman period in Kent include roadside walled cemeteries, such as those at East Barming or Lockham (Jessup 1959) and New Barn Road, east of Springhead (Rashleigh 1808; Jessup 1959), and temple precincts, such as those at *Vagniacis*/Springhead itself (Penn 1965). There is some variety in size. The walled enclosures at Lockham/Langley measured 25m square (Detsicas 1983, 151), that at Titsey was 31.2m x 30.1m (Detsicas 1983, 145) and that at New Barn Road, Springhead (Detsicas 1983, 152) was 17.7m x 16.9m – though it may be noted this latter was set within a far larger, outer walled enclosure measuring 133.5m x 119m (Davis 2001, 159). Walled cemeteries are usually seen as private burial plots and, as the amount of land that could be set aside to form the cemetery may have been an important demonstration of the wealth or social standing of the owners (Davis, 2001 167), they were often prominently located alongside roads. Although this enclosure is unlikely to have been visible from Watling Street itself, it was sited close to the minor road from *Vagniacis.* There is, however, an apparent lack of obvious funerary features – a cremation burial and a votive vessel seem to belong to the later 'farmstead' phase of activity.

The lack of special or distinctive votive finds does not necessarily preclude the interpretation of this arrangement of features as a shrine, as those at Westhawk Farm (Booth 2001) and Heybridge (Atkinson & Preston 1998) did not have any cult objects associated with them. The deposition of objects may not have been an important part in the act of worship or veneration.

### *A second phase of Roman activity – a farmstead*

The enclosure wall must have stood for some time as there was evidence that the north-west side was either repaired or rebuilt. It certainly survived into the second phase of Roman activity, of late 2nd/3rd-century AD date, when there was a reorganisation of the landscape, possibly reflecting a change of ownership. The enclosure was now used as a small farmstead and was occupied by several timber buildings, defined by postholes, various pits and a corn drier. There was evidence from charred plant remains, most of which were found in association with the corn drier, for the processing of wheat and barley on the site. The corn drier was probably being used to prepare cereals for storage or milling. It was infilled in the later 3rd century.

However, several features suggest that ritual activity was taking place. A small pit near the corn dryer contained cremated human remains. An adjacent pit contained a votive pot and the remains of a chicken. Some of the combinations of animal bone found in a pit and ditch fill could also be indicative of structured deposition.

Outside the enclosure walls, two ditches defined part of a larger field system. These were in-filled in the late 3rd/4th century, and contained evidence, in the form of hearth

smithing bottoms, of ironworking having taken place nearby. A roundhouse outside the walled enclosure was in use in the late 2nd- to 4th- century period.

### *General comments*

The finds, apart from the miniature votive pottery vessel, were few and unremarkable. The building materials, chalk, flint and ragstone are all locally available (Smith 1999; see also Appendix 6). The higher percentage of tegula fragments to imbrices suggest either the tegula had been used in the construction of the enclosure walls, or the imbrices had been gathered up and reused possibly as field drains.

Although it is tempting to see the walled enclosure with its shrine/monument and the farmstead existing together, no exact parallels could be found to support this. The limited dating available suggests these are distinct phases of activity. The external ditches, filled in the later 3rd/4th century AD, were probably in use at the same time as the farmstead. *Vagniacis* may also have been in decline by the 4th century AD (Davis 2001, 165).

There was some post-Roman activity on the site when the Roman foundation was robbed in the 11th/12th century. Whether this was to recover valuable building material or just an attempt to remove an obstruction to ploughing is unknown.


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## Appendix 1: The environmental archaeology (by Jon Giorgi)

Twelve bulk samples were collected, of which eight produced variable amounts of identifiable and quantifiable charred plant remains, with a total of 1591 plant items.

The plant remains were identified using the seed reference collection housed in the Environmental Department at MoLAS and seed reference manuals (Berggren 1981; Beijerinck 1947).

Over 80% of the quantified plant items were recovered from a single sample, from a fill [277] of the corn drier oven [229]. The vast majority of the identified plant material was made up of cereal grains, accounting for almost 80% of all quantified items, while the remaining part consisted of chaff fragments of wheat (*Triticum* spp.) (just over 1%) and the seeds of other plants (19%). Flecks and small fragments of charcoal were recovered from all the samples. Occasional uncharred seeds, eg. goosefoots etc. *(Chenopodium* spp.), brambles *(Rubus* spp.), were found in a number of the samples, although these seeds are probably intrusive given soil conditions at the site. Terrestrial molluscs were present in most of the flots but consisted mainly of burrowing species, so are probably intrusive.

### *The cereals*

Wheat was the best represented cereal from the site accounting for 25% of all grains. Just over half of the wheat grains were identified to species with the vast majority of these being from glume wheats. On the basis of grain morphology, most of the glume wheats were identified as spelt *(Triticum spelta*) although another glume wheat was represented by a much smaller number of emmer *(T. dicoccum*) grains. The overlap in the grain morphology of the different glume wheats suggests that a number of the cereal grains may belong to either einkorn or emmer (T. *monococcum/dicoccum*) and emmer or spelt *(T. dicoccum/spelta*).

Barley *(Hordeum sativum*) accounted for just 4% of the cereal grains from the site with the presence of twisted and hulled grains indicating that six-row hulled barley was present in the assemblages. Thirty-one oat *(Avena spp.*) grains (2% of all cereal grains) were also counted although the absence of oat floret bases made it impossible to establish whether these were wild or cultivated oats.

### *The wild plants*

The other botanical material in the charred assemblages came from a range of wild plants that made up 19% of the quantified items. Many of these seeds, however, could not be identified to species. Most of the seeds were probably derived either from plants imported onto the site accidentally as cereal weeds, or from plants growing on, or in the vicinity of the site itself. The ecological information given below is taken from Clapham et al (1987) and Stace (1991).

The majority of the weed seeds that were represented in the assemblages were from wild plants that grow in disturbed (including arable) ground, and waste places. The two best represented species were corn cockle (*Agrostemma githago)* and bromes *(Bromus spp.*), some of which were identified as rye-broom/lop-grass (B. *secalinus/mollis*). Rye-broom grows in meadows and waste places, while lop grass is a casual of arable land although the association of these seeds with the grains suggests that they are probably arable weeds. Indeed, both corncockle and brome are characteristic weed seeds of stored grain deposits because the seeds are of a similar size to the cereal grains and therefore difficult to separate out by sieving. Another characteristic arable weed seed, albeit represented by a significantly smaller number of seeds, is stinking mayweed *(Anthemis cotula*), associated with the cultivation of calcareous heavy clay soils. Another potential arable weed is small nettle *(Urtica urens*), which grows in cultivated ground and waste places, particularly on light soils.

Other wild plants in the assemblages were represented by very few seeds many of which are found in both disturbed ground and grassland environments, for example, buttercups *(Ranunuculus acris/repens/bulbosus)*, medick/clover *(Medicago/Trifolium* spp), docks *(Rumex spp.*), and various grasses, eg. rye-grass *(Lolium spp.*), rye-grass/fescue *(Lolium/Festuca spp.*), poa (*Poa spp.*). One seed was identified as the grassland/meadow plant ribwort *(Plantago lanceolata*), which is found on neutral or basic soils. Finally, a small number of seeds belonged to wetland plants, including sedges *(Carex spp.*).

## *Discussion*

The sampled contexts that were analysed may be divided into two groups of features excavated within the walled enclosure; the pits and the corn drier.

### *The pits*

Samples from four pit fills [155], [173], [193] and [258] produced identifiable plant remains. The quantity of botanical remains in all four samples, however, was very low, consisting virtually entirely of small amounts of charcoal. The only other plant remains were a few indeterminate cereal grains and single glume bases of spelt in [155] and wheat in [258]. Plant item density (excluding charcoal) was very low ranging from just 0.1 to 0.3 plant items per litre of soil. This botanical material probably represents residues blown in from activities nearby, possibly from the nearby corn drier, and can provide little indication of the function of the pits.

There were also a few uncharred seeds, which are probably intrusive particularly given the relatively high number of burrowing molluscs in the four samples. This material probably represents part of the back filling of the pits once they had gone out of use.

*The corn drier*

Four samples associated with the corn drier [229] produced plant remains. These fills produced the bulk of the charred plant remains from the site accounting for over 99% of the quantified items. The bulk of the remains came from fill [277] with over 81% of the remains and a plant item density of 129.7 per litre of processed soil. Smaller amounts came from fills [228] (plant item density of 8.45 per litre of processed soil) and [230] (plant item density of 5.15 per litre of processed soil). Fill [231] contained just eight grains including oat, and a brome seed.

The composition of the three richest plant assemblages from these fills was fairly similar in terms of the range of cereals and weed seeds that were represented. Grain was the predominant element in all three samples with the ratio of grain to chaff to weed seeds being as follows: fill [228] 64:5:31; fill [227] 83:1:16; fill [230] 67:1:32.

Wheats were represented mainly by glume wheats and mainly by spelt although a few grains of emmer and possibly einkorn were found in [277]. A small number of bread wheat grains were also present in [277], while several grains in [228] and [230] may be either spelt or bread wheat. Barley was the second best represented grain in these samples while oat was represented by single grains in [228] and [231] and 29 grains in [277].

A range of weed seeds was present in all three samples. Bromus seeds were the main component of the weed assemblages representing 58%, 65% and 70% of the weed seeds in fills [228], [277] and [230] respectively. Corn cockle was also well represented in [277] (16% of the weed seeds). The other plants were represented by very few seeds and consisted of potential arable eg stinking mayweed and/or grassland species with a few wetland plants represented in [228]. These smaller seeds may represent either arable weeds or possibly the residues of plants used as tinder in the corn drier.

There was little other environmental material in these samples except for a few large mammal bone fragments in [228] and [230] (the latter also including a few small mammal bone fragments). Terrestrial molluscs were present in all four samples and in particularly large numbers in [230] and [277] although these were burrowing species and therefore probably intrusive together with the few uncharred seeds found in these samples.

The corn drier could have been used for either the parching of glume wheats, such as spelt, before pounding and winnowing to allow dehusking or for the drying of grain before storage or milling. The relatively clean nature of the charred assemblages with a predominance of grain and few chaff fragments and weed seeds suggests that the grain was at an advanced stage of processing past dehusking and ready either for milling or storage.

It is not possible to establish whether the charred plant remains are ‘in situ’ or redeposited as part of the backfill of the feature. The oven, however, would have probably been regularly cleaned out and the presence of other environmental/

artefactual debris (albeit limited) suggests that the plant remains are more likely to be part of infilling once the feature went out of use. Nevertheless, the plant remains were probably from activities originally associated with this feature; the grains and large cereal weeds (bromes, corncockle) from the advanced stages of crop-cleaning and the smaller weed seeds possibly from tinder used to fire the oven or from weeds growing on and around the site.

*The range and uses of the cereals*

The cereals represented on the site have all been recovered previously from urban and rural sites in Roman Britain. Spelt wheat and barley are usually the best represented grains during this period, while free-threshing wheat is less usual and abundant at very few sites (Greig 1991, 309). Free-threshing wheats however are less likely than glume wheats to become charred. Emmer, which was represented by a small number of grains, tends to decline in the Roman period with the emergence of spelt wheat although there are regional variations (van der Veen 1992, 152). Einkorn, which may be present as occasional grains, is rarely found on Romano-British sites and can probably be considered as a cereal weed. The oat grains are also probably cereal weeds.

There is relatively limited archaeobotanical evidence from Roman sites in this area of south-east England although the results from the rural site of Beddington Villa near Croydon produced a similar range of cereals with spelt wheat (the most abundant grain), bread wheats and barley (de Moulins, 2005). Spelt wheat and barley also tend to be the best represented grains from various locations across London, both in the City and Southwark.

The cereal grains may have been used for bread, porridge, gruel and cakes (Wilson 1991, 234). The Romans made a type of gruel from cereals called puls or pulmenta, which was prepared from roasted barley or spelt wheat. It was pounded or cooked with water in a cauldron to make porridge similar to modern Italian polenta. They also made a wheat starch called amulum which was used by Roman cooks for thickening sauces (Renfrew 1985, 22–23). The Romans also made a number of different types of bread. Wheat was probably used exclusively for human food, while barley may also have been used for animal fodder, particularly for horses, and possibly brewing. However, none of the grains had sprouted to suggest that the latter was taking place on this site.

## Appendix 2: The animal bone (by Kevin Reilly)

### *Introduction*

Small quantities of animal bone were found on the site. Though preservation was good, the assemblages were often highly fragmented. This was a particular problem with the bones from the evaluation trenches, the fragmentation largely being caused by the excavation techniques employed.

The bone assemblages within the excavated parts of the ditches, taken from four separate fills, are principally composed of a number of cattle fragments (see table 1). These represent the remains of at least five individuals, as demonstrated by the range of ages and sizes within a wide range of skeletal parts. There are two mandibles, one of which is sub-adult (possibly a second year animal), while the other is a young adult (possibly no older than 4 years of age). The limb bones are all fused, with the exception of one proximal femur and a scapula, the latter from a young calf. It is to be wondered whether this scapula represents an infant mortality or possibly a high status food item. A number of the cattle bones are relatively complete, thus allowing for the calculation of shoulder heights (after von den Driesch & Boessneck 1974), as follows: a pair of humeri, plus one other humerus, all measuring about 116cm at the shoulder; a radius with an approximate height of 110cm. The pair of humeri were found within the same deposit as a pair of scapulae, also near complete, and it can perhaps be assumed that each of these parts belonged to the same carcass. This same deposit also provided the calf fragment. There is a notably poor representation of butchery amongst the cattle bones, with just one example, a chop mark found on one of the humeri, this probably resulting from the method used to joint the forelimb at the elbow. In the absence of evidence for more severe butchery, and in particular the division of limb bones, it could be suggested that meat may have been more often removed from, rather than cooked on, the bone.

The other food species recovered from the ditches include sheep/goat and pig, these represented by 11 and one fragment respectively. Amongst the sheep/goat collection, there are three large fragments of sheep skull, two of which are horned and definitely rams, while the latter is likely to be polled. In the latter case, the posterior part of the skull is insufficiently complete to suggest whether the horns had been removed or were naturally absent. Other features of the sheep/goat assemblage include a wide array of skeletal parts, an absence of butchery marks, and an age range which appears to be limited to adult individuals. The single pig fragment, a tooth, clearly represents a sub-adult, possibly a second year animal.

Finally there were also a few horse bones and a single dog fragment. The former is represented by a relatively complete skull and scapula, which were found in different deposits, but nevertheless could be from the same adult individual. Both bones are very similar in size to those from a reference specimen, which has a calculated shoulder height of between 130 and 140cm (12.8 to 13.7 hands). The dog, represented by a skull fragment, is clearly from a rather large animal, possibly measuring 70 to 80cm at the shoulder (again using reference specimens).

A fill [254] from ditch [256] provided a number of cattle bones, including a pair of near complete humeri, most of a tibia and a complete metacarpus. The humeri and tibia are probably from the same adult individual, the humeri comparable in size to those from the external ditch partial articulation with an approximate shoulder height of 116cm. In contrast, the metacarpus is from a somewhat larger animal, measuring about 130cm at the shoulder. This same feature also produced a near complete horse humerus, this from a small pony measuring about 118cm at the shoulder. As the humerus has an unfused proximal end, this animal can perhaps be classed as young adult, between about 1.5 and 3.5 years old (epiphyses fusion ages taken from Schmid 1972, 75). This feature also provided a few cattle and sheep/goat fragments.

*Table 1 Hand recovered bones (total fragment count)*

| | Ext | Int | All areas |
|---|---|---|---|
| Cattle | 27 | 11 | 38 |
| Horse | 3 | 2 | 5 |
| Cattle-size | 13 | 21 | 34 |
| Sheep/goat | 7 | 14 | 21 |
| Sheep | 4 | 0 | 4 |
| Pig | 1 | 3 | 4 |
| Sheep-size | 3 | 10 | 13 |
| Dog | 1 | 1 | 2 |
| Chicken | 0 | 2 | 2 |
| **Total** | **59** | **64** | **123** |

Ext: external features (ditches)
Int: internal features (various)

Several pits within the walled enclosure provided small quantities of animal bones. The better represented pits [278], [280] and [281] were located near the corn drier. Otherwise a reasonable quantity of bones was also recovered from pit [22] in evaluation trench J. The combined assemblage from these features shows a clear dominance of sheep/goat, in marked contrast to the previously described parts of the site, although it should be noted that there is a similarly high proportion of cattle-size bones. Pit [22] provided an assemblage that was entirely composed of a partial articulation, including a femur shaft fragment, two tarsals and a complete metatarsus. The latter bone allowed the calculation of a shoulder height for this adult animal of 123cm. Cattle and sheep/goat are represented by a wide distribution of skeletal parts, and each appear to be represented exclusively by adult individuals. There was a small number of butchered cattle and cattle-size fragments, these suggestive of dressing cuts (superficial chop to a distal tibia) and meat removal (series of knife cuts to a cattle-size long bone fragment). The other species include pig, with two skull fragments; horse, a mandible which is similar in size to that from the reference specimen (see above); and dog, with an ulna from an adult medium-sized individual.

Pit [266] contained a votive pot and chicken bones, represented by two wing elements, probably from the same juvenile individual. As these were only recovered by hand rather than by sieving, it is possible other parts of the skeleton were not retrieved. Although pit [258] contained cremated human bones it did not provide any burnt or unburnt animal bones. However an adjacent pit [223] did produce a single burnt animal (cattle-size) indeterminate bone fragment.

### *Discussion*

A major difference across the site is the better representation of sheep/goat within the early internal pits in comparison to the later external ditches. This difference, as with all comparisons on this site, should be viewed with regard to the small sample sizes, as well as the high level of fragmentation. The latter will undoubtedly have biased these assemblages towards the preservation and recovery of the bones of larger animals. However, it can be assumed that a similar bias was in operation throughout the site, with sheep/goat similarly under represented in both areas. The

tentative conclusion is that the difference is likely to be real. A rise in cattle over sheep/goat would in fact appear to be part of a nationwide trend associated with a Romanizing influence which appears to have been accepted by the rural communities within Roman Britain from the 3rd century AD onwards (King 1984, 193).

Another problem with the fragmentation is the unlikely survival of the bones from young sheep-sized and smaller animals, resulting in the abundance of adult sheep throughout these assemblages. This evidence can, however, be used to suggest that sheep were clearly kept for their secondary products, the likely conclusion being that the local area operated a mixed farming strategy. This bias is less likely to have affected the cattle bones, and so it can be assumed that this species was very largely used for secondary products throughout the occupation period of this settlement. The corn drier would clearly indicate the production of cereals, which in turn would necessitate the presence of draught animals. It was noticeable that two of the cattle are relatively large, with withers heights of 123cm and 130cm. These are clearly large for this period (comparison of Roman cattle sizes from numerous sites within London), and could conceivably represent oxen. Another use, however, is suggested by the presence of the very young calf, this from one of the external ditches. There are two main reasons for the presence of animals within this age group, either they are infant mortalities, or they represent the deliberate slaughter of young calves, this being a necessary feature of milk production. In either case, the presence of this individual clearly demonstrates a certain level of local production.

Unfortunately the evidence is insufficient to suggest whether cattle, and indeed sheep/goat, were routinely reared at this site, or whether animals supplied from elsewhere met a proportion of the meat demand. It could perhaps be assumed, given the location of the site, as well as from the presence of the corn drier, that this settlement represents a small farmstead. The evidence clearly shows that animals arrived on the hoof and that all stages of the butchery process were undertaken in the vicinity.

Although no animal bones were found within the deposit containing the cremated human remains, a small assemblage of chicken bones was recovered from the pit containing the votive pot. It is unfortunate that there is no plan showing the proximity of these bones to the pot. This may have been of particular importance as the presence of this species associated with inhumation and cremation features is well attested, for example, from Roman cemeteries (Reilly 2000  72, 130).  It is perhaps significant that this special feature provided the only chicken bones found at this site.

A small number of other semi-articulated skeletons were recovered, each of which are perhaps unlikely to have been in articulation when found. These probably represent food waste rather than ‘offerings’. Two of these articulations are, however, somewhat unusual. Each is similar in that it features a combination of cattle and horse elements.  Pit fill [254] had a pair of cattle humeri and a single horse humerus while one of the ditch fills [261] produced a pair of cattle scapula and one horse scapula. It is this combination of cattle and horse, and in particular of similar elements, that perhaps shows that these deposits represent something more than just general dumps of domestic refuse.

## Appendix 3:The pottery (by Louise Rayner and Richenda Goffin)

### *Introduction*

The Roman pottery assemblage totalled 513 sherds and was recovered from 55 excavated contexts (see table 2). Of these, 71 sherds were recovered from the earlier phase of evaluation (SWS97). Additionally, four sherds of prehistoric date, one possible Iron Age sherd and eight medieval sherds are present.

The pottery was recorded within context by fabric and form in accordance with current MoLAS standards. The assemblage was quantified by sherd count. Common name fabric codes are used after the first instance, which is written out in full. For full fabric descriptions see Davies et al 1994 and Symonds & Tomber 1991.

### *Prehistoric Pottery*

Four flint-tempered sherds of prehistoric date were recovered from contexts [168], [206], and [218]. The sherds are all body sherds and have no decoration or surface treatments. The undiagnostic nature of the sherds makes close dating problematic but a later prehistoric date (Late Bronze Age/Iron Age) seems likely. Two of the sherds join ([206] and [218]) and possibly come from the neck of a carinated jar or bowl. None of the sherds has been illustrated.

### *Roman Pottery*

The Roman pottery dates from the mid 1st to 4th century AD, with the majority dating to the later 3rd and 4th centuries. Several contexts produced single sherds of local sandy wares, which are not closely dated. There is an absence of diagnostic pre-Flavian material and no types that can be attributed to the pre-Roman Late Iron Age traditions evidenced elsewhere in Kent (Pollard 1988, 29–33).

Wares local to Kent dominate the assemblage, although some non-local Romano-British wares are present amongst the latest groups. Imported wares are very rare. Only two amphorae types are recorded: three sherds of Gaulish flat-bottomed wine amphora (GAUL1) from [7] (fill of ditch in Trench K) and [42] and one sherd of late Baetican Dressel 20 olive oil amphora (BAETL) from [296]. Imported fine wares are restricted to two sherds of Central Gaulish (SAMCG), one sherd of east Gaulish samian (SAMEG) and one sherd of Lower Rhineland marbled ware (LRMA). The only other imported wares from the site are three sherds of Eifelkeramik (EIFL), of which at least two are from the Mayen production area.

Non-local Romano-British wares include grey wares from Alice Holt, Surrey (AHSU/AHFA) and Much Hadham, Hertfordshire (BHAD) and fine wares from the Nene valley (NVCC) and Oxfordshire region industries (OXRC). The only example of a mortaria is a white ware also from the Oxfordshire region kilns (OXWW).

The remainder of the assemblage is composed of local coarse wares, predominately black burnished ware 2 (BB2) and other wheel-thrown sandy wares in forms imitating black burnished wares and necked jars. North Kent shelly ware (NKSH) is also recorded in typical storage jar forms.

*Table 2 Roman pottery quantities by fabric*

| Ware type | Fabric | Sherd count | % sherd count |
|---|---|---|---|
| Reduced wares | AHFA | 24 | 4.7 |
| | AHSU | 7 | 1.4 |
| | BHAD | 4 | 0.8 |
| | COAR | 1 | 0.2 |
| | FINE | 2 | 0.4 |
| | GROG | 11 | 2.1 |
| | NKSH | 14 | 2.7 |
| | PATCH | 2 | 0.4 |
| | SAND | 370 | 72.1 |
| | SHEL | 8 | 1.6 |
| BB type wares | BB2 | 28 | 5.5 |
| | BBS | 2 | 0.4 |
| R-B fine wares | CC | 6 | 1.2 |
| | NVCC | 5 | 1 |
| | OXRC | 4 | 0.8 |
| Oxidised wares | OXID | 7 | 1.4 |
| | OXWW | 1 | 0.2 |
| | MHAD | 2 | 0.4 |
| | RWS | 2 | 0.4 |
| | VRW | 2 | 0.4 |
| Imported wares | BAETL | 1 | 0.2 |
| | GAUL1 | 3 | 0.6 |
| | SAMCG | 2 | 0.4 |
| | SAMEG | 1 | 0.2 |
| | LRMA | 1 | 0.2 |
| | EIFL | 1 | 0.2 |
| | MAYEN | 2 | 0.4 |
| **Total** | | **513** | **100** |

### *Medieval pottery*

A total of five contexts contained small quantities of early medieval pottery. This was mainly of one fabric type, early medieval sand and shell (EMSS), dated from deposits in the City of London to 1000–1150. Body sherds were usually present, although a cooking pot rim was identified from context [183], the fill of the cut robbing S2. This fabric was handmade, and is thought to have been made in the London area (Vince and Jenner, 1991). The only other fabric represented is London Coarseware (LCOAR), of which a single large sherd likely to have come from an early rounded glazed jug, was found in context [185]. This can be dated to 1080–1200.

*Table 3 Dating*

| Context | Feature | Description | E-date | L-date |
|---|---|---|---|---|
| 112 | P/H 113 | SAND | 50 | 400 |
| 142 | P/H 143 | SAND | 50 | 400 |
| 154 | P 155 | SAND | 50 | 400 |
| 175 | P/H 176 | SAND | 50 | 400 |
| 179 | P 182 | SAND | 50 | 400 |
| 183 | P 184 | EMSS | 1000 | 1150 |
| 185 | P 187 | EMSS; LCOAR | 1080 | 1150 |
| 186 | P 187 | EMSS | 1000 | 1150 |
| 192 | P 193 | SAND | 50 | 400 |
| 202 | P 203 | AHSU | 70 | 160 |
| 208 | P 209 | EMSS | 1000 | 1150 |
| 214 | TB 215 | SAND | 50 | 400 |
| 216 | D 224 | AHFA; MAYEN; OXRC; OXWW? 7 | 300 | 400 |
| 220 | D 224 | BB2 | 120 | 300 |
| 221 | P 223 | VRW | 70 | 160 |
| 227 | C 229 | AHFA; OXRC | 275 | 400 |
| 228 | C 229 | SAND 2T; SAND 4 BUD | 50 | 400 |
| 230 | C 229 | SAND | 50 | 400 |
| 231 | C 229 | SAND | 50 | 400 |
| 236 | P/H 237 | SHEL | 50 | 150 |
| 240 | P 242 | EMSS | 1000 | 1150 |
| 254 | D 256 | MARB 1L; NVCC 3L | 275 | 400 |
| 257 | P 258 | NKSH | 50 | 150 |
| 261 | D 256 | AHFA; BHAD; NVCC;SAND | 300 | 400 |
| 265 | P 266 | AHFA; OXRC 3K RND; NVCC | 275 | 400 |
| 265 | P 266 | BM | 350 | 400 |
| 267 | P/H 268 | SAND | 50 | 400 |
| 267 | P/H 268 | BM | 350 | 400 |
| 271 | P/H 272 | GROG; SAND | 50 | 400 |
| 271 | P/H 272 | BM | 350 | 400 |
| 273 | P/H 274 | SAND | 50 | 400 |
| 273 | P/H 274 | BM | 350 | 400 |
| 276 | C 229 | SAND | 50 | 400 |
| 278 | P 279 | BB2; BBS; SAND 2W, 2X | 120 | 300 |
| 278 | P 279 | BM | 350 | 400 |
| 280 | P 285 | MHAD? | 300 | 400 |
| 281 | P 282 | NVCC | 150 | 400 |
| 296 | D 297 | BAETL; SAND 2W | 170 | 300 |
| 298 | P 300 | BM | 50 | 400 |
| 401 | P/H 402 | OXRC | 270 | 400 |
| 403 | P/H 404 | SHEL | 50 | 150 |
| 405 | D 406 | FLIN; SAND | 50 | 400 |
| 408 | P/H 409 | OXID | 50 | 400 |
| 414 | P/H 415 | GROG | 40 | 400 |
| 416 | P/H 417 | FLIN; SAND | 50 | 200 |

*BM building material, C corn drier, D ditch, P pit, P/H posthole, TB tree bole, Edate earliest date, Ldate latest date*

## Appendix 4: The registered finds (by Angela Wardle)

### *Roman finds*

Three artefacts can be dated securely to the Roman period.

There was an unstratified silver denarius of Caracalla <6>, dating to the early part of his reign (AD 196–217), which is in good condition and unworn.

Two quernstones <10> [216], <11> [214] both came from ditch fills. The abraded fragments are basalt lava, from the Niedermendig region of Germany, a common source of quernstones in the Roman period. Faint striations on the surface of the largest piece are typical of the way in which Roman querns were dressed.

An opaque white short cylindrical glass bead <4> [257] was found in a pit containing cremated human bone. It is possible that the bead is a grave good, although the fact that is not burnt suggests that it was not worn on the body. Unburnt grave goods were frequently placed with cremated remains to provide the necessities of the afterlife, as seen in the eastern cemetery of Roman London (Barber & Bowsher 2000, 117). It is quite feasible either that a necklace was placed with the bones after cremation and that beads have been lost in subsequent disturbance, or that a single bead was placed with the ashes as a symbolic gesture. The bead is not intrinsically datable, but necklaces composed of strands of very small beads were well known in the 3rd and 4th centuries, (Crummy 1983, 33). The size of the bead is very similar to those found in a necklace forming part of a jewellery set from the London cemetery (burial 461 in Barber & Bowsher 2000, 199). It is not impossible that the coin of Caracalla was also originally a grave good, but this is highly speculative.

*silver*

<6> [+]
Denarius of Caracalla (196–217). Obv. laureate head right., ANTONINVS PIUS AVG; rev. emperor on horseback, INDULGENTIA AVGG. Mint of Carthage. Unworn.
The youthful portrait of the emperor suggests that the coin dates from the early part of his reign.

*glass*

<4> [257] pit [258]
Opaque white short cylindrical bead. Diameter 3.2mm; L 1.7mm

*stone*

<10> [216] ditch [244]
Quern. Three fragments of basalt lava quernstone, probably from the Niedermendig region of Germany; very abraded. This type of quern stone was used from the Roman period and very faint striations on the surface of the largest piece, typical of

the way in which Roman querns were dressed, suggests that this is of Roman date. L 66mm

<11> [254] ditch [256]
Fragment of quernstone as above, very abraded. L 44mm

In addition to the identified objects various fragments of iron; sheet, strapping and bindings were found in Roman contexts. These are typical of the general fragments of ironwork found on any Roman site, although they could represent waste intended for recycling as several of the contexts in which they were found also produced iron working slag.

### *Medieval finds*

There were three finds of medieval date, none are illustrated. These comprise a buckle plate, a knife blade and a horseshoe, the latter of 12th- to 13th-century date.

*copper alloy*

<8> [unstratified]
Buckle plate or strap mount with three small rivets on the back; single rectangular sheet remaining with shaped terminal. L 41mm

*iron*

<5> [183] (robbing pit [184])
Horseshoe; 'lobate', wavy edged; parts of branch with one nail hole and calkin. Type 2A (Clark 1995, 86) Medieval, 12th–13th century. L 62mm; w 17mm

<1> [unstratified]
Knife blade, with curved back and straight edge; tang lost. Probably medieval. L 71mm

### *Post-medieval finds*

Full details of the miscellaneous post-medieval material, which comprises lead shot, part of a lock and a button, and the unidentified fragments, can be found in the site archive.

## Appendix 5: The iron working slag (by Lynne Keys)

A small quantity of iron material (1264g) – initially identified as iron slag – was recovered during the excavation (see table 04). This was examined and categorised on the basis of morphology and colour then the categories within each context were weighed. In the case of the smithing hearth bottoms the length, width and depth of each was measured in millimetres. The quantification details are contained in table 4 below.

The slag assemblage included three smithing hearth bottoms but no hammerscale. The rest consisted of vitrified hearth lining and undiagnostic iron slag some of which is probably broken fragments of smithing hearth bottoms or smithing slags. Several nails and fragments of iron were present. Most of the material was from the fills of the ditches. The assemblage probably represents a brief period of smithing activity somewhere in the area, but not in the immediate vicinity.

*Table 4 iron working slag*

| Context | Feature | Slag type | Wt (g) | L | W | D |
|---|---|---|---|---|---|---|
| 216 | D 224 | Smithing hearth bottom | 114 | 60 | 50 | 30 |
| 216 | D 224 | Smithing hearth bottom | 456 | 110 | 80 | 35 |
| 216 | D 224 | Unidentified | 12 | | | |
| 216 | D 224 | Vitrified hearth lining | 20 | | | |
| 220 | D 224 | Smithing hearth bottom | 166 | 85 | 70 | 30 |
| 254 | D 256 | Undiagnostic | 98 | | | |
| 261 | D 256 | Vitrified hearth lining | 36 | | | |
| 261 | D 256 | Cinder | 12 | | | |
| 261 | D 256 | Iron lump | 18 | | | |
| 261 | D 256 | Undiagnostic | 36 | | | |
| 261 | D 256 | Undiagnostic | 84 | | | |
| 261 | D 256 | Vitrified hearth lining | 108 | | | |
| 265 | P 266 | Undiagnostic | 82 | | | |
| 265 | P 266 | Vitrified hearth lining | 22 | | | |

D ditch, P pit

## Appendix 6: The building material (by Terence Paul Smith)

### *Introduction*

The building material was recorded using standard Museum of London recording sheets and fabric codes. Fabrics were determined by microscopic examination (´10).

### *Ceramic Building Material*

Ceramic building material from the site, all of it fragmentary, is exclusively Roman. Since it derives from pit fills, ditch fills, and similar features, rather than from *in situ* masonry structures (except for debris from the corn drier), it is of limited value with regard to the nature and status of buildings at the site. Indeed, it is not even clear that the bulk of the material derives from buildings at the site at all: the relative quantities of forms – and particularly of the two roofing tile types, *tegulae* and *imbrices* – are probably significant in this connection (see Table 5).

*Table 5 Relative quantities of Roman ceramic building material forms*

| Form | % by count | % by weight |
|---|---|---|
| *Tegulae* | 75.8 | 62.33 |
| *Imbrices* | 13.1 | 6 |
| Bricks | 9.1 | 28.33 |
| Flue tiles | 2 | 3.33 |
| **TOTALS** | **100** | **100** |

The two roofing tile types were, of course, used in approximately equal numbers on a roof, and where they represent collapse of buildings they would be expected in roughly equal quantities: in fact, as the table shows, there is considerable disparity in the quantities present*, tegulae* vastly outnumbering *imbrices*, whether considered by count (almost 6:1) or by weight (more than 10:1). Of greater value are the various fabric types represented, since they provide an impression of trading in the materials, both synchronically and diachronically, in what was a fairly important region of Roman Kent.

*Fabric Group 2815.* This fabric group covers a number of closely related individual fabrics showing greater or lesser quantities of sand (fabrics 2452, 2459A, 3004, and 3006) but otherwise very similar. They are in varying shades of orange, red, or brown and show occasional iron oxides and lime stone. They were manufactured at kiln sites on either side of Watling Street between London and St Albans and perhaps also to the south-west of London. Virtually all the 2815 material from the site belongs to the period c50–160. A later version belonging to the group (fabric 2459B, distinguished by its fine moulding sand), dating from the period c120 or 160 to the late 2nd or early 3rd century, is represented by a single unstratified *tegula* fragment from the CAT evaluation. The area between London and St Albans was a very important manufacturing region and its products were traded widely; Swanscombe was easily reached from the manufacturing region by road and, more convenient for bulk commodities such as building materials, by water.

Most fragments belonging to the group are from roofing tiles, principally *tegulae*, although some *imbrices* were also recovered. Bricks are represented rather less abundantly. A *tegula* from [296] has a signature mark formed in the still-wet clay with the fingers: it was in individual fabric 2459A (a fine sandy variety) and consisted of two concentric semi-circular finger-lines at the foot of the tile. Such marks are believed to have been used to identify different workmen at the yard (Brodribb 1987, 99–105).

From contexts [227] and [254] were fragments of box-flue tiles, used within walls to form internal ducts connected with hypocaust heating systems. Both were in individual fabric 3006 (a moderately sandy version) and both had mortar-keying created by combing. The combing on that from [227] was done with an 8-toothed comb to form both straight and wavy patterns; this tile also showed part of a square vent in its plain (unkeyed) side. The tile from [254] was too fragmentary for details to be preserved.

*Fabrics 2454 and 2455.* These fabrics are closely related, 2455 being less sandy than 2454; there is also a further type, 3022, which is much more sandy, and some of the examples of fabric 2454 from this site are very close to this version. Fabric 2454 is of a distinctive buff-yellow, yellow-grey, or yellowish-white colour; fabric 2455 is light brown, pink, or orange in colour. These fabrics were manufactured in the third quarter of the 1st century in the Eccles area of Kent, perhaps as estate products in association with the Roman villa there. Eccles is only 20 km south-east of Swanscombe, so that the presence of the material is to be expected; indeed, it is somewhat surprising that there is so little of it. It consists entirely of roofing tiles, mostly *tegulae* but with some *imbrices.*

*Fabric 3023.* This fabric is in varying shades of red, orange, and brown and shows, under magnification, distinctive speckling with tiny black iron oxides, as well as some silty and red iron oxide inclusions. Materials in the fabric were manufactured between AD 50 or 70 and c120 in the Radlett area of Hertfordshire, north of London but with easy communications with the north Kent area. Brick, *tegula*, and *imbrex* fragments were recovered.

*Fabric 3028*. This sandy fabric – red, orange, or brown in colour – shows frequent siltstone and/or silty bands and a scatter of red iron oxides. It was made between c70 and c100–120, although its place of manufacture is not at present known. It is represented at the site by a single *tegula* fragment.

*Fabrics 3050 and 3061*. These two fabrics would appear to be related. The former is orange or reddish pink in colour and shows frequent dark red quartz as well as varying amounts of normal (colourless) quartz and occasional iron oxide and limestone; the latter fabric tends to be darker in colour – orange to dark red – and has much less dark red quartz. Fabric 3050 was probably manufactured in the Reigate area of Surrey between c140 or 180 and the end of the 3rd century. It has been found not only in London but also at the villa site at Maidstone, south-east of Swanscombe (Ian Betts*, pers comm*). The date-range of fabric 3061 is not at present known; it may well have been manufactured in the same area as fabric 3050. At Swanscombe, one brick and five *tegulae* fragments in fabric 3050 and three brick fragments in fabric 3061 were recovered; the latter are all overfired to some degree.

*Fabric 3068.* This orange to light brown fabric, showing common quartz, a scatter of red iron oxide, and fairly common cream silty lenses and bands, was made between 50 or 70 and c120–125; its place of manufacture is not at present known. At this site, a single brick was recovered.

*Fabric 3096.* This is a cream or light brown mottled clay fabric with cream speckling and inclusions of thin cream bands with a scatter of red iron oxides or clay inclusions up to 2 mm across. Materials in the fabric have been found at a small number of London sites, where it was associated with late Roman pottery of c 350–400. The same date range is suggested by associated pottery from a number of contexts at this site; a few have a wider range, but the dating of the material to the second half of the 4th century seems secure. Place of manufacture is not known, although the relatively large number of pieces from this site perhaps suggests Kentish manufacture (see further below). All the material recovered is roofing tile, mostly *tegulae* but with one

*imbrex* also present. One of the *tegulae* (from [228]) shows a signature mark consisting of three overlapping segments of circles at the foot of the tile.

*Unidentifiable Fabrics.* A *tegula* from [220] has been badly overfired whilst an *imbrex* from [298] is completely reduced (thus grey in colour) due to lack of oxygen during firing. In neither case is it possible to identify the fabric.

Clearly, this important area of Roman Kent was able to draw on a number of sources for its ceramic building materials: the nearby Eccles estate, the area between London and St Albans (including the Radlett area, whence came the distinctive fabric 3023), the Reigate area of Surrey, and perhaps (for fabric 3096) somewhere in Kent. Some sources remain unknown. Relative quantities (by count and by weight, and ignoring the two instances of uncertain fabric) are shown in table 6.

*Table 6 Relative quantities of Roman ceramic building material fabrics*

| **Fabric(s)/Source** | **% by count** | **% by weight** |
|---|---|---|
| 2454, 2455 / Eccles, Kent | 11.3 | 4.2 |
| 3023 / Radlett, Herts | 4.1 | 15.1 |
| 3068 / source not known | 1.0 | 1.8 |
| 2815 group / between London and St Alban's | 47.4 | 50.3 |
| 3028 / source not known | 1.0 | 5 |
| 3050, 3061 / Reigate area, Surrey | 9.3 | 8.1 |
| 3096 / source not certain: Kent? | 25.8 | 15.5 |
| **TOTALS** | **99.9** | **100** |

The relative sparseness of the almost local Eccles materials (fabrics 2454, 2455) rather suggests that there was little activity at the site in the 1st century. The assemblage is dominated by material of the fabric 2815 group – almost half by count and over half by weight – most of which derives from the area between London and St Albans although some may come from southwest of London. In the second half of the 1st century and the first half of the 2nd century, then, this part of northeast Kent was looking principally to the region north of London for the bulk of its ceramic building materials. The Thames, that is to say, acted not as a boundary between southern and northern parts of the southeast but rather as a connecting route. On the other hand, and this is hardly unexpected, such materials are less dominant at this north Kent site than in London itself (including Southwark), where they often account for three-quarters or more of assemblages.

The tabulated figures put together materials from the entire Roman period. In fact, however, most had ceased to be available – unless as second-hand goods – by the mid to late 2nd century (cf Betts 1987, 26–8), although materials in fabrics 3050 and 3061 were probably available down to the end of the 3rd century. More important, the late date (c 350–400) for fabric 3096, hitherto based mainly on a small number of London finds, is confirmed by associated pottery at this site. Materials in this fabric are the only ones at the site dating from the second half of the 4th century. It may well be that they were produced somewhere in Kent itself; this would account for the paucity of example from the City of London and even from south of the Thames in

Southwark, where a large group of sites has yielded less than 1% both by count and by weight of this fabric (Susan Pringle, pers. comm.), contrasting with the 25.8% by count and 15.5% by weight at this site. There seems, then, to have been a radical change in trading patterns by the end of the Roman period in north-west Kent. In place of a formerly wide-ranging supply of ceramic building materials, a much more circumscribed, perhaps localised, industrial and commercial infrastructure developed.

### *Daub*

Thirteen fragments of daub (fabric 3102) were recovered during wet sieving of material from a fill [231] of the corn drier [229]. All were burned but showed no other features such as wattle impressions. This fill is dated to the Roman period.

### *Building Stone*

Three pieces of Kentish Rag (fabric 3105) rubble stone were recovered from a ditch fill [254], where they were associated with Roman ceramic building materials of early date (c50–160). Kentish Rag was quite commonly used by the Romans in south-east England – for example, for the walls of London – and even as far westwards as Silchester, Hampshire (Blagg 1990, 39); it was quarried in the Maidstone area of Kent, whence it could be easily transported to Swanscombe via the Rivers Medway and Thames. It is a hard, intractable stone that was used in the Roman period chiefly for rubble or for roughly squared and coursed facing.

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