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ROMAN SETTLEMENT EVIDENCE AT THE FORMER HOLBURY INFANT SCHOOL, HOLBURY, NEW FOREST, HAMPSHIRE

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ABSTRACT

A watching brief at Cadlands Primary School, formerly Holbury Infant School, Holbury, New Forest, was maintained during all ground reduction in advance of the construction of an extension to the existing school buildings. Roman features were uncovered, most notably three large pits and two possible hearths, partly enclosed within two ditches. Roman pottery and ceramic building material (CBM) assemblages recovered from the features date mainly to the period AD 270–325/350 and suggest much more substantial occupation in the immediate vicinity, possibly associated with a nearby Roman road.

INTRODUCTION

Archaeology South-East (ASE), a division of the Centre for Applied Archaeology, UCL Institute of Archaeology, was commissioned by Hampshire County Council to undertake an archaeological watching brief in August 2007, during the construction of an extension to the existing school buildings at Cadlands Primary School, formerly Holbury Infant School, Holbury, New Forest (Fig. 1). The report published here presents the main findings of the project; a full report is available online from Archaeology South-East (Collings 2008).

Site location and archaeological context

The school is situated off Whitefield Road, within the centre of a housing estate located to the southwest of Fawley Road (NGR 443200 103355 (SU 432033)). The underlying geology consists of Plateau Gravel Deposits (British Geological Survey Solid and Drift sheet 330).

Holbury Manor lies *c* 500m to the northwest of the site and medieval settlement is recorded to the south at Rollestone Farm which was first documented in 1331 (SMR SU40SW70). An excavation at Holbury Manor, carried out by Wessex Archaeology in 1987, produced no medieval remains but found evidence of Roman -activity within the manor grounds in the form of the foundations of wattle and daub structures in association with tile and pottery (Thompson & Gingell 1987).

A Roman Road running from Applemore Hill at Purlieu to Lepe, to the west of Fawley (Saunders 1927) is thought to have passed directly through the school grounds, aligned southeast-northwest to the southwest of the existing school buildings (Fig. 1). The road was first recorded in 1217 in the New Forest perambulation where it was marked as *magnam viam* 'great road' (Clarke 2003, 33); Margary recorded it as a Roman road in 1973. However, its provenance has been questioned (VCHH 1900), and it is only shown as an earthwork on the present Ordnance Survey map. The Lepe to Purlieu road has been the subject of a recent re-investigation examining a series of Roman roads and sightlines across the landscape to demonstrate that it was probably an important part of a network of roads within the region (Clarke 2003). Clarke traced it further northwest to Shorn Hill at which juncture it joined the road from Otterbourne to Stoney Cross, passing close to Tatchbury and another road joined it at Applemore Hill running to Old Sarum. It has been suggested that it was constructed in the very early phase of the Roman invasion, possibly by Legio II Augusta and was probably key to their operation for the capture of the Isle of Wight, under Vespasian (Clarke 2003).

Fig. 1 Site location plan

The course of the road is obscured at Holbury by the housing estate surrounding the school but the remains of an agger have been identified at several junctures along the route either side of this.

Evidence of Roman activity in the vicinity of the site was first recorded in the 1950s when the remains of wattle and daub structures were uncovered in association with a quantity of pottery. An additional assemblage of Roman pottery was recovered in 1971 during the construction of the modern housing estate surrounding the school, at which time varied evidence for Roman activity was observed to the immediate northwest of the site.

THE EXCAVATION

An area totalling 1947m^2 was stripped across the development area (Fig. 2) in preparation for the excavation of the foundation trenches. Topsoil and subsoil overlay the sand and gravel deposits, with some areas of mixed made-ground below the topsoil.

Where archaeological remains were identified, the intrusive ground works were halted to allow for the necessary archaeological excavation and recording. The excavation strategy was further developed with particular regards to three large pit features encountered in the north-western corner of the site, to allow for investigation in keeping with health and safety requirements.

Results

Eleven features were recorded within the main strip area comprising nine discreet features and two ditches (Fig. 2). Most notable were three large pits, [1004], [1009] and [1010], the latter of which was not excavated, and two possible hearths/large pits with burnt fills [1051] and [1057], which were truncated by a probable tree throw [1050]. Three smaller discreet features, a pit [1047] and two smaller pits or postholes [1045] and [1043], were located to the immediate east of the probable hearths of which pit [1047] and pit/posthole [1045] also had partially burnt fills.

Probable enclosure ditches

All the features appear to be partly enclosed by two ditches; the full extents of which were not visible but could possibly have intersected just outside the excavated area forming the corner of an enclosure. The ditches had a broadly U-shaped profile, measuring between 1.11m and 1.68m in width and 0.40m to 0.70m in depth. Pottery recovered from the excavated sections dated from *c* AD 270 to early/mid 4th century, although a residual fragment of triangular loom weight was also recovered (RF 1).

Large pits

Three large pits [1004], [1009] and [1010] were identified within the enclosure. Pit [1010] was located outside the area to be impacted during the development and was not excavated. Both pits [1004] and [1009] were circular in plan with fairly steeply sloping sides; the lower profiles could not be examined due to health and safety considerations and an augur was used to establish the approximate depths: [1004] was *c* 2.47m deep and [1009] was *c* 2.35m deep (Fig. 3).

Both pits produced Roman pottery throughout their fills dated from *c* AD 270. Roman ceramic building material and burnt clay was also recovered. Pit [1009] also produced four pieces of waterlogged wood collected from fill [1023]. The largest pieces was identified as Oak (*Quercus* sp.), but none have evidence of working. Impressed daub fragments and possible briquetage were also recovered.

Possible hearths/pits

The two possible hearths, [1051] and [1057], had multiple fills, the formation of which seemed similar and were comprised of burnt material between cleaner fills.

Hearth/ pit [1057] is an irregular sub-oval shape in plan, with an elongated irregular D-shaped profile. The area was badly disturbed by rooting and truncated on the eastern edge by probably tree throw [1050]. The feature produced an important pottery assemblage which totalled 531 sherds weighing 8.14kg (Fig. 4, P1–18). This accounted for over 40% of the total site assemblage recovered. None of the earliest fills contained pottery suggest-

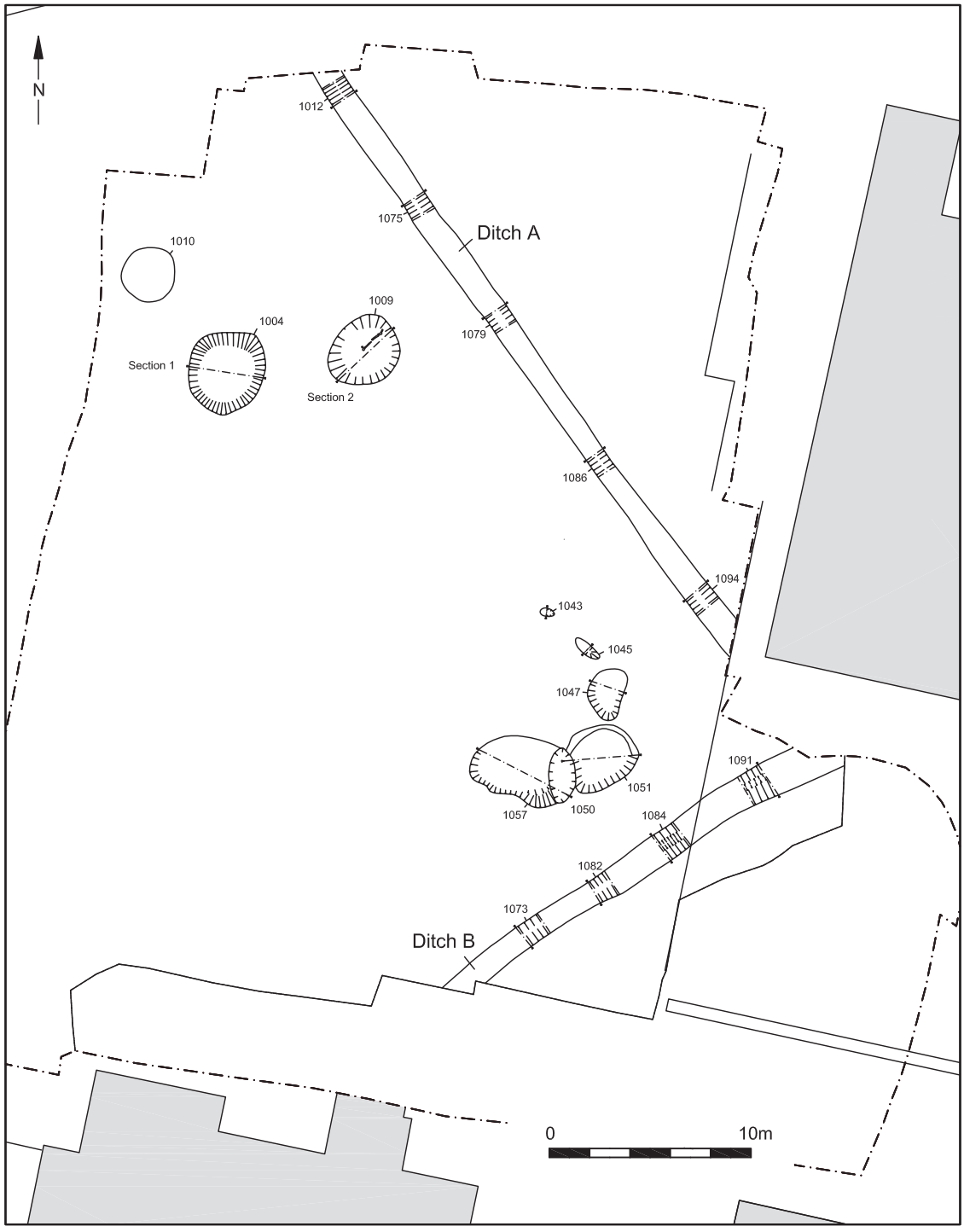

Fig. 2 Plan of Excavated Features

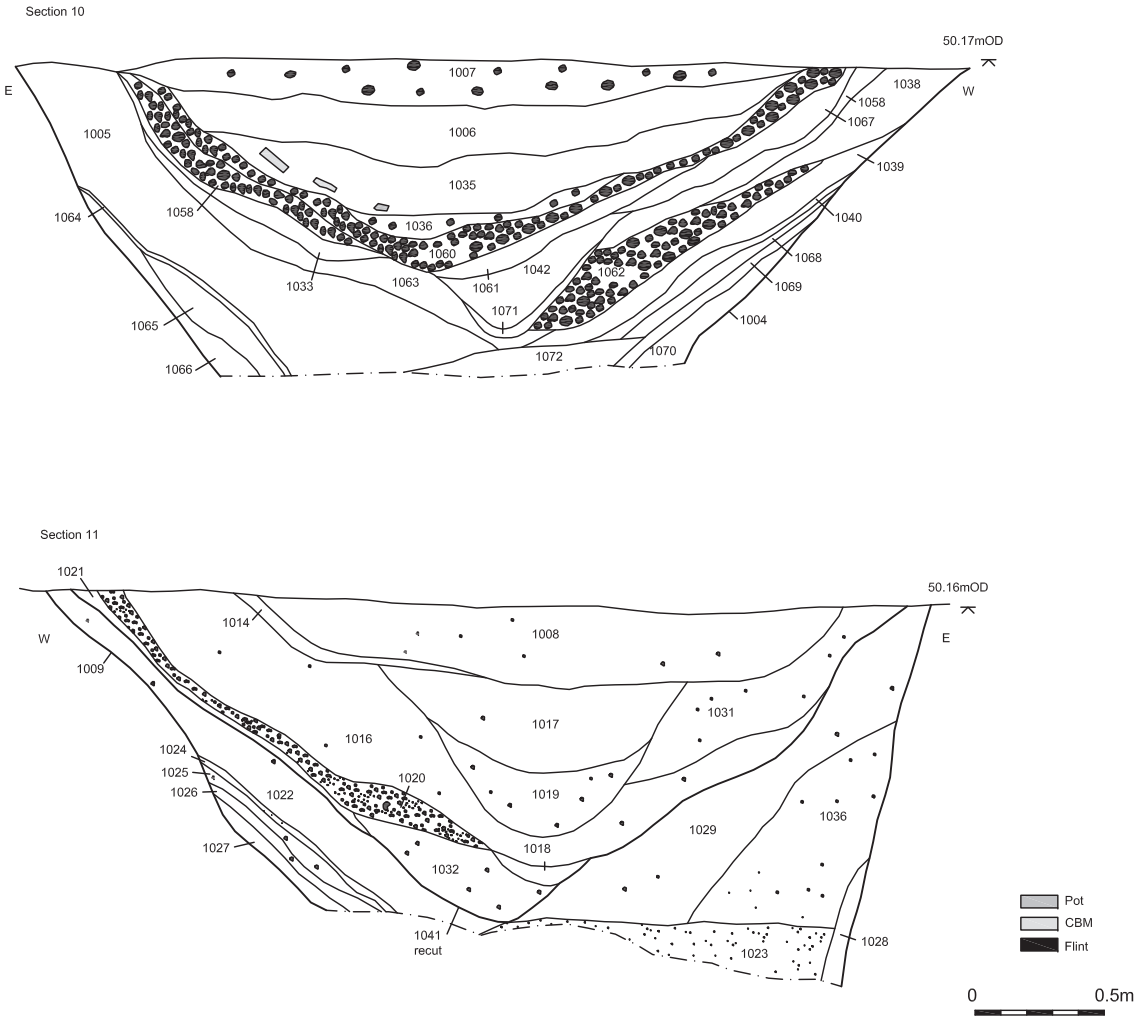

Fig. 3 Sections of [1004] and [1009[

ing the group probably relates to the filling and disuse of the pit, rather than the date of origin or early use. The pottery suggests that the feature was filled over a fairly short period of time as the earliest fill containing pottery [1121], has the same date range (AD 270–325/350) as the upper fill [1058]. [1058] is the largest group from the site and contains New Forest types which were produced from the outset of the industry in the late 3rd century (e.g. Fig. 4, P14–15), possibly indicating that [1057] was filled slightly earlier than other features on site. However the general proportions of fabrics and forms are fairly consistent with the assemblage as a whole, with grog-tempered wares making up by far the largest proportion, followed by unsourced sandy grey wares and black-burnished ware 1. Quite a high proportion of the sherds retain sooting, presumably reflecting a domestic assemblage primarily used for cooking and serving of food. The sherds from the group also tend to be quite large with fresh breaks, indicative of primary deposition of domestic refuse.

Roman building material, including tegula and imbrex, glass, heavy duty nails, iron strip fragments and wattle impressed daub were also recovered from the feature. Wood charcoal was recovered but no other charred plant remains.

Hearth/pit [1051] was an irregular sub-circular shape in plan also with an irregular elongated D-shaped profile and undulating irregular base. The recovered assemblage included pottery dated to *c* AD 300–360, ceramic building material including tegula and a piece of pale green Roman glass (RF 5).

Pits/postholes

These discrete features were located close by to [1057] and [1051]. Pit [1047] was an irregular sub-oval shape in plan and contained a small group of pottery dated AD 270 to the early/mid 4th century. Pit or posthole [1045] was sub-oval in plan but produced no artefacts. Pit or posthole [1043] was sub-circular in plan with an irregular profile. One sherd of abraded pottery dating to AD120–200+ was recovered along with Roman brick, burnt clay and metal.

THE FINDS

Roman Pottery by Anna Doherty

Introduction

In total 1194 sherds of Roman pottery, weighing 18.32 kg and amounting to 14.5 EVEs, were excavated from the site. The pottery groups all fall within a fairly narrow time period between the late 3rd to early/mid 4th centuries. Despite a small but consistent quantity of probably residual 2nd and 3rd century material there is little evidence for stratified assemblages of this date. Furthermore the 2nd century samian, which makes up the majority of the residual material, is all notably abraded in comparison to the bulk of the assemblage which generally consists of quite fresh, fairly large sherds. The earlier material recovered could be explained by the presence of a early Roman Road in the vicinity of the site, with the 2nd and 3rd century material relating to the construction and initial use of the road prior to more developed settlement and activity on the site.

Methodology

The pottery was examined using a x20 binocular microscope and quantified by sherd count, weight and EVEs. In the absence of a regional type series for Hampshire, fabrics, forms and decoration were coded using Museum of London codes and, where possible, cross-referenced to the National Roman Fabric Reference Collection (Tomber & Dore 1998).

Fabric and form types

The most striking aspect of the assemblage is the predominance of grog-tempered fabrics which make up nearly half of the assemblage. The majority is GROG1, a hand-made fabric with dark, often lustrous burnished surfaces. The grog is multicoloured and usually in the 1–2mm size range. The matrix also contains common fine quartz mostly around 0.1mm or less. This fabric is of the same type as Portchester hand-made fabric A (Fulford 1975a, 286), produced from around AD 270 until the end of the Roman period. The north of the Isle of Wight has been identified as one of the sources of this ware although others may exist on the mainland (Lyne 2007). The associated forms

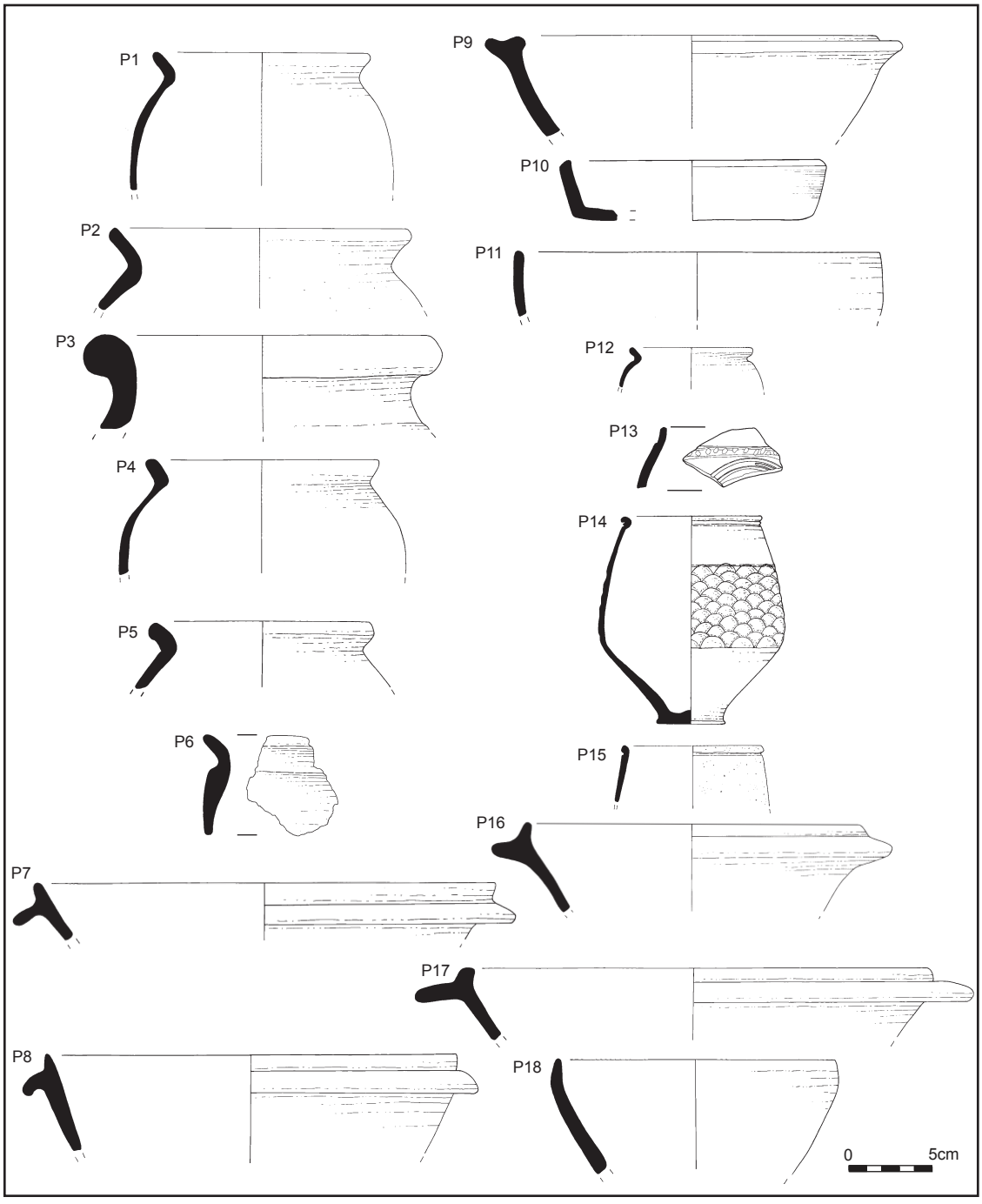

Fig. 4 Roman Pottery from [1057]

are nearly all black-burnished ware style everted or cavetto rim jars, bead and flange bowls and plain rim dishes. The bead and flange bowls vary slightly from the contemporary BB types in that they tend to have a low bead and a slightly upturned flange. A sherd from a 'cheese-press' with ridged base, pre-firing perforations and scored cross decoration is the only form not based on black-burnished ware.

The GROG2 fabric, which makes up 6% of the assemblage by sherd count and 15% by weight, is an exceptionally coarse variant of GROG1 with common fine quartz and multi-coloured grog mostly in the size range 0.3–0.4mm. It is almost always oxidised with untreated surfaces. Interestingly, all the GROG2 sherds are from thick walled storage jars and the two rims recorded are crudely hand-formed with finger 'cabling' similar to that seen on forms produced both at Alice Holt and Rowland's Castle, and sometimes interpreted as beehives (Lyne & Jefferies 1979, 51). However there is no evidence of perforations in the grog-tempered examples from this assemblage and, although slight internal finger-marks are often present, they are probably related to forming technique and are dissimilar to the deliberate deep impressions seen on the Alice Holt and Rowland's Castle examples.

Overall, sandy grey wares account for just under a quarter of the assemblage. The majority are not sourced but given the location of the site, it is likely that many are from the New Forest industry, which had kilns located around 15km from the site. As in the rest of the assemblage the majority of greyware forms are jars, bowls and dishes based on black-burnished ware prototypes, all of which can be paralleled in the New Forest corpus (e.g. Fulford 1975b, 6, fig. 30, 90; 19.1, fig. 32, 93; 30.5, fig. 35, 99). There are two examples of beakers most similar to Fulford's greyware type 2 which are almost certainly New Forest products (Fulford 1975b, 2, fig. 30, 90).

Around 5% of the assemblage was identified as Alice Holt reduced ware, mostly the black-slipped Overwey fabric variant. Despite intensification in production at Alice Holt after AD 270, the products were not supplied in great numbers to south Hampshire because the market was saturated by New Forest products (Lyne & Jefferies 1979, 56). Again the majority are BB related jars, bead and flange bowls and plain rim dishes, with three examples of lids. There are two residual sherds of early Alice Holt-Surrey ware, which went out of production around the mid 2nd century. One distinctive form in the Alice Holt/Farnham ware, a bead rim jar with a wide zone of diagonal line decoration (Fig. 4, P22), has more affinities with forms from the earlier industry and was fairly uncommon after AD 250 (e.g. Lyne & Jefferies 1979, 4.31, fig. 15, 29). However, the upper part of the vessel is semi-complete suggesting that it survived in use with pottery dated to after AD 270. There are a small number of Rowland's Castle greyware sherds including one from a necked storage jar (Fig. 4, P3). The main distribution of Rowland's Castle ware is eastwards along the route of Stane Street to Chichester, and it would not be expected in any quantity in Hampshire, again because of competition from the New Forest industry (Fulford 1974, 92–94). BB1 is among the most common fabrics in the assemblage, accounting for about 10–15% of the total. This high figure is unsurprising as the site is located less than 50km from the production source and production was particularly intensive in the 3rd and 4th centuries. There are slightly more open than closed vessels and plain rim dish and high bead and flange bowl forms are particularly common.

Coarse oxidised wares only account for around 3% of the assemblage and most of these are unsourced. Among this group are two mortaria with inturned beads and straight flanges featuring very coarse ill-sorted flint grits, up to 4mm in size which are not fully calcined. These are very different to New Forest examples but the coarseness of the grits suggests they are the products of a less specialised local industry. The only other forms are a necked jar in an orange oxidised ware containing glauconite and the base of a tall beaker probably imitating New Forest forms. Just under half of the oxidised wares are New Forest white ware and include a pulley rim flagon (Fig. 4, P19) more usually found in colour-coated wares (e.g. Fulford 1975b, 7.1, fig. 9, 47) and bead and flange mortaria similar to Fulford's type 103 (Fig. 4, P16–17); the former is dated to AD 300–360 and the latter to AD 270–320.

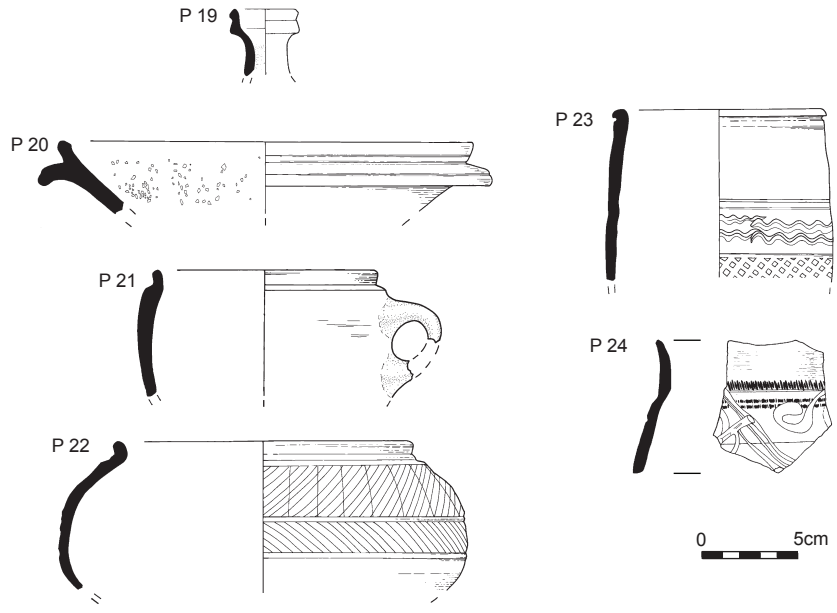

Fig. 5 Roman Pottery from various features

Although Holbury is near the edge of the normal distribution area for Portchester D ware it is notable that there is only one sherd in the assemblage. Although this fabric was first produced at the start of the 4th century, it had a wider distribution from the mid 4th century and its near absence in the assemblage probably indicates that activity on site had largely ceased by this date.

Fine-wares make up about 10% of the assemblage, most of which are New Forest wares, including high-fired and red-slipped variants. All the high fired sherds are from beakers, mostly tall funnel necked types with bulbous bodies of Fulford's type 40, but also bag shaped type 44 forms (Fulford 1975b, fig. 13, 55; fig. 16, 61). The latter type group includes one example with barbotine scales (Fig. 4, P14), which may be amongst the earliest products of the New Forest industry (Fulford 1975b, no. 47.1, fig. 16, 58, 61). This vessel is also interesting because the scales appear to be lower fired than the body of the vessel indicating that it was probably fired once before the application of the barbotine.

Another beaker form is a tall bag-shaped type with incised wavy lines and lattices (Fig. 4, P23), very similar to Fulford type 49.1 and dated to around AD 320–350 (Fulford 1975b, 58). There is one folded bodysherd with white painted fern leaf decoration, similar to Fulford's type 42 which is dated to around AD 300–330/40 (Fulford 1975b, 56). Another bodysherd features incised concentric circles and simple line and dot white painted decoration (Fig. 4, P13). Fulford suggests that more elaborate white painted decoration was replaced by simple lines and dots in the mid 4th century so this sherd perhaps provides evidence of continued activity around this date. An unusual beaker bodysherd (Fig. 4, P24) in the red-slipped fabric has barbotine scroll decoration which is more commonly seen in the Nene Valley industry. Other forms found in the red-slipped variant include a mortarium similar to Fulford's type 81 (Fulford 1975b, 81.2, fig. 22, 73) dated to AD 325–400 and a flagon with plain everted rim similar to Fulford's type 9 (Fulford 1975b, 9.4, fig. 9, 47).

There are a small number of unsourced fine oxidised sherds or colour-coated wares. These include a later disc-mouth flagon in a red fabric with burnished surfaces and micaceous matrix with red and black inclusions, similar to

Hadham oxidised ware, but possibly of more local origin. Two sherds from a rouletted beaker with a brown slip are perhaps more characteristic of Nene Valley products but may be from the New Forest. There are also three bodysherds of Oxfordshire red-slipped ware. The low quantities of the latter may again suggest that the majority of activity on site dates from the late 3rd to early 4th centuries as a marked increase in this type was noted in groups post-dating the mid 4th century at Portchester (Fulford 1975a, 275 & 282–286).

Surprisingly, given the dating of most groups to after AD 270, the proportion of samian in the assemblage is only slightly less than that of the New Forest wares. The majority is Central Gaulish in origin and was certainly produced between AD120–200. Given the lack of other 2nd century material, it seems likely that these vessels survived in use for a long period after the collapse of the Central Gaulish industries. Before New Forest products became available, fine-wares may have been more difficult to procure in southern Britain and may have stayed in use even when slightly damaged or worn. Two examples were in a pink powdery fabric similar to Lezoux (Central Gaulish) ware but containing very frequent limestone merging into the matrix; it might therefore have an East Gaulish source (possibly Heiligenberg). The forms present are a standard range of cups, dishes and bowls and there are no decorated sherds. There is one other imported sherd, from a funnel neck beaker in Central Gaulish black-slipped ware.

Amphora sherds make up less than 5% of the assemblage, most of which are in the Gaul 1 fabric associated with Gauloise wine amphora. Many may be from the same vessel although they are spread over many contexts and do not conjoin. One sherd is a rim similar to a Gauloise 5 type (Davies *et al.* 1994, 25–26, fig. 11, 19). There are two residual sherds of Baetican amphora and four of unsourced amphora probably of Gaulish origin.

Form-types overview

A consideration of the form types in the assemblage, regardless of fabric, shows a fairly narrow range. There is a strong preference for jar, bowl and dish forms based on black-burnished ware proto-types, particularly the strongly everted jar which makes up nearly 20% of known forms. The high bead and flange bowls and plain rim dishes are present in roughly equal quantities, each making up just under 10%. Bead and flange bowls with lower beads, possibly related to the Gillam 226 black-burnished form (although probably later in date) also account for 3–4% (Gillam 1970, 226, fig. 23, 63). This latter type is only produced in the grog-tempered ware but BB types are also found in BB1, Alice Holt/Farnham ware and greywares probably originating from the New Forest industry. The only other forms present in significant quantities are necked jars and New Forest funnel-neck beakers.

Chronology

The pottery comprises a fairly homogenous group dated to between AD 270 and 325/350 and there is no clear evidence for distinct sub-phases within this date-range. A high proportion of the assemblage can be securely dated to after AD 270 and there was probably no activity of any intensity before this date. Although a small but significant quantity of residual 2nd century material is present on the site, the majority of this is samian which may have remained in use for a substantial period of time after production ceased. Alternatively, the earlier material may derive from activity associated with the earlier Roman Road in the vicinity of the site, the 2nd and 3rd century material relating to the construction and initial use of the road prior to more developed settlement and activity on the site.

Detailed analysis of groups from Portchester suggest that there is relatively little change in the proportion of fabrics during the late 3rd and 4th centuries, the most notable trait being the first appearance of Portchester D ware around AD 325 and a marked increase in Oxfordshire colour-coated ware after around AD 350 (Fulford 1975a, 275, 282–286, 299). As only one sherd of the former and three of the latter are present it seems likely that activity on the site had mostly ceased by the mid 4th century.

Status/function

The assemblage is characteristic of domestic activity and the vast majority of forms, which

are derived from black-burnished prototypes, are related to preparation, cooking and serving of food, a point supported by the high levels of sooting. It is notable that the assemblage has a very high proportion of fine wares, making up about 10%, which is perhaps more typical of high status villa assemblages. However, fine-wares were probably readily available close to production sites even on lower status settlement sites.

Catalogue of illustrated sherds: P1-P18 from pit/hearth [1057] (Fig. 4), P19-P24 various features (Fig. 5).

P1 Grog-tempered everted rim jar [1058]
P2 Grog-tempered everted rim jar [1058]
P3 Rowlands Castle grey ware storage jar [1058]
P4 Grog-tempered everted rim jar [1121]
P5 Unsourced grey ware everted rim jar [1058]
P6 Grog-tempered everted rim jar [1121]
P7 Black-burnished ware 1 bead and flange bowl [1121]
P8 Alice Holt/Farnham ware bead and flange bowl [1058]
P9 Grog-tempered bead and flange bowl [1059]
P10 Alice Holt/Farnham plain rim dish [1107]/[1059]
P11 Black-burnished ware 1 plain rim dish with burnished arc decoration [1058]
P12 Unsourced grey ware everted rim beaker [1107]
P13 New Forest colour-coated ware beaker with incised concentric circles and white painted dot decoration on neck (probably Fulford type 30) [1105]
P14 New Forest colour-coated ware bag-shaped beaker with barbotine scale decoration (Fulford type 47) [1121]
P15 New Forest colour-coated ware bag-shaped beaker (Fulford type 44) [1121]
P16 New Forest white ware mortarium (Fulford type 103) [1058]
P17 New Forest white ware mortarium (Fulford type 103) [1058]
P18 Alice Holt/Farnham? Plain rim bowl [1121]
P19 New Forest white ware pulley rim flagon [1052] (pit/hearth [1051])
P20 New Forest red-slipped ware bead and flange mortarium (Fulford type 81) [1030] (quarry pit [1009])
P21 Unsourced sand-tempered handled beaker/jar possibly imitating black burnished ware handled beaker [1089] (linear feature [1086])
P22 Alice Holt/Farnham ware bead rim jar (Lyne & Jefferies type 4 31) [1016] (quarry pit [1009])
P23 New Forest colour-coated ware bag-shaped beaker with incised wavy lines (Fulford type 49) [1016] (quarry pit [1009])
P24 New Forest red-slipped ware beaker with barbotine scroll decoration [1036] (quarry pit [1004])

The ceramic building materials by Susan Pringle

Introduction

The building materials assemblage consists of 238 fragments of Roman and post-Roman tile and brick weighing 38.7 kilograms. Almost all the material is of Roman date with post-medieval tile occurring only in the topsoil and the uppermost fill of probable quarry pit [1009] (Table 1). The building materials consist mainly of brick and tegula of Roman date. A number of the tegulae have features typical of later Roman tiles, made after c. AD 200. Most of the tile, which is probably derived from a late Roman building in the vicinity of the site, is likely to have been re-used in some sort of industrial process involving hearths, kilns or ovens.

Methodology

All the building material has been quantified by form, fabric and fragment count. The Roman forms are as described in Brodribb (1987); where the form could not be identified, fired ceramics have been recorded as 'tile'. Fabrics were examined with a binocular microscope at x10 magnification and where possible have been referenced to the Museum of London (MoL) type series for tile fabrics. In the fabric descriptions the following conventions are used: the frequency of inclusions is described as being sparse, moderate, common or abundant; the size categories for inclusions are fine (up to 0.25 mm), medium (between 0.25 and 0.5 mm), coarse (between 0.5 and 1 mm), and very coarse (greater than 1 mm). The retention and discard policy adopted is that set out in the Guidelines of the Society of Museum Archaeologists (1993). Approximately 90% of the material has been discarded.

Roman fabrics

The majority of the tiles are made from orange-firing clays, with inclusions of fine quartz and

Table 1 Quantification of building material by type

Material	*Count*	*% of total count*	*Weight gr.*	*% of total weight*
Roman brick	96	40.3%	23794	61.5%
Roman roofing tile	92	38.7%	11752	30.4%
Roman box flue/voussoir tile	3	1.3%	656	1.7%
Unidentified Roman tile	36	15.1%	2364	6.1%
Daub (undated)	7	2.9%	31	0.1%
Post-medieval roofing tile	4	1.7%	112	0.3%
Total	238	100%	38709	100.1%

variable quantities of cream or orange siltstone and/or clay and darker iron-rich clays. Fabric R1 is particularly coarse and seems to have been favoured for bricks; R2 is a finer version used more for roofing and flue tiles; over 50% of tegula fragments are in this fabric. R4 which contains much less cream silt/clay is the least common variant, accounting for less than 2% of the assemblage by weight. Fabric R3, which makes up approximately 15% of the assemblage, has a darker orange-red clay matrix with distinctive white calcareous inclusions; it also seems to occur as roofing and flue tiles.

Roman fabric descriptions:
R1; light orange-firing clay matrix, common to abundant fine quartz, common coarse to very coarse blocky inclusions of white or cream siltstone and dark red iron-rich clay (type sample [1006]). Predominantly a brick fabric. MoL fabric 3019.
R2; orange-firing clay matrix, abundant fine quartz. Moderate to common very coarse inclusions of orange or light brown clay/siltstone; sparse to moderate lenses and inclusions of cream clay. Near R1, but fewer coarse inclusions. Brick and roofing tile. MoL fabric 3019 near 3020.
R3; fine orange-red matrix; sparse to common fine quartz (some examples are quite 'clean'), sparse coarse quartz and very coarse dark-red iron rich material, common white calcareous inclusions and voids. Predominantly roofing tile.
R4; orange-red clay matrix with abundant fine quartz and moderate to common very coarse blocky inclusions of quartz-free orange clay; moderate coarse to very coarse dark red iron-rich clay and very sparse cream silt. Similar to R2, but with less cream clay/silt.

Roman forms
Brick (fabrics R1, R2, R4): No complete bricks are present. A width dimension of 276 mm was noted on what is probably either a *pedalis* (approximately 1 Roman foot square) or a *lydion* (approximately 1 by 1.5 Roman feet). The majority of fragments are between 28 mm and 40 mm thick, with a small number of tiles up to a maximum of 48 mm. Only one unusual brick was noted, 22 mm thick with a circular hole 10 mm in diameter centred 33 mm from one end and 35 mm from the side ([1085]) (Fig.1). This may be a parietalis, a facing brick used with spacer bobbins and nails or cramps to create a cavity wall, although it does not have the keyed surface usual to parietales (Brodribb 1987, 58–60). A number of the bricks have reduced surfaces, vitrified moulding sand or the irregular fractures typically caused by repeated heating and cooling.
Roofing tile: *tegula* (fabrics R1/R2, R3); *imbrex* (fabrics R2, R3, R4)

There are no tiles or fragments with complete dimensions. However, the assemblage is of interest for the evidence it contains for late Roman tile-making techniques. Some of the *tegulae* have clearly been formed in the

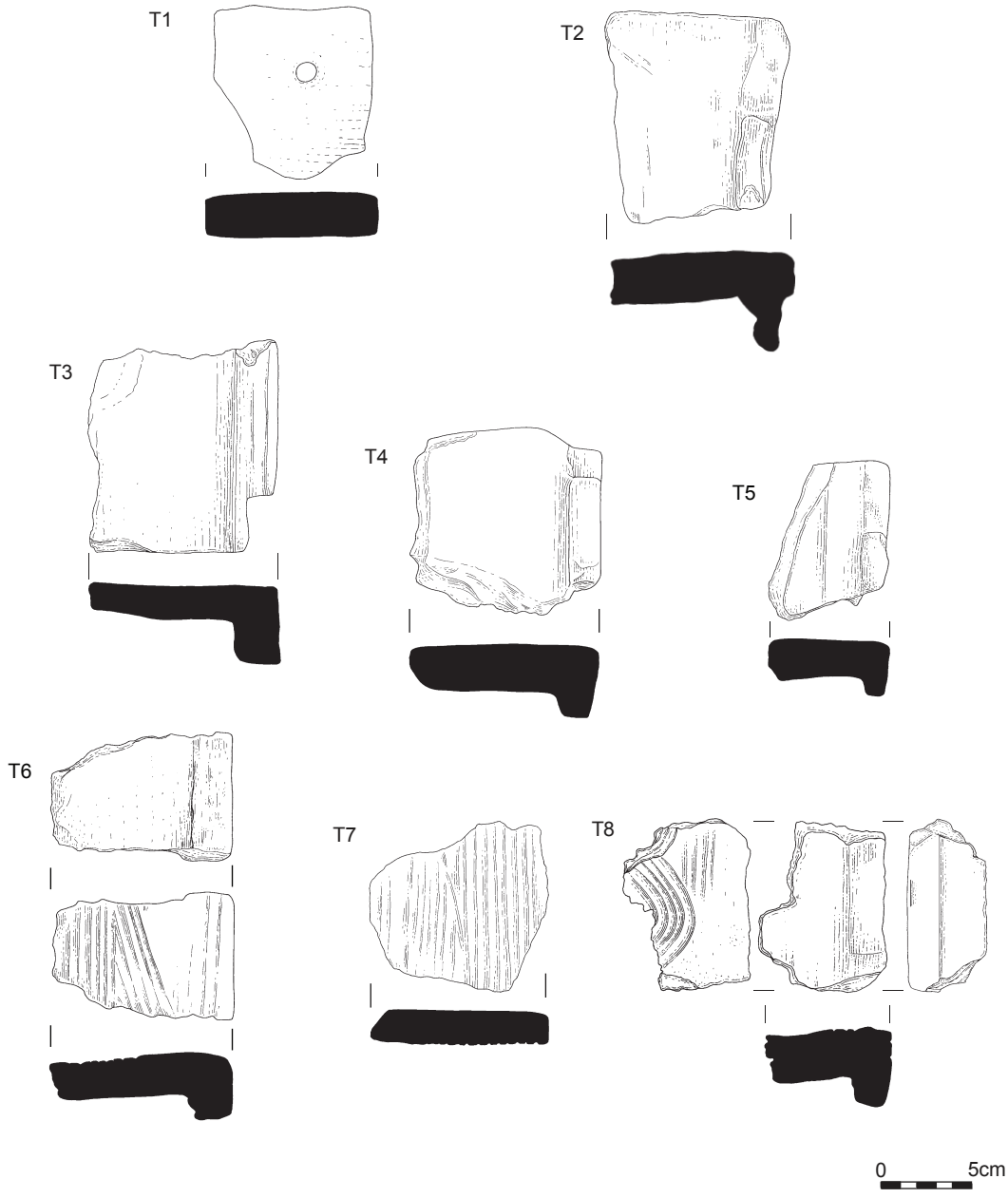

Fig. 6 Ceramic Building material
T1 Thin brick or wall-tile in fabric R3 with circular nail-hole [1085]
T2 Tegula in fabric R3 showing knife-cut upper cutaway [1023]
T3 Tegula in fabric R2 with moulded lower cutaway type D [1014]
T4 Tegula in fabric R2 with upper cutaway formed by mould insert [1014]
T5 Tegula in fabric R3 with moulded upper cutaway [1072]
T6 Combed box flue or voussoir in fabric R2 [1020]
T7 Combed box flue or voussoir in fabric R2 [1023] T8 Combed box flue or voussoir in fabric R3 [1022]

traditional manner, i.e. with a sanded base and a smooth, flanged upper face. Several of the *tegulae* in fabric R3 are of this type, with smooth upper face, sanded base and tall thin flanges. One upper cutaway survives; this is knife-cut, confirming that the tile was moulded with the top surface uppermost (Fig. 6, T2). However, certain other *tegulae* have smooth bases, squared flanges and sanded upper faces and cutaways, all of which are features consistent with manufacture in an inverse mould (Warry 2006, 7–34). Two fragments with lower cutaways survive (fabrics R1/R2; Fig. 5, T3); both are moulded and of Warry's type D (Warry 2006, 3–4). A single upper cutaway in fabric R2 survives in part; a clay lip on the cutaway was probably formed by a mould insert (Fig. 5, T4). A similar feature is visible on the upper cutaway of a tile in fabric R3 which also has other features of a tile made in an inverted mould (Fig. 5, T5). These tiles can be dated with some confidence to the 3rd or early 4th century (Peter Warry pers. comm.). Comparison of the dimensions of the cutaways and the shapes of the corners indicates that the tiles were made in different moulds. However, the small number of fabrics present and the similarity of the style/methods of manufacture suggest that most of the tiles were probably made at about the same time. Although almost certainly re-used on the site, they are likely to have come from one or more 3rd or early 4th century structures in the area.

Other features noted on *tegulae* are a nail-hole at the end of one tile, formed before the tile was fired (e.g. Fig. 6, T1). Although more frequent in the later Roman period, nail-holes occur in all periods and are not in an assemblage of such small size an indicator of late date. Another, in fabric R1, appears to have thin red slip on the surface; this may be natural or an attempt to colour the tile.

Very small quantities of *imbrices* were recorded; they occur only in the fill of probable quarry pit [1004] and, sooted, in association with [1057], most likely a hearth.

Box flues (fabrics R2, R3): Three abraded fragments of box flue or hollow voussoir tile came from the fill of probable quarry pit [1009]. All are keyed with bands of combing (for examples see Fig. 4, T6-T8).

Markings on tiles

Signature marks, made with the fingers in the wet clay, were noted on four tiles. Single linear marks occur on two bricks (fabrics R1, R2), and triple arcs on a brick and a *tegula* (fabric R1). The signature on the *tegula* is overlaid by the imprint of angular object, perhaps the blade of the knife used to trim the tile.

Discussion

The analysis of the Roman fabrics suggests that approximately 85% of the tiles reflect a similar geology of orange-firing marl clays. This lack of variety probably indicates a local source for most of the material, with the possible exception of fabric R3. Perhaps surprisingly, there is no trace of the distinctive group of calcareous tiles found widely on later Roman sites along the south and south-east coasts of Britain in the later 2nd and 3rd centuries (Betts & Foot 1994, 31–2). The significance of this is not clear, but it could be connected with the status or function of the site.

The paucity of *imbrices* and flue tiles suggests that the assemblage does not represent primary deposition of destruction debris from the roof or hypocaust of a villa. The composition of the assemblage, in which more than 95% is bricks and *tegulae*, suggests rather that flat tiles have been selected for re-use on the site.

The quantity of reduced and vitrified brick and tile, from probable quarry pits [1004] and [1009], and small pit [1043] could indicate that the material has been used for some sort of industrial process involving hearths, kilns or ovens.

Other finds by Elke Raemen

A selection of the registered finds is reported on here. Full listing of all recovered artefacts is given in Collings 2008.

Six fragments of rotary quern stone were recovered. These are from four different contexts, three from within probable quarry pit [1004] and one from the primary fill of ditch A. All of the fragments are of Lower Greensand, probably from Lodsworth. Of the more diagnostic pieces, two fragments are parts from upper stones (RF 2 and RF 6), while two other pieces are fragments of lower stones

(RF 7 and RF 8). The thickness of the outer edge of the upper stones is 56 mm (RF 2) and 41 mm (RF 6). None of the lower stones have surviving edges. The maximum thickness of all quern fragments varies between 36+ mm and 99+ mm. In addition the approximate diameter from quern fragment RF 6 can be reconstructed as 300mm.

The number of quern stone fragments suggests food processing activity on or near the site, which may be linked to agricultural activity. Similar Roman quern stones in Hampshire have been recovered from Portchester Castle although this assemblage is surprisingly small (Cunliffe 1975, 267, fig. 140).

Four fragments of Roman glass were recovered from three different contexts, one from possible hearth/pit [1051] within [1052] and two from possible hearth/pit [1057] from fills [1059] and [1107]. All pieces are pale green apart from RF 4 [1107], which is pale blue. Two pieces belong to the same vessel (RF 5). Though too small to be diagnostic, all pieces are body sherds, and are likely to be from cylindrical vessels.

A fragment of a triangular loomweight (RF 1) was recovered from the upper fill of ditch B, probably residual in this context. In addition, a medium grain sandstone whetstone (RF 11) was recovered from probable quarry pit [1004].

Catalogue

RF 1 [1083] Fired clay loomweight, Ditch B. Incomplete. Corner of typical triangular shaped Late Iron Age type loom weight with perforations across the corner. The slightly rounded corner has broken off at round-sectioned perforation (similar to Poole 1984, fig. 7.47, 404).
RF 2 [1035] Quern stone, Ditch A. Incomplete. Fragment of Lower Greensand upper stone from rotary quern. Outer edge thickness: 56 mm. Maximum thickness: 99+ mm.
RF 3 [1059] Glass vessel, hearth/pit [1057]. Incomplete. Pale green roman glass fragment from cylindrical vessel. 1.35 mm thick.
RF 4 [1107] Glass vessel, hearth/pit [1057]. Incomplete. Pale blue roman glass fragment from cylindrical vessel. 1.9 mm thick.
RF 5 [1052] Glass vessel, hearth/pit [1051]. Incomplete. Two conjoining fragments of pale green roman glass from cylindrical vessel. 1.7 mm thick.
RF 6 [1076] Quern stone, pit [1004]. Incomplete. Lower Greensand upper stone fragment from rotary quern (Lodsworth type). Outer edge thickness: 41 mm (= maximum thickness). Reconstructed diameter: 300 mm.
RF 7 [1006] Quern stone, pit [1004]
Incomplete. Lower Greensand lower stone fragment from rotary quern. Maximum thickness: 60 mm.
RF 8 [1042] Quern stone, pit [1004]. Incomplete. Lower Greensand lower stone fragment from rotary quern. Maximum thickness: 65+ mm.
RF 9 [1042] Quern stone, pit [1004]. Incomplete. Lower Greensand quern fragment (undiagnostic). Maximum thickness: 36+ mm.
RF 10 [1042] Quern stone, pit [1004]. Incomplete. Lower Greensand quern fragment (undiagnostic). Maximum thickness: 41+ mm.
RF 11 [1042] Whetstone, pit [1004]. ?Complete. Medium grain sandstone, used as whetstone (i.e. one rough, one smooth surface).

DISCUSSION

The watching brief produced significant evidence for Roman activity and occupation. The eleven features recorded suggest an enclosed area, probably part of a larger complex, and it is possible that ditch A continued to the northwest extending towards the housing estate, indicating a potential relationship between this site and the other Roman finds spots in the vicinity.

The three pits were all located in close proximity and it is likely that they were broadly contemporary and dug for a similar purpose. The exact nature and function of the three pits is difficult to determine as the auger survey does not allow for a detailed consideration of the make-up of the lower fills.

Various interpretations have been considered, including that these pits were constructed as wells or shafts, although these are often much deeper than the auguring samples indicated. It is possible that they relate to quarrying. Quarry pits tend to be fairly amorphous; however those recorded at Pudding Lane in London varied

significantly and ranged in size measuring up to 12m in diameter but with some only 1.5m in diameter and 0.80m in depth (Milne 1985). As mentioned, a Roman road is thought to have passed through the south western corner of the school grounds, running from Applemore Hill at Purlieu to Lepe, to the west of Fawley (Saunders 1927). The course of the road is obscured at Holbury by the housing estate surrounding the school but the remains of an agger have been identified on both sides, at several junctures along the route of the road. The construction of this road would have required the excavation of ditches or quarry pits for earth or gravel extraction. Alternatively, the pits may have been excavated for gravel extraction for other uses. A number of discrete artificially gravelled areas were observed in association with debris including wattle and daub, and pottery, possibly representing the location of structures in the area to the immediate north of the site.

The features recorded do not provide evidence for settlement within the site itself but the artefact assemblage suggests that there was fairly developed settlement in the immediate vicinity. The assemblage compliments the results of fieldwork carried out by Wessex Archaeology in 1987 within the grounds of Holbury Manor, which revealed foundations of wattle and daub structures in association with the recovery of Roman tile and pottery (Thompson & Gingell 1987). It is possible that these sites, together with that to the north-west formed a larger settlement, likely to cover a broader time span than the site reported on here, which produced a chronologically homogenous artefact assemblage of *c* AD 270–325/350.

The evidence revealed by the watching brief facilitates a better interpretation of the HER data. The records pertaining to several hearth areas containing charcoal and metal waste, noted to the immediate northwest during the construction of the housing estate, recorded at various points around the site and further listed as a number of hearths observed in association with the remains of wattle and daub and Roman pottery are of particular significance in relation to the results of the watching brief. These hearths were not recorded in any detail but it is possible that they were similar to those recorded during the watching brief. These are possible contemporary with hearths/pits [1057] and [1051] or could represent continuity of activity in a new area, with one group going out of use before the subsequent construction and use of new features for a similar function. The two areas of activity may have formed part of a larger settlement that developed and functioned as a whole or possibly forming two separate but closely related sites. The site was situated within close proximity of a developed network of roads indicating the potential for trade and communication links across a wider area.

Most of the tile recovered during the fieldwork shows evidence of re-use in some sort of industrial process involving hearths, kilns or ovens, supporting the functional interpretation of this area. The CBM recovered deriving from a structure or structures of 3rd or early 4th century date and the burnt clay providing evidence for wattle and daub structures, is similar evidence to that recovered from other sites within a close proximity, particularly to the immediate northwest. Additionally, the pottery is considered to represent domestic refuse and along with the quernstone fragments indicates the preparation of foodstuffs.

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