Archaeological investigations at the Ropetackle site, Shoreham-by-Sea, West Sussex

By Simon Stevens

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Archaeology South-East undertook a programme of archaeological work at Ropetackle, Shoreham-by-Sea, West Sussex between 2000 and 2003. A range of archaeological features were recorded, dating from the Late Iron Age to the post-medieval period, although the majority represented medieval activity. The medieval remains consisted predominately of pits, including cesspits, and wells, which produced substantial assemblages of artefacts and environmental evidence dating to the 13th and 14th centuries. Significant assemblages of local and imported pottery including a near-complete aquamanile were recovered, alongside ceramic building material, stone, metalwork, plant remains, and animal and fish bone. Large assemblages of post-medieval finds were also recovered, including significant groups of 17th- to 19th-century pottery from cesspits in former back yards.

INTRODUCTION

Outline planning permission for construction of mixed-use development at the Ropetackle site was granted by Adur District Council on 1st November 1999 (ref. SU/149/99/tap/OA). Following consultation between Adur District Council and West Sussex County Council (Adur District Council's advisers on archaeological issues), a condition was attached to the permission requiring a programme of archaeological work prior to development. A desk-based assessment was undertaken (Gifford & Partners 2000), followed by an archaeological evaluation of the site by three trial trenches (Fig. 1). A number of medieval pits and ditches were investigated, mostly of 13th- to 14th-century date (Stevens 2000). An architectural survey of some of the standing buildings at the site was also undertaken in 2000, but the examined buildings in the southern part of site, adjacent to the river, were found to be unsafe, and of little architectural interest (Knight and Martin 2000).

Following a specification for further excavation (Hawkins 2002), Archaeology South-East was commissioned by Berkeley Homes to undertake the work in two areas (4A and 4B) immediately to the south and north of the former alignment of Little High Street (Fig. 1). The excavation was undertaken between January and May 2003.

The site lies to the west of the historic centre of the port of New Shoreham, at the western end of the High Street, and at an average elevation of *c.* 4.0m to *c.* 5.0m OD (NGR TQ 2120 0510; Fig. 1.) The overall site is 1.46ha in area, bounded to the south and west by the River Adur and to the east by the Brighton Road/Old Shoreham Road (the modern A283). The northern boundary is the embankment and arches of the main south coast railway line. The underlying geology is recorded as Head Deposits overlying Upper and Middle Chalk (BGS 2006).

ARCHAEOLOGICAL BACKGROUND

New Shoreham was founded at the mouth of the River Adur shortly after the Norman Conquest to replace the port of Old Shoreham further upstream (Aldsworth & Freke 1976, 60–61). The name *scora ham* is of Anglo-Saxon origin and *scora* appears to be a reference to the local steep slope of the downland. The first documentary reference to New Shoreham is in 1151, and by 1235 the settlement is known as *Noua Sorham*, and by 1288 as *Nywe Shorham* (Mawer and Stenton 1929–30, 246–7). The name Ropetackle is first recorded in the 17th century (Elrington 1980, 163).

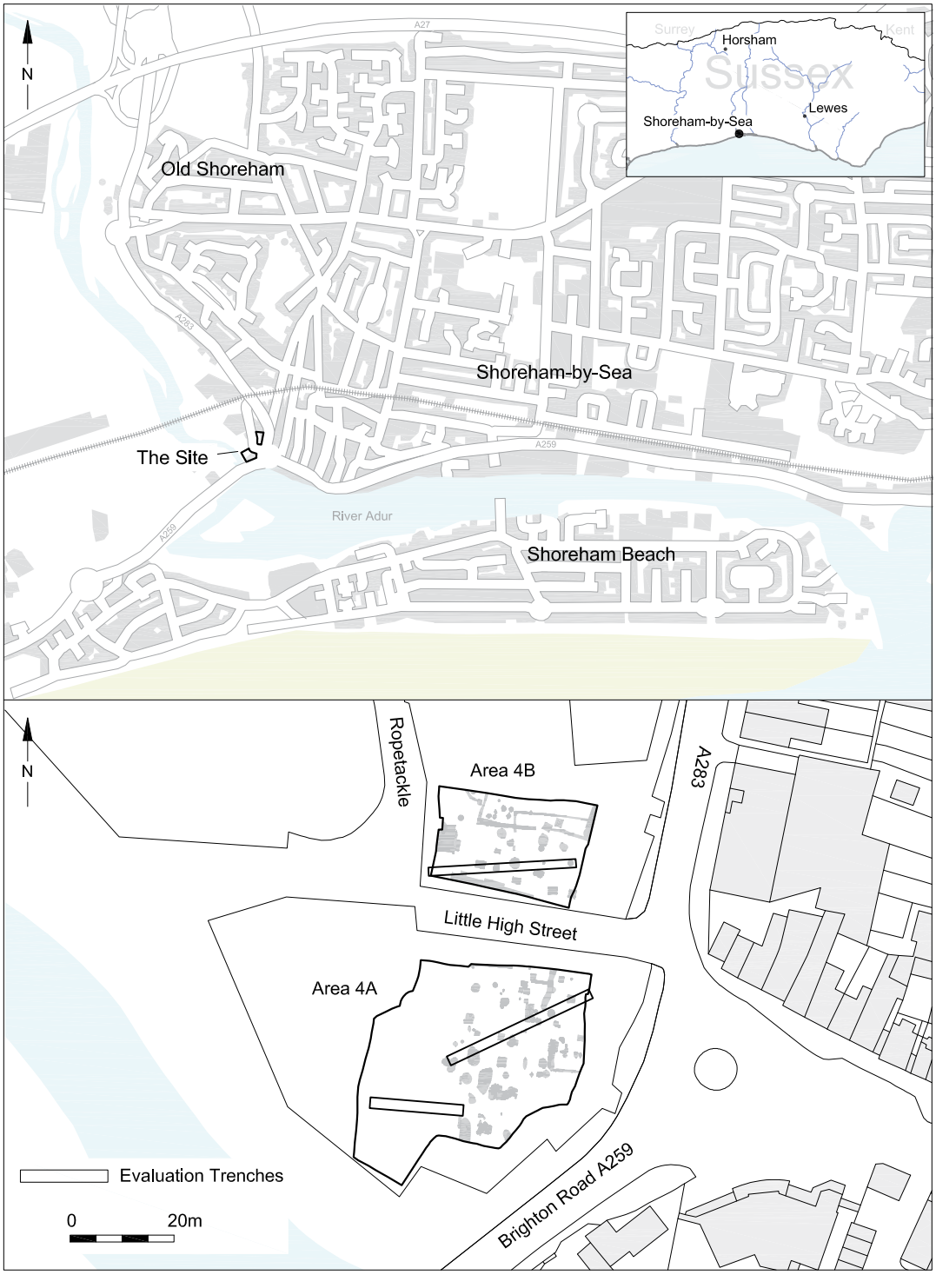

Fig. 1. Site location.

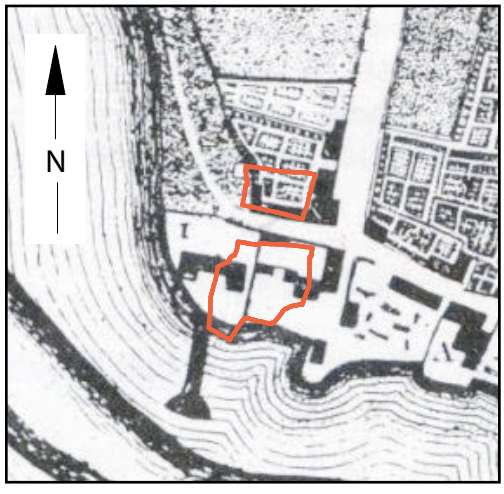

Fig. 2. 1789 map.

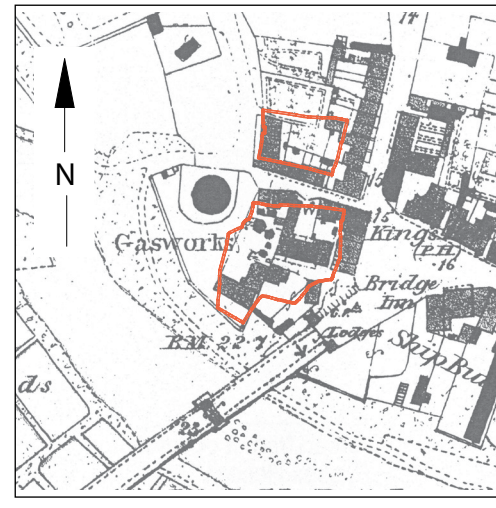

Fig. 3. 1872 OS map.

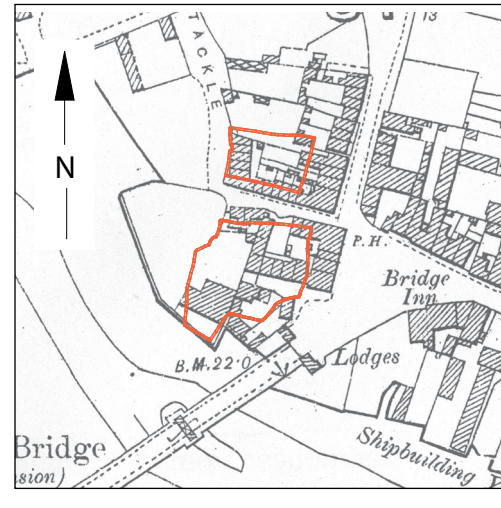

Fig. 4. 1898 OS map.

Much of the grid-pattern layout of the streets of the Norman planned town has survived, although the exact arrangement of streets in the immediate vicinity of the site is unclear. From documentary sources, it appears that the medieval port enjoyed great prosperity through the 12th century, although it seems to have gone into decline in the 13th or 14th century and a large part of the town was apparently ruinous by 1368. The cause of this remains obscure (Elrington 1980, 142). It is possible that the decline was purely economic, the result of a French or Spanish raid, or due to silting of the harbour entrance, or more likely a combination of factors. It has been suggested that the sea destroyed the southern part of the port in 1401 (Aldsworth and Freke 1976), although it has also been proposed that the damage was confined to the eastern part of the settlement (Elrington 1980, 146).

Documentary sources show that the town was the site of a Carmelite priory (founded in 1316) and at least two medieval hospitals (Cheal 1921). The surviving above-ground remains of the medieval town are the impressive church of St Mary de Haura and the 13th-century building known as The Marlipins (now housing a museum) which fronts on to the High Street.

Until recently, there had only been occasional finds of prehistoric, Roman and Anglo-Saxon artefacts in the general area (listed in the West Sussex County Council Historic Environment Record), and the exact find spots are often unclear. However, a Roman well discovered at the junction of Southdown Road and Mill Lane to the north of the site is of significance, as it contained tessarae suggesting that a substantial Roman building, possibly a villa, lies undiscovered in the vicinity (Witten 1978).

Much medieval material has been recovered from the town, along the axis of the High Street. Significant medieval artefacts unearthed in 1968

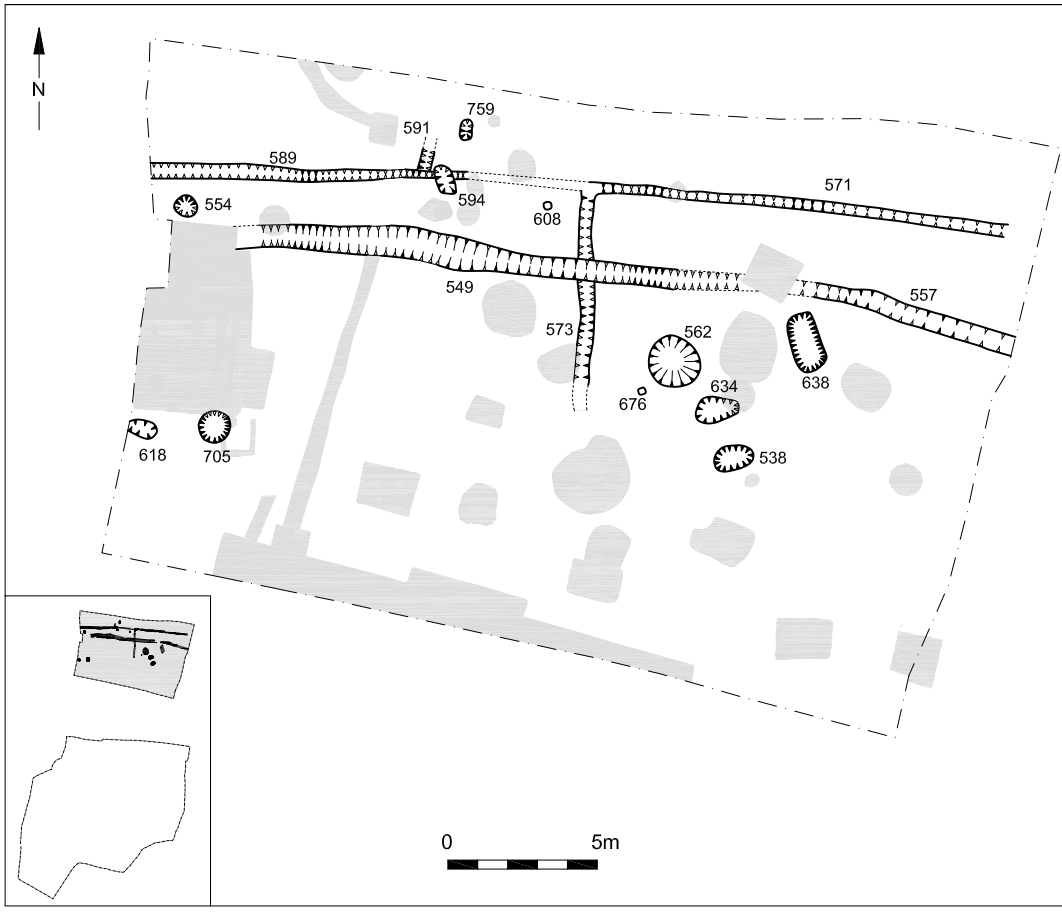

Fig. 5. Phases 1 and 2: Area 4B.

during the digging of a service trench included a cresset stone (used for lighting) and a fine imported jug from Saintonge, France, both dating from the 14th century (Evans 1969).

Watching briefs and evaluations have recovered evidence of medieval activity in John Street (Bashford 1997; Kirk 1998; Stevens 1999) and in Middle Street (Stevens 1994). A recent small-scale excavation carried out to the rear of The Marlipins produced medieval and post-medieval material (Thomas 2005), and a site of similar size produced a group of medieval pits and a cesspit at No. 5 John Street (Stevens 2009a). Closer to the site itself, a small group of medieval pits has recently been recorded at 94–96 High Street, directly to the east of Ropetackle on the opposite side of the road (Stevens 2009b).

Cartographic evidence (Fig. 2) from the late 18th century shows that, whereas the west of Ropetackle is undeveloped, the streets to the east, including what is now Little High Street, are fronted by a mixture of residential and industrial buildings or warehouses. By the mid 19th century this area is further developed. The 1872 OS map (Fig. 3) shows terraced houses at Little High Street, as well as a few along the south-east end of Ropetackle. Buildings on the partially reclaimed land to the west of Ropetackle include gasworks, which are clearly visible on the same map and disappear by 1898 (Fig. 4).

THE SITE

Following mechanical removal of overburden deposits, some modern truncation was noted, including part of a World War II air-raid shelter (*see* Fig. 12). The western end of Area 4A was heavily contaminated by chemicals from the former gasworks and any features here were planned but not excavated.

PHASE 1: PREHISTORIC (Fig. 5)

Although some residual struck and fire-cracked flint was recovered in a number of later features across both areas, most of this material is derived from Late Iron Age/early Roman gullies and pits in Area 4B. This flintwork and a small pit [759] containing a sherd of possible Mid/Late Iron Age pottery suggest that sporadic, perhaps transient, prehistoric activity was occurring in the vicinity.

PHASE 2: LATE IRON AGE/EARLY ROMAN (Fig. 5)

Several features containing Late Iron Age/early Roman pottery were identified in Area 4B where elements of a field system delineated by rectilinear boundary drainage ditches and pits were recorded.

Two stages of activity are apparent: an early division delineated by ditches [571], [573], [589] and [591] and a later division marked out by a ditch [549], [557]. However, they share a common alignment and are similarly dated by pottery to the Late Iron Age/1st century AD so are likely to represent continuing activity. Several pits [538], [554], [562], [618], [634], [638] and [705] and two postholes [608] and [676] containing Late Iron Age/early Roman material suggest that settlement, most likely a farmstead, existed in the vicinity. Any such structure was probably located to the west, north or east of the site since no Late Iron Age/early Roman evidence was found to the south.

The low-lying location of the site and the small quantities of briquetage recovered from several of the features suggest that any settlement in the area was associated with salt production. Additionally, the presence of amphorae and finewares of probable Gallo-Belgic origin hints at continental trade.

PHASE 3: SAXO-NORMAN 11TH–13TH CENTURY (Fig. 6)

A small number of features of 11th- to 13th-century date were identified across Areas 4A and B, and a quantity of residual Saxo-Norman pottery was also recovered. These features include a boundary drainage ditch and several pits. The evidence is indicative of land division, drainage and light occupation, the early date of the pottery suggesting that this part of New Shoreham was occupied soon after the foundation of the port.

Pit [44] contained a small assemblage of 11th- to 12th-century pottery. Pits [8], [362], [346], [222], [312] and [732] and ditch [579] contained slightly later 12th- to mid 13th-century pottery. Although the environmental evidence for this phase was generally poor, pit [222] contained a well-preserved group of animal and fish bones.

PHASE 4: LATER MEDIEVAL 13TH–MID/LATE 14TH CENTURY (Figs 7–9)

The later medieval evidence forms the main phase of activity, and significant assemblages of domestic refuse, including artefacts and environmental material, were recovered from a series of pits and wells across both areas. Most features were concentrated across the middle and eastern parts of both areas and appear to share a common alignment with the earlier Saxo-Norman ditch, with pits and wells seeming to occur in faintly traceable rows.

The pits and wells range in form from sub-circular to sub-oval and sub-rectangular in plan, and there was no obvious pattern in their spatial arrangement and shape. Several of the features were very deep and not all could be fully excavated due to safety considerations (for examples *see* Fig. 9).

The remains of two small circular hearths or oven bases [235] and [243] were encountered in Area 4A (Fig. 8). These were cut into shallow pits of 13th- to 14th-century date [216] and [241]. A sample taken from [235] contained charred bread-wheat grains as well as the charred remains of peas and beans indicative of small-scale food processing similar to other local examples of crop-drying kilns (Lovell 2001, 143).

The fragmentary remains of a possible building were recorded in the eastern part of Area 4A, but it is difficult to make much sense of the plan (Fig. 8). Two linear features [171] and [277] are interpreted as robbed-out stone wall foundations, and the slightly deeper rounded depression at the junction may represent the location of a corner-post. Pits [126], [130], [132], [197], [199], [201], [231], [233] and [322], and postholes [203] and [220], may also relate to the structure or activity taking place within the building, although quite how is unclear.

Fig. 6. Phase 3: Areas 4A and 4B.

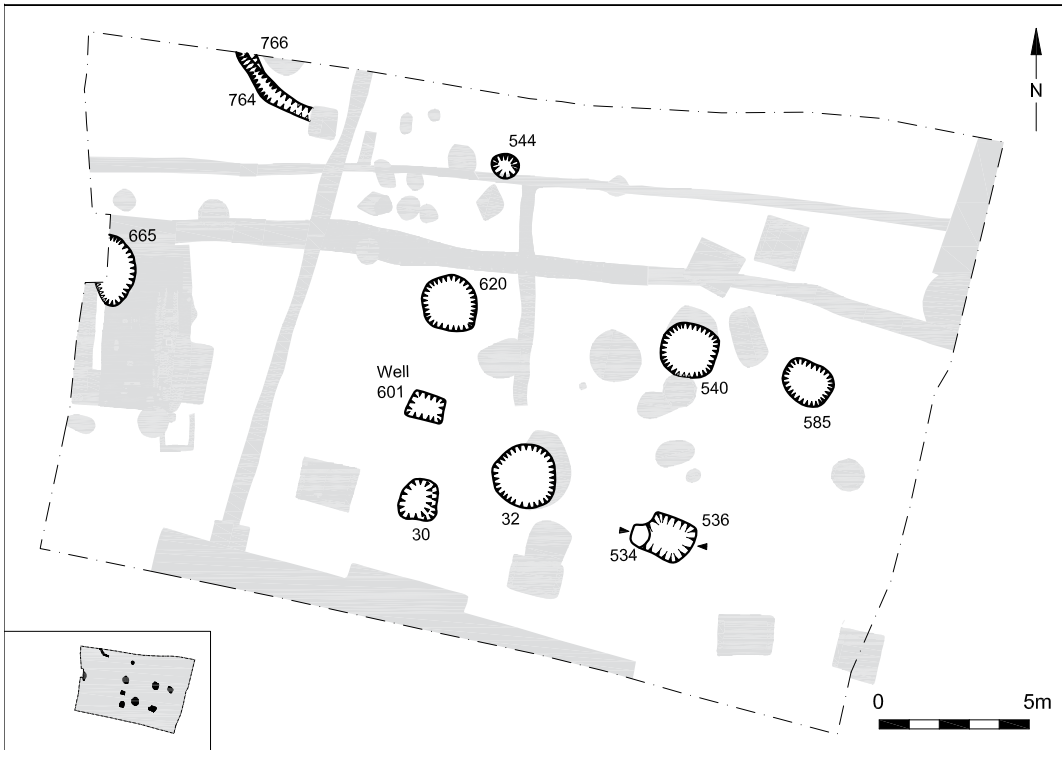

Fig. 7. Phase 4: Area 4B.

Pottery from the backfill of these features suggests that the building did not survive beyond the mid 14th century.

Sub-circular pits [32] and [540] (Fig. 7) contained substantial assemblages of mid 13th- to mid 14th-century pottery (1000+ sherds) including imported wares, finds including whetstones, oyster shell, animal and fish bone, charcoal and other environmental evidence. Pits [32] and [505] and cesspit [536] all contained examples of complete or almost complete Saintonge jugs (see Fig. 26, nos. 99–100). A complete quernstone was also recovered from pit [402] (see Fig. 44, S2).

Features [16], [30], [207], [402], [536] and [585] were identified as probable cesspits, varying in depth between 0.78m and more than 1.5m. Samples from pits [402] and [536] were analysed for parasites, and a faecal component to these deposits was indicated by the presence of the eggs of intestinal parasitic worms. Although poorly preserved, the eggs present were of whipworms and roundworms, which may represent infestation of either humans or pigs or both. The condition of the fish bone from these contexts also supported an interpretation as cesspits containing faecal matter.

In addition, a number of medieval wells were excavated, providing a wealth of finds and waterlogged environmental data. Four wells [87], [95], [134] and [353] were recorded in Area 4A, and [601] was recorded in Area 4B.

Well [87] was sub-circular in plan, 2.7m deep and partially waterlogged (Fig. 9). The well was almost certainly timber-lined, and waterlogged conditions allowed preservation of fragments of oak and beech planks, probably parts of the lining. The pottery included a near-complete aquamanile, a Scarborough product of particularly striking zoomorphic design (see Fig. 19, no. 55; Fig. 20), complete except for part of one of the horns and one leg discovered separately in the backfill. The well fell out of use and was backfilled by the mid-14th century.

Another partly waterlogged well [95] of a similar shape in plan and depth was located *c.*

Fig. 8. Phase 4: Area 4A.

6m to the south of this. The well fell out of use in the later 14th century and may have been dug to replace well [87]. It was backfilled with domestic refuse and, although its lower fill, which was partly excavated by machine, was not as productive of artefacts as the lower fill of well [87], it produced some excellent environmental evidence and numerous flint nodules, suggesting that a deliberate episode of backfilling with bulky waste had occurred.

Two other wells [134] and [353] provided further interesting environmental evidence, suggesting that after falling into disuse they had been used for disposal of human and animal waste. The proximity of these wells to the possible building immediately to the east suggests that they were not in use at the same time (Fig. 8).

Well [601] was rectangular in plan and 2.1m deep, and fell out of use during the early to mid 14th century (Fig. 7). The well probably had a

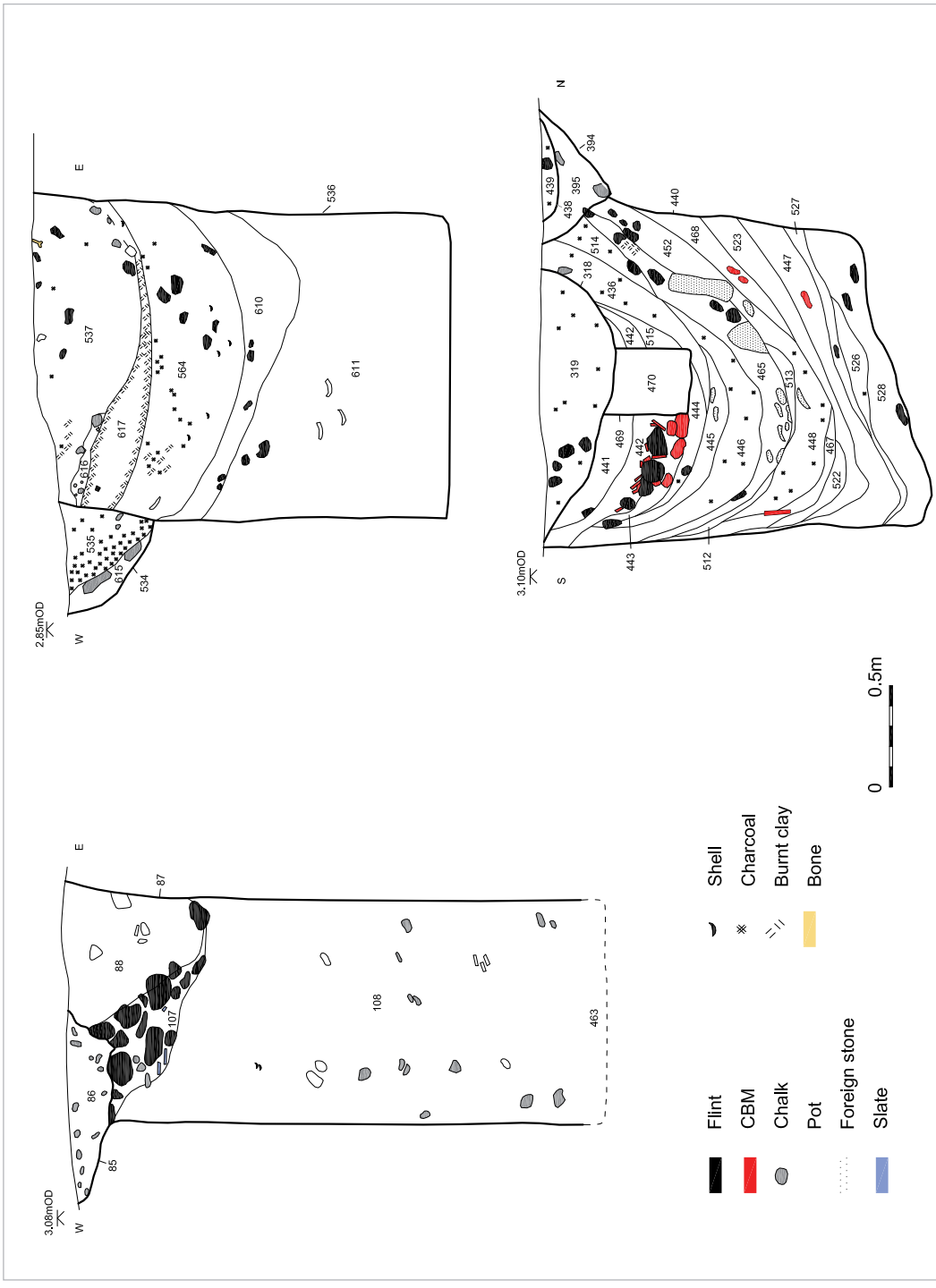

Fig. 9. Sections of selected Phase 4 features.

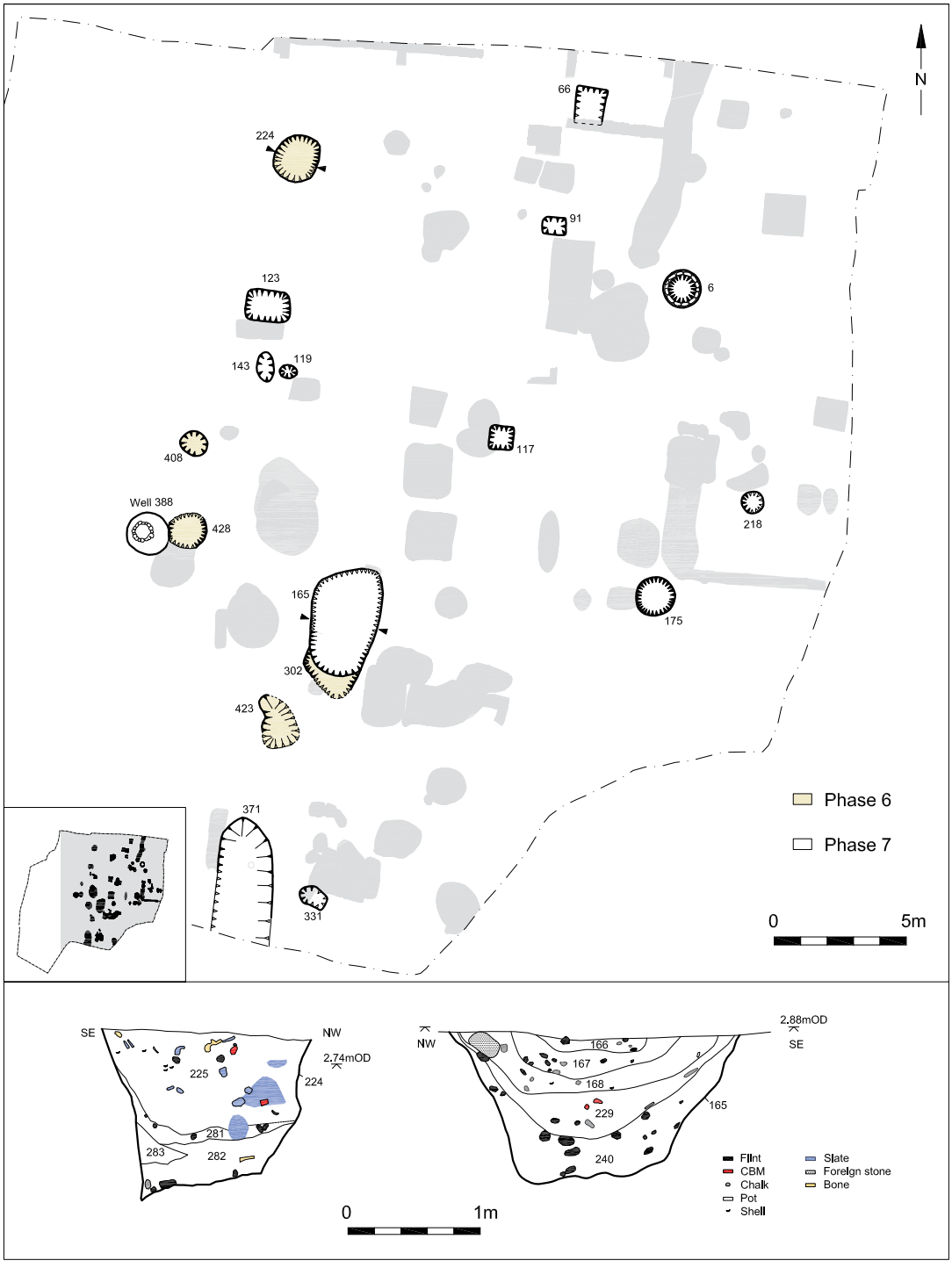

Fig. 10. Phases 6 and 7: Area 4A.

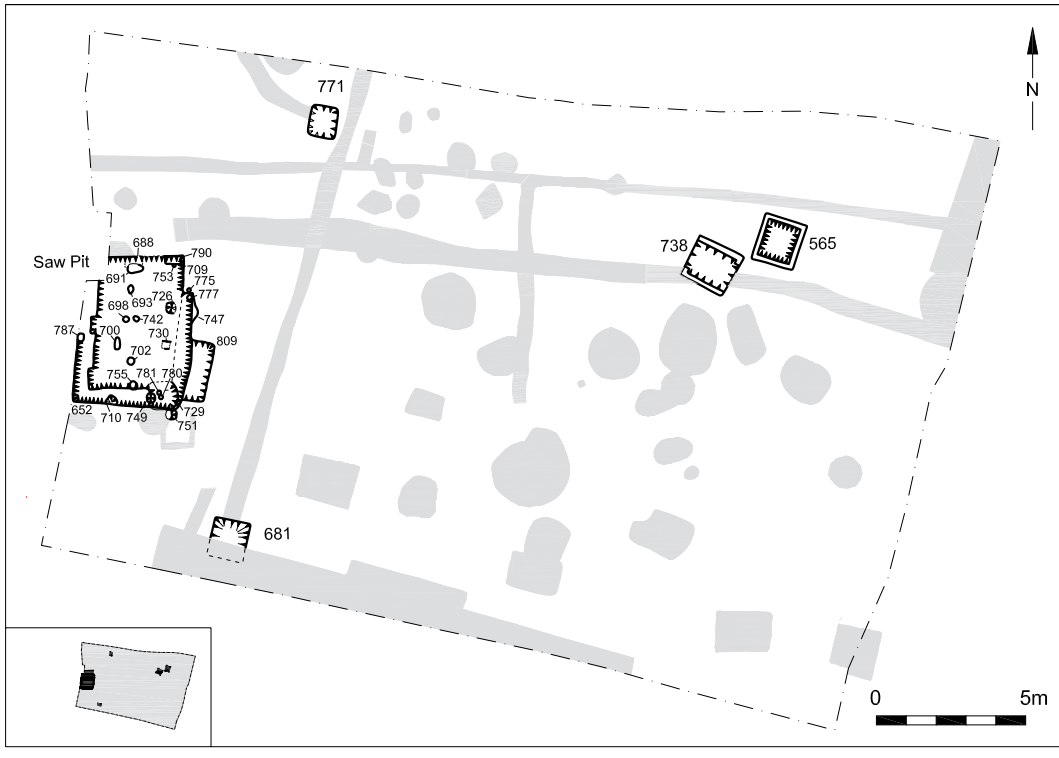

Fig. 11. Phase 7: Area 4B.

timber lining as *c.* 3kg of unidentifiable timber was recovered from the waterlogged lower fill. Numerous fills were recorded, suggesting that the feature was not backfilled in a single event but had filled up over some time.

PHASE 5: 15TH–EARLY 16TH CENTURY

Features of the early 15th to the early 16th century proved elusive at Ropetackle, and none could be confidently dated to this phase. Very little pottery of this date was recovered and mostly from contexts also with late 13th- to mid 14th-century material, making close dating problematic (*see* The Pottery).

PHASE 6: EARLY POST-MEDIEVAL MID 16TH–MID 17TH CENTURY (Fig. 10)

Features of mid 16th- to mid 17th-century date were rare, with only two features securely dated, pits [224] and [428], and two phased on stratigraphic grounds, [408] and [423], all in Area 4A.

PHASE 7: 18TH CENTURY (Figs 10 & 11)

The 18th-century features included several pits, two wells, a saw-pit and a ditch. Assemblages of 18th-century material were retrieved in various quantities from pits [66], [91], [117], [119], [123], [143], [165], [175], [218], [371], [565] and [681] and from well [388].

Pit [681] contained material dating from 1730–50. The largest group of pottery, dated 1740–60, was derived from pit [123], and pits [119] and [143] proved to be of similar date. Material of a slightly later date was encountered in a pair of stone-lined pits/cesspits [565] and [738]. Pit [565] contained a sizeable assemblage of domestic pottery and clay tobacco pipes closely dated to 1760–80, and pit [738] contained material dated 1775–1800. One very large pit [165] contained a whole variety of finds including pottery, CBM, shell, slate, foreign stone, animal bone and residual worked flint (Fig. 10). Pit [66] was timber-lined; only the very base of the feature survived and the function of the pit

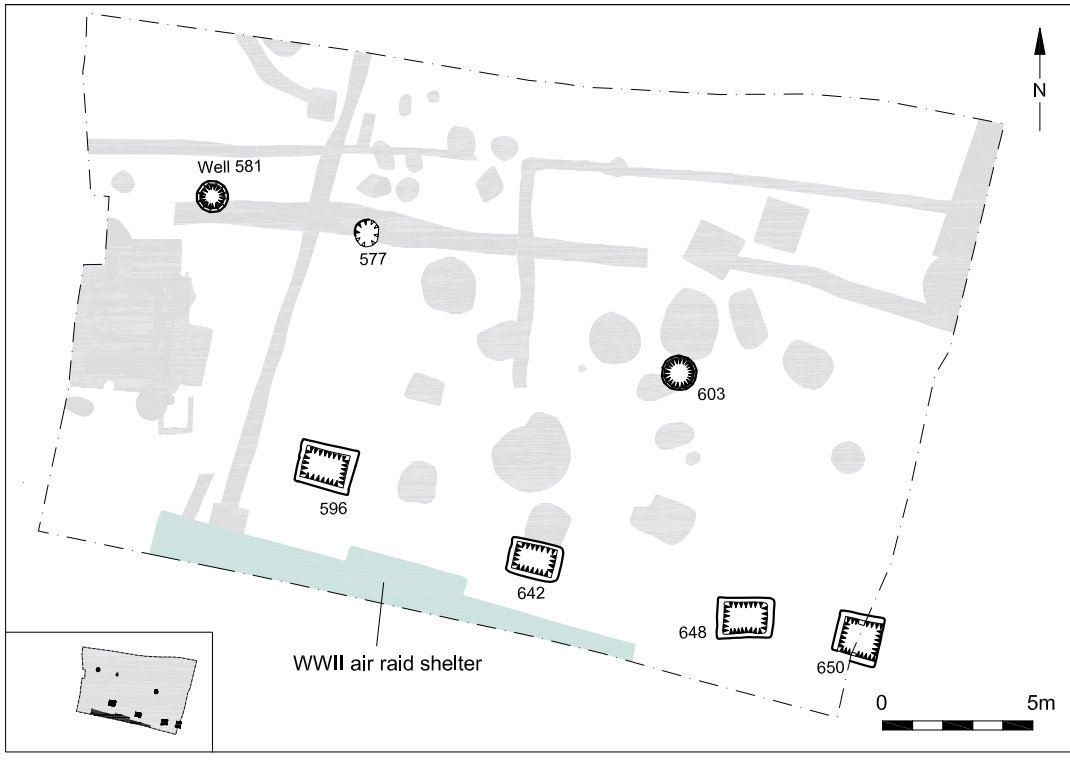

Fig. 12. Phase 8: Area 4B.

remains unknown, although it was presumably for storage.

A finely constructed well [388] was lined with chalk ashlars in the lower part of the excavated feature and mortared flint cobbles for the top 0.60m. The well was not bottomed at 1.2m and was observed to carry on to some depth.

A substantial timber-lined saw pit [819] was recorded along the western edge of Area 4B. The feature sat within a substantial pit [708]/[758] measuring 5m by 3.8m with a depth of 0.9m which was presumably the construction cut for the timber lining. The surviving elements of the structure consisted of an arrangement of wooden post-pads and postholes designed to support the shoring timbers which formed the edges of the pit. Other postholes and post-pads placed in the centre of the pit perhaps supported wooden beams or 'dogs' laid across the top of the pit to support the logs whilst they were being sawn.

Sawn samples from several of the timbers were retained for dendrochronological dating, but none were dateable due to lack of growth rings, so the pit is dated 18th or early 19th century by pottery recovered from within trample layers [719]/[807] on the floor of the feature, which also contained large quantities of sawdust and wood chippings. Cartographic evidence suggests that the feature was in use in the 1780s.

PHASE 8: 19TH CENTURY (Figs 12–13)

A number of 19th-century features were recorded across both areas of the site. The most notable of these were four rectangular brick- and stone-lined cesspits [596], [642], [648] and [650] located in the backyards of former properties fronting on to Little High Street (Fig. 12). The OS map of 1872 (Fig. 3) shows very clearly a row of five terraced houses to the north of Little High Street, and it is to these that the four cesspits in Area 4B are most likely to relate. These cesspits yielded a wide range of artefactual evidence offering some insight into 19th-century life in the Ropetackle area. The lining of pit [648] incorporated re-used medieval/early post-medieval architectural fragments. Late 19th-century pottery was also recovered from circular well [581] and

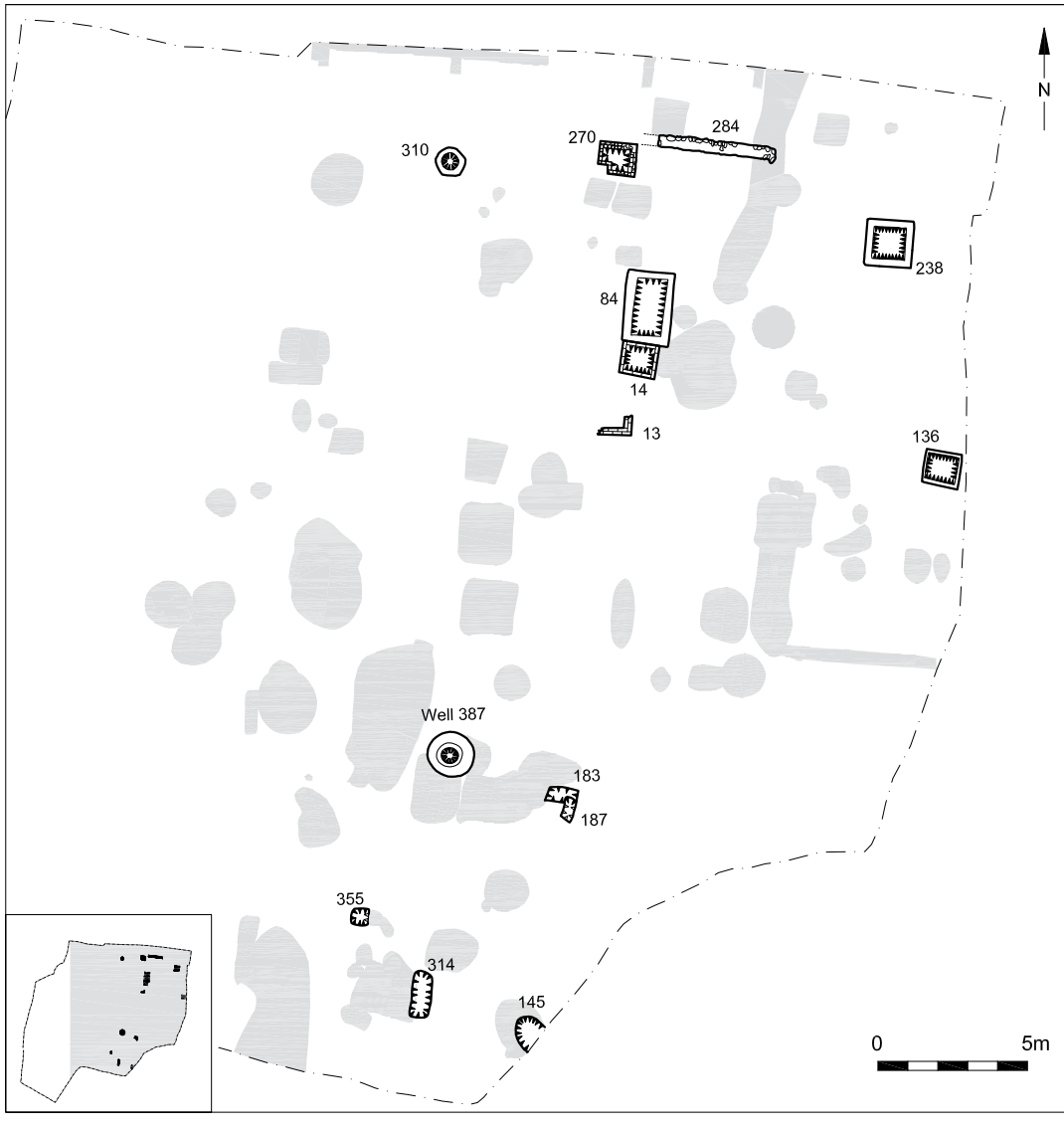

Fig. 13. Phase 8: Area 4A.

included a cowrie shell, an unusual exotic import. The well was lined with mortared brick.

A small number of scattered structural remains of 19th-century date were recorded in Area 4A. These are the ephemeral remains of a building and associated features. A short length of L-shaped brick wall [13] (recorded in the evaluation) and a wall of mortared flint nodules [284] appear to represent the remains of buildings of light construction. Five brick-lined pits [14], [84], [136] [238] and [270] were also recorded. Well [387] was circular and constructed from mortared brick and was excavated to a depth of 0.60m. Pit [145] contained a small assemblage of ironworking slag, as did pit [183], suggesting the presence of a forge in the vicinity, probably to the south beyond the boundaries of the site. One of the few coins found on the site was recovered from pit [145].

The surviving elements of a 19th-century gasworks known from cartographic sources

could not be investigated due to the toxicity of the remains. The works is shown clearly on the Ordnance Survey maps surveyed in the 1860s and 1870s (Fig. 3), in different stages of construction, but is not shown on the 1898 edition, presumably having been demolished by then (Fig. 4).

THE POTTERY
by Luke Barber

INTRODUCTION

The evaluation and subsequent excavations produced 16,823 sherds, weighing just under 332.5kg, from 334 individually numbered contexts (including undated/unstratified). The pottery on the whole is in good condition, most pieces showing no/little signs of wear on the edges indicative of high post-depositional movement. Sherd sizes range from small to very large and a number of complete/near complete vessels are present. The pottery has a wide chronological range, though the majority consists of medieval and late post-medieval material. The assemblage is by far the largest from the town to date, and complements that excavated at the Marlipins site where the assemblage was predominantly of the 15th to 17th centuries (Barber 2005c). These centuries are not well represented in the Ropetackle assemblage and, taken together, the two site assemblages provide a relatively complete ceramic sequence covering some 800 years.

This report concentrates on material from the 13th to late 14th/early 15th centuries and from the 18th to 19th centuries in an attempt to further develop the ceramic series for the town. Other phases are dealt with more generally. The overall assemblage is characterised in Table 1.

The pottery was divided into fabric groups based on a visual examination of tempering, inclusions, manufacturing technique and, for later material, known industrial wares. All contexts were spot-dated and, in order to assess residuality/intrusiveness, the quantities of the different periods' ceramics were noted for each. This information is on spot-dating pro forma and is housed with the archive. During this process all medieval imported material was quantified by fabric/form. Residuality was found to be variable, from none/low in some features to moderate/high in others. Residual material in the later post-medieval contexts was always easy to isolate, though later 12th- to mid 13th-century material in mid 13th- to 14th-century contexts sometimes proved more problematic, particularly in allowing refinement of fabric dating using changing fabric ratios. Intrusive material was generally rare and usually quite easy to isolate.

Following spot-dating, the most informative groups were fully quantified by fabric and form (sherd count and weight). This information was recorded on pottery summary sheets, which are also housed with the archive. A quantification based on Estimated Vessel Equivalents (EVEs) was not undertaken due to the generally small number of rim sherds involved, though minimum number of vessels was calculated. The later post-medieval groups were recorded on special pro-forma and using digital photography to create a full pictorial archive of all forms, transfer-printed designs and maker's marks. The full set of these images is housed in the archive.

The fabric series in the current report was a new series set up for the site, taking into consideration

Table 1. Overall quantification of all pottery.

Phase	Ct/weight	Average sherd wt	No. of fabric groups	No. of contexts dated to each phase
Later Iron Age/early Roman	430/3609g	8.4g	15	16
Saxo-Norman Mid C11th–early/mid C13th	885/11,145g	12.6g	14	17
High Medieval Early/mid C13th–mid/late 14th	9666/133,411g	13.8g	44	197
Transitional Mid/late C14th–mid 16th	133/1837g	13.8g	6	7
Early post-medieval Mid C16th–mid18th	687/17,352g	25.3g	included below	29
Late post-medieval Mid/late C18th–19th	5022/165,081g	32.9g	87 (excluding sub-divisions)	63

the previous excavated assemblages in the town (Barber 2005c; 2009a). The medieval fabrics were then correlated with the West Sussex Medieval Fabric Series (the codes are given in brackets). For the sake of completeness, fabrics identified from the earlier excavations in Shoreham, but not present at the Ropetackle site, are also mentioned very briefly in order to demonstrate the full fabric range for the town to date. The current site has produced the first Late Iron Age/early Roman fabrics for the town and, together with the Marlipins site, offers a fairly comprehensive series from the 12th to 19th centuries.

THE LATE IRON AGE/EARLY ROMAN ASSEMBLAGE (PHASE 2)

Introduction

The earliest pottery from the site consists of a single sherd in Fabric PR1 which could feasibly date from the Late Bronze Age but is probably mid to early Late Iron Age (pit [759], fill [761]). Unfortunately the sherd is not diagnostic of form, though it is in keeping with the typical saucepan pots of the period (Champion 1980). Although there are a few other fabrics which could be of this early date (PR2–4), where discernable the forms and associations with other fabrics suggest that a Late Iron Age origin is more probable. The remainder of the material can be safely placed in a 1st-century BC to 1st-century AD bracket.

Fabrics

PR 1 – Glauconitic sand and moderate calcined flint to 1mm. Only one residual sherd (2g) was located: fill [761]. Probably Mid/Late Iron Age.

PR 2 – Moderate to abundant chalk (voids) to 2mm. Low-fired and either oxidised or reduced. Probably Mid/Late Iron Age. Catalogue No. 1.

PR 3 – Sparse to moderate calcined flint to 1mm. Medium-fired and usually oxidised. Probably Mid/Late Iron Age.

PR 4 – Moderate medium sand and sparse calcined flint to 0.5mm. Medium-fired. Oxidised/reduced mix. Probably Mid/Late Iron Age.

PR 5 – Grog tempered 'East Sussex Ware'. Medium-fired and both oxidised/reduced. Late Iron Age to Roman.
Catalogue Nos. 2, 3 and 5.

PR 6 – Moderate medium/coarse sand. Medium-fired. Both oxidised and reduced. Probably Late Iron Age–early Roman. Catalogue Nos. 4 and 6.

PR 7 – Sparse/moderate fine sand. Medium-fired. Often with maroon cores and black burnished faces. Arun Valley product (Lyne 2003). C1st–early 2nd AD.

PR 8 – Samian. The few sherds present are too abraded to be certain whether they are of south or central Gaulish manufacture (e.g. residual in [537]). C1st–2nd AD.

PR 9 – Sparse/moderate fine sand with sparse mica inclusions. Medium-fired. Oxidised. Early Roman.

PR 10 – Sparse fine sand-tempered whiteware. Medium-fired. Gallo-Belgic. C1st BC/AD. Only a bowl was noted.

PR 11 – Sparse fine sand temper. Buff fabric. Medium-fired. ?Gallo-Belgic. C1st BC/AD.

PR 12 – Moderate sand and black ?iron oxide inclusions to 0.5mm. Medium/well-fired. Reduced light/mid grey. C1st AD.

PR 13 – Upchurch fine greyware. (Monaghan 1987). C1st–AD.

PR 14 – Sparse fine sand-tempered off-whiteware. Low/medium-fired. Possibly an Arun Valley/Wiggonholt product (Lyne 2003). C1st to mid 2nd AD. Only a possible beaker was noted.

PR 15 – Sparse fine sand-tempered buff ware. Low/medium-fired. Possibly an Arun Valley/Wiggonholt product. C1st to mid 2nd AD. Only a flagon was noted.

Catalogue (Fig. 14)

1. Narrow-mouthed jar with simple beaded rim. Black throughout. Burnished on exterior and rim. Fabric PR 2. Late Iron Age. Fill [539].
2. Bowl with simple out-turned rim. Dull orange throughout. Burnished exterior and rim. PR 5. Late Iron Age/early Roman. Fill [639].
3. Jar with simple out-turned rim. Dull orange throughout. Crudely burnished on exterior and rim. PR5. Late Iron Age/early Roman. Fill [550].
4. Necked jar. Grey core and dull orange surfaces. PR6. Fill [552].
5. Small jar. Patchily fired light brown to grey. PR5. Fill [552].
6. Jar with out-turned rim. Brick red with mid grey exterior surfaces. PR6. Later C1st–2nd. Fill [552].

Discussion

By far the majority of the sherds of this phase are from a sparse scatter of pits and ditches in Area 4B; only a few residual sherds were located in Area 4A (10 sherds in [33]). However, even in Area 4B the pottery tends to be of relatively small size and usually exhibits some abrasion. Few feature sherds are present and those that are tend to be from jars with simple rim forms. Context groups tend to be small, the largest consisting of 60 sherds (690g) from pit [562] (fill [563]). The bulk of the pottery fits within a 1st-century BC to 1st-century AD time span, though some continues into the early 2nd century AD. The closest investigated settlement of this period lies on the chalk upland overlooking the east bank of the Adur, a few kilometres to the north at Slonk Hill (Hartridge 1978). Three phases of Iron Age activity, spanning the 7th to 1st centuries BC, were recorded, as well as Roman activity spanning the late 1st to 4th centuries. Interestingly, there appeared to be a *c*. 200-year gap in occupation from the 1st century BC to the 1st century AD — the exact time when the main activity at the Ropetackle site was occurring.

The Iron Age fabrics at Slonk Hill included flint, chalk/shell, sand and, most commonly, flint/chalk/sand-tempered wares (probably in part equating with Ropetackle fabrics PR1–4), with saucepan pottery appearing in the final Iron Age phase, dated 3rd to 1st centuries BC. Grog-tempered ware

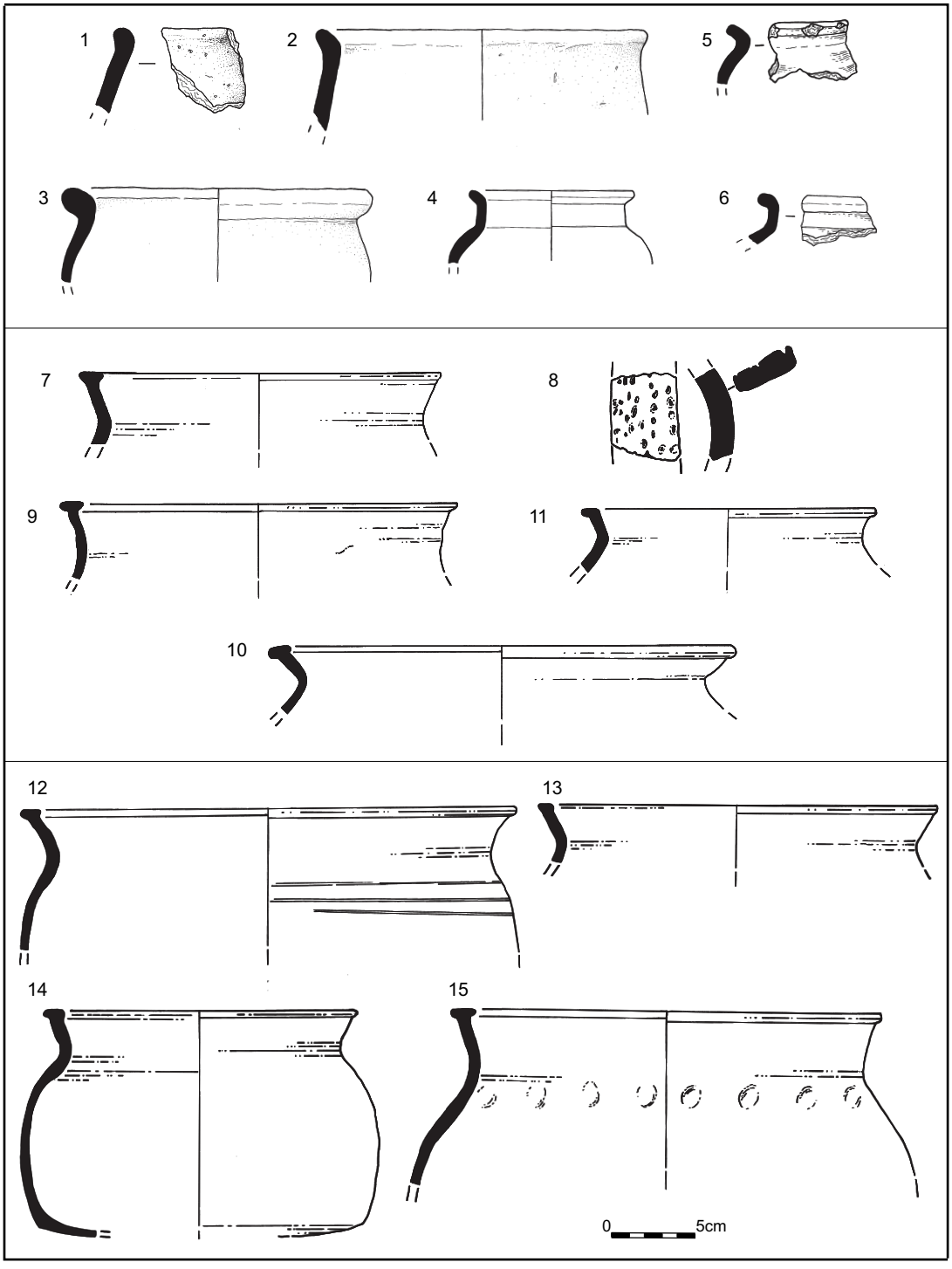

Fig. 14. Late Iron Age/early Roman pottery: nos. 1–6; Saxo-Norman pottery: group 1 nos. 7–11, group 2 nos. 12–13, other selected sherds nos. 14–15.

was virtually absent from the Slonk Hill Iron Age assemblage, though it was common in the Roman one. However, it should be noted that the grog-tempered wares were incorrectly attributed to only the late 2nd to 4th centuries AD at Slonk Hill and it is possible that the assemblage does include earlier material in this fabric. The presence of significant quantities of grog-tempered jars in contexts also containing the earlier Iron Age-type fabrics at Ropetackle suggests that the latter fabrics continued into the 1st century BC but were 'phased out' by the grog-tempered East Sussex tradition on the one hand and the more Romanised sand-tempered West Sussex tradition on the other.

The time-depth of the Ropetackle occupation is notable for the proportion of the different wares, though the assemblages are dangerously small. Late Iron Age pit [634] (fill [635]) has a notably large proportion of chalk-tempered sherds (PR2; 30/280g) and flint-tempered sherds (PR3; 2/24g) in comparison with the grog-tempered sherds (PR5; 12/100g). Conversely, pit [562] (fill [563]) is totally dominated by grog-tempered sherds (PR5; 59/672g), the only other ware being a single sherd (18g) of probable Arun Valley sand-tempered ware (PR7). The assemblage from ditch [549] (fills [550] and [552]), probably dating to the late 1st century AD, is typical in that it is totally dominated by jars with simple club/everted rims in a wide range of fabrics. The grog-tempered East Sussex Ware (PR5) often has crude lattice patterning which is similar to oxidised grog-tempered vessels from early salt-working sites on Romney Marsh (Barber 1998), and it is possible that some of these vessels originated from that source or were made locally as part of a salt-working industry.

The Roman assemblage from Slonk Hill shows a relatively even division between the East Sussex grog-tempered wares and West Sussex sandy greywares, suggesting that the site is on the edge of two spheres of influence. The Ropetackle site is similarly placed, and obviously received material from east and west through coastal trade. Such a low-lying location would suggest a settlement, perhaps seasonal, associated with trade. Given the location and period, salt is the most probable commodity being traded, with a small quantity of briquetage recovered from features of this date (e.g. pit [538], fill [539] and ditch [549], fill [550]). The presence of amphorae (2/102g), probable Gallo-Belgic finewares, and the briquetage suggests coastal trade with goods coming in and, perhaps, salt going out. Despite this, the quantity of pottery involved does not suggest long-term settlement, though a larger area sample would be needed to test this.

THE MEDIEVAL ASSEMBLAGE

Introduction

The medieval assemblage consists of Saxo-Norman and, more commonly, High Medieval pottery. The earliest material may be attributed to a later 11th- to early 12th-century date. However, pottery at the site becomes more common from probably the mid 12th century. Occupation continues throughout the first half of the 13th century, but it is not until the mid/late 13th to 14th/early 15th centuries that the most intense activity is evident in the ceramic assemblage. Unfortunately there are virtually no definite uncontaminated early context groups to study, most of the definite Saxo-Norman material being recovered from contexts that are of mid 13th-century date or later. Although the late Saxo-Norman sherds are often clearly residual/abraded in 14th-century contexts, it is much harder to isolate residual material in contexts of 13th-century date. In these deposits there are unabraded large sherds of probable later 12th- to early 13th-century pottery alongside large sherds of High Medieval type. Clearly the continuous activity at the site, with the danger of residuality or longevity of earlier vessels, is making divisions difficult. The current site, although providing us with a number of the fabrics of the period, has not allowed the rise of the High Medieval wares and corresponding fall-off of the Saxo-Norman tradition to be fully established. From the few good groups the Ropetackle site has provided, it would appear that a significant number of the cruder late Saxo-Norman vessels survived far enough into the 13th century to be in common use with vessels of the High Medieval tradition.

Although the division between the later Saxo-Norman and High Medieval pottery may be relatively easy, based on fabric, form and manufacture technique, it is not always so easy to ascribe a close date to a context group which contains both earlier and later unabraded material. As a result, the fabrics from these two phases, and the subsequent context groups, have been put together into approximate chronological order. It must, however, be borne in mind that many of these fabrics overlap 'periods'; some late Saxo-Norman fabrics continue into the High Medieval period, while some High Medieval period fabrics almost certainly continue into the 'Transitional' period. The difficulty, as always, is in understanding the transition between periods.

This problem is acute in the area where almost no independent dating for the ceramics is available. Only the excavations at Bramber Castle (Barton and Holden 1977) have provided a sequence of datable layers, though that evidence is sometimes rather 'loose' and not entirely secure (Gardiner 1997, 161). In addition, the fabric descriptions from such early work make comparison difficult, although more recent detailed work on the Saxo-Norman fabrics of the Adur valley has been of great help (Gardiner 1990; 1993). Although Gardiner's fabric series has been extended into the High Medieval period (Gardiner 1997 undated) there has been little chance to study the Saxo-Norman/High Medieval transition due to the lack of both suitable groups and associated independent dating. Until a tighter sequence has been established, fabric dating must be seen as approximate.

Saxo-Norman fabrics (mid C11th–early/mid C13th)

Codes in brackets equate to West Sussex [WS] medieval fabric series.

Virtually all the Saxo-Norman wares consist of cooking pots in a number of local fabrics drawing on chalk, flint or 'river grits' (containing flint, chalk, shell and sand) as their tempering agents. All these agents are available in the Adur valley and it is probable that all such vessels were locally made. These fabrics develop, but overlap greatly, throughout the 12th to mid 13th centuries.

SN1 – Abundant Chalk (voids) to 2mm. A low-fired fabric oxidised orange. Only flared rim cooking pots noted. Similar to Adur Valley fabric DA (Gardiner 1990; 1993) and also found at Bognor (Barber 2006b). (WS: C/M1). Mid/late C10th–early 12th.

SN2 – Moderate white chalk to 1mm, sparse sand and occasional flint to 1mm. A medium-fired fabric usually oxidised orange.

Only flared rim cooking pots noted, some with impressed dot decoration. Adur Valley fabric DA (Gardiner 1990; 1993). (WS: C+f/M4). C11th–12th.
Catalogue No. 7

SN3 – Moderate white chalk to 1mm, moderate sand and flint inclusions to 1mm. A medium-fired fabric oxidised brown or orange. Only flared rim cooking pots noted, some with slightly developed internally beaded rims. A development of SN 2. (WS: C/M3). Also found at Steyning (Barber 2008e) C12th–early 13th.
Catalogue Nos. 10, 12 and 14–16

SN4 – Moderate/abundant multicoloured flint to 1mm and sparse chalk/shell inclusions to 0.5mm. A medium-fired fabric usually oxidised brown/orange but some reduced vessels too. Only flared rim cooking pots noted. Adur Valley fabric DD (Gardiner 1990; 1993). Common in Steyning. (WS: F+c/M3). C11th–12th.

SN5 – Moderate chalk and flint (white/grey) to 1mm with some sand. A medium/well-fired fabric usually oxidised brown/orange but some reduced vessels too. Mainly flared rim cooking pots noted, some with impressed bone decoration or applied strips but some unglazed jugs too. (WS: C+f/M5). Late C11th–early 13th.
Catalogue No. 8

SN6 – Moderate/abundant white/grey flint to 2mm. A hard-fired fabric usually oxidised orange. Only cooking pots noted, some with drips of green glaze on the interior. (WS: F/M7). Mid C12th–mid 13th.

SN7 – Moderate/abundant multicoloured flint to 0.5mm, sparse chalk/shell inclusions to 0.25mm and some sand. A medium-fired fabric usually oxidised brown/orange but some reduced vessels too. Only cooking pots with flared/club rims noted. (WS: F+c/M4). C12th–early 13th.

SN8 – Moderate white/grey flint to 0.75mm, sparse/moderate chalk/shell inclusions to 0.50mm and moderate sand. A medium-fired fabric, closely related to SN7. Usually oxidised brown/orange. Only cooking pots with flared/club rims noted. (WS: F+s/M3). Also found at Bramber and John Street, Shoreham (Barber 1999b; 2009a) C12th–early/mid 13th.

SN 9 – Sparse/moderate medium sand with moderate white/grey flint and chalk to 0.5mm. A medium-fired fabric usually oxidised brown/orange but some reduced vessels too. Cooking pots with flaring/club rims dominate, though a few sparsely glazed jugs with incised line decoration are also present. Similar to Adur Valley fabric DH (Gardiner 1993; 1997). (WS: Q+f/M2). Mid C12th–early/mid 13th.
Catalogue Nos. 17 and 18

SN10 – Moderate fine/medium sand with sparse chalk/shell inclusions to 0.5mm. A medium-fired fabric usually oxidised brown/orange. Cooking pots with flaring/club rims dominate. (WS: Q+c/M3). This fabric is transitional between the coarser tempered wares of the Saxo-Norman period and the sandy fabrics which dominate most of the 13th century. Later C12th–mid 13th.
Catalogue No. 13

SN11 – Moderate medium sand with rare/sparse white/grey flint and chalk to 0.5mm. A medium-fired fabric developing and overlapping with SN10. Usually oxidised brown/orange but some reduced vessels too. Cooking pots with flaring/club rims dominate. (WS: Q+f/c/M3). Late C12th–mid 13th.

SN12 – Sparse/moderate medium sand with sparse grey/black flint 0.5mm. A medium/well-fired fabric usually reduced black. Cooking pots only. (WS: Q+f/M4). C12th–13th.
Catalogue No. 9

SN13 – Moderate medium/coarse sand. Crudely made reduced black cooking pots only (e.g. in context [45]). A medium-fired fabric usually. (WS: Q/AS3). Late C10th–early12th.

SN14 – Paffrath-type ware. A hard-fired medium sandy greyware (Vince and Jenner 1991, 103). The remains of a single ladle/handled cooking pot was located in [448]. The later 13th- to 14th-century date ascribed to this context suggests that the vessel may be residual, as this ware was mainly imported up to the early 13th century. (WS: Q/M23). The only non-local fabric present for this period. C11th–early 13th.

High Medieval fabrics (early/mid 13th–14th/early 15th century)

Local wares (Sussex)
Mixed tempering
M1 – Sparse/moderate medium/coarse sand with sparse multicoloured flint to 1.5mm. A well-fired fabric usually oxidised brown/orange, though some reduced vessels present. Cooking pots with club rims and occasionally applied thumbed strips only. (WS: Q+f/M5) C13th–early 14th.
Catalogue No. 86

M2 – Sparse/moderate medium sand with sparse multicoloured rounded flint and chalk/shell to 0.5mm. A medium-fired fabric usually oxidised brown/orange. Only cooking pots noted. (WS: Q+f/c/M4) C13th.

M3 – Sparse/moderate medium sand with sparse white shell and chalk to 0.5mm. A well-fired fabric usually oxidised brown/orange. Only cooking pots noted. Probably the same local source as for M4–7. (WS: Q+s/M4) Mid C13th–mid 14th.
Catalogue No. 65

M4 – Moderate/abundant medium/coarse sand with sparse chalk and shell to 0.5mm. A well-fired fabric usually oxidised brown/orange. Only cooking pots noted with developed club rims. (WS: Q+s/M5) Mid C13th–14th.
Catalogue Nos. 23–24 and 66–67

M5 – Sparse/moderate medium sand with rare/sparse white flint, chalk and shell to 1mm. A well-fired fabric usually oxidised brown/orange, though some reduced vessels too. Cooking pots with developed club rims dominate, though some skillets and sparsely glazed jugs are also present. (WS: Q+f/c/M2) Mid/late C13th–14th.
Catalogue Nos. 56–61, 68–71, 87–88 and 92

M6 – Moderate medium sand with very rare white flint, chalk and shell to 1mm. A well/hard-fired fabric, a finer version of M5, usually oxidised brown/orange, though some reduced vessels too. Cooking pots with developed club rims dominate. Some

vessels have sparse glazing on their interior bases and a tripod vessel is present in [33]. (WS: Q+f/c/M1) C14th.
Catalogue Nos. 25–42, 62–63 and 72–74

M7 – Sparse/moderate fine sand with moderate shell and chalk 1mm and occasional flint. A well/hard-fired fabric usually oxidised brown/orange, though some slightly reduced vessels too. Cooking pots/storage jars, often with thumbed applied strips and developed club rims dominate. (WS: Q+s/M6) Late C13th–14th.
Catalogue Nos. 43–45

M8 – Moderate fine sand with rare/sparse chalk, shell and flint to 2mm. A well-fired fabric usually oxidised brown. Cooking pots and bowls with developed club rims dominate. (WS: Q(f)+s/f/M1) Late C13th–14th.
Catalogue Nos. 46–47 and 94

M9 – Moderate fine sand with rare/sparse white flint to 1mm. A well-fired fabric, usually oxidised brown. Cooking pots and bowls with developed club rims dominate. (WS: Q(f) +s/f/M2) Late C13th–14th.

M10 – Sparse fine sand with sparse/moderate shell 1mm. A medium-fired fabric reduced dark grey/black. Cooking pots/bowls only. Winchelsea Black ware (Barton 1979), or possibly Wealden. (WS: Q+s/M7) Late C13th–14th.

Sand-tempered
M11 – Sparse/moderate medium sand. A medium/well-fired fabric oxidised dull orange. Cooking pots with everted club rims and bowls only. (WS: Q/M16) C13th–early 14th.
Catalogue No. 95

M12 – Moderate medium sand with rounded quartz inclusions to 1.5mm. A medium/well-fired fabric oxidised dull orange. Cooking pots with everted club rims. Probably from the Steyning kilns (Gardiner 1997). (WS: Q/M17) C13th–early 14th.
Catalogue Nos. 11, 91 and 93

M13 – Moderate/abundant medium sand. A medium-fired fabric oxidised dull orange/brown, or reduced grey/black. Cooking pots (some with thumbed feet) and bowls with everted club rims dominate though a few sparse glazed jugs with strap handles are also present. A general sand-tempered category. (WS: Q/M24) C13th.
Catalogue Nos. 19–21

M14 – Moderate coarse pinkish sand. A medium/well-fired fabric oxidised buff/dull pink. No forms recognized though vessels have patches of green glaze. Similar to Coarse Border Ware (Pearce and Vince 1988) so a Wealden/Surrey source is possible. (WS: Q/M25) Mid C13th–14th.

M15 – Moderate medium/coarse sand. A well/hard-fired fabric usually oxidised dull orange/brown. Cooking pots with everted club rims and bowls only. (WS: Q/M26) Later C13th–14th.
Catalogue Nos. 48, 64, 75–76 and 89

M16 – Moderate medium sand. A well-fired fabric, consistently reduced to a mid/dark grey. Cooking pots with club rims. (WS: Q/M26). Similar to Limpsfield type ware (Prendergast 1974) also found at Crawley (Barber 1997; 2008a) Mid/later C13th–14th.

M17 – Sparse/moderate fine sand with sparse medium sand. A medium-fired fabric usually reduced light grey. Cooking pots with everted club rims and bowls only. (WS: Q(f)/M16) Later C13th–14th.
Catalogue No. 49

M18 – Moderate/abundant medium sand. A medium-fired fabric usually oxidised dull orange/brown. Sparsely glazed jugs (green/orange) only. (WS: Q(f)/M3) C13th.
Catalogue No. 50

M19 – Moderate fine sand with rare flint inclusions to 0.5mm. A well/hard-fired fabric usually reduced dark grey/black. Cooking pots only. (WS: Q(f)+f/M1) Later C13th–14th.

M20 – Moderate fine and medium sand. A well/hard-fired fabric usually oxidised dull orange/buff. Glazed jugs only, often with thumbed bases. Glazing varies from thin/patchy to more thick and even. Decoration consists of applied strips of red/brown clay and incised lines. Some vessels have white slip on their interior neck. Generally crudely made/finished. (WS: Q/M19) Mid C13th–14th/early 15th.
Catalogue Nos. 51–52 and 77

M21 – Sparse/moderate fine sand. A medium/well-fired fabric usually oxidised dull orange/buff though some reduced grey vessels too. Glazed jugs mainly, though a few cooking pots with internally glazed bases. The jugs often with thumbed bases and a good even green glaze. Decoration consists of applied strips of clay and incised lines. Some vessels have white slip on their interior neck. Generally well made/finished. West Sussex Ware (Barton 1979) (WS: Q(f)/M2) Mid C13th–14th/early/mid 15th.
Catalogue Nos. 78–79, 90, 96–97 and 102

M22 – Sparse very fine sand. A medium/well-fired fabric usually reduced light grey. Well-made glazed jugs only. Glazing is usually a thick and even dark green. Decoration consists of incised lines and sometimes painted white slip lines under the glaze. 'West Sussex Ware' (WS: Q(f)/M12) Later C13th–14th/early 15th.
Catalogue Nos. 53 and 80

M23 – Moderate medium sand with very rare white flint inclusions to 1mm. A medium-fired fabric usually oxidised dull orange, though some reduced grey vessels present. Glazed jugs only, often with thumbed bases. Glazing varies from thin/patchy to more thick and even. Decoration consists of occasional incised lines. Probably Binsted products (Barton 1979) (WS: Q(f)/M8) early/mid C13th–14th.
Catalogue No. 22

M24 – As M20 but off-white/light grey. Glazed jugs only. Glazing is usually even and varies from dull yellow to green. Decoration consists of applied strips of red/brown clay under the glaze. (WS: Q/M19) Mid C13th–14th/early 15th.

M25 – Sparse fine off-white/buff ware with rare/occasional mica and red iron oxide inclusions to 1.5mm. A medium-fired

fabric usually oxidised off-white/buff. Glazed jugs only. Glazing is usually thin but even and is normally pale green. Decoration consists of white slip painted lines under the glaze. (WS: Q(f)/M26). Similar to a Surrey whiteware. Late C13th–14th.

M26 – Sparse/moderate fine/medium sand with occasional black/red iron oxides to 0.5mm. A medium/well-fired fabric usually oxidised dull red/orange, though some reduced vessels are present. Glazed jugs only. Glazing is usually even and varies from dull light brown to green. Decoration consists of applied and stamped pellets and often white slip on the interior neck. Rye-type ware (Barton 1979; Orton 2004) (WS: Q(f)/M27) Mid C13th–14th.
Catalogue No. 54

Regional wares (outside Sussex) (see also M16 and M25 for possible regional wares)
M27 – Moderate medium rose-coloured sand. A medium-fired fabric usually oxidised orange. Glazed jugs, with thumbed bases only. Glazing is usually an even to patchy green over an exterior white slip. Decoration consists of applied strips of thickened slip and incised lines under the glaze. An Earlswood product (Turner 1974) also found at Crawley (Barber 1997; 2008a). (WS: Q/M15) Mid C13th–14th.

M28 – Moderate fine sand. A finer version of M27 with similar forms/decoration. An Earlswood product (Turner 1974) (WS: Q(f)/M9). Mid C13th–14th.

M29 – Sparse fine sand-tempered whiteware. A medium-fired off-white ware. Glazed jugs with thin/thick green glaze, occasionally with incised line decoration. A Cheam/Surrey product (Pearce and Vince 1988) (WS: Q(f)/M28). C14th–15th.

M30 – Abundant very coarse milky sand. A medium-fired fabric usually oxidised orange. A single bowl from [74] is the only vessel represented. Probably a Dorset product. Similar wares have been noted in Southampton (Brown 2002, 16, Fab. F1430). (WS: Q/M27) Mid C13th–mid 14th.

M31 – Scarborough Ware. Sparse fine sand with very rare iron oxide inclusions to 0.25mm. Medium-fired and oxidised pale dull orange. Jugs and an aquamanile with thick even green glaze. (Farmer 1979) (WS: Q(f)/M29). Mid C13th–14th.
Catalogue No. 55

M32 – Scarborough Ware type. Very sparse fine sand with rare/sparse iron oxide inclusions to 0.5mm. Medium-fired and oxidised pale dull orange. Jugs with thick even green or brown glaze. This is either a Scarborough variant or another east coast fabric e.g. Orange Ware (Watkins 1987, 82) (WS: Q(f)/M30) Mid C13th–14th.

Imported wares
M33 – Developed Normandy Gritty Ware. Sparse medium sand with moderate quartz grits to 1.5mm. A medium/well-fired whiteware (sometimes buff). This ware developed out of the earlier Saxo-Norman tradition but is not as hard-fired as the late medieval types (Brown 2002, Fabric 1754). No discernable forms are present; only a few sherds of this variant were located (e.g. [313]: 1/8g). (WS: Q/M28) C13th–early 14th.

M34 – Developed Normandy Gritty Ware 2. Sparse fine/medium sand with moderate quartz grits to 1.5mm and red iron oxides to 0.25mm. A medium/well-fired white/buff ware. No discernable forms are present; only one sherd of this variant was located in [31]. (WS: Q/M29) C13th–early 14th.

M35 – Developed Normandy Gritty Ware 3. Similar to M33 but slightly finer and harder-fired. Only a cooking pot with slightly corrugated body was located in [451]. (WS: Q/M30) C13th–14th.

M36 – North French Whiteware 1. Moderate/abundant fine sand. Medium-fired. Only sparsely glazed (green) jugs noted. Although a North French origin for this ware appears the most likely, an east coast source cannot be ruled out as the few glazed sherds present are not typically French. (WS: Q(f)/M31) Mid C13th–14th.

M37 – North French Whiteware 2. Sparse fine/medium sand, occasionally with larger quartz inclusions. Medium-fired and varying in colour from white to pinkish. Patchily glazed (green) jugs noted. (WS: UWW/M2) Mid C13th–14th.
Catalogue No. 98

M38 – Seine Valley Whiteware. Sparse very fine sand with rare quartz grains visible. Medium-fired. Only glazed (light green) jugs noted, often with applied triangular-sectioned strips in red clay (Brown 2002, Fabric 1548). (WS: UWW/M4) Mid C13th–14th.

M39 – Rouen Whiteware. Sparse very fine sand. Medium-fired. Only glazed (mainly green) jugs noted, some with applied and rouletted clay strips (usually glazed yellow). (Barton 1965). (WS: UWW/M5) Mid C13th–14th.

M40 – Saintonge-type unglazed whiteware (Brown 2002, 26). (WS: UWW/M6) Mid C13th–14th.
Catalogue No. 81

M41 – Saintonge Gritty whiteware (Brown 2002, Fabric 1464). Jugs only. (WS: UWW/M3) Mid C13th–14th.
Catalogue No. 100

M42 – Saintonge Green Glazed whiteware (Brown 2002, Fabric 1272). Jugs only. (WS: UWW/M1) Mid C13th–14th.
Catalogue No. 99

M43 – Saintonge whiteware. This is a harder-fired version of M42, the only form being a horn from [586]. (WS: UWW/M7) Mid C13th–14th.
Catalogue No. 101

M44 – Iberian-type ware. A low/medium-fired buff fabric tempered with sparse/moderate fine/medium sand and common mica inclusions. No forms recognisable. Similar products, in a number of fabric variants, have been found in Southampton (Brown 2002, 37). (WS: Q(f)+m/M1) Late C13th–14th.

The pottery groups

Introduction

A number of context groups were excavated from the site which, when put in approximate chronological order, give a fairly good insight into the medieval ceramics of the town.

Saxo-Norman

Although there is a moderate amount of pottery on the site spanning the later 11th to early/mid 13th centuries, most is of the mid/late 12th to mid 13th centuries, the earlier material appearing as isolated, albeit often unabraded, residual sherds in later contexts. Perhaps the earliest feature of this phase is pit [44] (fill [45]). Although producing only 16 sherds (166g), 14 of these (156g) are from cooking pots in SN1 suggesting a mid/late 11th- to early/mid 12th-century date. There are virtually no other definite contexts containing significant uncontaminated 12th-century assemblages and the few groups present cluster in the first half of the 13th century.

Of the 885 sherds of Saxo-Norman pottery from the site only 35 (0.664kg) are definitely from jugs, the remainder being classified as cooking pots/bowls. However, although sparse glazed jugs are present, the majority are unglazed (e.g. pit [16], fill [508]) and it is probable that a number of unglazed jug bodysherds have been included in the cooking pot/bowl totals.

The degree of residuality on the site, combined with the poor context groups for this phase, makes it impossible to establish the exact chronology and pace of the transition from the Saxo-Norman to High Medieval traditions which took place in the first half of the 13th century. For example, [33] contained 108 'Saxo-Norman' sherds and [108] contained 46. Both these contexts are securely dated to the mid/late 13th to 14th centuries. A number of these contexts contain unabraded Saxo-Norman cooking pots alongside some glazed jugs and finer sand-tempered cooking pots which would sit more comfortably towards the middle of the 13th century, and it is possible that these vessels were in contemporaneous usage. Some of the Saxo-Norman style cooking pots were certainly still being made in the first quarter of the 13th century, and it is quite likely that many of them persisted in use until the middle of the century. Further assemblages with no risk of residuality are still needed to test this suggestion.

The best groups, totalling only three in number, are described below. The appearance of significant quantities of High Medieval wares in these, alongside the Saxo-Norman wares, suggests that most were deposited around the middle of the 13th century. Although it is impossible to be certain about the degree of residuality at present, these groups give a good representation of the problems faced with the interpretations of the 'earliest' groups on site as well as giving the opportunity to illustrate the main Saxo-Norman forms present.

Group 1: Pit [346] (fills [349] and [350])

The earlier of these two fills [350] contains a higher proportion of SN2 and 3 than the later fill [349]. Although there are cross-joins between the two contexts (an SN2 cooking pot and an M23 jug), these are likely to be the result of mixing during excavation. Although [350] has a number of residual later 12th-century sherds, the presence of later material, including Surrey (M29), Saintonge (M42) and possible Binsted-type (M23) glazed jugs suggests a deposition date at least in the mid 13th century. Although the excavated kiln at Binsted is thought to be of later 14th-century date (Barton 1979), it is highly likely that pottery was produced here earlier. Fill [349] shows a similar mix of late 12th- to early 13th-century material, albeit in smaller proportions than [350], and mid 13th-century material. The degree of residuality in the earlier fabrics in this pit is frustratingly uncertain; however, their sherd size and freshness suggest they have not been extensively reworked.

Catalogue (Fig. 14)

Pit [346], fill [349]

7. Cooking pot (CP) with internally beaded flaring rim. Grey core and inner surface with dull orange outer surface. Fabric SN2.
8. Crude strap handle with heavy stabbing from ?jug. Grey core with dull brown/orange surfaces. SN5.
9. CP with internally beaded flaring rim. Grey core and inner surface with dull orange outer surface. SN12.

Table 2. Pottery from pit [346], fills [349] and [350] (average sherd size 12.2g).

Fabric	Context [349]				Context [350]				Minimum no. of vessels
	No. of sherds	%	Weight (grams)	%	No. of sherds	%	Weight (grams)	%	
SN2	3	5.6	50g	7.1	41	31.8	418g	27.5	×2 cooking pots
SN3	7	13.0	138g	19.6	48	37.2	602g	39.6	×2 cooking pots
SN5	2	3.7	60g	8.5	–	–	–	–	×1 cooking pot
SN10	6	11.1	84g	11.9	–	–	–	–	×1 cooking pot
M12	–	–	–	–	1	0.8	26g	1.7	×1 cooking pot
M13	10	18.5	98g	13.9	–	–	–	–	×1 cooking pot
M18	3	5.6	20g	2.8	–	–	–	–	×1 jug
M21	1	1.9	16g	2.3	2	1.6	18g	1.2	×2 jugs
M22	–	–	–	–	1	0.8	4g	0.3	×1 jug
M23	22	40.7	238g	33.8	34	26.4	398g	26.2	×1 jug
M29	–	–	–	–	1	0.8	8g	0.5	×1 jug
M42	–	–	–	–	1	0.8	46g	3.0	×1 jug
Totals	**54**	**100.1**	**704g**	**99.9**	**129**	**100.2**	**1520g**	**100.0**	

Pit [346], fill [350]

10. CP with out-turned club rim. Grey core with brown/grey patchy surfaces. SN3.
11. CP with everted club rim. Grey core with brown/grey patchy surfaces. M12. Early/mid C13th.

Group 2: Pit [222] (fill [223])

This group is split between the Saxo-Norman fabrics (41.4% by sherd count) and the High Medieval material. The large proportion of the 13th-century M13 is again in evidence; this is probably the main 'Transitional' fabric in the area between the Saxo-Norman and true High Medieval wares. The presence of coarse-glazed jugs (M18), including one with a thumbed base, and Binsted jugs (M23) again indicates an early to mid 13th-century date, possibly prior to the deposition of Group 1. The complete lack of imports and small proportion of jugs from this context would support such a suggestion.

Catalogue (Fig. 14)

Pit [222], fill [223]

12. CP with internally beaded flaring rim. Grey core and dull orange surfaces. Faint horizontal scoring on exterior rim and shoulder. Externally sooted. SN3.
13. CP with simple flaring rim with slight internal bead. Grey core and inner surfaces with dull orange exterior surfaces. SN10.

Other contexts

14. CP with internally beaded everted rim. Grey core with dull brown/grey surfaces. Externally sooted. SN3. Mid C12th–early 13th. Fill 611.
15. CP with developed internally beaded upright rim. Grey core with dull orange surfaces. External finger-tip decoration around base of neck. SN 3. Later C12th–early 13th. Fill 208.

Group 3: Pit [732] (fill [736])

This group, which includes conjoining sherds with contexts [737] and [741] (also pit [732]), has a similar make-up to Group 1. There are clearly small quantities of residual Roman and late 12th-century material, but the majority appear to relate to the second quarter of the 13th century. As well as significant quantities of unabraded Saxo-Norman material, some 39% of the assemblage by sherd count is made up of M13. The M3 fabrics are slightly harder-fired than usual and show a progression towards the M15 fabric. Jugs are better represented, examples coming from both local (M20, M21, M23) and imported (M38 and M42) sources.

Catalogue (Fig. 15)

Pit [732], fill [736]

16. CP with everted rim. Grey core and dull orange/grey patchy surfaces. Decorated with two horizontal rows of stamped square dots around shoulder with further paired

Table 3. Pottery from pit [222], fill [223] (average sherd size 7g).

Fabric	No. of sherds	%	Weight (grams)	%	Minimum no. of vessels
SN3	40	24.0	424g	36.4	×2 cooking pots
SN4	8	4.8	54g	4.6	×2 cooking pots
SN10	11	6.6	88g	7.6	×3 cooking pots
SN11	10	6.0	88g	7.6	×1 cooking pot
M3	1	0.6	6g	0.5	×1 cooking pot
M13	74	44.3	398g	34.2	×3 cooking pots
M18	20	12.0	98g	8.4	×2 jugs
M23	3	1.8	8g	0.7	×1 jug
Totals	**167**	**100.1**	**1164g**	**100.0**	

Table 4. Pottery from pit [732], fill [736] (average sherd size 18.8g).

Fabric	No. of sherds	%	Weight (grams)	%	Minimum no. of vessels
PR5	1	0.5	4g	0.1	×1 jar
SN1	2	1.0	16g	0.4	×1 cooking pot
SN3	39	19.3	892g	23.4	×1 cooking pot
SN5	3	1.5	56g	1.5	×1 cooking pot
SN6	3	1.5	78g	2.0	×1 cooking pot
SN9	38	18.8	508g	13.4	×3 cooking pots; ×2 bowls
M13	79	39.1	1214g	32.0	×7 cooking pots; ×1 bowl; ×1 curfew
M20	2	1.0	44g	1.2	×1 jug
M21	4	2.0	78g	2.0	×1 jug
M23	29	14.4	912g	24.0	×2 jugs
M38	1	0.5	2g	0.1	×1 jug
M42	1	0.5	1g	0.02	×1 jug
Totals	**202**	**100.1**	**3805g**	**100.12**	

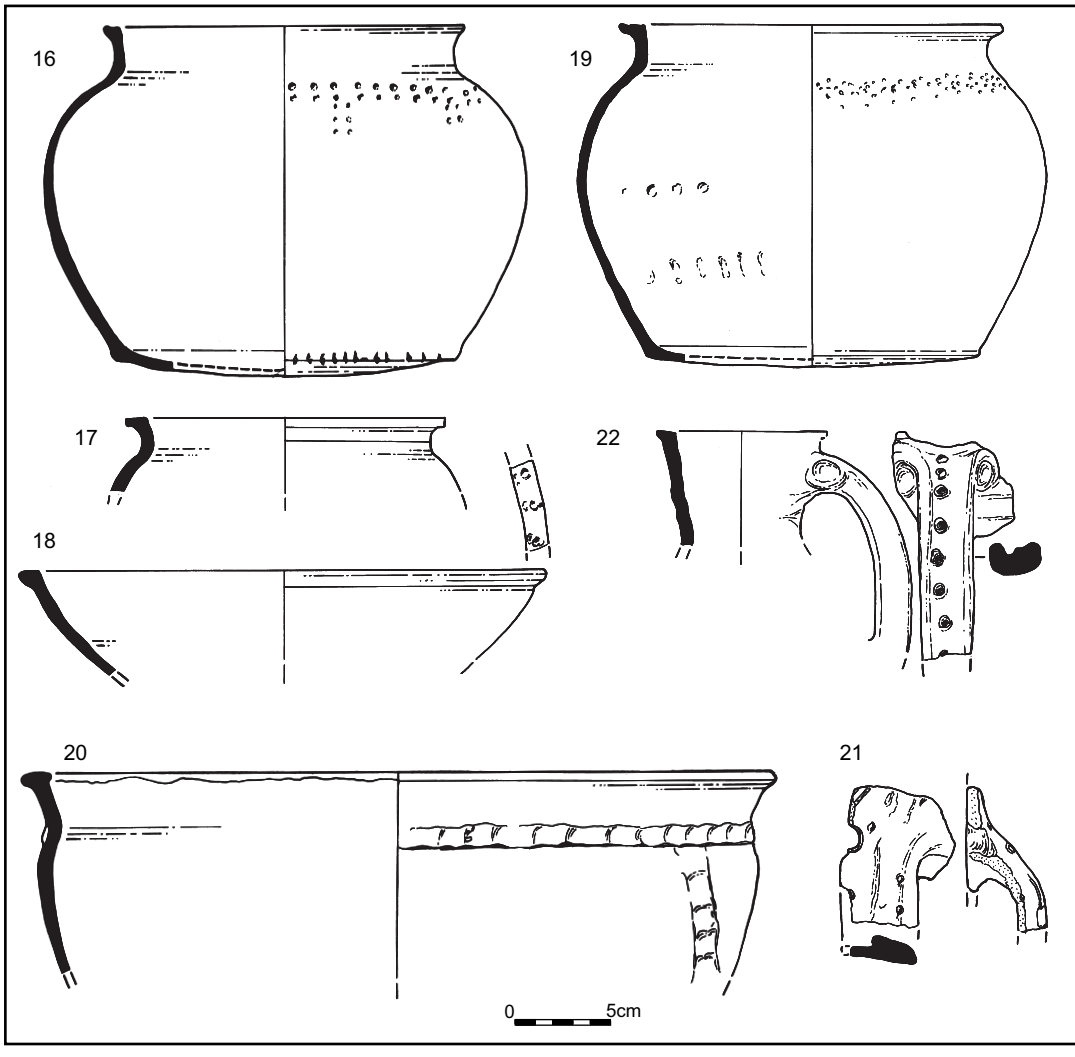

Fig. 15. Saxo-Norman pottery: group 3 nos. 16–22.

dotted lines running down body and slashing on basal angle. Externally sooted. Early C13th. SN3.

17. CP with squared rim. Grey core with dull brown/grey surfaces. Externally sooted. SN9. Early/mid C13th.
18. Bowl with simple out-turned rim. Grey core and exterior surface with dull brown interior surface. Bone-impressed decoration on rim. Sooted all over. SN9.
19. CP with squared rim. Grey core with dull orange surfaces. Zone of crudely stamped square dots around base of neck. Externally sooted. M13.
20. Bowl with beaded rim and horizontal and vertical applied thumbed strips. Grey core, dull orange exterior and brown interior surfaces. Internally sooted. M13.
21. Curfew handle with stabbing and remains of an air vent. Grey core with dull orange surfaces. Internally sooted. M13.
22. Jug with deeply stabbed strap handle. Grey core and dull orange surfaces. Dull green external glaze with traces of white slip around interior of neck. Crudely made. Early/mid 13th. M23.

Discussion of Saxo-Norman assemblage

The earliest Saxo-Norman pottery from the current site consists of the chalk-tempered wares (e.g. SN1) which potentially have a chronological span of the mid 10th to early 12th century, chalk tempering becoming much rarer after the Saxo-Norman period (Gardiner 1990). These fabrics have been found in some quantity further up the valley at Botolphs and Steyning (Gardiner 1990; 1993: Fabrics DA, etc.) but at the current site are less diverse, probably representing the generally later peak of activity at the Ropetackle site. The few form examples tend to suggest that most of this

early pottery is of the 12th century rather than before. This suggestion is strengthened by the general lack of low-fired purely flint-tempered wares at Ropetackle.

There is a general background scatter of probably residual 12th- to early 13th-century material in many High Medieval contexts. However, some of these sherds may be old vessels still in use. For example, pit [207] (fill [208]) contains 14 (420g) unabraded sherds from a large storage jar in SN3. This vessel, being primarily a 'static' one, could easily have had a long life-span and continued well into the 13th century, and the use of cooking pots as dry storage vessels may have resulted in a number of Saxo-Norman vessels enjoying longevity. There are a number of conjoining sherds between fills of the same pits, though this may be in part due to on-site excavation of the boundaries between fills rather than the fills being deposited at the same time. In addition there are a few cross-joins between pits (e.g. later pits [126] and [130], fills [127] and [131] respectively), which may relate to re-working of earlier features.

The few definite early/mid 13th-century features (e.g. pit [18], fills [19] and [20]) contain a dominance of medium-fired sand-tempered wares (M13) and it is likely that after the last of the true late Saxo-Norman sand/flint/chalk-tempered wares petered out in the early 13th century these sandy wares dominated assemblages for most of the century. The cooking pot forms, with developed flaring rims, such as in contexts [349] and [350], mark the last of the 12th-century types, though they may have continued further into the 13th century than has previously been thought. Glazed jugs appear to have been occurring in notable numbers from after the first quarter of the 13th century and generally are medium-fired, relatively coarse (in both sand temper and manufacture) and sparsely glazed. However, jugs do not appear to have become common until the mid 13th century, the late Saxo-Norman assemblage being primarily one of utilitarian kitchen wares.

It is unfortunate that the site did not produce more closed groups of this phase which could be precisely dated; the majority of groups contain the higher-fired sand-tempered wares with occasional flint/shell inclusions which probably started in the mid to late 13th century (e.g. M1 to 9). The lower-fired sandy wares are very similar to those thought to have been produced at Steyning (Gardiner 1997, Fabrics SCSm, SCS and SMS). Indeed, the Saxo-Norman coarse sand with flint/chalk fabrics at Ropetackle can usually be paralleled by examples from Steyning (Gardiner 1990), and it is quite probable that during the 12th to early/mid 13th centuries Steyning and its immediate hinterland might have been the source for much of the ceramics in Shoreham and the Adur valley in general. Similar wares were common at the Saxo-Norman ringwork at Old Erringham (Holden 1980) and Bramber Castle (Barton and Holden 1977), though unfortunately the published fabric descriptions do not allow close comparison with the current assemblage. However, such wares were probably made at a number of locations in the valley, and the raw material for tempering would have been in close proximity to both towns as well as other more rural locations in the Adur valley. Kiln sites for these early wares are still proving elusive.

Imports for the phase up to the mid 13th century are very few and, although some of the Developed Normandy Gritty wares (Fabrics M33–35) could belong to this period, most were found in later contexts and it is probable that they represent late Normandy products 'accidentally' finding their way to the port during trade in other commodities in the High Medieval period. The Paffrath-type ware handled cooking pot (SN14) is the only definite imported material from this phase, though it is quite possible it was brought in as late as the first half of the 13th century. The small number of imports certainly suggests that trade contacts, at least as reflected by the ceramics, were limited before the mid 13th century. During this period in Southampton (termed the Anglo-Norman period, given as 1066–*c.* 1250) some 7% of the assemblage consists of imported material, clearly reflecting a busy trading port at this time (Brown 2002, 91). Southampton imports at this time were mainly from North France/Normandy, 53% of the imports being composed of Normandy Gritty wares. Paffrath-type ware accounted for only 5% of the Anglo-Norman imports in Southampton.

High Medieval

Introduction

The largest proportion of the overall pottery assemblage is of this phase (Table 1). Although 197 contexts of this date are present, the majority contain fewer than 50 sherds. In all, only 24 contexts contain more than 100 sherds and only three contain more than 400 sherds, the three largest being contexts [33] (1132), [541] (1012) and [108] (966).

The pottery of this phase is generally in unabraded condition, though sherd size is very variable. The average sherd weight is 13.8g for the whole phase, but there are many sherds below 6g and a number of complete or near complete vessels.

Jugs make up 20.4% of the whole assemblage by count and 20.9% by weight, the remainder being composed of coarsewares, most notably cooking pots, though with bowls, skillets and a few other types present as well. The large proportion of small jug sherds is somewhat counterbalanced by the presence of several complete/near complete examples. On an individual context basis, the percentage of jugs to coarsewares, based on sherd count, usually varies between 13% and 37%, though context [586] (127 sherds) is made up of 48% jug sherds, while context [521] (30 sherds) contained only jugs. Some contexts had small proportions of jugs. They include context [453] which contained 104 (1514g) coarseware sherds (MNV 5 cooking pots and 5 bowls) compared with six (68g) jug sherds (MNV 2) and pit [601] (fill [602]), which contained [307] (3653g) coarseware sherds (MNV 14 cooking pots, 3 bowls and 1 skillet) and 4 (16g) jug sherds (MNV 2). However, there are a few sizeable context groups which contain no jugs at all, contexts [88] (294 sherds) and [148] (115 sherds), suggesting purely kitchen refuse.

Besides cooking pots, bowls and jugs very few other vessels are represented. A few skillets are present, though it is likely that more sherds are grouped under bowls, and a few curfew fragments were noted (e.g. pit [540], fill [541]).

Although there is a danger of residual material in most of the large groups, the Saxo-Norman sherds are usually quite easy to isolate. More problematic is the distinction between later 13th- and 14th-century material. The selected groups give a good indication of the nature of the High Medieval assemblage and offer the opportunity to illustrate the main forms present. A few additional vessels have also been added to the catalogue where these forms are not covered by the selected groups.

Table 5. Pottery from well [87], fills [88] and [108].

Fabric	Context [88]				Context [108]				Minimum no. of vessels
	No. of sherds	%	Weight (grams)	%	No. of sherds	%	Weight (grams)	%	
SN9	2	0.6	64g	0.7	20	2.0	262g	1.0	×2 cooking pots; ×1 bowl; ×1 jug
SN11	1	0.3	4g	0.04	-	-	-	-	×1 cooking pot
M2	2	0.6	32g	0.4	-	-	-	-	×2 cooking pots
M4	1	0.3	10g	0.1	26	2.6	594g	2.3	×1 cooking pot; ×1 bowl
M5	143	43.6	5244g	57.9	50	4.9	744g	2.8	×6 cooking pots; ×4 bowls
M6	97	29.6	2832g	31.3	430	42.4	13,098g	50.0	×19 cooking pots; ×13 bowls; ×1 skillet
M7	-	-	-	-	159	15.7	3860g	14.7	×3 cooking pots
M8	1	0.3	3g	0.03	41	4.0	418g	1.6	×2 cooking pots
M9	5	1.5	64g	0.7	-	-	-	-	×2 cooking pots
M13	7	2.1	38g	0.4	21	2.1	321g	1.2	×4 cooking pots; ×1 bowl
M14	3	0.9	40g	0.4	-	-	-	-	×1 cooking pot
M15	23	7.0	310g	3.4	97	9.6	1098g	4.2	×7 cooking pots; ×1 bowl; ×1 jug
M16	2	0.6	18g	0.2	3	0.3	24g	0.1	×2 cooking pots
M17	-	-	-	-	2	0.2	88g	0.3	×1 cooking pot
M18	4	1.2	38g	0.4	18	1.8	182g	0.7	×2 cooking pots; ×6 jugs
M19	8	2.4	24g	0.3	-	-	-	-	×2 cooking pots
M20	3	0.9	16g	0.2	19	1.9	450g	1.7	×4 jugs
M21	12	3.7	136g	1.5	35	3.4	750g	2.9	×13 jugs
M22	4	1.2	28g	0.3	37	3.6	1318g	5.0	×8 jugs
M23	1	0.3	3g	0.03	-	-	-	-	×1 cooking pot
M26	3	0.9	50g	0.6	45	4.4	804g	3.1	×2 jugs
M29	-	-	-	-	3	0.3	28g	0.1	×1 jug
M31	-	-	-	-	2	0.2	2056g	7.9	×1 aquamanile
M40	-	-	-	-	1	0.1	32g	0.1	×1 jug
M42	2	0.6	2g	0.02	2	0.2	2g	0.01	×2 jugs
M44	-	-	-	-	1	0.1	6g	0.02	×1 jug?
T2	4	1.2	94g	1.0	3	0.3	52g	0.2	×2 cooking pots; ×1 pitcher
Totals	**328**	**99.8**	**9050g**	**99.92**	**1015**	**100.3**	**26,187g**	**99.93**	

Group 4: Well [87] (fills [88] and [108])

Well [87] was clearly used for disposal of domestic waste once it had gone out of use. The infilling may have occurred relatively quickly, as there were conjoining sherds between the two contexts (an M6 bowl, an M8 cooking pot and an M26 jug). Excluding the residual late Saxo-Norman material, the assemblage from these two fills contains fragments from 57 cooking pots, 20 bowls, one skillet, 40 jugs/pitchers and one aquamanile (MNVs). Thus 34.5% of this combined assemblage by MNV consists of jugs. Although most of the assemblage can be placed in the mid/late 13th to mid 14th centuries, the presence of the Transitional pitcher and two cooking pots (T2), together with some of the M17 and M18 vessels, suggests a deposition date possibly in the second quarter of the 14th century. Later in that century one might expect to see a slightly larger number of Transitional wares in an assemblage of this size.

There is a total dominance of local fabrics M5 and M6 within the coarsewares, though a number of Sussex sources are represented. There is greater diversity in the sources of jugs, which include vessels from Rye (M26), Surrey (M29) and West Sussex (M21 and M22), including a small but significant selection from further afield. Although imported material is mainly from France, there is a single fragment from an Iberian vessel (M44), indicating more distant contacts.

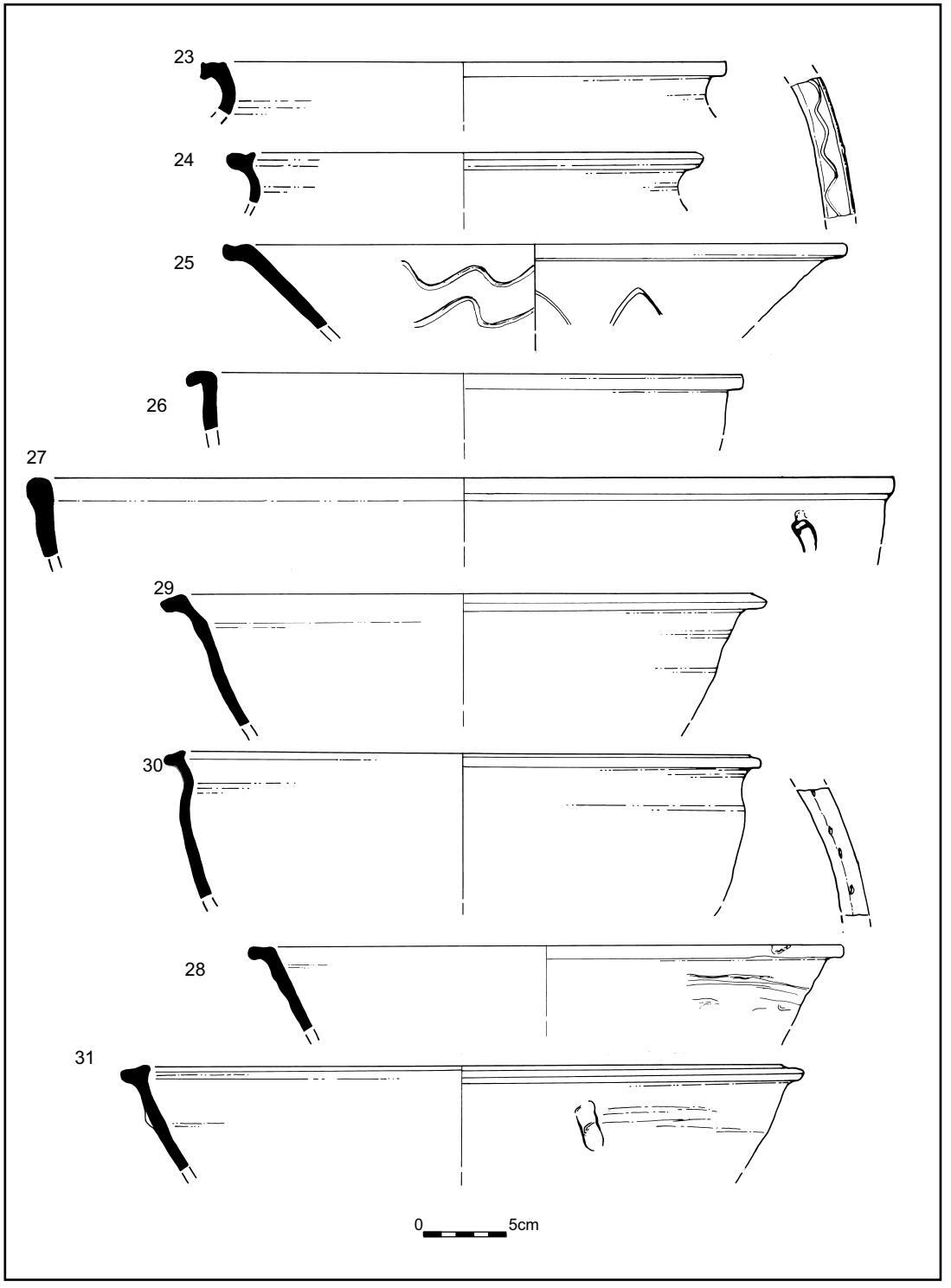

Fig. 16. High Medieval pottery: group 4 nos. 23–31.

Catalogue (Figs 16–21)

Well [87] fill [108]

23. Cooking pot (CP) with squared rim. Grey core with dull orange surfaces. M4.
24. CP with internally beaded club rim. Grey core with dull brown/grey patchy surfaces. M4.
25. Bowl with simple rim. Grey core with dull brown surfaces. Wavy incised line decoration on interior, exterior and rim. M6.
26. Bowl with down-turned rim. Grey core with dull orange surfaces. M6.
27. Bowl with squared beaded rim. Grey core with dull brown/orange patchy surfaces. Applied oblique thumbed strips on exterior. M6.
28. Bowl with out-turned square rim. Grey core with dull orange/brown patchy surfaces. Stabbing on rim. M6.
29. Bowl with tapering club rim. Grey core with dull orange inner and grey (sooted) outer surfaces. M6.
30. Bowl with internally beaded club rim. Grey core with dull brown/grey patchy surfaces. Carbonised material on interior base. M6.
31. Bowl with hollowed rim. Grey core with brown/grey patchy surfaces. Oblique applied thumbed strips on exterior. M6.
32. Deep bowl with club rim. Grey throughout. Oblique applied thumbed strips externally with crude rouletted decoration. Similar to a bowl from Chichester (Mepham 2008, Fig. 10, No. 7). M6.
33. Spout from a socketed bowl. Grey core with dull orange surfaces. Spots of clear glaze on exterior. M6.
34. Bowl with triangular rim. Grey core and outer surface with dull brown/grey inner surface. Externally sooted. M6.
35. CP with flaring rim. Grey core and dull brown surfaces. This is either an early C13th- form lingering later into the 13th century or the start of the Transitional flaring rims around the mid 14th century. M6.
36. CP with thickened squared rim. Grey core and dull brown surfaces. Externally sooted. M6.
37. CP with slightly hollowed club rim. Grey core with dull brown/grey surfaces. M6.
38. CP with hollowed rim. Grey throughout. Externally sooted. M6.
39. CP with hollowed rim. Grey core with dull brown inner and dull orange outer surfaces. Applied thumbed strips externally. M6.
40. CP with thin club rim. Grey core with dark grey surfaces. M6.
41. CP with tapering stabbed rim. Grey core with dull orange surfaces. M6.
42. CP with internally beaded rim. Grey core with dull orange surfaces. M6.
43. CP with squared rim. Grey core with dull orange/brown surfaces. Oblique applied thumbed strips on exterior. M7.
44. CP with hollowed rim. Grey core with dull orange surfaces. Externally sooted. M7.
45. CP with rounded club rim. Grey core and dull orange surfaces. M7.
46. Jar with bevelled rim. Grey core with dull brown surfaces. Sooted all over. M8.
47. Jar with simple rim. Grey core with dull brown/grey surfaces. Spots of orange glaze on interior. ?mid/later C14th. M8.
48. CP with thin club rim. Grey core with dull brown/grey surfaces. M15.
49. CP with hollowed rim. Dull orange/brown throughout. Mid C14th–early 15th? M17.
50. Jug/pipkin with simple spout and rilling on body. Grey core with dull orange/brown surfaces. Thin patches of clear glaze externally. Exterior sooted. Mid C14th–early 15th? M18.
51. Jug with stabbed rod handle. Dull orange throughout with grey exterior surface. Applied vertical clay strips under a speckled green glaze. White slip on interior of neck. M20.
52. Jug bodysherd. Pink core with off-white/pink surfaces. Decorated with rows of applied clay pellets glazed brown against a clear (yellow) glazed body. M20.
53. Globular jug with stabbed strap handle. Grey with dull orange exterior surface. Combed decoration under speckled green glaze. White slip on interior of neck. M22.
54. Jug with stabbed rod handle and thumbed base. Dull orange throughout. Decorated with applied vertical clay strips creating zones which are alternately left clear (glazing yellow/brown with green speckles) or infilled with red slip (glazing brown). In the slipped sections there are applied and stamped 'raspberry-type' pellets. Possibly Rye. M26.
55. Virtually complete aquamanile (2056g) in form of a ram with ribbed horizontal handle. Although the front right leg is broken it is present — only the right horn is actually missing. Pale orange/pinkish throughout. The stylised ram has raised vertical ribbing on the sides and front of the body, with simple applied tail to rear. The eyes consist of applied circular discs which have deep incised 'centres' and the horns are formed from twisted cones of clay. Upper part of vessel covered with thick dark-green glaze which extends part-way down to the top of the legs, below this point the glaze becoming thin/non-existent (e.g. on ram's belly). Scarborough. M31. A close parallel was recovered from Seaford a few miles to the east of Shoreham (Farmer 1979, Plate VII). It is interesting to note that a single horn from a ram aquamanile was located at the moated site at Stretham just up the Adur from Shoreham (Gardiner undated). Unfortunately the piece has been lost, so it is not possible to check whether it might have belonged to the current vessel.

Well [87] fill [88]

56. Bowl with hollowed rim. Grey throughout. M4.
57. Bowl with thin club rim. Grey throughout. Patchy internal dull green glaze. Externally sooted with a little carbonised material on interior. M5.
58. CP with slightly hollowed triangular rim. Grey core and exterior with dull orange interior surfaces. Externally sooted. M5.
59. CP with flat-topped rim. Dull orange throughout. Vertical applied thumbed strips on exterior. M5.
60. Large CP with hollowed rim. Grey throughout. Applied (horizontal/vertical) thumbed strips on exterior. M5.
61. Complete large CP with hollowed rim. Grey throughout. Applied vertical thumbed strips on exterior. M5.
62. Bowl with internally beaded club rim. Grey core with brown/grey surfaces. External sooting with carbonised material on interior. M6.

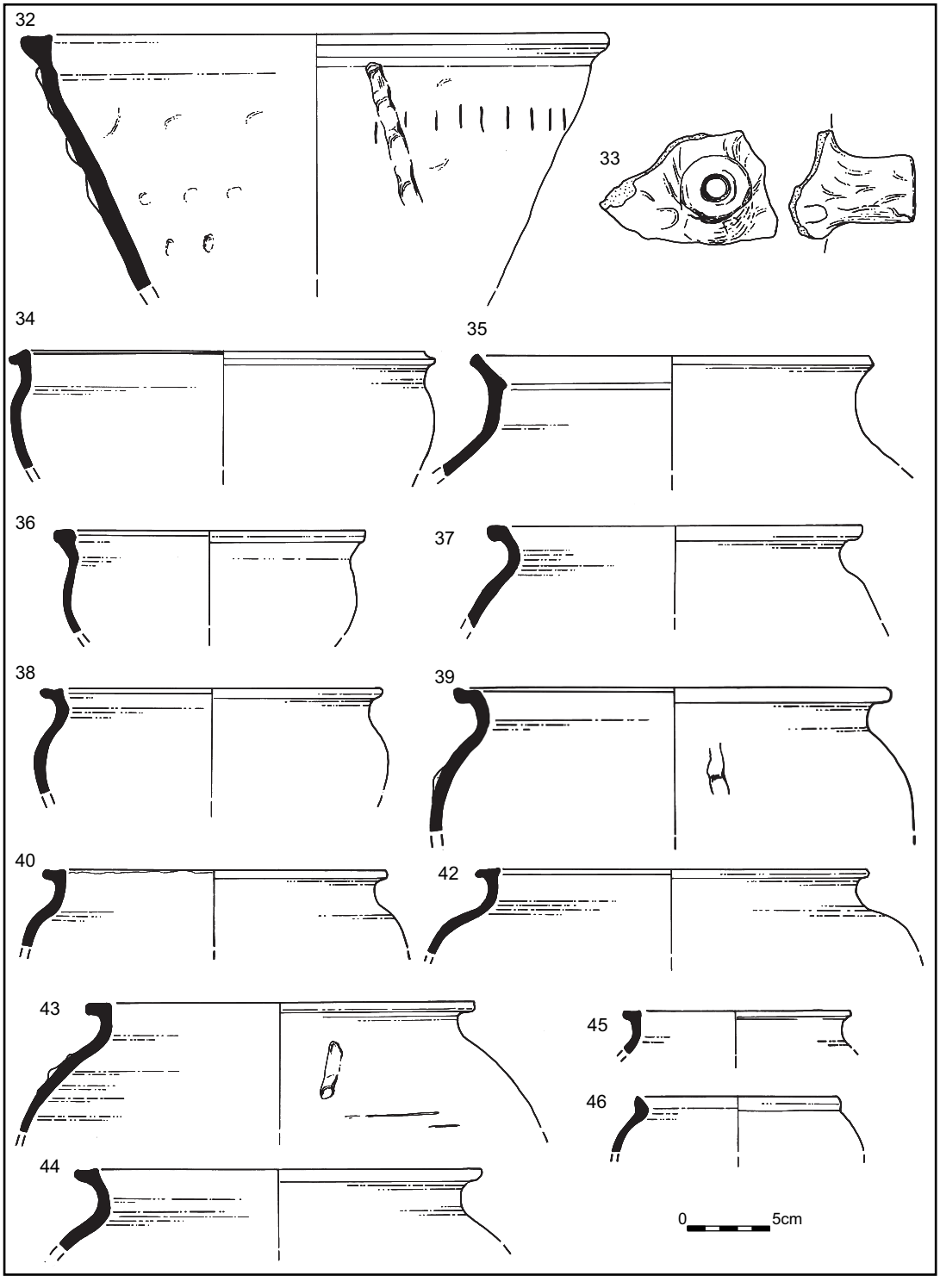

Fig. 17. High Medieval pottery: group 4 32–46.

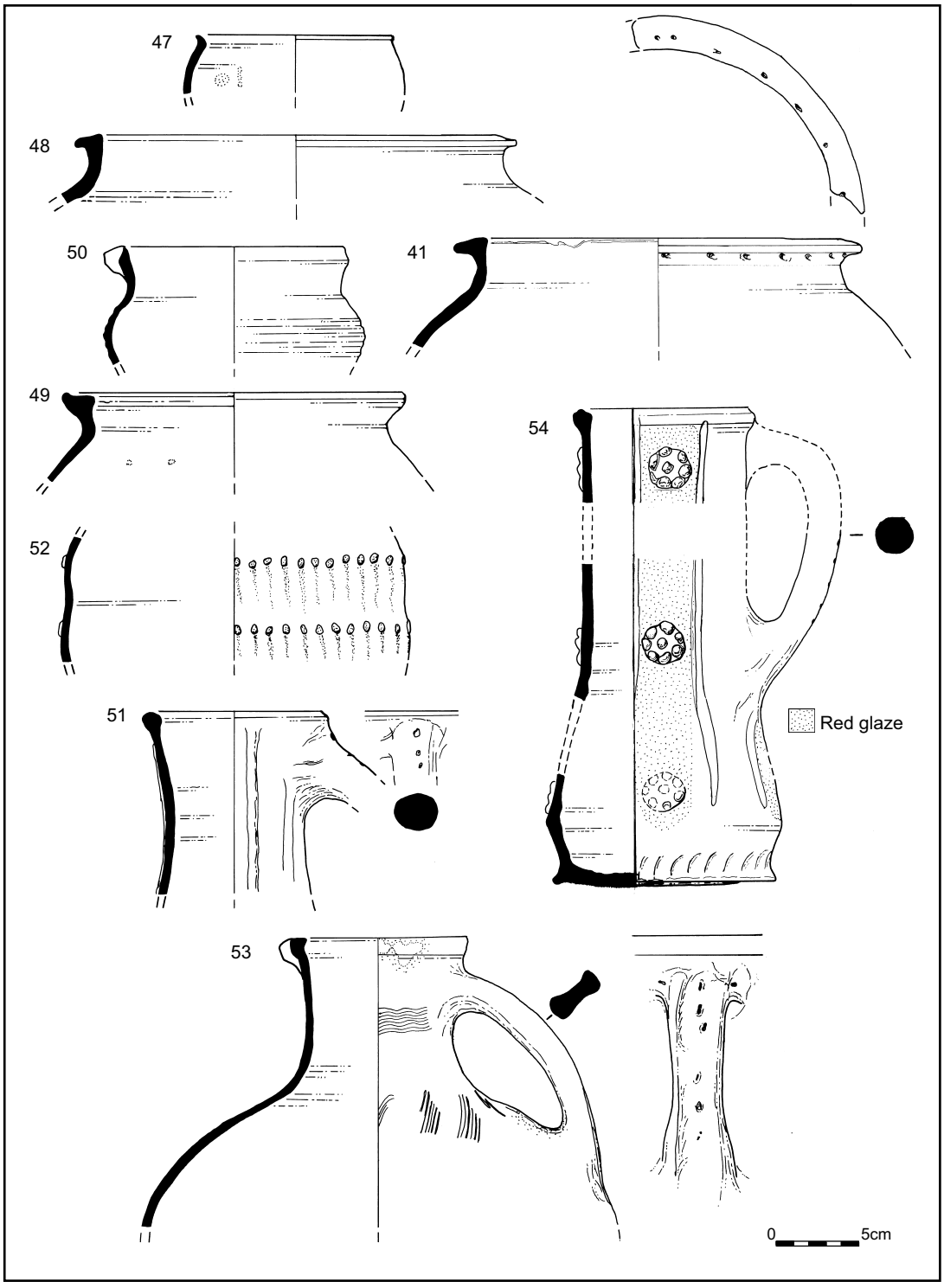

Fig. 18. High Medieval pottery: group 4 nos. 47–54.

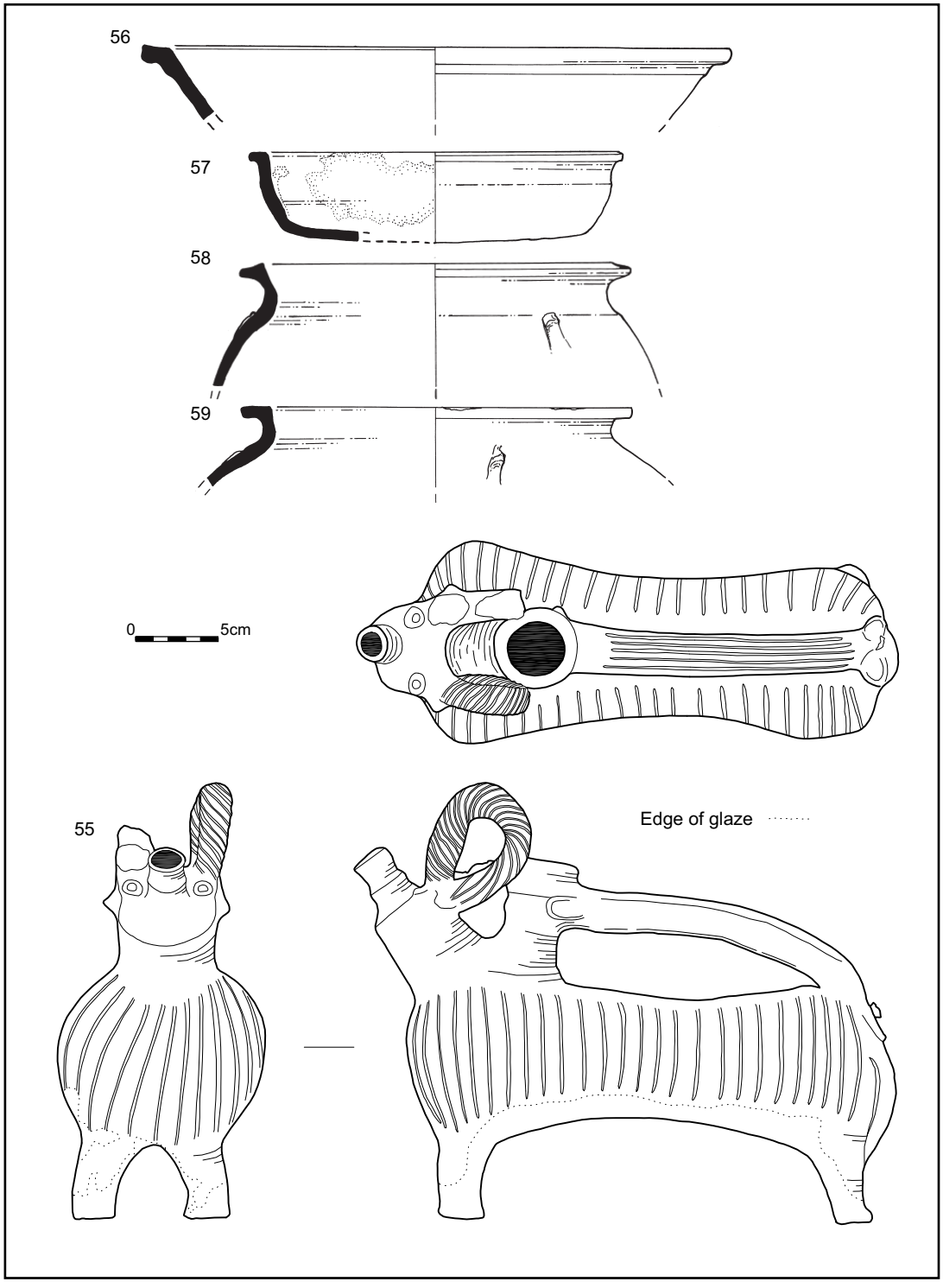

Fig. 19. High Medieval pottery: group 4 nos. 55–59.

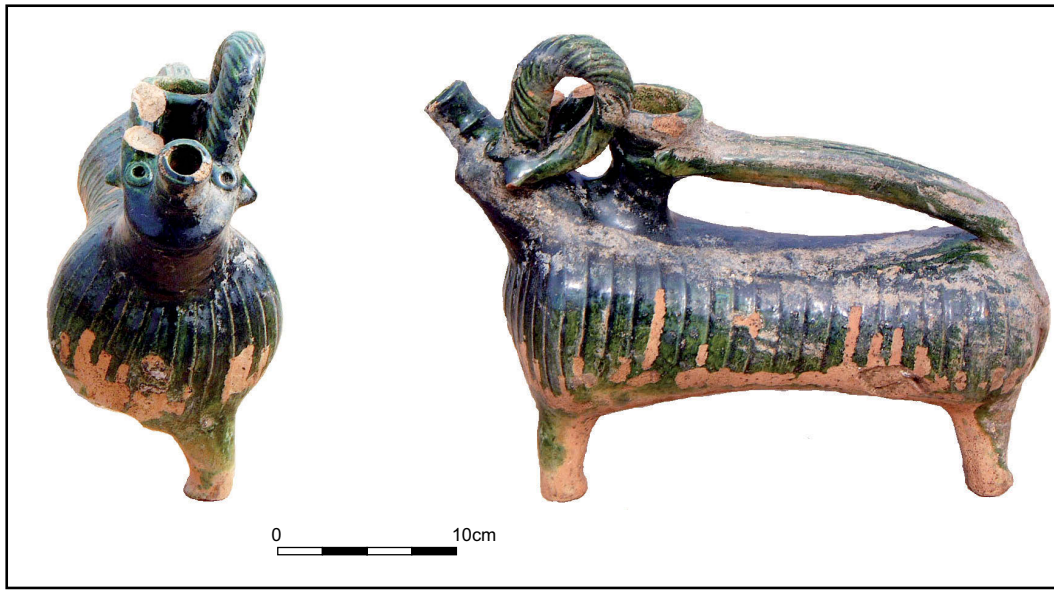

Fig. 20. Photograph of aquamanile, no. 55.

63. CP with everted rim. Grey core with black surfaces. M6.
64. CP with squared club rim. Grey core and exterior with dull brown interior surface. Externally sooted with carbonised material on interior. M15.

Group 5: Pit [32] (fill [33])
Excluding the residual late Saxo-Norman material, the assemblage from this pit contains fragments from 56 cooking pots (including jars/pipkins), 23 bowls, one skillet, 34 jugs/pitchers and one curfew (MNVs). Thus 29.6% of this combined assemblage by MNV consists of jugs — a similar ratio to well [87].

This group contains a wide variety of High Medieval fabrics as well as a moderate residual scatter of RB and late Saxo-Norman material. The High Medieval material is again dominated by coarsewares in M5 and M6, M20 jugs also being well represented. There is a notable proportion of West Sussex Ware jugs (M21 and M22) too. There is great diversity in the sources of jugs, which include both regional and imported material. Vessels from both north and south-west France are represented. Although most of the assemblage can be placed in the late 13th to mid 14th centuries, the presence of significant quantities of Transitional wares (T1 to 3) suggests a deposition date possibly in the third quarter of the 14th century.

Catalogue (Figs 22–23)
Pit [32], fill [33]
65. Jar with simple rim. Grey throughout. Hard-fired. Mid/late C14th. M3.
66. Heavy bowl/curfew with stabbing on rim and around interior edge. Oblique applied thumbed strips on exterior. Grey core with dull grey/brown surfaces. Internally sooted. M4.
67. CP with hollowed club rim. Grey core with dull orange surfaces. M4.
68. Bowl with triangular rim. Grey/black throughout. M5.
69. Bowl with stabbed hollowed triangular rim. Grey core with grey/brown surfaces. Incised wavy line decoration on exterior. M5.
70. Bowl with tapering club rim. Grey throughout. M5.
71. CP with hollowed rim. Grey/black throughout. M5.
72. Bowl with slightly hollowed triangular rim. Grey core and exterior with dull orange brown interior surface. M6.
73. CP with squared club rim. Grey throughout. Traces of oblique applied thumbed strip on exterior. M6.
74. CP with thin club rim. Grey core and exterior with dull brown orange interior surface. Externally sooted. M6.
75. Bowl with thin club rim. Grey core and dull orange surfaces. Traces of internal glaze. Externally sooted. M15.
76. CP with hollowed triangular rim. Grey core with dull brown/orange surfaces. M15.
77. Jug with slashed rod handle. Grey core and exterior with dull orange interior surface. Thick olive-green gaze and white slip on interior of neck. M20.
78. Jug with simple spout. Grey core and buff surfaces. Incised zig-zag lines under a mottled green glaze. White slip on interior of neck. M21.
79. Jug with applied moulded decoration. Grey core with light brown surfaces. Rilling on body under dull green glaze. White slip on interior of neck. M21.
80. Jug with simple rim. Grey core and pinkish brown surfaces. Bright mottled green glaze. M22.
81. Spouted pitcher/pégau. Unglazed whiteware. Saintonge. M40. (Watkins 1987, Nos. 278–81).
82. Handled pipkin/CP with slashing on handle. Dull orange throughout. Partial green glaze on interior base. Externally sooted. Mid C14th–mid 15th. T1.

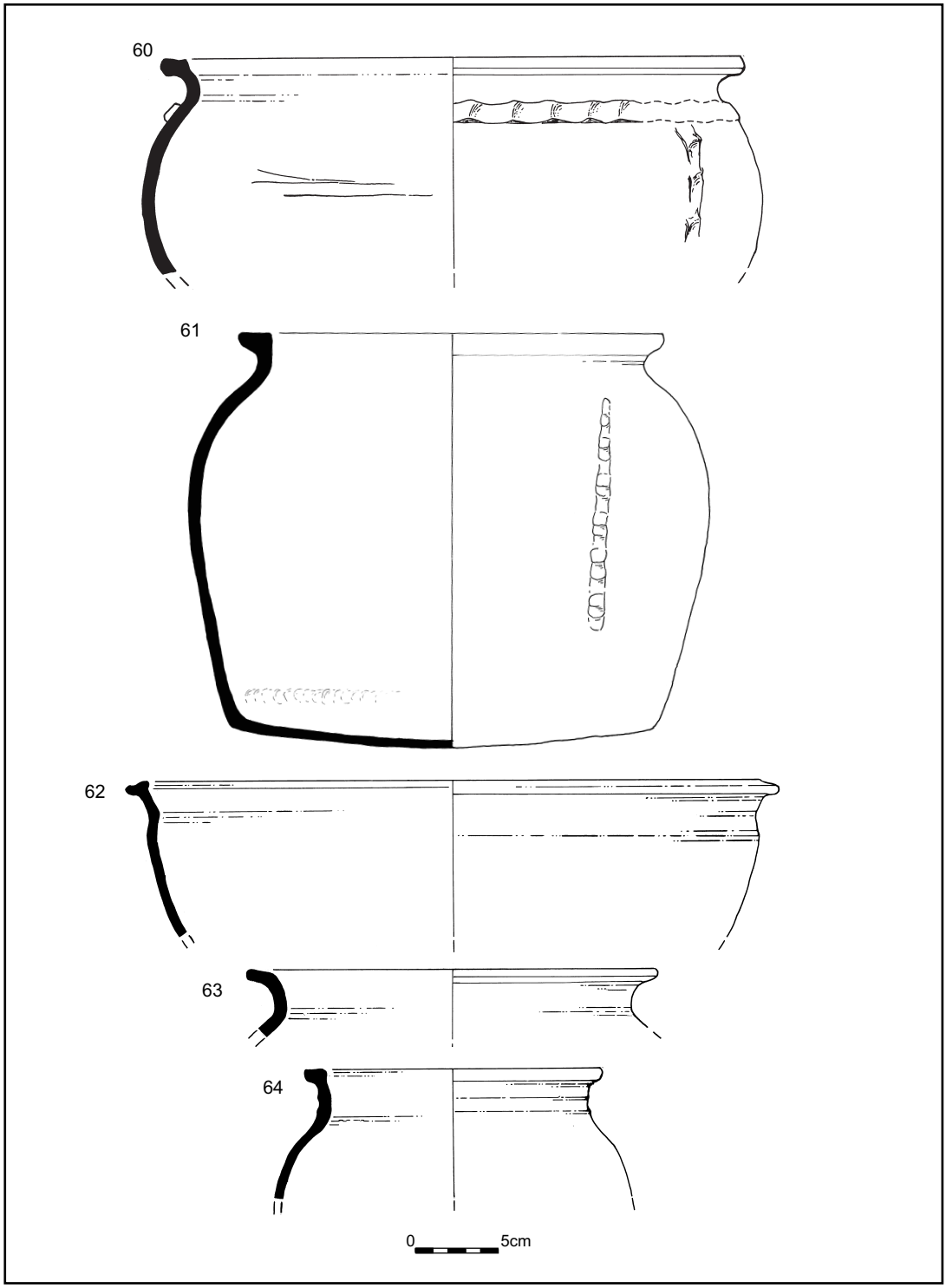

Fig. 21. High Medieval pottery: group 4 nos. 60–64.

Table 6. Pottery from pit [32], fill [33] (average sherd weight 9.5g).

Fabric	No. of sherds	%	Weight (grams)	%	Minimum no. of vessels
PR2	3	0.2	16g	0.1	–
PR5	3	0.2	26g	0.2	–
PR6	3	0.2	23g	0.2	–
PR7	1	0.1	2g	0.02	–
SN5	4	0.3	53g	0.4	×1 storage jar; ×1 bowl
SN6	14	1.1	148g	1.2	×1 cooking pot
SN7	12	0.9	81g	0.7	×1 cooking pot
SN8	5	0.4	32g	0.3	×1 cooking pot
SN9	13	1.0	110g	0.9	×1 cooking pot; ×1 bowl
SN10	9	0.7	48g	0.4	×1 cooking pot
SN12	8	0.6	41g	0.3	×1 cooking pot
M1	12	0.9	128g	1.0	×2 cooking pots
M2	28	2.6	220g	1.8	×1 cooking pot
M3	18	1.4	162g	1.3	×1 cooking pot
M4	64	4.9	858g	7.0	×8 cooking pots; ×2 bowls; ×1 curfew
M5	203	15.6	2341g	19.0	×15 cooking pots; ×7 bowls; ×1 skillet
M6	180	13.8	1784g	14.5	×10 cooking pots; ×3 bowls
M10	1	0.1	6g	0.05	×1 cooking pot
M11	16	1.2	161g	1.3	×1 cooking pot
M13	62	4.8	593g	4.8	×1 cooking pot; ×1 jug
M15	118	9.1	510g	4.1	×9 cooking pots; ×9 bowls; ×1 jug
M16	27	2.1	224g	1.8	×2 cooking pots
M17	6	0.5	32g	0.3	×1 cooking pot
M18	2	0.2	12g	0.1	×1 jug
M20	96	7.4	924g	7.5	×4 jugs
M21	222	17.1	2007g	16.3	×11 jugs
M22	36	2.8	217g	1.8	×3 jugs
M23	23	1.8	178g	1.4	×1 jug
M24	5	0.4	56g	0.5	×1 jug
M25	1	0.1	10g	0.1	×1 jug
M26	2	0.2	26g	0.2	×1 jug
M27	5	0.4	80g	0.6	×1 jug
M29	3	0.2	16g	0.1	×1 jug
M31	5	0.4	48g	0.4	×1 jug
M32	1	0.1	4g	0.03	×1 jug
M36	1	0.1	16g	0.1	×1 jug
M38	2	0.2	14g	0.1	×1 jug
M39	5	0.4	28g	0.2	×1 jug
M40	24	1.8	464g	3.8	×1 pitcher
M41	4	0.3	21g	0.2	×1 jug
M42	3	0.2	12g	0.1	×1 jug
T1	1	0.1	36g	0.3	×1 cooking pot
T2	47	3.6	474g	3.8	×2 spouted cooking pots; ×1 bowl
T3	2	0.2	72g	0.6	×1 cooking pot; ×1 bowl
Totals	**1300**	**100.7**	**12,314g**	**99.9**	

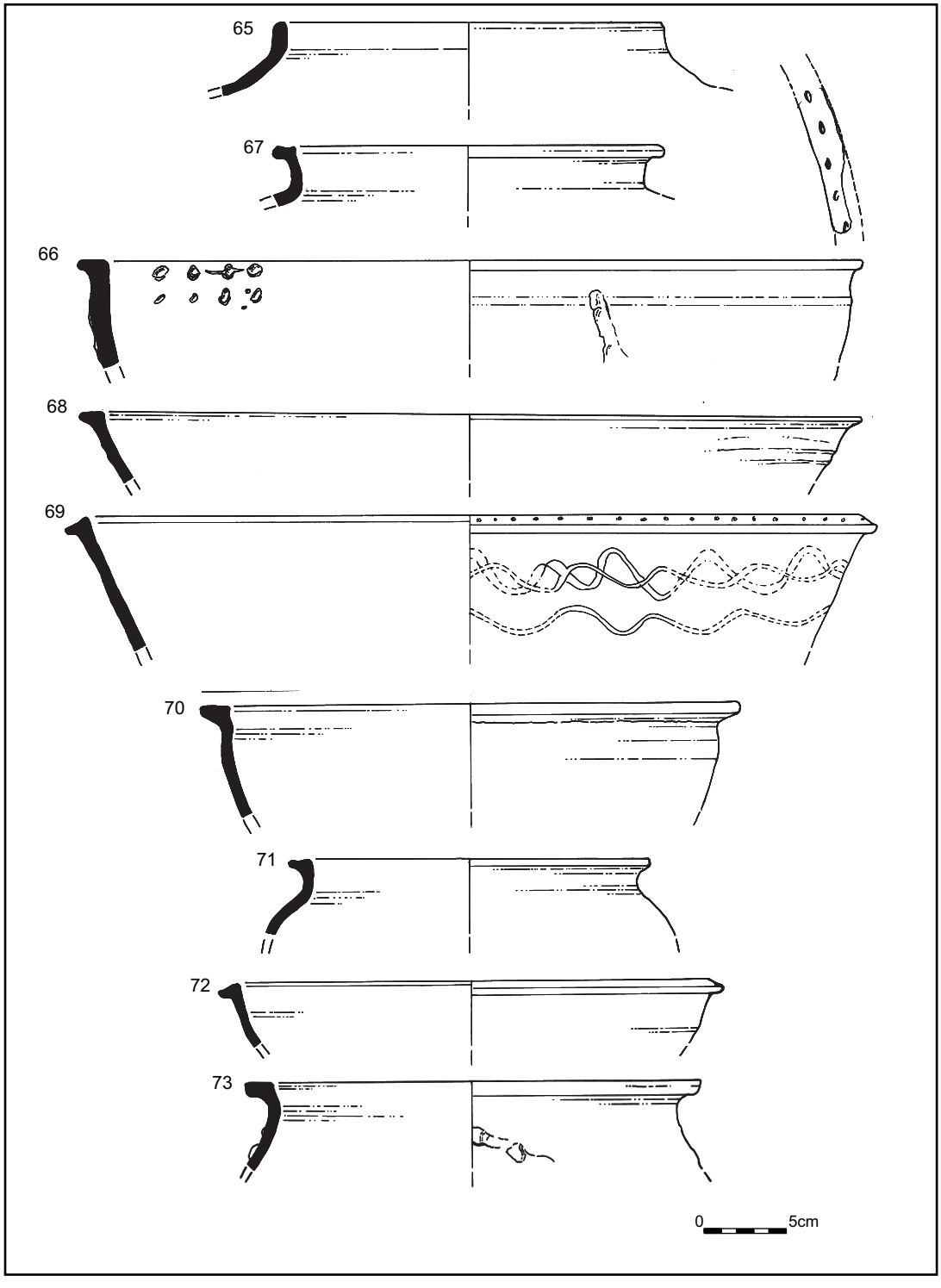

Fig. 22. High Medieval pottery group 5: nos. 65–73.

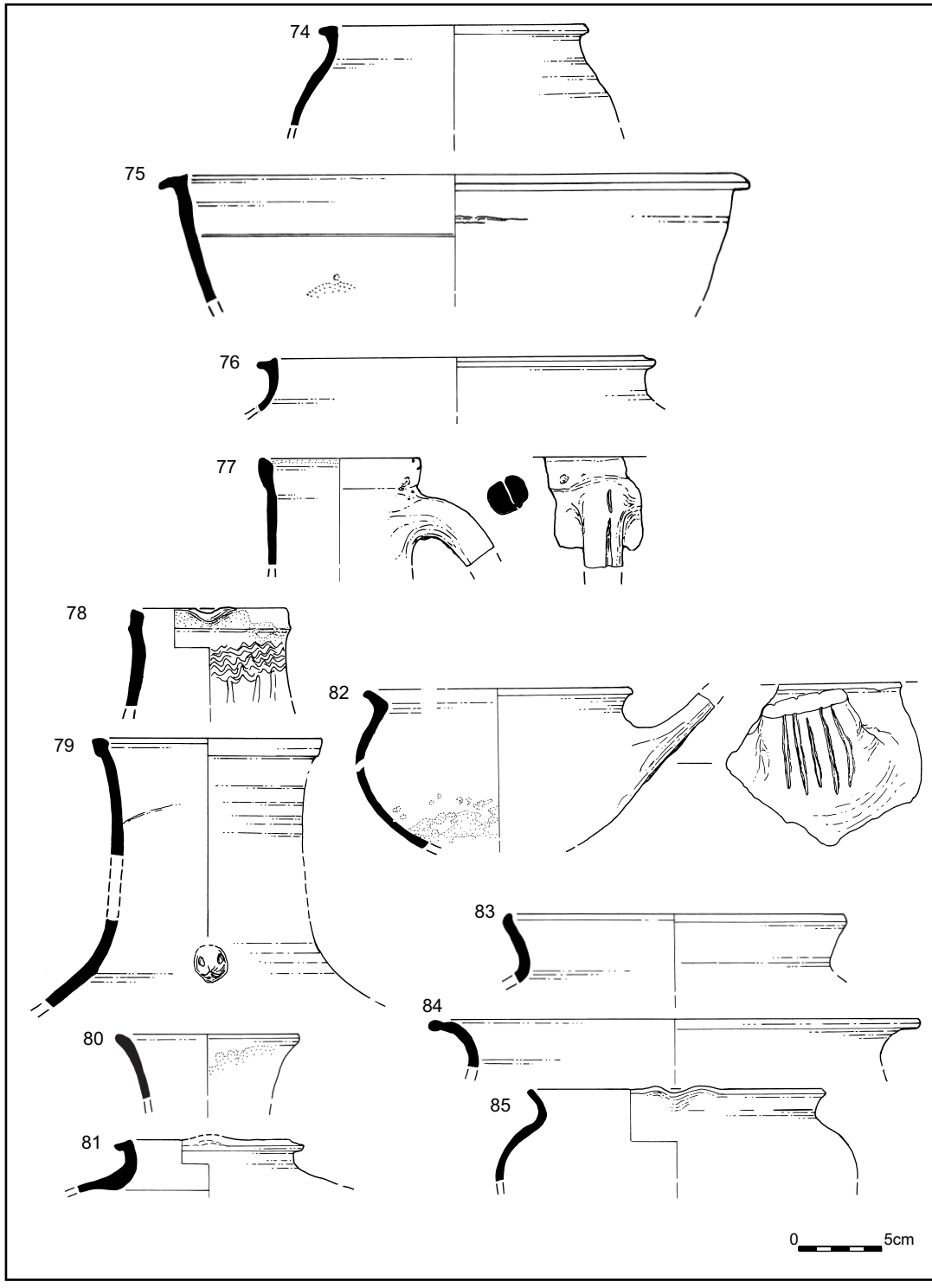

Fig. 23. High Medieval pottery group 5: nos. 74–85.

Table 7. Pottery from pit [79], fill [80] (average sherd size 12.4g).

Fabric	No. of sherds	%	Weight (grams)	%	Minimum no. of vessels
SN1	4	1.5	66g	2.0	×2 cooking pots
SN9	4	1.5	42g	1.3	×1 cooking pot
SN11	2	0.7	22g	0.7	×1 cooking pot
M1	8	3.0	92g	2.8	×1 cooking pot
M3	1	0.4	16g	0.5	×1 cooking pot
M4	8	3.0	148g	4.4	×2 cooking pots
M5	75	27.8	1088g	32.6	×6 cooking pots; ×1 bowl
M6	38	14.1	502g	15.0	×2 cooking pots; ×1 bowl
M8	3	1.1	56g	1.7	×2 cooking pots
M11	5	1.9	120g	3.6	×1 cooking pot
M13	6	2.2	40g	1.2	×1 cooking pot
M15	23	8.5	226g	6.8	×3 cooking pots
M16	10	3.7	98g	2.9	×1 cooking pot
M17	1	0.4	16g	0.5	×1 cooking pot
M18	4	1.5	24g	0.7	×2 cooking pots
M19	13	4.8	88g	2.6	×1 cooking pot; ×1 bowl
M20	5	1.9	34g	1.0	×3 jugs
M21	34	12.6	396g	11.9	×4 jugs
M22	10	3.7	156g	4.7	×3 jugs
M32	1	0.4	10g	0.3	×1 jug
M38	2	0.7	8g	0.2	×2 jugs
M42	1	0.4	2g	0.1	×1 jug
T2	12	4.4	88g	2.6	×1 cooking pot
Totals	**270**	**100.2**	**3338g**	**100.1**	

83. CP with flaring rim. Grey core and pale orange surfaces. Mid C14th–mid 15th. T2.
84. CP/bowl with simple rim. Grey core with dull orange-grey surfaces. Mid C14th–mid 15th. T3.
85. Pipkin with simple spout. Grey core with brick red surfaces. Later C14th–15th. T3.

Group 6: Pit [79] (fill [80])

Excluding the residual late Saxo-Norman material (late 12th century to early/mid 13th century) the assemblage from this pit contains fragments from 25 cooking pots, 3 bowls and 14 jugs/pitchers. Thus 33.3% of this combined assemblage by MNV consists of jugs — a similar ratio to well [87].

This group contains a variety of High Medieval fabrics though is not as diverse as Groups 4 and 5. Again, the assemblage is dominated by local coarsewares in M5 and M6 and by notable proportions of West Sussex Ware jugs (M21 and M22). Scarborough type ware (M32), Seine Valley whiteware (M38) and Saintonge ware (M42) are also represented in small quantities. Most of the assemblage can be placed in a mid/late 13th- to mid 14th-century bracket but, as before, the presence of Transitional wares (T2) suggests a deposition date possibly in the third quarter of the 14th century, though these pieces could be intrusive.

Catalogue (Fig. 24)

Pit [79], fill [80]

86. CP with club rim. Grey core with dull orange surfaces. Horizontal applied thumbed strip on exterior. M1.
87. Bowl with hollowed rim. Grey throughout. M5.
88. CP with flat-topped rim. Grey throughout. M5.
89. CP with hollowed club rim. Grey core with dull orange surfaces. M15.
90. Jug with slashed rod handle. Light grey throughout. Rilling on exterior under a dull olive glaze. White slip on interior of neck. M21.

A few forms not represented in Groups 4 to 6 are catalogued below in order to demonstrate the full range of forms present in the High Medieval assemblage.

Various contexts (Figs 25–6)

91. Handled bowl/pan with stabbed horizontal handle. Grey core with dull orange surfaces. Externally sooted. Mid C13th–early/mid 14th. A similar example has been recovered from Chichester (Barton 1979, 58, No. 6). M12. Pit [73], fill [74].
92. Spouted skillet/dish. Grey core with brown surfaces. Exterior sooted with carbonised material on interior base. Later C14th. M5. Pit [95], fill [96].

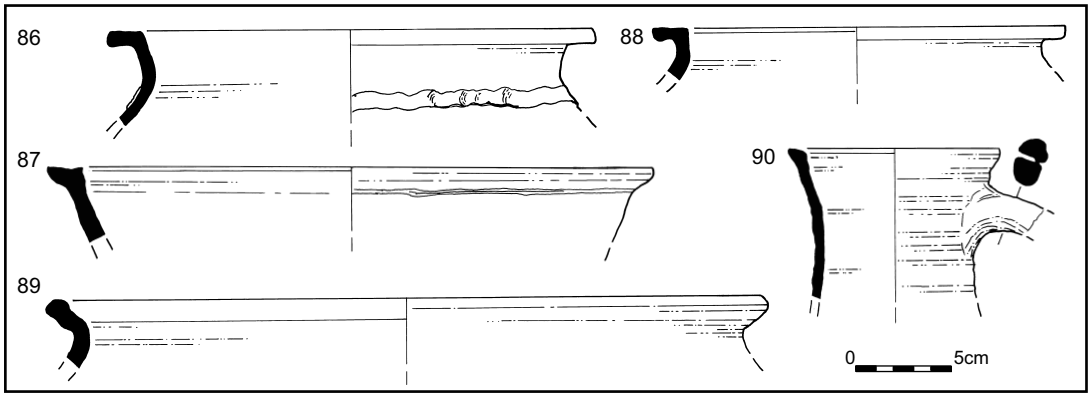

Fig. 24. High Medieval pottery: group 6 86–90.

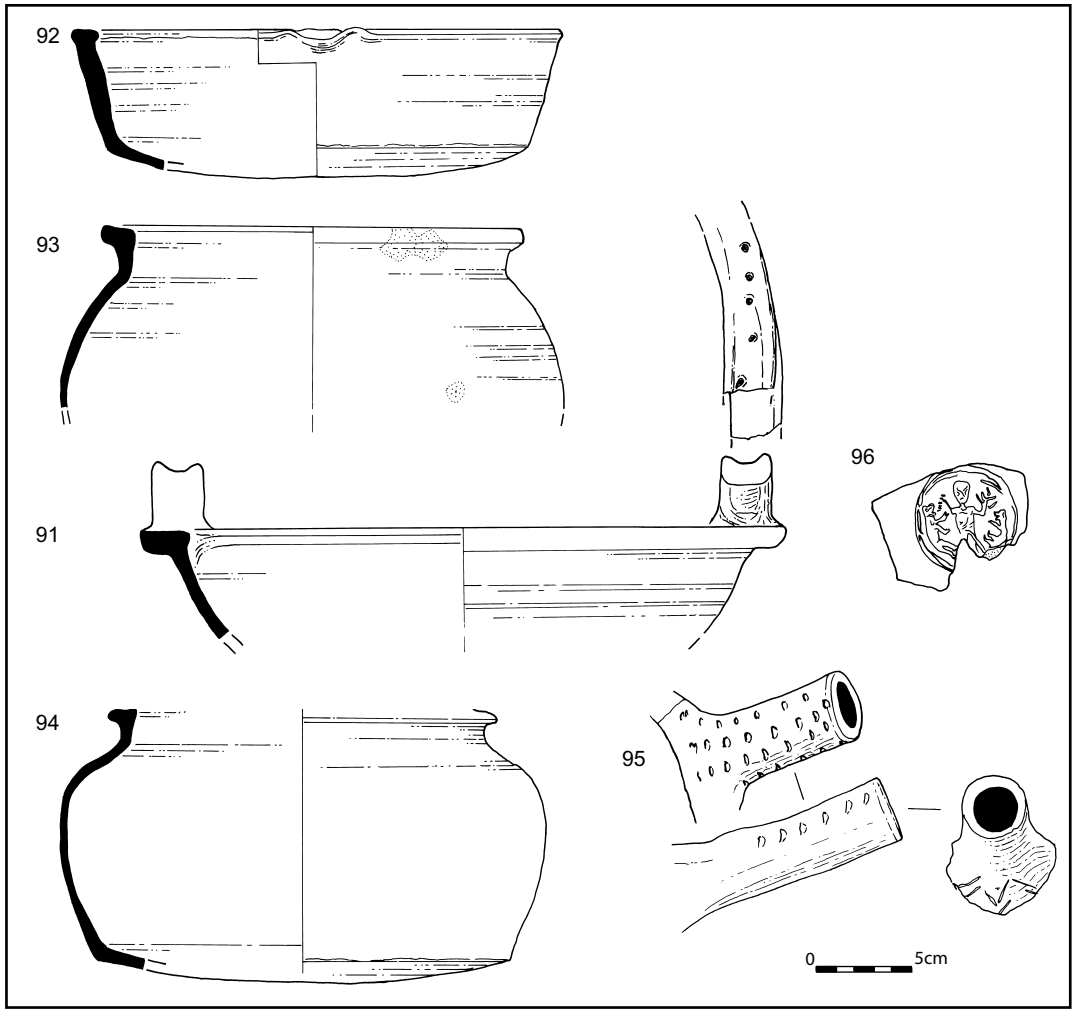

Fig. 25. High Medieval pottery: other forms nos. 91–96.

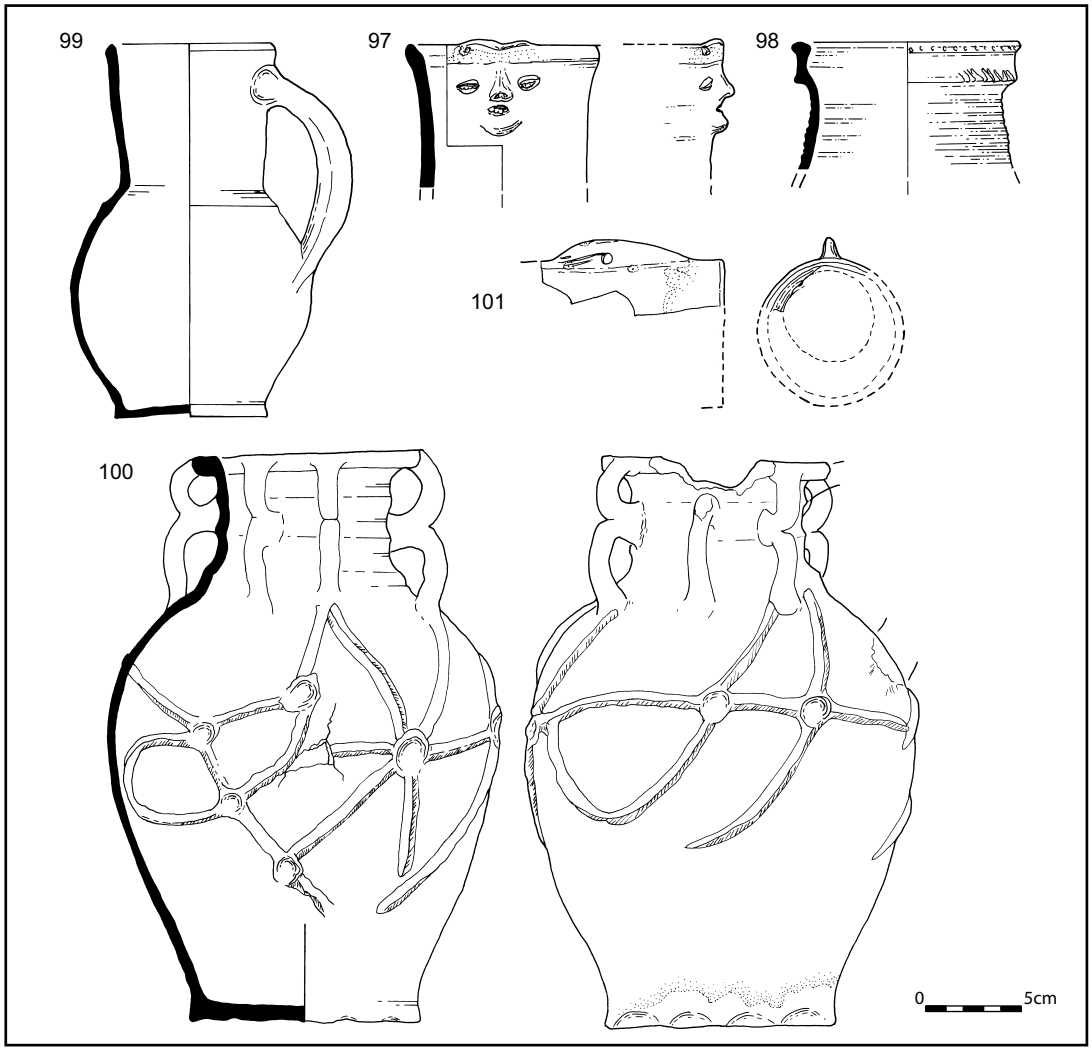

Fig. 26. High Medieval pottery: other forms nos. 99–101.

93. CP with squared club rim. Grey core and dull orange surfaces. Spots of green glaze on exterior. M12. Well [353], fill [504].
94. CP with slightly hollowed club rim. Grey core with brown/grey patchy surfaces. M8. Pit [440], fill [464].
95. Tubular skillet handle with slashing on underside and impressed circles on upper face. Grey core with dull orange surfaces. Spots of dull green glaze. Externally sooted. M11. Pit [440], fill [522].
96. Applied clay medallion/seal from a jug depicting a standing figure with a ?dog on either side. Grey throughout with even rich green exterior glaze. M21. Such decorative techniques are not common in Sussex, being more typical of the east coast, where examples are known from York and Norfolk (McCarthy and Brooks 1988, Figs 133 and 155, no. 913). The current example may be a West Sussex Ware copy. Pit [241], fill [242].
97. Face-on-front jug. Grey throughout with external dark green mottled green glaze. White slip on interior of neck. A common decoration on West Sussex Ware jugs (Barton 1979, 114). M21. Pit [10], fill [11].
98. Collared jug with incised horizontal lines on body and oblique slashes on rim under bright green glaze. M37. North French. A very similar vessel was recovered from Townwall Street, Dover (Cotter 2006, No. [241]). Pit [402], fill [476].
99. Saintonge green glazed jug. Complete except for hole in base. M2. Pit [536], fill [564].
100. Near complete multi-handled Saintonge jug with applied clay strips under bright green glaze (upper part of body only). M41. Pit [505], fill [521].

Table 8. Suggested date ranges for local (south-east) medieval fabrics.

	1100	1150	1200	1250	1300	1350	1400	1450	1500
Chalk: SN1	------ - - - -								
Chalk with flint SN2	---------- - -								
Chalk, flint, sand SN3, SN5	---------- - - - -								
Flint, chalk/shell SN4	---------- - -								
Flint SN6		- - - - -	---------- - - -						
Flint, chalk/shell, sand SN7, SN8	- - -	---------- - - - -							
Sand, flint/chalk SN9, SN10, SN11		---------- - - - -							
Sand, sparse flint SN12	- - -	---------- - - - -							
Coarse sand SN13	---------- - - -								
Sand with sparse flint M1			- - - - -	---------- - - -					
Sand with sparse flint/chalk/shell M2			- - -	--------- - -					
Sand with sparse shell/chalk M3, M4, M7				- -	---------- - - - - - -				
Sand with sparse flint/chalk/shell M5, M6, M8					- - -	---------- - - - - - -			
Fine sand, sparse flint M9, M19, M23				- - - - -	---------- - - - -				
Winchelsea Black M10					- - -	---------- - - -			
Sand M11, M12, M13, M18				- - -	---------- - -				
Surrey whiteware? M14, M25, M29					---------- - - - -				
Sand, harder-fired M15, M17, M20, M21, M22, M24					- - - -	---------- - - - -			
Limpsfield and Earlswood types M16, M27, M28					- - - - -	---------- - - -			
Rye type M26					- - -	---------- - - - - -			
Hard-fired Transitional wares T1, T2, T3, etc.						- - - - - - - -	----------		

101. Saintonge horn with suspension holes (similar in form to the later types from Langerwehe: Hurst *et al*. 1986, No. 345). M43. Pit [585], fill [586].

Discussion

The assemblage

The ceramics suggest that low/moderate activity probably continued seamlessly from the mid 13th century. However, the majority of the High Medieval assemblage consists of quite hard-fired local wares tempered with sand with sparse flint/chalk/shell inclusions. The nature of these wares would currently suggest that they most probably started to be produced towards the latter part, rather than the middle, of the 13th century. If this is the case, then this is the phase when intense activity, in whatever form, started up on the current site, presumably due to an expansion of the port. This level of activity, or at least refuse disposal, continued until at least the mid 14th century and represents the main occupation phase on site.

During this time quite large assemblages of domestic pottery were deposited, either in disused earlier features or in purpose-dug refuse pits. Perhaps one of the main conundrums is where the ceramic waste was derived from, as there is an apparent lack of structural remains on the site from this phase. Whether this refuse was from a nearby single household or, which is more likely, several households, cannot be ascertained. Equally, whether these households were of similar status cannot be deduced due to the somewhat mixed nature of the disposal distribution. The degree to which early/mid 13th-century pottery continued in use after 1250 equally cannot be deduced with certainty, due to the potential high residuality in most of the contexts. However, the largely unabraded condition of some of the earlier sherds certainly suggests longevity in at least some instances.

Most of the High Medieval assemblage consists of kitchen wares, most notably cooking pots, but with significant quantities of bowls and occasional skillets, etc. Most of these vessels are competently made and well-fired, though decoration is never very common or elaborate. The fineware jugs show a much greater range of competence and decoration, varying with their source. Locally made examples, like the coarsewares, are competently made and fired but on the whole are very simply glazed/decorated. Only the better-made jugs, such as those in the West Sussex Ware tradition, as well as other known production sites, show more elaborate decoration and generous good quality glazing. The range of High Medieval forms, particularly the cooking pot rims, is shown in the catalogue.

Many of the vessel/rim forms are quite easy to match to other nearby High Medieval assemblages such as that from Hangleton village (Smith and Hurst 1963), but unfortunately the fabrics are less easily correlated. At Hangleton flint tempering, which would have been a resource close to hand, was used until at least the middle of the 13th century, though it was dying out by then. This is the same tradition as the late Saxo-Norman pots at Ropetackle, except that the potters for the latter had access to alluvial grits as a tempering agent. One of the main problems with many of these early excavations is that the assemblages really need to be reviewed in the light of more recent knowledge. For example, some of the flaring rims from Hangleton are similar to mid/late 14th- to 15th-century types from the current site (Smith and Hurst 1963, nos. 115–41). At Hangleton these were originally dated to the late 13th to early 14th centuries due to the lack of stratified/sealed groups, but the mistake was noted quite quickly (Hurst and Hurst 1964).

Table 9. Comparison of sources of non-West Sussex English pottery as represented by number of sherds and weight (grams) for the whole High Medieval assemblage.

Source	No. of sherds	Weight (grams)	% of English non West Sussex wares (by sherd count)
East Sussex			
M10 Winchelsea Black/Wealden	1	10g	0.5
M26 Rye ware	50	868g	25.1
Surrey			
M14 Surrey product	2	82g	1.0
M16 Limpsfield-type	42	364g	21.1
M25 Surrey product	19	140g	9.5
M27 & M28 Earlswood	8	102g	4.0
M29 Cheam/Surrey wares	46	269g	23.1
Dorset			
M30 Dorset-type	3	25g	1.5
East Coast			
M31 Scarborough	18	2340g	9.0
M32 Scarborough/Yorkshire	10	80g	5.0
Totals	**199**	**4280g**	

The main pottery sequence appears to stop, or at least dramatically decrease, during the second half of the 14th century, perhaps as a result of the Black Death. Despite this, the presence of some Transitional wares in contexts primarily filled with High Medieval types shows that activity must have continued at a lower level during the latter part of the 14th century and perhaps even until the early/mid 15th century. The problem of closely dating the transition makes precise dating difficult, particularly since West Sussex Ware continues into the 15th century and a number of the local hard-fired fabrics of High Medieval type may do so as well. The lack of Rhenish imports at Ropetackle is interesting, particularly considering the maritime links of the port, and certainly suggests very little or no activity throughout much of the 15th and early 16th centuries.

Sources of pottery in the High Medieval period

The vast majority of pottery from the site is of probable local or West Sussex origin. Although the kilns at Steyning may have been supplying Shoreham with medium sand-tempered wares (M12) during the 13th century, the source of the later 13th- to 14th-century harder-fired sandy wares is not currently known. They are very distinctive, with their harder firing, more competent manufacture, and rare to occasional flint/shell/chalk inclusions (Fabrics M1–M9, M15, M20 and M24) and do not appear often at Steyning (Gardiner 1997, Fabric CSW32) and are absent from Stretham (Gardiner undated) and Bramber Castle (Barton and Holden 1977, if the fabric descriptions can be relied upon). The latter two sites probably gained most of their coarsewares from kilns in Steyning. Although sandy fabrics with white angular flint inclusions are frequent on the West Sussex Coastal Plain during the 13th century, as indicated by the kilns at Orchard Street, Chichester (Down and Rule 1971) and Binsted (Barton 1979; Gardiner 1997), there is no reason why this tradition could not continue into the 14th century at Shoreham. Indeed, these higher-fired fabrics show a range of flint/shell/chalk inclusions from sparse to very rare which may reflect the chronological progression from the mid/late 13th to 14th/early 15th centuries. The small quantities of these wares at Steyning may be due to the gradual decline of the town as New Shoreham grew in importance in the later 13th century. The vast majority of excavated features in the former town appear to date to the 13th century or before. It is thus quite probable that Shoreham developed its own pottery production site/s at around this time, producing the higher-fired wares that dominate the Ropetackle assemblage. Some of these wares were still in use in the mid/late 14th century when the finer harder-fired 'Transitional' wares began to appear for the first time and so the industry must have survived for at least 100 years.

The end of these 'Shoreham' wares is not clearly understood, and it is possible that they continued alongside the 'Transitional' wares into the 15th century. The problem of distinguishing the late medieval from Transitional wares has been noted before in the Adur valley (Gardiner 1997, 161) as well as in Southampton (Brown 2002). Future excavations within and around the town will hopefully uncover evidence of later 13th- to 14th/early 15th-century pottery production, though no wasters were recovered from the Ropetackle site. The other common 'local' types are jugs of West Sussex Ware type. These well-made vessels are particularly common in the 14th century and, although some probably originate from the Binsted kilns, other sources are likely (Barton 1979). The Ropetackle assemblage has allowed a tentative chronology for the local fabrics to be suggested, spanning the Saxo-Norman to High Medieval periods (Table 8), though this will need rigorous testing to prove the current suggested ranges.

Of the 9666 sherds (133,411g) relating to this phase only 2.1% (3.2% by weight) appear to have an 'out of county' English source. This material is summarised in Table 9 for the whole site assemblage.

Although there is a chance that a few undiagnostic English wares from Surrey, Hampshire and East Sussex may have gone undetected in the assemblage, the general figures are considered to be a good indication of the source and quantity of much of this material. Considering the town was a port, with access to a river system, there is relatively little non-local English pottery present. When one considers that most of the M26 Rye-type sherds (50/868g) are from a single jug and most M31 Scarborough sherds (2/2056g) from a single aquamanile (both well [87], fill [108]), the proportions are

Table 10. Comparison of sources of foreign imports for the whole High Medieval assemblage.

Source	No. of sherds	Weight (grams)	% of foreign imports (by sherd count)
France			
M36 & M37 North French	5	34g	1.9
M38 Seine valley	56	488g	21.5
M33, M34 & M35 Developed Normandy	15	127g	5.7
M39 Rouen	13	67g	5.0
M40 Saintonge unglazed	55	1110g	21.1
M41 Saintonge gritty	35	1585g	13.4
M42 Saintonge green glaze	78	913g	30.0
M43 Saintonge horn	3	52g	1.1
Iberian			
M44 Micaceous ware	1	6g	0.4
Totals	**261**	**4382g**	

even smaller. It can only be assumed that the quality of the 'local' West Sussex Ware jugs was sufficient not to warrant importing Rye wares from the east and the few that did arrive in the port were from casual purchases while trading along the coast. This is almost certainly the source of the Scarborough/Yorkshire material, though its importation may have been associated more with the fishing industry than with actual trade. The south coast fishing fleets are known to have fished the east coast around Whitby and Scarborough during this time (Gardiner 1996) and a small number of Scarborough products are known from settlements/ports along the south coast where, presumably, the novel highly decorative vessels were brought back as mementos when the fishing fleets returned after the summer (Barber 2008b; Machling 1995; Orton 2004; Brown 2002). The presence of the aquamanile may therefore not indicate quite such a high-status household as one would normally assume it to reside in.

Trade from the west, at least as far as the ceramics are concerned, is limited, though the excavated stone from the site demonstrates that the ceramics are understating this eastward movement. The single Dorset-type coarseware bowl probably represents a stray vessel, used on a Dorset boat and discarded at Shoreham once broken. A sparse scatter of English regional wares from the west was also noted in Southampton (Brown 2002). However, it should be remembered that westward trade, strictly speaking, involves trade with other West Sussex towns/ports since the current site is really at the extreme east of the county. There are notable quantities of West Sussex wares in the assemblage, many of which may have originated from the Chichester or, more likely, the Binsted area (via the River Arun). This is particularly the case with the fineware jugs, many of which can be tentatively ascribed to this source. The more diagnostic well-fired sand with flint cooking pots from this kiln, so common on the Coastal Plain to the west (Barber 2006a), are absent from the current assemblage, the local wares presumably being of better quality and, due to their close source, cheaper.

Inland trade is indicated by the presence of notable quantities of wares from Surrey. These are dominated by the whitewares which would be more likely to be deliberately brought into the town due to their fine manufacture and colour. The Earlswood jugs are only present in small numbers, though the Limpsfield-type wares are well represented (it is possible that a closer source than Limpsfield supplied these). A notable quantity of similar Surrey wares has been noted in Crawley to the north (Barber 1997; 2008a), though Crawley is much closer to the source than Shoreham. Although overland trade cannot be ruled out, it is more likely that most of this material came down the River Adur, and possibly also the Arun and the Ouse, presumably in association with iron being exported out of the Weald.

The High Medieval assemblage from Ropetackle contains 2.7% foreign imports (3.3% by weight), virtually all of which are of French origin (summarised in Table 10).

Imports are relatively low for a port, particularly compared with other south coast sites like Southampton (Brown 2002) where, of a High Medieval assemblage of 17,281 sherds, 16% were imports. Other ports have been shown to vary considerably in percentage of imports: Trig Lane, London had 10–15% (Orton 1982), Hull had 20–30% (Watkins 1983), while Newcastle only had 1–2% (Brooks and Hodges 1983). In Sussex the only comparable assemblage to the Ropetackle one is that from the port town of Winchelsea (Orton 2004), those from Seaford, Pevensey, Hastings and Rye currently being too small to allow reliable comparison (Barber 2005a; Machling 1995; Dulley 1967; Lyne 1999; Barber 1993a).

The Winchelsea excavations, namely those at Blackfriars Barn, have uncovered large assemblages of imported French pottery (usually about 25% of the total High Medieval assemblages) (Orton 2004). These figures would suggest that Winchelsea was comparable with sites like London, Southampton and Hull. However, more recent excavations in the town (Barber 2004) have shown much lower levels of imports, suggesting that the Blackfriars Barn site (Orton 2004) is abnormally high in French (Saintonge) pottery. This is perhaps due to the function of the building, which is now thought to be of a public nature (Martin and Martin 2004), possibly a guildhall for the wine trade (D. Martin *pers. comm.*). It is possible that further assemblages from the town might have ratios of imports more comparable to those of Shoreham.

Of the 261 imported sherds in the Ropetackle assemblage by far the majority are from the Saintonge industry in south-west France (totalling 65.6% of all High Medieval imports by sherd count), though the presence of complete jugs from pit [32] (M40 vessel from fills [33], [49] and [678]), pit [505] (M41 jug, fill [521]) and pit [536] (M42 jug, fill [564]) add heavily to the weight percentage of these products. Nevertheless, this emphasis on trade contact with south-west France, presumably associated with wine, is typical of other south coast ports such as Southampton and Winchelsea (Brown

2002; Orton 2004). Excavations at Winchelsea recovered a large quantity of Saintonge products: in excess of 25% of the combined High Medieval assemblage (Orton 2004) but with certain context groups (e.g. pit [2]) having up to 46% Saintonge, based on EVES (Orton 2004, 131). This large proportion of Saintonge pottery in selected contexts has been noted in Southampton and Plymouth (Allan 1983, 193–196). Of the Southampton High Medieval imports 85% were from the Saintonge industry, though Seine Valley and Rouen were also represented. Other imports were present in only small numbers, but included Iberian and Low Countries products (Brown 2002, 92). The fact that the Winchelsea assemblage is certainly associated with a wine merchant/s suggests that other assemblages with similarly high proportions of Saintonge pottery may be explained in a similar way.

The last survey of imports into Sussex showed a wide sparse spread from a number of importing sources rather than any particular concentrations (Hurst 1980). This image is likely to change with more intense excavations in the Sussex coastal towns and a resulting wider appreciation of the recognition of imported material. The trend of the main sources of imports in Sussex appears to match that of Southampton, most material coming from Normandy during the 12th to mid 13th centuries, with a shift to south-west France (particularly Saintonge) during the High Medieval period (Brown 2002). In the late medieval period (in Southampton given as post-1350) there is an increase in Normandy products again (Brown 2002) and this is probably represented by the appearance of the very small quantities of Developed Normandy gritty wares (M33–35) at the current site.

Other imported material is present in much smaller quantities at Ropetackle, but includes material from a number of north French sources and a single Iberian sherd. All these sources are represented in the assemblage from Southampton. Winchelsea also has small quantities of imported High Medieval material other than Saintonge and, of these, only a limited range of sources were recognised, including Andenne and Aardenburg wares (Orton 2004).

The imported pottery is scattered throughout the site, though some pits contain more notable quantities, particularly in Area 4B. Pit [540] (fill [541]) contained six sherds (26g) of French pottery (Saintonge, North French and Normandy) as well as four (18g) from Surrey, the latter including a cross-join with a jug in pit [32] some 4m to the south-west. Pit [32] itself contained some 60 French sherds (mainly Saintonge, but also Seine Valley/North French and Rouen) including a Saintonge vessel with conjoins between fills [33], [49] and [678] of the same pit. Surrey and Scarborough wares are also represented (Table 6). Pit [585] (fill [586]) to the east contained 35 sherds (110g) of French pottery (mainly Saintonge, but some Seine Valley too), including sherds from a Saintonge horn (Cat. No. 101). Surrey products are also represented in this group (4/6g). In Area 4A the most notable pit for imports is pit [440] (fills [444], [447], [448], [450], [451] and [515]), which contained four sherds (38g) of French pottery (Normandy and Rouen) as well as Surrey and Scarborough products, the former including a cross-join from the same vessel between fills [448] and [515].

It should be noted that even at Bramber Castle, a site whose high status is not in question, the later 13th- to 14th-century pottery assemblage, totalling 4842 sherds, contained only 21 (0.4%) imported wares, all of 'French whitewares' (Barton and Holden 1977). Bramber's position, adjacent to the Adur and market town of Steyning, would certainly have given it access to imported vessels had they been required. Imports were totally absent in the 13th- to 14th-century assemblages at Old Erringham (Holden 1980) and Hangleton village (Smith and Hurst 1963; Hurst and Hurst 1964), confirming that, on the whole, imported vessels did not travel far from the port of entry. Large percentages of imports may therefore be associated more with trade than with status, though often, at least in the case of the merchant class, these go together. The large quantity of imported pottery in ports is well attested, whether on the south or east coasts (Brown 2002; Orton 2004; Allan 1983; Brooks and Hodges 1983; Watkins 1983). Further excavations in the wealthier core of medieval Shoreham, as opposed to the domestically marginal site of Ropetackle, might well uncover assemblages with higher proportions of imported material which will enable a re-evaluation of the port's social/trading status.

THE TRANSITIONAL ASSEMBLAGE

Introduction

Only 133 sherds of this phase were located, mostly from contexts containing ceramics spanning the late 13th to mid/late 14th centuries. Although some sherds may be intrusive, it is more likely that, where present, they represent the start of the high-fired wares in the mid/late 14th century. Although some mid 15th- to early 16th-century material is present, it is in negligible quantities. However, it should be noted that many of fabrics of the later High Medieval period (e.g. M18) probably continue into this period, and the change from the High Medieval to Transitional period is as difficult to be precise about as the change from the later Saxo-Norman to High Medieval periods discussed above, particularly if there are no imported wares in a context group. This difficulty is well-known from other sites such as Southampton (Brown 2002). However, some fabrics, mainly by the nature of their higher firing, together with certain well-known imports, belong firmly in this period.

Fabrics

NB. The Transitional imports (including Langewehe/Raeren stoneware and probably the Dutch redware and Beauvais whiteware) have been included in the post-medieval fabric sequence (Imp6, 5, 1 and 2 respectively) because they could relate to the very start of that phase.

T1 – Moderate fine sand and sparse medium sand. A hard-fired fabric usually oxidised dull orange. Only cooking pots with flaring beaded rims noted. (WS: Q(f)/M16). Also found at Crawley (Barber 2008a). Mid C14th–15th.
Catalogue No. 82

T2 – Sparse fine sand. A very hard-fired fabric, usually oxidised dull orange. Only cooking pots with flaring beaded rims noted. (WS: Q(f)/M17) Mid C14th–15th.
Catalogue Nos. 83 and 103–105

T3 – Sparse fine sand. As T2 but harder-fired so as to be virtually a proto-stoneware and with occasional quartz inclusions to 0.5mm. Only cooking pots noted, some with very thin 'sheen' glaze patches. (WS: Q(f)/M33) Mid C14th–5th.
Catalogue Nos. 84–85 and 106–107

T4 – Sparse fine sand (Painted Ware). A well/hard-fired fabric, usually oxidised dull orange. (Marlipins fabric FSE/B&W).

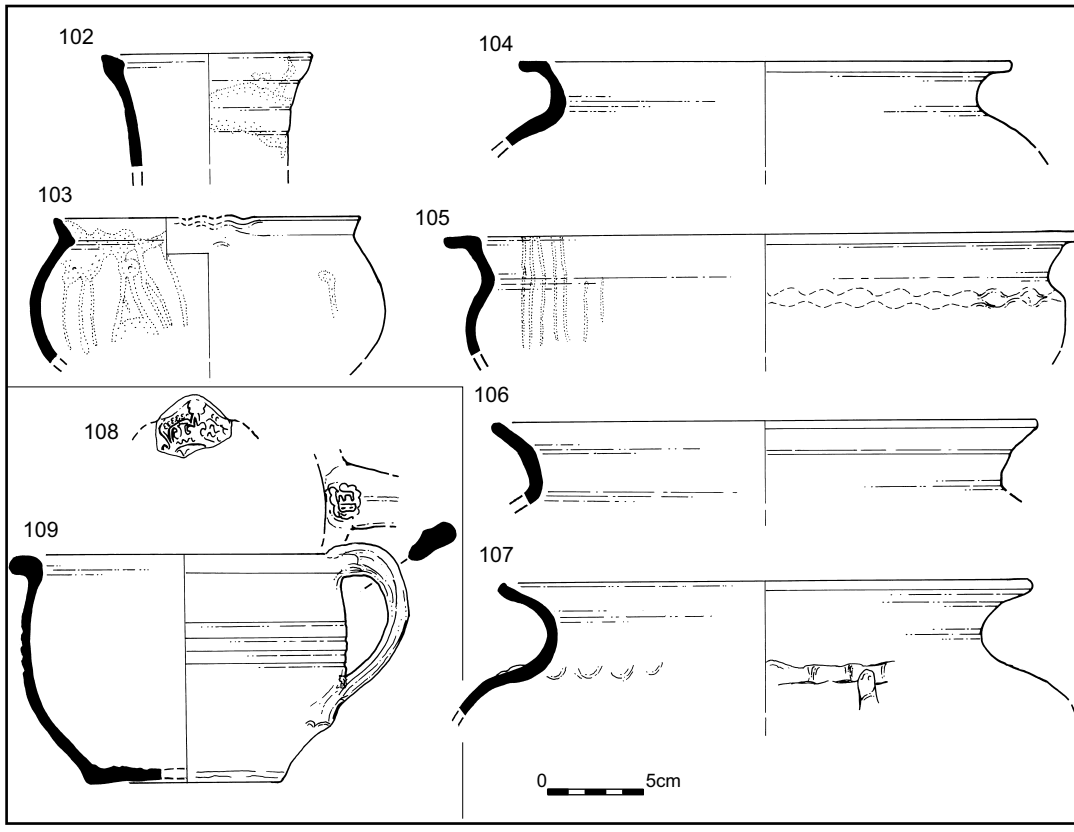

Fig. 27. Transitional pottery: selected forms nos. 102–107. Early post-medieval pottery: selected forms 108–109.

Only cooking pots with white painted slip line decoration noted (Barton 1963). Most sherds were found residual in later contexts (e.g. [424]) (WS: Q(f)/M20a) C15th–mid 16th.

T5 – Sparse very fine sand. A very hard-fired fabric, usually oxidised dull orange. Cooking pots predominate, though at least one green glazed jug decorated with rouletting is also present. A finer fabric than T3. (WS: Q(f)/M34) Later C14th–15th.

T6 – Tudor Green. An untempered whiteware with patchy rich/thick green glaze (Holling 1977). Only found at Marlipins (Fabric PMW/GG2). (PM: WWG2) C15th–mid 16th.

Only a scatter, of usually residual, sherds is present for this phase. The most diagnostic pieces are catalogued below.

Catalogue (Fig. 27)

102. Jug with incised horizontal lines. Hard-fired. Grey throughout. Dull speckled green external glaze. White slip on interior of neck. Mid C14th–mid 15th. M21. Pit [99], fill [100].
103. Spouted pipkin/bowl. Grey core with dull red/brown surfaces. Patches of clear internal/external glaze. Externally sooted. T2. Pit [99], fill [100].
104. CP with thin everted flat-topped rim. Grey core with buff surfaces. Later C14th. T2. Pit [353], fill [354].
105. CP/bowl with thin everted rim. Grey core with buff surfaces. Finger-tip decoration on shoulder and drips of clear glaze on interior. Externally sooted. Pit [353], fill [354].
106. CP with flaring rim. Grey core with orange/brown surfaces. Later C14th–15th. T3. Pit [93], fill [14].
107. CP with flaring rim and applied thumbed strips. Grey core, brick red margins and grey/brown surfaces. T3. Pit [93], fill [94].

Discussion

Most of the assemblage relates to fine hard-fired earthenwares dating to the mid/late 14th to mid 15th centuries. Cooking pots/jars, usually with no or little glaze, predominate, though some glazed jugs and unglazed/partly glazed pitchers are also present (11.3% of the assemblage by sherd count). Only very small groups of this material are present, usually in contexts containing mainly High Medieval material (e.g. context [33] with 49 Transitional sherds and context [80] with 12). The majority of the wares are of local origin, including the painted ware (T4). No Tudor Green was found at Ropetackle, though it was present at the Marlipins site (Barber 2005c). The few imports which may fall within this period consist of a little

German stoneware and possibly some Dutch redware and Beauvais whiteware, though all are likely to be of the late 15th to mid 16th century and thus later than the bulk of what has been grouped as the Transitional assemblage. Even if these imports are included in this assemblage, they total only seven sherds, making up 5% of the whole, though they show diversity in source. These figures stand in stark contrast with the port of Winchelsea, where Rhenish stoneware makes up some 20% of the total assemblage, Dutch redwares making up a further 20% (Orton 2004). This would strongly indicate that, while Winchelsea's main trade emphasis was shifting to the Low Countries and the Rhineland, Shoreham, or at least this part of Shoreham, had virtually ceased large-scale trading. However, the quantities involved in the current assemblage are too small to be considered reliable, though future assemblages from the town will need to be studied carefully for Transitional imports. These sherds have, however, been included in the early post-medieval assemblage because the majority of them probably relate to the 16th century.

THE POST-MEDIEVAL ASSEMBLAGE

Introduction

The post-medieval period has been divided into early and late to facilitate discussion of certain groups. However, the fabric series has been maintained as one, because of the gradual development of the local redwares and the difficulty in placing them in artificially devised date brackets. Many of these fabrics overlap the mid 18th century; although the advent of industrialised creamware may be a convenient place to start labelling groups late post-medieval, the longevity and continuing development of the local redwares can make divisions virtually impossible. The post-medieval fabric series is reproduced in the ADS Supplement.

The early post-medieval assemblage

Introduction

This period produced a small assemblage of pottery (Table 1). Although the sherds are generally in good condition, context groups are very small; all but two are below 30 sherds. Although material from the 16th and 17th century is present (e.g. context [431], dated mid 16th century and context [240] dated mid 16th to 17th century), most of this assemblage is of the early to mid 18th century (context [124] containing 135 sherds) and thus a number of them from the middle of the century straddle the divide between the early and late post-medieval periods as defined here. They have been included in the late post-medieval assemblages.

The earliest definite group from this phase is from well [428]. The upper fill [431], along with four residual High Medieval sherds, includes pottery solely of the mid 16th century. This is dominated by 16 sherds in local glazed redware PM1 (×10) (jars/costrels) and PM4 (×6) (jars and bowls) but includes three sherds from a Dutch redware cauldron (Imp1) and one from a Cologne/Frechen bottle (Imp7). The lower fills contain only a few sherds of PM1 and four (fills [432] and [433]).

As with the previous phase, there is overlap with the Transitional period during the 16th century as the true post-medieval wares emerge. The problem of division is by far the most difficult with the local red earthenwares, both unglazed and glazed. Certain indicators are helpful, such as the appearance of Cologne/Frechen stonewares and other imported material, but these are often absent. Later on, in the 17th century, the presence of clay pipes usually helps distinguish local earthenwares from the early 17th century from those of the mid/late 16th century.

Marlipins fabrics fill an important gap in the Ropetackle

Table 11. Comparison of sources of non-local pottery as represented by number of sherds and weight (grams) for the whole early post-medieval assemblage.

Source	No. of sherds	Weight (grams)	% of English non West Sussex wares (by sherd count)
Hampshire			
PM35 and PM36 Verwood wares	6	102g	5.5
Devon			
PM19 Redware	5	174g	4.6
Surrey			
PM31, PM33, PM34 Border ware	19	246g	17.4
France			
Imp2 Beauvais whiteware	1	12g	0.9
Holland			
Imp1 Dutch redware	3	68g	2.6
Germany			
Imp6 Langewehe	1	10g	0.9
Imp5 Raeren	2	8g	1.8
Imp7 Cologne/Frechen	26	428g	23.9
Imp10, 11 and 12 late Frechen	16	586g	14.7
Imp9 Westerwald	12	186g	11.0
Imp3 Whiteware	1	25g	0.9
Far East			
Imp18 and 19 Chinese porcelain	16	194g	14.7
Imp17 Martabani-type	1	10g	0.9
Totals	**109**	**2049g**	

ceramics for this period, where a notable proportion of the assemblage was from the mid 16th to 17th centuries (Barber 2005c).

Catalogue (Fig. 27)

108. Handle from a bowl/porringer. Decorated with Fleur de Lis and crown in relief under a bright green glaze. Beauvais whiteware. Imp2. C16th but residual in pit [123], fill [124].
109. Redware chamber pot with internal clear (red/brown) glaze. Stamped at top of handle 'EB'. Similar stamps are known on Graffham products, which may be the source of this vessel (Aldsworth and Down 1990, Fig. 15). PM10. Later C17th–early/mid 18th. Pit [119], fill [120].

Discussion

The early post-medieval assemblage from the site is small but still demonstrates the wide trade contacts enjoyed by the town at this time. Of the total assemblage from this phase, 4.4% by sherd count come from English 'out of county' sources. They are not dissimilar to those noted for the High Medieval period, in that some west coast trade is indicated, the majority still coming from Surrey (Table 11) and still potentially associated with the Wealden iron industry.

The foreign imports account for 11.5% (sherd count) of the early post-medieval assemblage, a significant increase on the High Medieval total, though a larger assemblage might alter that. Admittedly, the potential seven Transitional imported sherds have been included in this total. French imports are insignificant by this time, German stoneware, with a little whiteware, being the dominant import, as is common on other sites of this period (Whittingham 2001). Dutch imports are very scarce at Shoreham compared with ports further east such as Winchelsea (Orton 2004) and the castle at Camber (Whittingham 2001), though they have been found in the town before (Barber 2005c). Although no Spanish material is present in the current early post-medieval assemblage, olive jars and lustreware were recovered from the Marlipins excavations to the east (Barber 2005c). The ceramics from the Far East can be seen as one of the results of the rise of the East India Company.

The late post-medieval assemblage (mid/late 18th–19th centuries)

Introduction

There are some wares which straddle the divide between this and the end of the preceding phase. They include London stonewares and tin-glazed wares as well as imported material such as Chinese porcelain. However, the advent of English industrialised wares such as creamware has been used as the indicator of the later period, despite the contemporaneous presence of late tin-glazed earthenwares in many of the assemblages.

The earliest context groups have their roots in the preceding period, context [570] and [124] containing significant proportions of pottery from the first half to middle of the 18th century (see below). Context [739] represents the later 18th century, but the majority of the late post-medieval assemblage relates to the early/mid 19th century, particularly the 1840–50s. Eight contexts dating to the mid 19th century contain more than 100 sherds apiece: [84] (183/8798g), [146] (206/5408g), [239] (671/20,529g), [386] (274/8535g), [598] (492/15,260g), [644] (729/24,023g), [647] (677/28,196g) and [649] (388/14,138g). The latest context is probably [583], which produced 244 sherds of the later 19th century. The majority of these groups are from cesspits or backfilled wells and appear to have been dumped in when the feature was no longer required.

Because of the constraints of time and space, only four of these 19th-century groups have been published here (Group 9 – context [598], 10 – [644], 11 – [647] and 12 – [649]). These were selected for comparative purposes because they were from infilled cesspits apparently in the backyards of four neighbouring terraced properties. The assemblages are listed in full, giving details of all forms, diameters, maker's marks and patterns, etc. for the archive on pro forma. Because the material might have been discarded due to long-term storage problems, the material was recorded fully using digital photography, each context assemblage being divided into numbered groups for photographing, and these group numbers corresponding to the descriptions on the archive forms. However, the remaining four groups were also considered to be of great interest, and so they have been recorded on pro forma and with digital photography in the same way. Although not included in full here, observations are drawn from them where considered relevant.

Context groups

Group 7: Stone-lined pit [565] (fill [570])

This group contains a wide range of domestic pottery. Coarse red earthenwares, mainly for storage/kitchen usage, are present as well as Staffordshire slipwares, refined red earthenwares (PM23, 25 and 41) and at least one Verwood jar. Stoneware consists mainly of London tankards. A large proportion of this assemblage consists of tablewares. There is still a significant proportion of tin-glazed earthenwares, most of which are of late type, with a blue-tinged glaze. White salt-glazed stoneware dominates the tableware assemblage. The dinner plates in this fabric have different patterned edges (including dot and diaper, seed and barley, bead and reel, and Queen's pattern) demonstrating that they are not a matching set. Although dinner plates are the most common form, saucers, mugs and milk jugs (cf. Jennings 1981, Nos. 1628–9) are present. The small quantity of creamware (including dinner plates with Queen's pattern rim and a teabowl) along with some early pearlware teabowls pushes the deposition date of this context later still. The most diagnostic piece of clay pipe is from a bowl dated to the 1720s, old in his context as is a lot of the tableware. A mid/later 18th-century deposition date, somewhere between 1760 and 1780, is probable.

Catalogue (Figs 28–30)

Pit [565], fill [570]

110. Redware dish with thick internal glaze. PM11.
111. Redware bowl with thin/thick internal glaze. PM12.
112. Redware jar with internal glaze. PM12.
113. Redware dish with spiral of white trailed slip on base and in lines around vessel interior below thick internal glaze. PM26. Date 1756 scratched into exterior surface.
114. Jar/pipkin with dull yellow internal glaze. PM35.
115. Staffordshire slipware plate. Internal white slip, patterned in places (including initials in centre) with red slipped pellets and triangles (glazed brown) under clear glaze (giving yellow background). PM39b.

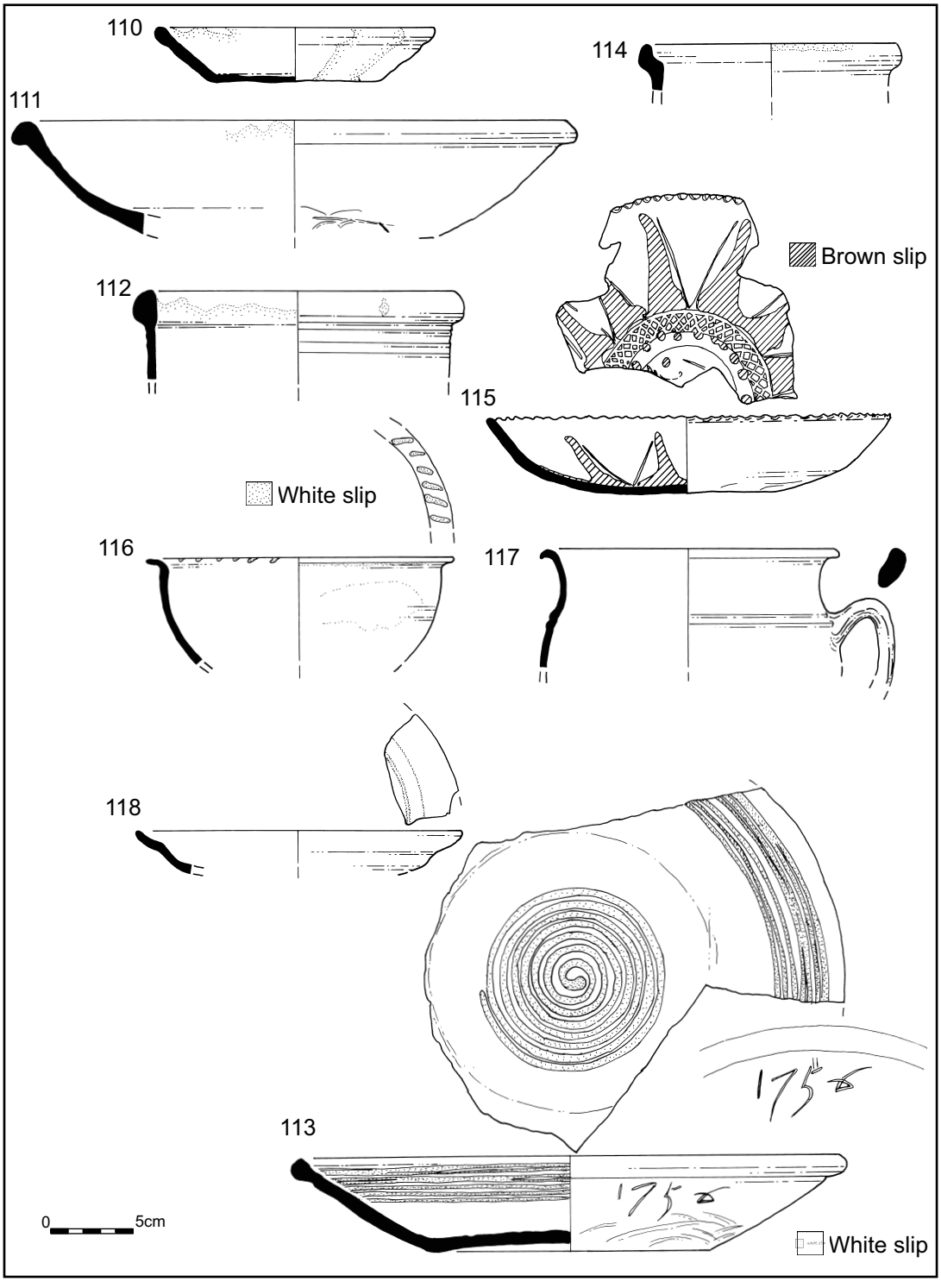

Fig. 28. Post-medieval: group 7 nos. 110–118.

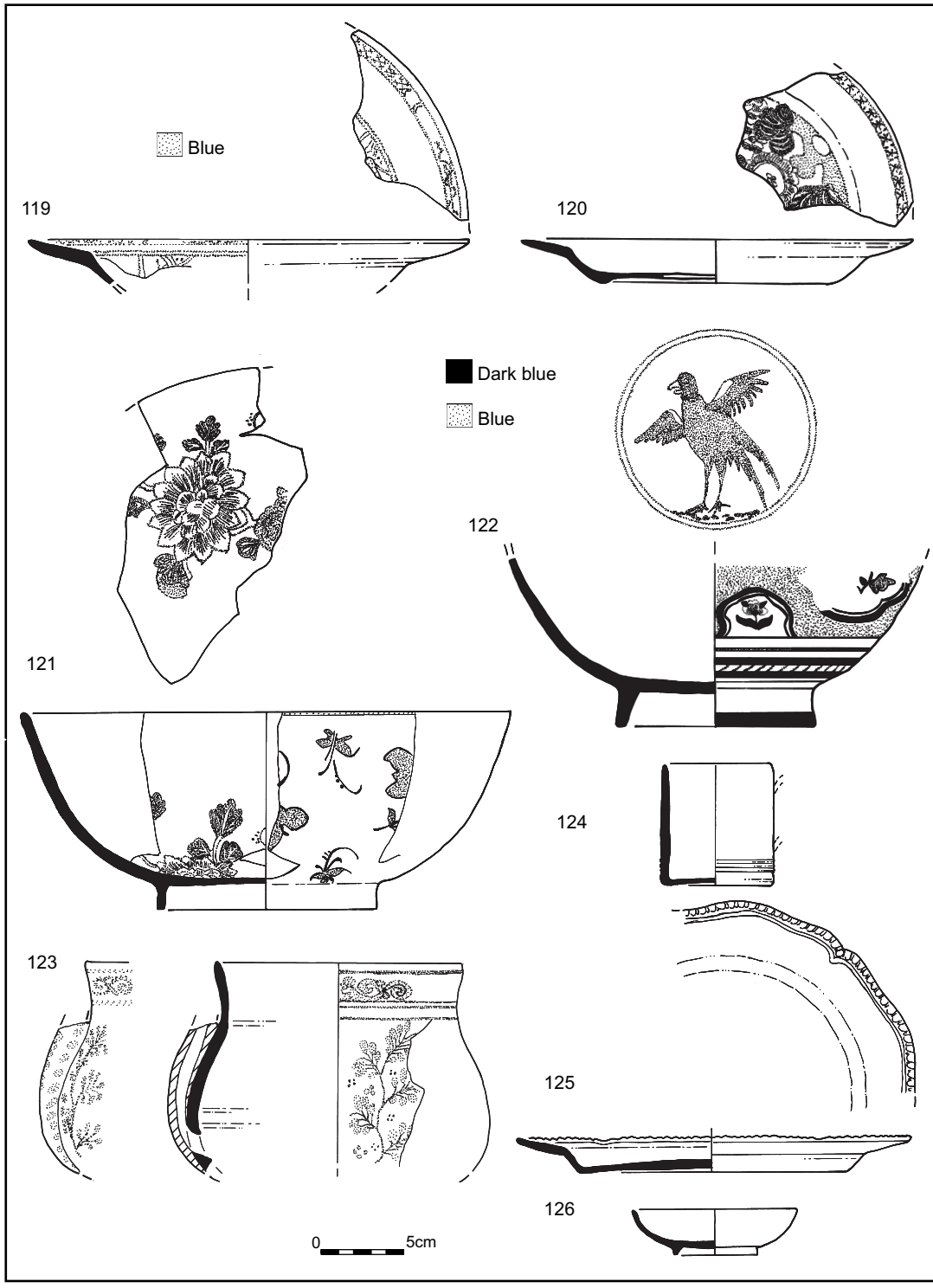

Fig. 29. Post-medieval: group 7 nos. 119–126.

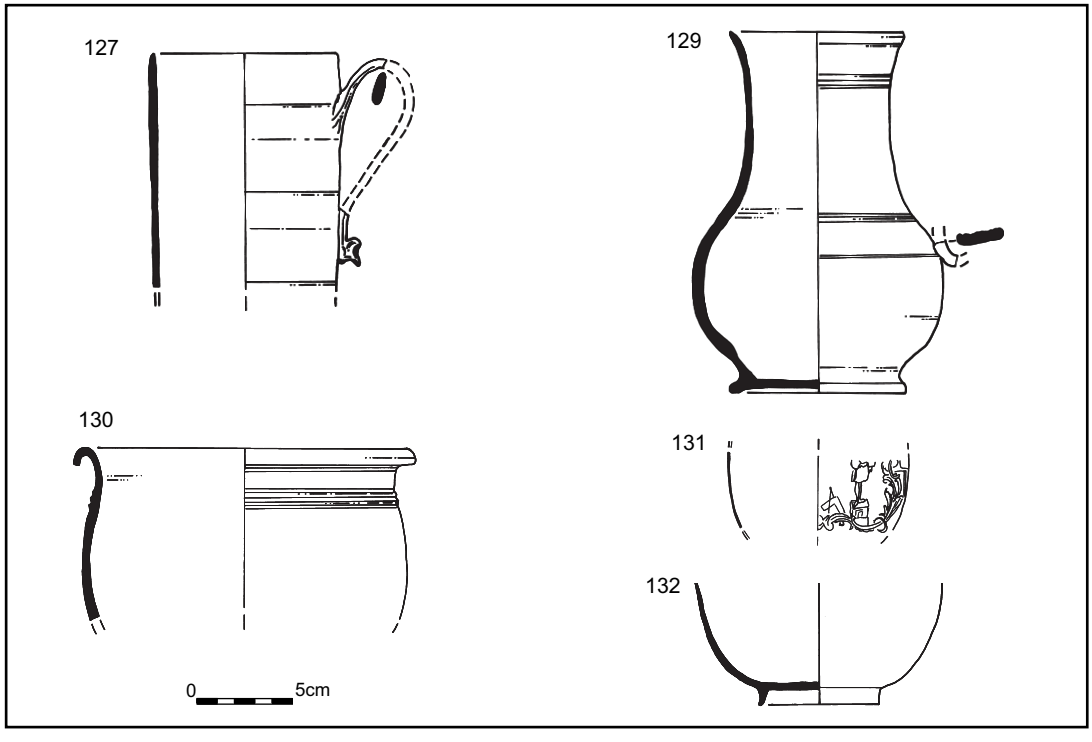

Fig. 30. Post-medieval: group 7 nos. 127–132.

Table 12. Pottery from pit [565], fill [570] (average sherd weight 27g).

Fabric group	No. of sherds	Weight (grams)	% (no. sherds)	Minimum no. of vessels
Local glazed redware (PM1) (resid)	1	24g	0.3	–
Local unglazed redware (PM18)	3	268g	0.8	×1 large jar
Local glazed redwares (PM10, 11, 12 and 14)	61	1382g	16.7	×1 large jar; ×4 jars; ×3 bowls
Local slipware (PM26)	9	1456g	2.5	×1 large dish
Verwood-type (PM35)	2	76g	0.5	×1 jar
Staffordshire red-slipped whiteware (PM40)	26	596g	7.1	×1 bowl; ×1 jar
Midlands slipware (PM27)	3	256g	0.8	×1 shallow bowl
Midlands-type slipware (PM28)	1	82g	0.3	×1 bowl
Staffordshire slipware (PM39b)	21	350g	5.7	×1 dish
Staffordshire black-glazed redware (PM23)	1	8g	0.3	×1 small bowl
Rockingham (PM25)	2	14g	0.5	?
Agate ware (PM41)	3	12g	0.8	?
Tin-glazed earthenware (PM47a/b and PM48)	40	1860g	11.5	×5 plates; ×6 bowls; ×1 vase
London stoneware (PM49)	10	490g	2.7	×2 tankards
Nottingham stoneware (PM54a)	1	8g	0.8	×1 ?platter
White salt-glazed stoneware (PM51a)	144	2502g	39.3	×5 dinner plates; ×5 tea bowls; ×3 saucers; ×2 mugs; ×1 chamber pot; ×2 jugs
Creamware (PM58a and PM58b)	20	382g	5.5	×2 dinner plates; ×1 tea bowl?
Pearlware (PM59c, PM59d and PM59f)	10	58g	3.3	×2 tea bowl; ×1 ?
Chinese porcelain (Imp18)	8	58g	2.2	×2 tea bowls
Totals	**366**	**9882g**	**101.6**	**57**

116.Staffordshire bowl with internal red slip (glazed black) and white trailed slip on rim (glazed yellow). PM40.
117.Staffordshire handled jar. All-over red slip (glazed black). PM40.
118.Tin-glazed plate with blue line decoration. PM47a.
119.Tin-glazed plate with blue line decoration. PM47a.
120.Tin-glazed plate with blue floral decoration. PM47b. An early 18th-century London product (Jennings 1981, No. 1491).
121.Tin-glazed bowl with all-over blue floral decoration. PM47b.
122.Tin-glazed bowl with blue panel/line decoration externally and a bird on the internal base. PM47b.
123.Tin-glazed spouted hollow-ware. Blue foliage decoration externally. PM47b.
124.Small London stoneware tankard/measure. PM 9.
125.White salt-glazed stoneware plate with bead and reel edge. PM51a.
126.White salt-glazed stoneware saucer. PM51a.
127.White salt-glazed stoneware banded mug. PM51a.
128.White salt-glazed stoneware tea-bowl/condiment with embossed fan/foliage design (not illustrated). PM51a.
129.White salt-glazed stoneware jug. PM51a.
130.White salt-glazed stoneware jar. PM51a.
131.Creamware bodysherd from ?jug with black transfer-print of Masonic design. PM58b.
132.Chinese porcelain tea bowl with figures and floral motifs in grey and red/orange. Imp19.

Group 8: Pit [123] (fill [124])
This group has small quantities of residual Saxo-Norman, High Medieval and early post-medieval material. The latter includes the decorated handle from a Beauvais porringer (Cat. No. 108). The 18th-century material contains a number of kitchen vessels (mainly jars) in the local glazed red earthenwares. A jar from Devon is also represented (PM19), hinting at trade contacts with the west bringing in occasional coarseware vessels, though probably 'unintentionally'. Other regional vessels include Staffordshire slipwares, London stonewares and tin-glazed wares, though the latter are in relatively small numbers. Tableware is dominated by the Staffordshire salt-glazed white stonewares and includes dinner and tea wares. The only imported material consists of a few brown-washed salt-glazed stoneware bottles, probably from the late Frechen industry. Interestingly, many of the clay pipes from the group are of the 1720s, though there are some of a 1750–60 range. This, together with the total absence of creamware vessels, suggests a deposition date of 1740–60. The presence of cross-joins between [124] and [125] suggests rapid infilling of this pit.

Catalogue (Fig. 31)
133.Redware jar with thick, slightly black speckled internal glaze. PM13.
134.Redware jar/bowl with internal thin glaze. PM6.
135.Redware jar with thick internal glaze. PM12.
136.Redware lid-seated jar with thick dull/dark green/black internal glaze. PM19 (North Devon source).
137.Redware dish with internal white slip and brown 'marbling' under glaze. PM27.
138.German stoneware bottle. Imp12.

Group 9: Brick-lined pit [738] (fill 739)
This group is the earliest context containing flower pots (PM18), though these are usually present in small numbers in the later groups. Local glazed redwares are not well represented, though this may be a result of the source of the refuse. English stonewares are quite common and there is even a sherd of late Frechen (Imp11). Although there are small numbers of 'coarsewares', the group contains a large proportion of tablewares. There is a small quantity of white salt-glazed stoneware, but the finewares are dominated by plain creamware, particularly dinner and tea wares. Early pearlware is also present in significant quantities, normally dinner plates with blue shell-edge decoration, but a variety of tea wares with Chinese-style decoration in blue are also present. The latest items in the group consist of a few sherds of plain refined white earthenware, transfer-printed wares and

Table 13. Pottery from pit [123], fill [124] (average sherd size 35.4g).

Fabric group	No. of sherds	Weight (grams)	% (no. sherds)	Minimum no. of vessels
Medieval (resid)	3	58g	2.2	–
Border ware (green glazed: PM33) (resid)	1	8g	0.7	×1 bowl
Beauvais whiteware (Imp2) (resid)	1	12g	0.7	×1 porringer
Local glazed redwares (PM6, 11, 12 and 13)	34	2092g	24.6	×1 large jar; ×10 jars
Devon redware (PM19)	3	134g	2.2	×1 jar
Midlands slipware (PM27)	31	972g	22.5	×1 bowl
Staffordshire combed slipware (PM39a)	1	16g	0.7	×1 bowl
Tin-glazed earthenware (PM46 and 47a)	7	72g	5.1	×2 plates
London stoneware (PM49)	6	148g	4.3	×2 tankards; ×1 tavern
White salt-glazed stoneware (PM51a)	35	806g	25.4	×3 dinner plates; ×2 tea bowls; ×1 saucer; ×1 teapot; ×1 vase; ×1 miniature lid
Stoneware (German)				
Cologne/Frechen (Imp7)	1	2g	0.7	×1 bottle
Late Frechen (Imp0 and 11)	2	28g	1.4	×2 closed form
Late German (Imp12)	13	536g	9.4	×1 bottle
Totals	**138**	**4884g**	**99.9**	**34**

Table 14. Pottery from pit [738], fill 739 (average sherd size 21.6g).

Fabric group	No. of sherds	Weight (grams)	% (no. sherds)	Minimum no. of vessels
Medieval (resid)	2	24g	1.2	–
Border ware (green glazed: PM33) (resid)	1	12g	0.6	?
Local unglazed redware (PM18)	5	81g	3.1	×2 flower pots
Local glazed redwares (PM11)	7	611g	4.3	×1 large jar; ×2 bowls
Midlands slipware (PM27)	1	4g	0.6	×1 bowl
Staffordshire black-glazed redware (PM23)	1	4g	0.6	×1 jar
London stoneware (PM49)	1	11g	0.6	×1 mug
Nottingham stoneware (PM54a)	1	21g	0.6	×1 bottle
Late English stoneware (PM55c)	5	278g	3.1	×2 ginger beer
Scratch Blue salt-glazed white stoneware (PM50)	2	10g	1.2	×1 hollow ware
White salt-glazed stoneware (PM51a)	4	62g	2.5	×1 dinner plate
Creamware (PM58a)	91	1456g	55.8	×5 dinner plates; ×1 side plate; ×2 tankards; ×1 bowl
Pearlware (PM59a, 59b and 59d)	28	354g	17.2	×5 dinner plates; ×3 side plates; ×1 chamber pot; ×1 jug; ×4 tea bowls; ×2 saucers
Refined white earthenware (PM61)	4	168g	2.5	×2 jars; ×1 mug
Transfer-printed wares (PM67a and 67d)	2	32g	1.2	×2 saucers
Yellow ware (PM68a)	4	216g	2.5	×1 bowl; ×1 jug
Water closet	2	150g	1.2	×1 water closet
Chinese porcelain (Imp18)	1	8g	0.6	×1 plate
Stoneware(German) Late Frechen (Imp11)	1	14g	0.6	×1 hollow ware
Totals	**163**	**3516g**	**100**	**48**

some of the late English stoneware with Bristol glaze (PM55c), and it is possible that these are intrusive pieces from the mid 19th century. The clay pipes from this group fall within a 1775–1800 date range and a deposition date towards the end of this range is considered likely.

Catalogue (Fig. 32)
Group 9: Context [739]
139. Redware bowl with thick even internal glaze. PM11.
140. White salt-glazed stoneware plate with moulded patterned rim. PM51a.
141. Creamware dinner plate. PM58a.
142. Creamware dinner plate. PM58a.
143. Creamware side plate. PM58a.
144. Creamware bowl. PM58a.
145. Creamware tankard. PM58a.
146. Pearlware dinner plate with blue shell-edge decoration. PM59a.
147. Yellow ware bowl. PM68a.

The sources of 18th-century pottery
The 18th-century groups from the site demonstrate the dramatic increase in the trade in regional English wares due to the rise of industrialisation in the pottery industries, combined with easier transport. Non-local wares are now primarily from the London and the Staffordshire industries for tin-glazed wares/stonewares and refined stoneware/earthenware and slipwares respectively. Local wares are still represented, but are now limited to the coarse earthenwares, most other material coming from elsewhere. This pattern continues into the 19th century with little change.

Foreign imports are much fewer now because most non-local English pottery is of good quality and covers the needs of a household quite adequately. The few imported wares consist of a little Westerwald and late Frechen stoneware from Germany, which peters out just after the mid 18th century, and a small but constant presence of Chinese porcelain. Most of this material has been grouped with the early post-medieval assemblage (Table 11) because the majority probably relates to the first half of the 18th century.

Dating of Groups 10–13
These four groups are very similar to many of the other groups of this period excavated at the site. Many of them contain pottery and clay pipes spanning the 1820s to 1840s, though most contain some material indicative of a deposition date in the later 1850s. This demonstrates the presence, in quite considerable quantities, of older vessels and, surprisingly, clay pipes, in continual use. Maker's marks on clay pipes, embossed glass mineral water bottles and, more crucially in the current instance, tradesmen's stamps on the stoneware ginger beer bottles have proved the most reliable dating tool for the current assemblages. Although a number of the industrialised ceramic vessels carry maker's marks, these have proved difficult to decipher and/or find a close date for despite a careful check on the standard reference work (Godden 1964). A few exceptions exist, including a red transfer-printed saucer from [598] marked 'Cornfoot Carr & Co' which is likely to be

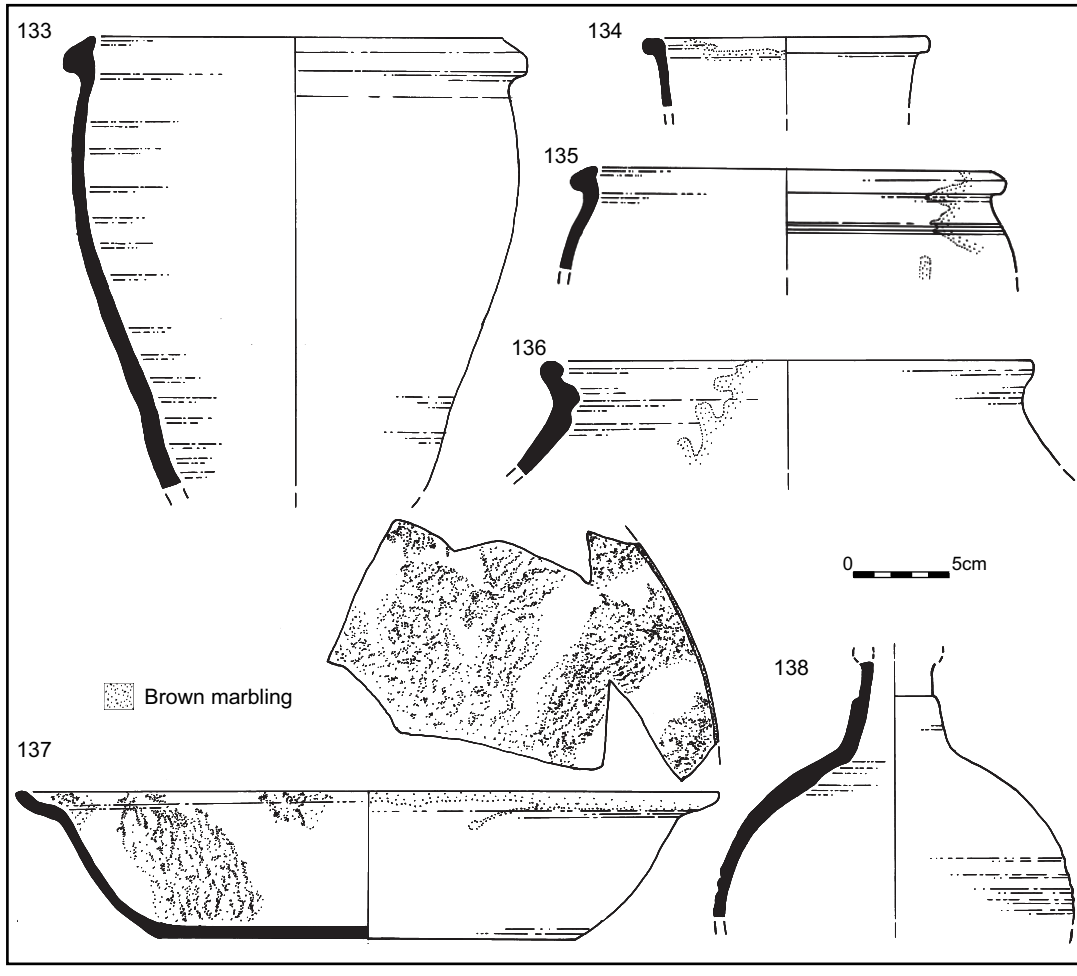

Fig. 31. Post-medieval pottery: group nos. 133–138.

of the North Shields firm Carr & Co. from around the 1850s (Godden 1964).

Context [598] (group 10: cesspit [596]) contained clay pipes mainly dating to between 1830 and 1850, though a few pipes date to between the 1850s and 1870s. The presence of 'G. JAMES' glass mineral water bottle fragments suggests a date in the later 1850s (Askey undated). Context [644] (group 11: cesspit 642) contained clay pipes spanning the 1830s to 1850s too, but did not produce closer dating evidence from tradesmen's names to tighten the date.

Context [647] (group 12: cesspit [648]) mainly contained clay pipes of the 1850s, though a few (?intrusive) later 19th-century pipes were also present. This context also contained a number of stoneware bottles with maker's stamps. These include a square sectioned spirit bottle with 'W?? P?? SHOREHAM', probably from an inn, three ginger beers of 'G. JAMES, BRIGHTON', one ginger beer of 'W. WHITE, BRIGHTON' (20 Edward Street) and one of 'J. SMITH 189 WESTERN ROAD, BRIGHTON', the latter two dating to between 1845 and 1852 (Askey undated). This group also has a larger proportion of transfer-printed 'china' than pearlware, suggesting either a possibly slightly later date than [598] and [644] or just the presence of older dinner wares in the former groups.

Context [649] (group 13: cesspit [650]) contained clay pipes spanning the 1820s–40s, but there is little in the ceramics to refine this date, though the majority of the finewares are pearlware, suggesting an earlier date than the 1850s. However, the composition of this group is also slightly different (see below) and it may contain a higher proportion of older vessels than might otherwise be expected.

Only one group (well [582], fill [583]) definitely belongs to the later part of the 19th century. The abrupt end of on-site refuse disposal around the middle of the 19th century may be a result of the onset of municipal refuse collection, when large 'out-of-town' dumps became more common

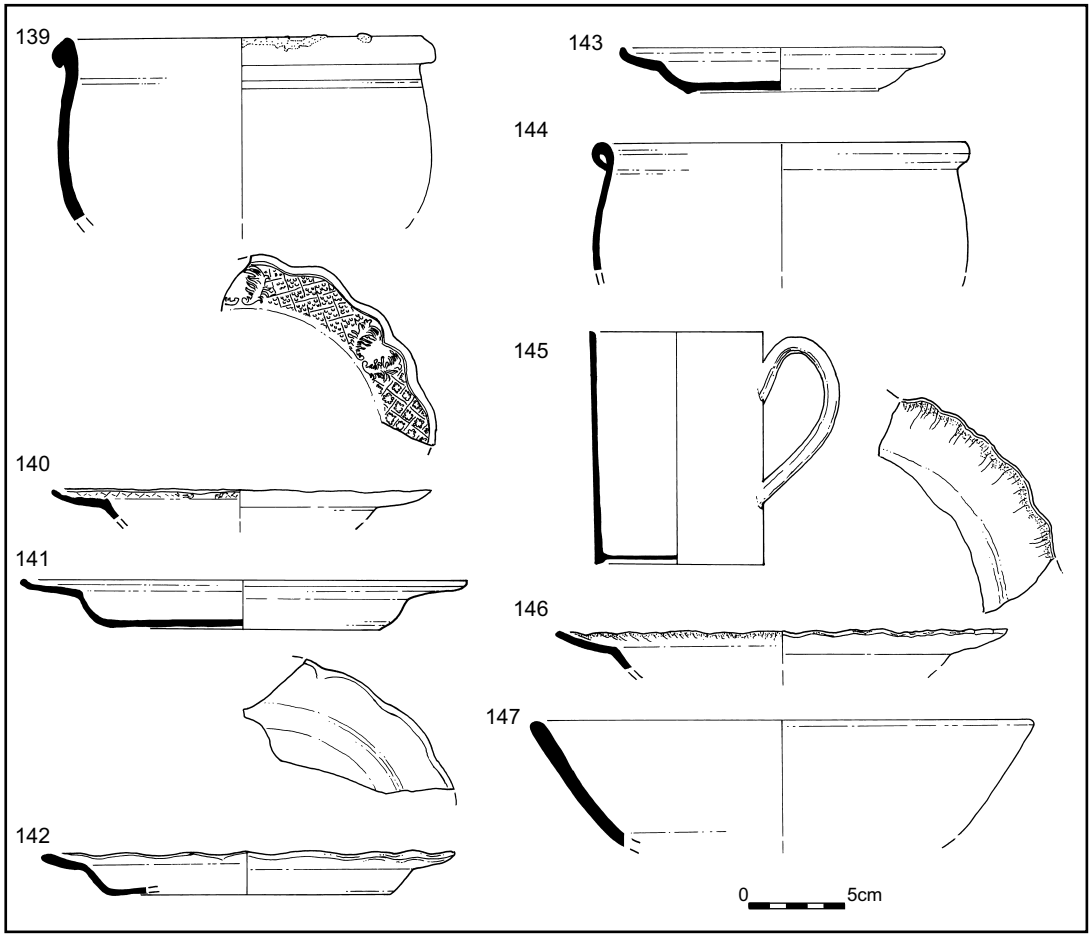

Fig. 32. Post-medieval pottery: group 9 nos. 139–147.

for urban areas. There may also have been a change in the sanitary arrangements, meaning that old cesspits became redundant and were simply infilled for the final time with domestic refuse, as has been noted in London at a similar period (Jeffries 2006).

Assemblage composition

The four assemblages (groups 10–13) are considered to represent domestic refuse from the low-status terraced houses which once stood to the south. The assemblages, although showing some variation (see below), are fairly similar in their components. Unglazed earthenware flower pots are present in all groups and, rather than indicating gardening refuse, are likely to be refuse from the kitchen, where herbs etc. may have been grown/transported in such vessels. Local glazed redwares are present in all, though are more common in contexts [644] and [647]. Large storage jars and mixing bowls/platters are by far the most common form, all suggesting kitchen refuse. Midland slipwares, usually with brown interior marbling, continue from the previous century, and the presence of a number with external sooting suggests they were occasionally used to warm things on the fire (a phenomenon also noted on some glazed redware vessels). A wide range of yellow ware is also present, presumably from kitchen waste again. The most common vessels are plain round, oval or rectangular oven dishes and a variety of small to large hemispherical and carinated bowls, usually decorated with white, blue and/or black lines and blue, green or black mocha decoration on white body panels. A few small jugs are also present and are decorated in similar ways to the bowls. Only the oven dishes appear to have maker's stamps/guarantees (of being fireproof) though most are illegible. One of the best, from context [146] (an unpublished group from the site with a similar date), is stamped 'SIMPSON HALL DAVENPORT' below a Victorian crown on an oval oven dish. A circular oven dish from context [644] has a circular stamp 'WARRANTED BY WILSON FIRE PROOF' and one from context [647] is stamped 'F.E. HALL'. Other kitchen items include a pie vent (PM61) from context [644] and a few cylindrical preserve jars (context [647]. PM61) though the latter are more common in the later 19th century.

Table 15. Groups 10–13. Pottery summary. Key: B – Bowl; BB – Blacking bottle; Bot – Bottle, CJ – Commemorative jug; CP – Chamber pot; CoP – Commemorative plate; DK – Door knob; DP – Dinner plate; Dh – Dish; E – Ewer; EC – Egg cup; FP – Flower pot; GBB – Ginger beer bottle; hw – hollow ware; I – Ink bottle; J – Jars; Ju – Jug; L – Lid; LB – Large bowl; LJ – Large jars; M – Mug; NM – Nursery mug; NP – Nursery plate; O – Ornament; OD – Oven dish; OP – ointment pot; P – Pipkin; PV – Pie vent; S – Saucer; SB – Small bowl; SD – Serving dish; SP – Side plate; T – Tureen; TB – Tea bowl; TC – Tea cup; Td – Tankard; TP – Teapot; TR – Toast rack; V – Vase; WB – Wash basin.

Context	**598**	**644**	**647**	**649**
Fabric group	**No./weight of sherds (minimum no. of vessels)**	**No./weight of sherds (minimum no. of vessels)**	**No./weight of sherds (minimum no. of vessels))**	**No./weight of sherds (minimum no. of vessels)**
Medieval (resid)				1/18g
Border ware (yellow glaze: PM31) (resid)	1/6g (?×1)	–	–	–
Staffordshire red-slipped whiteware (PM40) (resid)	1/4g (?×1)	–	–	–
White salt-glazed stoneware (PM51a) (resid)	–	–	–	1/8g (×1 hw)
Creamware (PM58a, 58b and 58d) (?resid)	6/50g (×1 DP; ×1 hw)	2/18g (×1 DP)	1/104g (×1 S)	24/906g (×4 SP; ×1 B; ×1 M)
Tin-glazed earthenware (PM46)	1/104g (×1 OP)	–	1/56g (×1 OP)	1/16g (×1 CP)
Local unglazed redware (PM17, 18)	6/288g (×2 FP)	16/1364g (×6 FP)	6/284g (×2 FP)	4/156g (×3 FP)
Local glazed redwares (PM4) (resid)	–	–	2/38g (×2 J)	4/28g (×1 B)
Local glazed redwares (PM6, 10, 11, 15, 16)	7/584g (×3 LJ)	55/2888g (×4 LJ; ×6 J; ×1 B; ×1 P; ×1 Dh)	55/5396g (×5 B; ×4 LJ; ×1 Ju; ×1 Dh)	9/602g (×1 J; ×1 B)
Staffordshire black-glazed coarseware (PM20)	–	2/64g (×1 hw)	–	–
Fine redware with matt black glaze (PM24)	–	–	–	1/12g (×1 J)
Staffordshire brown glazed whiteware (PM42)	–	14/322g (×2 TP)	8/314g (×2 TP)	–
Midlands slipware (PM27, 30)	2/40g (×2 B)	55/2986g (×5 B; ×1 Dh)	24/1676g (×3 B)	5/512g (×1 B)
Sunderland slipware (PM29)	–	1/26g (×1 B)	10/422g (×1 Dh)	–
Staffordshire black-glazed redware (PM23)	1/12g (?×1)	–	–	–
London stoneware (PM49)	–	14/1494g (×1 Bot; ×1 J)	–	–
Basaltes (PM53)	–	13/544g (×1 TP)	–	10/424g (×1 TP)
Nottingham stoneware (PM54a, 54b)	–	10/108g (×1 J)	4/62g (×1 J)	–
White feldspaic stoneware (PM56)	4/82g (×1 V)	–	–	15/262g (×1 M)
Late English stoneware (PM 55a, 55b, 55d, 55e, 55f, 62)	6/590g (×3 BB; ×1 GBB)	22/1732g (×1 B; ×1 BB; ×4 GBB; ×2 I; ×2 J; ×1 M)	39/3768g (×2 B; ×1 I; ×9 GBB; ×1 J; ×1 M; ×1 ?)	15/1098g (×2 BB; ×5 J)
Yellow ware (PM68a and 68b)	100/4742g (×2 OD; ×1 LB; ×1 CP; ×4 B; ×1 SB; ×1 Ju)	87/3098g (×4 OD; ×3 CP; ×4 B; ×1 SB; ×3 Ju)	77/3742g (×5 OD; ×2 CP; ×4 B; ×5 SB; ×2 Ju; ×1 M)	21/874g (×2 OD; ×3 Ju; ×1 M)
Pearlware (PM59a, 59b, 59d, 59e, 59f, 59g, 59h, 59i) (plain, hand-painted, transfer-printed, sponged, industrial slip)	175/4200g (×3 B; ×1 CJ; ×1 CoP; ×2 DP; ×1 E; ×1 J; ×3 Ju; ×3 hw; ×1 M; ×1 NM; ×1 NP; ×3 SP; ×1 T; ×3 TB; ×2 S)	123/2032g (×4 B; ×1 CJ; ×14 DP; ×2 hw; ×1 J; ×5 Ju; ×1 O; ×6 S; ×1 SD; ×4 SP; ×1 TB; ×4 TC)	101/2752g (×3 B; ×10 DP; ×1 M; ×1 NM; ×2 SP; ×1 J; ×3 Ju; ×1 S; ×4 TC; ×1 TP; ×1 TR; ×1 V; ×1 WB; ×2?)	167/6004g (×4 B; ×2 CP; ×4 DP; ×1 EC; ×2 J; ×2 Ju; ×1 M; ×1 SD; ×8 SP; ×1 T; ×7 TC; ×5 S)
English porcelain (PM57b and 57c)	11/130g (×2 S; ×2 TC)	30/454g (×1 EC; ×9 S; ×4 TC; ×1 TP; ×1 V)	26/474g (×2 B; ×1 EC; ×3 O; ×2 S; ×3 TC)	77/1456g (×2 B; ×5 S; ×1 SP; ×5 TB; ×8 TC)

Table 15. *(cont.)*

Context	**598**	**644**	**647**	**649**
Fabric group	**No./weight of sherds (minimum no. of vessels)**	**No./weight of sherds (minimum no. of vessels)**	**No./weight of sherds (minimum no. of vessels))**	**No./weight of sherds (minimum no. of vessels)**
Refined white earthenware (plain – PM61)	70/1846g (×1 SD; ×4 DP; ×2 B; ×2 Ju; ×3 J; ×1 M; ×2 CP)	126/3508g (×2 B; ×2 CP; ×3 DP; ×2 J; ×1 PV; ×2 S; ×2 SP; ×1 TC)	71/2702g (×4 B; ×1 CP; ×2 DP; ×1 DK; ×2 J; ×2 Ju)	18/1152g (×2 SD; ×2 SP; ×1 J; ×1?)
Refined white earthenware (hand-painted – PM63a, 63b)	13/228g (×1 B; ×1 TC; ×1 S)	2/2g (×2 SP)	21/440g (×2 Ju; x2 S; ×1 SP)	–
Refined white earthenware (industrial slip – PM60)	10/138g (×2 B)	6/38g (×2 Tk)	–	–
Refined white earthenware (sponged – PM67h)	8/160g (×2 B; ×1 DP)	36/426g (×2 B; ×1 CP; ×5 M; ×1 S; ×2 TC)	15/428g (×3 B; ×2 S; ×2 TC)	–
Refined white earthenware (transfer-printed – PM67a, 67b, 67c, 67d, 67e, 67f, 67g)	62/890g (×1 B; ×2 DP; ×2 S; ×1 SD; ×1 T; ×3 TC)	116/3016g (×9 B; ×1 CP; ×1 DP; ×52 Ju; ×1 M; ×2 NP; ×8 S; ×4 SD; ×15 SP; ×7 TC)	213/5500g (×11 B; ×21 DP; ×1 J; ×2 Ju; ×6 NP; ×13 S; ×4 SD; ×8 SP; ×10 TC; ×3 WB)	–
Redwares with lustre decoration (PM65, 66)	–	2/20g (×2 TP)	2/12g (×1 TP)	5/174g (×1 Ju)
Stoneware (German) Late German (Imp12) Seltzer bottles (Imp13)	– 3/1058g (×1 Bot)	1/44g (×1 hw) –	– –	– –
German slipware (Imp14)	–	1/14g (×1 L)	1/4g (×1 V)	–
Chinese porcelain (Imp18, 19)	7/108g (×1 TB)	–	2/22g (×1 DP)	12/426g (×1 B; ×1 V)
Totals	**492/15,260g (110 vessels)**	**729/24,023g (209 vessels)**	**677/28,196g (217 vessels)**	**388/14,138g (100 vessels)**

Sanitary and general household vessels are also well represented, and consist of a number of different wares. The most common are yellow ware (usually with blue or green mocha decoration on a white body panel), plain or transfer-printed pearlware and plain refined white earthenware chamber pots. Very few wash basins were noted. Most stoneware appears to consist of bottles/pots of various types, most commonly blacking (for stoves and shoes), ink and 'ginger beers' of differing forms. The latter have been particularly useful when carrying maker's details. A number of the groups have plain late tin-glazed earthenware drug jars/ointment pots which, judging by their size/condition, were in contemporaneous use with the other vessels in the 1840s/50s (e.g. context [647]). Similar drug jars have been found in deposits of this period in London and Lewes (Whittingham 2004, 129; Barber 2010).

The dinner wares consist of serving dishes, occasionally tureens but more commonly dinner plates, side plates and jugs (ovoid and cylindrical). Most of these forms are in pearlware and, usually to a lesser extent, transfer-printed refined white earthenware; the occasional creamware or white salt-glazed sherds may well be residual by this time. Although the most common pattern is undoubtedly 'willow-pattern', 'wild rose' is also well represented, as are plain plates with blue shell-edged decoration (PM59a). It is interesting to note that, even within a single group containing large quantities of willow-pattern dinner service, most plates are not matching and it is apparent that the service was built up from both transfer-printed pearlware and transfer-printed refined white earthenware from a number of different makers. This certainly suggests low-status households.

There is some variation between the groups, presumably representing the personal tastes of the occupants. Two of the unpublished groups mark this out quite sharply. The tableware in context [239] was totally dominated by mismatched willow-pattern plates, particularly side plates, whereas context [84] contained no willow-patterned material at all. Other plates are usually a mixture of blue or brown transfer-printed rural scenes in both pearlware and refined white earthenware. Very few matching pieces are present in these other patterns. Tankards and mugs are represented in small numbers by a variety of wares, most notably pearlware and stoneware. Notable pieces include a Derbyshire ale mug (context [644]) with greyhound handles dated to the 1840s (Lewis 1985, 62).

Tea wares are also a common occurrence in the groups. Teapots show the greatest variation in wares, intricately moulded glazed basaltes (PM53) being present in a number of groups (context [644] and [649]) as well as pearlware types. Although tea bowls are present, tea cups are far more common. They are represented by hand-painted and transfer-printed pearlware, refined white earthenware and, more rarely, low-quality English porcelain in a variety of colours and designs.

Table 16. Completeness of vessels represented in contexts [598], [644], [647] and [649]. Percentage per context shown in brackets.

Context	< 10%	10–50%	51–75%	76–100%	MNV
598	63 (57.3%)	20 (18.2%)	10 (9.1%)	17 (15.5%)	110
644	141 (67.5%)	46 (22.0%)	3 (1.4%)	19 (9.1%)	209
647	92 (42.4%)	92 (42.4%)	10 (4.6%)	23 (10.6%)	217
649	32 (32.0%)	37 (37.0%)	13 (13.0%)	18 (18.0%)	100

Although the remains of at least one set is present – context [649] has a matching porcelain set – most items appear to be one-offs or pairs, occasionally with matching saucers being present.

A number of the assemblages contain material relating to children, principally nursery plates and mugs in pearlware and china with transfer-printed religious, moral or educational scenes in a number of colours. Only context [649] clearly has no such vessels represented and context [647] contains the most. The assemblages also contain a few commemorative pieces. The most common of these are the pearlware Sunderland jugs (PM59f) with black transfer-printing and lustre decoration (contexts [598] and [644]). The example from context [644] is virtually complete and commemorates the bridge over the Wear (opened 9th August 1796). A pearlware side plate with a pale purple transfer-print (PM59e) of queen Adelaide (wife to William IV) is present in context [598]. A scattering of ornaments is also present. They include a few figurines (e.g. a Staffordshire shepherd/shepherdess from context [644]. PM59a), vases (e.g. decorative examples from contexts [644] and [647], Imp14) and probably many of the Chinese porcelain pieces.

Similarity of wares

These four pit groups show an element of 'copying' between neighbours in that each household often contains similar vessels. This is not surprising with very common dinner service patterns such as 'willow pattern', 'wild rose' and 'sponged', which found their way into most homes of this period. However, the sherds from lustre-decorated pearlware commemorative Sunderland jugs are notable in a number of contexts. Context [647] has parts of a black basaltes (PM53) teapot, while context [649] has a different vessel in the same ware. Context [649] and [598] each have a plain china serving dish and dinner plate from the same service, and contexts [239], [647] and [649] all contain a pearlware side plate/tea cup with a purple transfer-printed castle scene from the same set. Similar Chinese-style patterned bowls (PM67a), again from similar sets, were found in contexts [598] and [647]. Despite checking, none of these vessels from neighbouring pits actually cross-joined/were from the same vessel. Although an element of this probably represents 'copying the neighbours', it is also likely to be partly the result of buying ceramics from the same vendor, who presumably had a certain range of vessels on offer. Despite this, the groups show a wide range of 'other' transfer-printed patterns, suggesting that the mechanics of selection are complex.

Matching sets

As mentioned above, although there are great numbers of dinner and tea wares from the 19th-century groups, virtually all appear to be individual or paired purchases. The dinner and side plates in context groups frequently show dominance of a certain pattern, usually 'willow-pattern' or 'wild rose' and there appears to have been some effort to maintain sets of plates with corresponding patterns. However, these sets are composed of a mixture of transfer-printed pearlware and refined white earthenware from different makers and, correspondingly, the vessels are not exactly the same in the detail of their patterns. It is considered most likely that these 'sets' were built up by a number of purchases, rather than purchase of a large matching set with later replacements due to breakages, as exact matching patterns are usually represented by only two or three vessels at most. The tea wares show a similar trend, sets being rare and a variety of different decorated cups and saucers being present in one group. There is a notable incidence of matching cup and saucer (e.g. porcelain cup and saucer with pastoral scenes and another paired set with floral designs from context [644]. PM57c), or occasionally a pair of matching cups and saucers (e.g. two tea cups and two saucers with scenes of exploration from context [647]. PM67b). Only context [649], with its matching porcelain (PM57c) set of cups (x5), saucers (x2), bowls (x2) and side plate (x1), can be viewed as a potential single purchase of a full set, albeit a low-quality porcelain one. All in all, this trend would suggest poorer households, and perhaps rapidly changing supply.

Completeness of vessels

The ceramics from Groups 9–12 show great variation in the completeness of vessels.

All groups demonstrate that most vessels are less than 10% complete, though all contain some vessels which are 76% or more complete (Table 16). The processes of discard are obviously variable, as on most archaeological sites, but where the remainder of the missing vessel portions went on the current site, considering the confines of the probable backyards, can only be guessed at. Some may have been dumped with food refuse and subsequently spread on vegetable patches since removed by later redevelopment/overburden stripping.

Several conjoining sherds are present, the most notable being from pit [577] (fill [578] and brick-lined pit [596] (fill [598]) which lay to the south, presumably closer to the house but in the same back-yard. A pearlware child's plate (PM59e) depicting a boy fishing, together with a red transfer-printed refined white earthenware saucer (PM67d), had large conjoining sherds in each pit. The two pits have a similar spread of fabrics and forms, both with flowerpots, blacking pots, yellow ware chamber pots and pearlware plates, bowls, tankards and commemorative lustreware jugs. This is interesting because it suggests that the infilling of both pits occurred at the same time but the work was not undertaken in a systematic way.

Similarities and variations of assemblages

Context [649] has a much higher proportion of English porcelain than the other three assemblages. This context is also notable for the total absence of 'ginger beer' bottles and children's items. Although the absence of transfer-printed refined white earthenware is notable and suggests perhaps a slightly earlier date, it is also possible that the household contained older people with no children and with aspirations for older and, where affordable, better quality tea wares.

The assemblage from brick-lined pit [238] (fill [239]) shows some variation in the four main studied groups. At least six pearlware (with mocha decoration: PM59i) 'Imperial measure' jugs are present (2 pint x1, 1 pint x4 and ½ pint x1). Although Imperial measure jugs were also present in context [644] (one blue transfer-printed refined white earthenware PM67c and one with mocha decoration PM59i), the quantity of these vessels in context [239] together with the remains of three glazed redware spittoons/ash-trays (similar form to a stoneware open spittoon depicted in a 1873 Fulham catalogue: cf. Green 1999, 367) suggests that this assemblage derived, at least in part, from a public house. The presence of domestic dinner ware, including a very high proportion of willow-pattern refined white earthenware side plates, shows a domestic element to the assemblage too.

Very few 19th-century groups have to date been subject to detailed analysis. Most that have been tend to have come from London (Whittingham 2004) and even here it is a fairly new phenomenon, as their social value is starting to be realised. In Sussex these groups have frequently not been collected, even in the recent past, and this has greatly hindered our understanding of the local redware industries and hampered dating of industrial and other sites of the period. Although some 19th-century material has been published from Chichester (Morgan 1974) this concentrated mainly on the fine tea wares, and numerous groups from the town, fine and coarse wares alike, have not been studied. A small mid 19th-century group has been partially studied from Lewes, although its context was not as secure as the current assemblage (Barber 2010). Perhaps the most comparable assemblage was excavated from a probable cesspit in Winchelsea (Butler 2003) which contained an assemblage of 630 sherds, representing 120 vessels, dated 1850–70. This group is very similar to the Ropetackle ones, both in wares and vessel types, though is probably a decade or so later.

A selection of coarsewares from Groups 10 to 13 is given below in the catalogue. This selection offers the typical, and full, range of mainly 'coarseware' vessels in the four groups.

Catalogue

Group 10: Brick-lined pit [596], fill [598] (Figs 33–34)

148. Unglazed earthenware flower pot. PM17.
149. Unglazed earthenware flower pot. PM17.
150. Redware large bowl with thick internal glaze. PM15.
151. Rectangular yellow ware baking dish. Stamped 'Guaranteed Fireproof/ By/ ??ETCHER & Co/ ??SHIRE' below VR crown on exterior base. PM68a.
152. Yellow ware circular baking dish. Illegible stamp on exterior base. PM68a.
153. Yellow ware circular baking dish with beaded rim. Illegible stamp on base exterior. PM68a.
154. Yellow ware mixing bowl. PM68a.
155. Yellow ware mixing bowl decorated with blue mocha decoration on a white panel. PM68a.
156. Yellow ware chamber pot with blue mocha decoration on white panel with white lines above/below. PM68a.
157. Yellow ware small bowl with white slip line decoration. PM68a.
158. Yellow ware small carinated bowl with blue mocha decoration on white panel. PM68a.
159. Yellow ware small jug with green mocha decoration on white panel bordered on each side by two black lines. PM68a.
160. Late English stoneware boot-blacking pot with tan salt-glaze (Green 1999, No. 427). PM55a.
161. As No. 160 but with brown salt-glaze. PM55a.
162. As No. 160 but with dark brown salt-glaze. PM55a.
163. German Seltzer bottle. Imp13.

Group 11: Brick-lined pit [642], fill [644] (Figs 35–36)

164. Unglazed earthenware flower pot. PM18.
165. Unglazed earthenware flower pot. PM18.
166. Redware pipkin with thick internal glaze. PM11.
167. Redware large jar with thick internal glaze. PM16.
168. Redware large jar with thick internal glaze. PM16.
169. Redware bowl with thick internal glaze. PM16.
170. Midlands slipware bowl with internal white slip and brown marbling under glaze. PM27.
171. As No. 170 but larger. PM27.
172. Midlands slipware handled bowl with internal white slip under glaze and clear (glazing dark brown/black) external glaze. PM30.
173. Yellow ware circular baking dish. Round stamp 'Warranted by Wilson Fire Proof' on exterior base. PM68a.
174. Yellow ware circular baking dish. PM68a.
175. Yellow ware chamber pot with blue line on rim and two blue lines bordering white lines on body. PM68a.
176. As No. 175 but with groups of white lines around body and blue line on rim. PM68a.
177. As No. 175 but with green mocha decoration on white panel bordered by blue lines. White line on rim. PM68a.
178. Yellow ware small bowl. PM68a.
179. Yellow ware small carinated bowl with black mocha decoration on white panel. PM68a.
180. Yellow ware small jug with blue mocha decoration on white panel bordered by blue lines with two further blue lines near the base. PM68a.
181. Late English stoneware ginger beer bottle with thick dark brown external glaze. PM55b.
182. London stoneware jar with thin brown salt-glaze on top 1/3 of body and drops of green (accidental) lead glaze. PM49.

Group 12: Brick-lined pit [648], fill [647] (Fig 37–38)

183. Unglazed earthenware flower pot. PM18.
184. Redware large bowl with thick internal glaze. PM15.
185. As No. 184. PM15.
186. Redware large handled bowl with thick internal glaze. PM15.
187. Redware bowl with thick (dark brown) internal glaze. PM16.
188. Redware bowl with thick internal glaze. PM16.
189. Redware dish/shallow bowl with thick internal glaze. PM15.
190. Midlands slipware bowl as No. 171. PM27.
191. Sunderland slipware square/rectangular dish (with central divide – not illustrated) decorated with feathered trailed

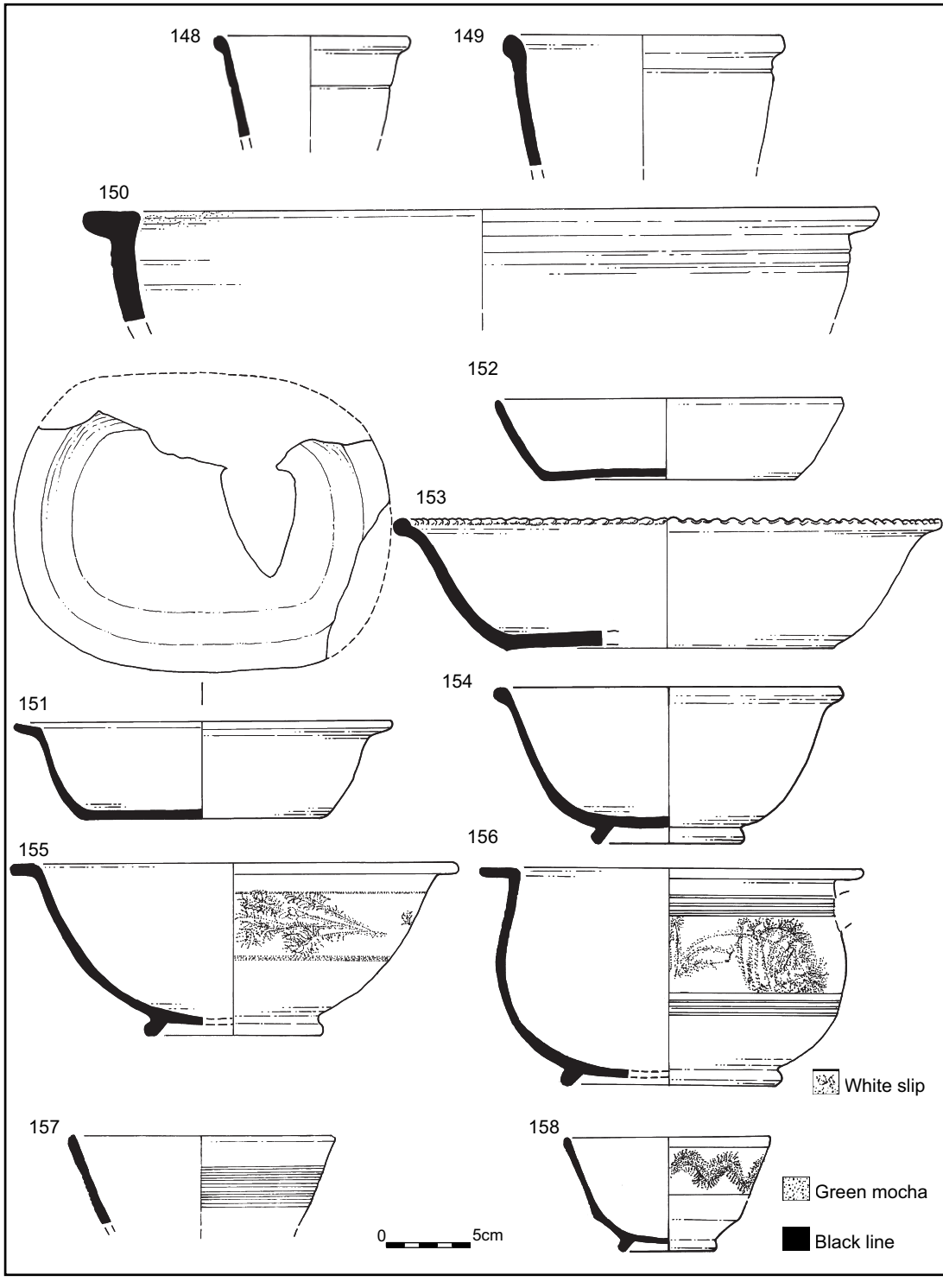

Fig. 33. Post-medieval pottery: group 10 nos. 148–158.

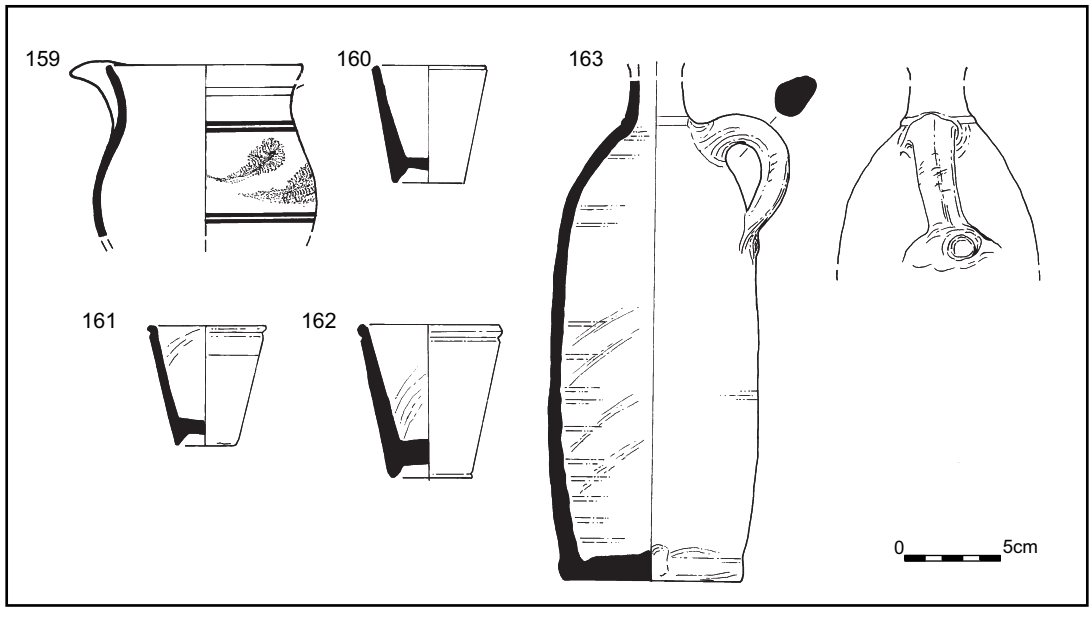

Fig. 34. Post-medieval pottery: group 10 nos. 159–163.

white slip under clear glaze. PM29.
192. Yellow ware large circular oven dish with beaded rim. Illegible stamp on exterior base ('WAT..?' is only legible part). PM68a.
193. Yellow ware circular oven dish. Stamp on exterior of base 'Warranted…..? By F (or E) Hall…?'. PM68a.
194. Yellow ware small carinated bowl with two groups of three white lines. PM68a.
195. Yellow ware small carinated bowl with blue lines below rim and at carination. PM68a.
196. Yellow ware cylindrical mug with blue mocha decoration on white panel between two blue lines. PM68a.
197. Plain refined white earthenware cylindrical preserve jar. PM61.
198. Late English stoneware jar with dark brown iron wash to top 1/3 of body. (Green 1999, No. 396). PM55f.
199. Late English stoneware rectangular-sectioned flat bottle (spirits) with impressed wording 'W….?/P….?/SH[OREHA] M'. PM55f.
200. Late English stoneware ink bottle. PM55a.
201. Late English stoneware ink bottle. PM55a.
202. Late English stoneware ink bottle. PM55a.
203. Late English stoneware ginger beer bottle. Stamped 'W.WHITE/ BRIGHTON' (William White of 20 Edward Street, Brighton, 1845–52: Askey undated). PM55f.
204. Late English stoneware ginger beer bottle. Stamped 'J. SMITH/ 189 WESTERN ROAD/ BRIGHTON' (working 1845–52: Askey undated). PM55f.
205. Late English stoneware ginger beer bottle. Stamped 'G. JAMES/ BRIGHTON' (from 1856 onward: Askey undated). PM55e.

Group 13: Brick-lined pit [650], fill [649] (Fig. 39)
206. Redware bowl/deep dish with thick internal glaze. Some external sooting. PM11.
207. Redware bowl as No. 170. PM27.
208. Yellow ware circular oven dish. PM68a.
209. Yellow ware small jug with three black lines over a white band near the rim and groupings of white lines on the body. PM68a.
210. Yellow ware boot blacking pot (form as Nos. 160–162 but curious this should occur in this ware). PM68a.
211. Late English stoneware preserve jar. PM55b.
212. Late English stoneware blacking bottle stamped 'BLACKING BOTTLE' near base. PM55a.

CONCLUSION

The Ropetackle assemblage has allowed a major step forward in the understanding of both the ceramics of the town and how the medieval port compares with others along the south coast in terms of trade. There are still areas where further work is needed. More Saxo-Norman assemblages are required, particularly ones with no contamination from later deposits. This will help establish the true range of forms and fabrics for this period and allow a better understanding of the transition to the High Medieval wares. Similarly, more definite later 14th- to 16th-century groups are required to refine the ceramic transition during this period and provide a wider range of fabrics and more reliable insight into imported wares during this period.

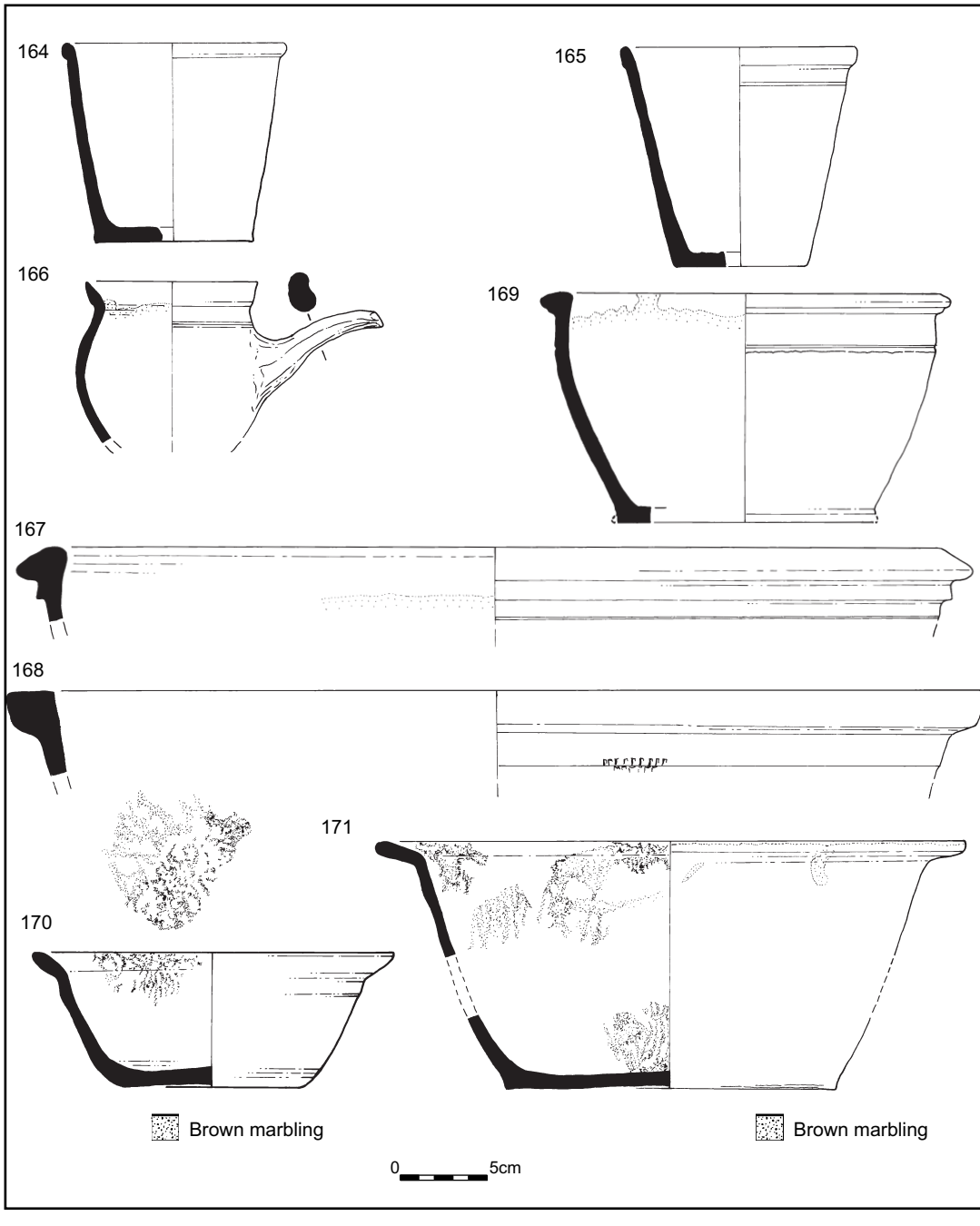

Fig. 35. Post-medieval pottery: group 11 nos. 164–171.

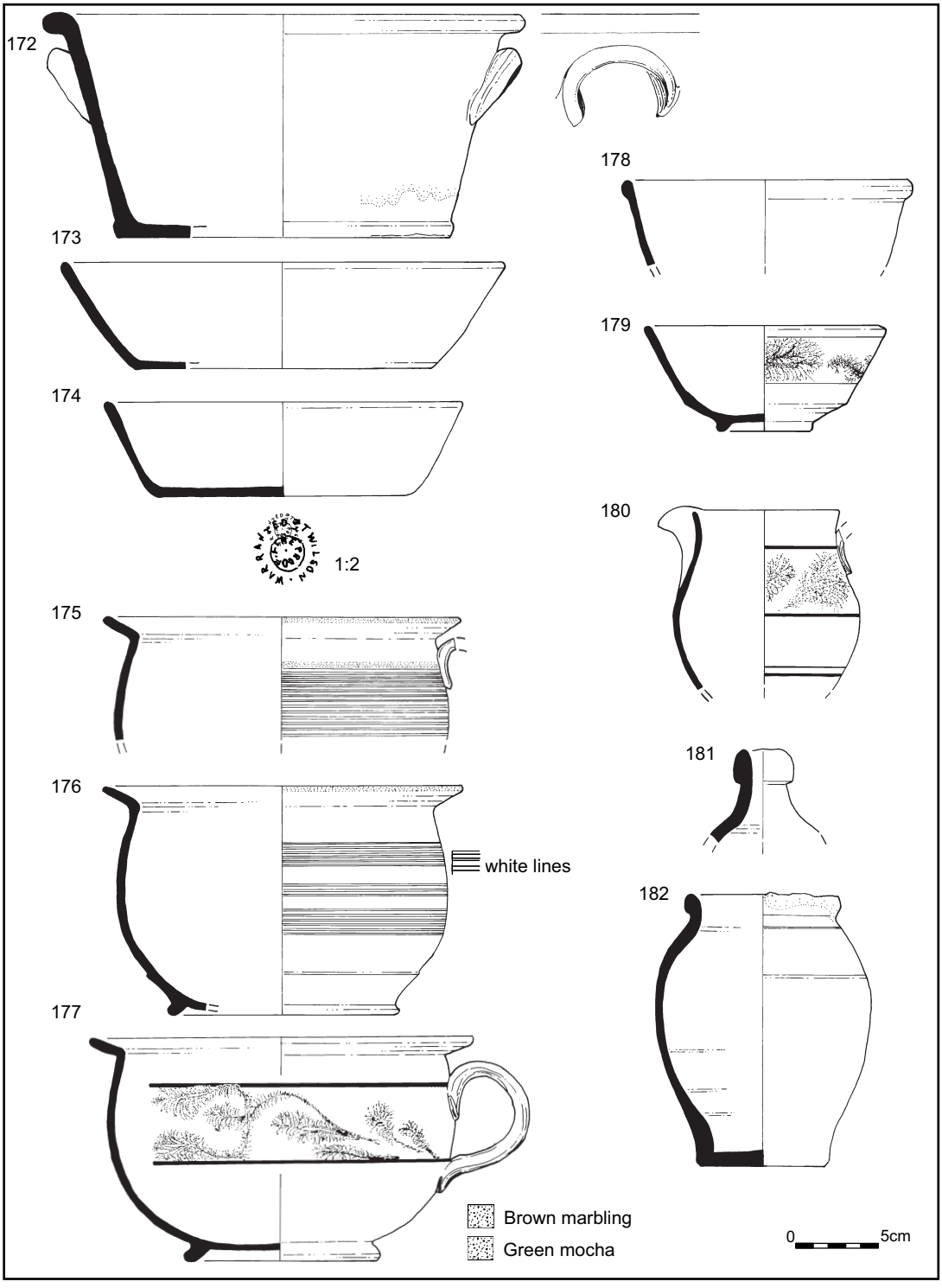

Fig. 36. Post-medieval pottery: group 11 nos. 172–182.

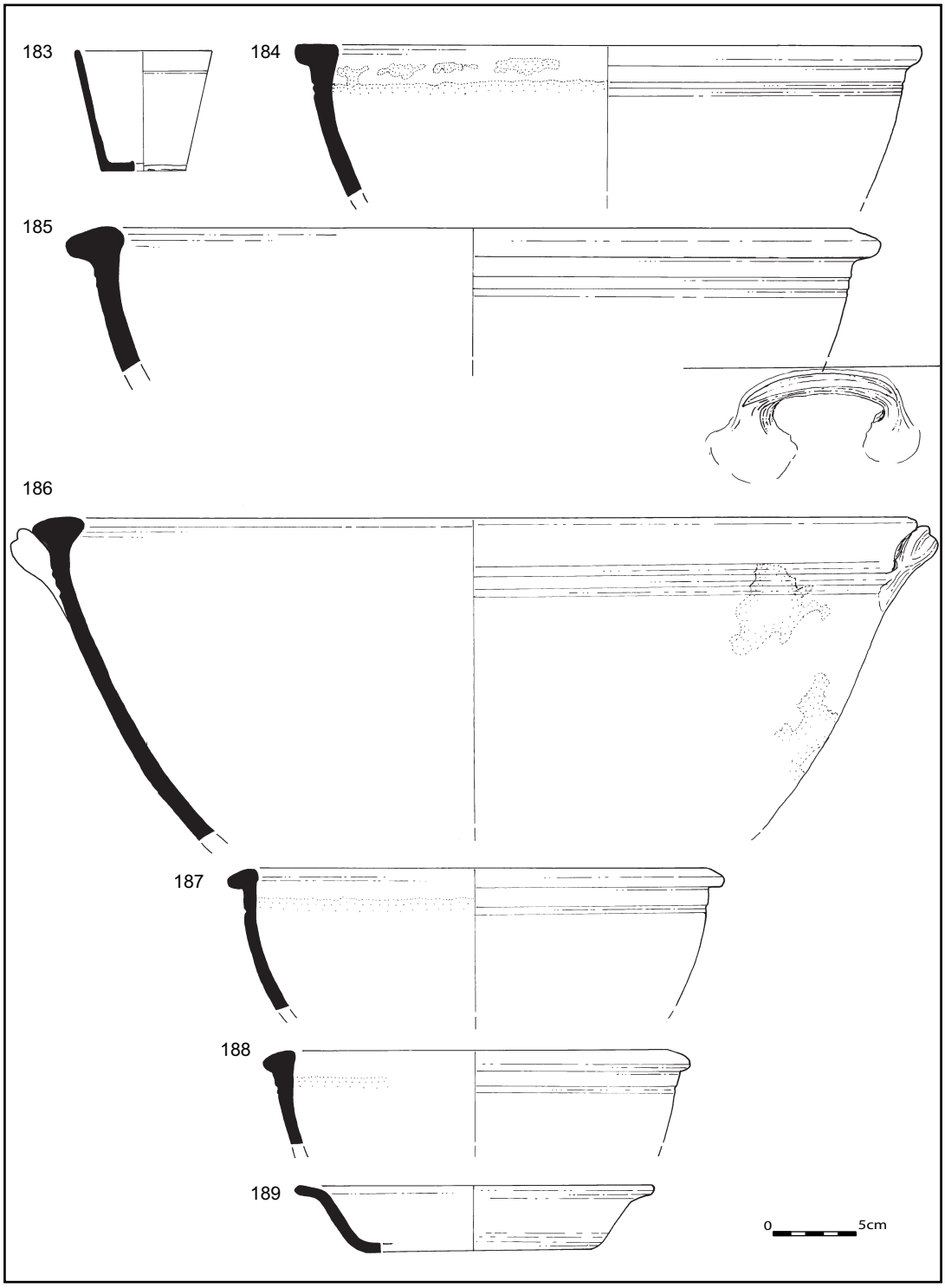

Fig. 37. Post-medieval pottery: group 12 nos. 183–189.

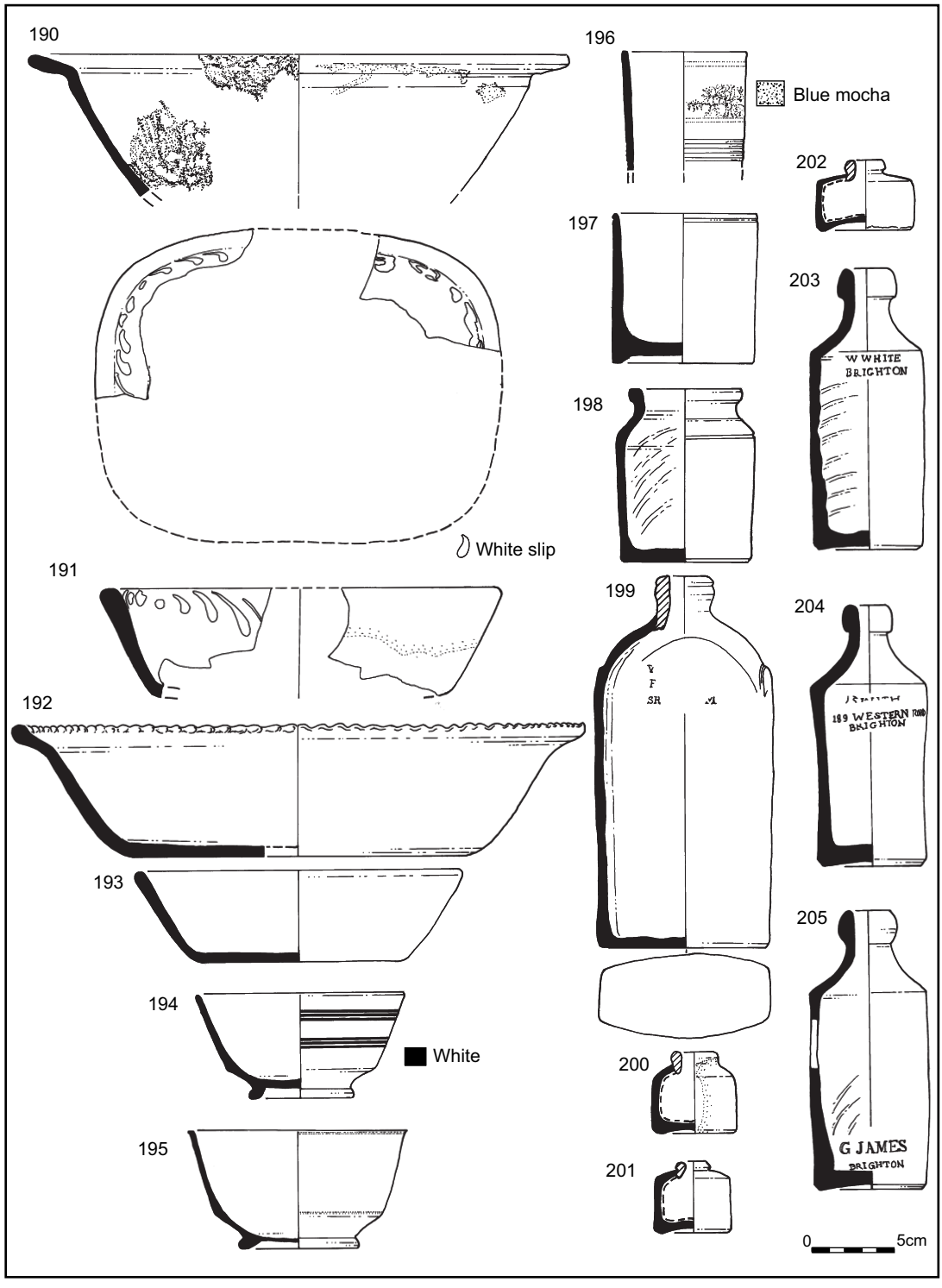

Fig. 38. Post-medieval pottery: group 12 nos. 190–205.

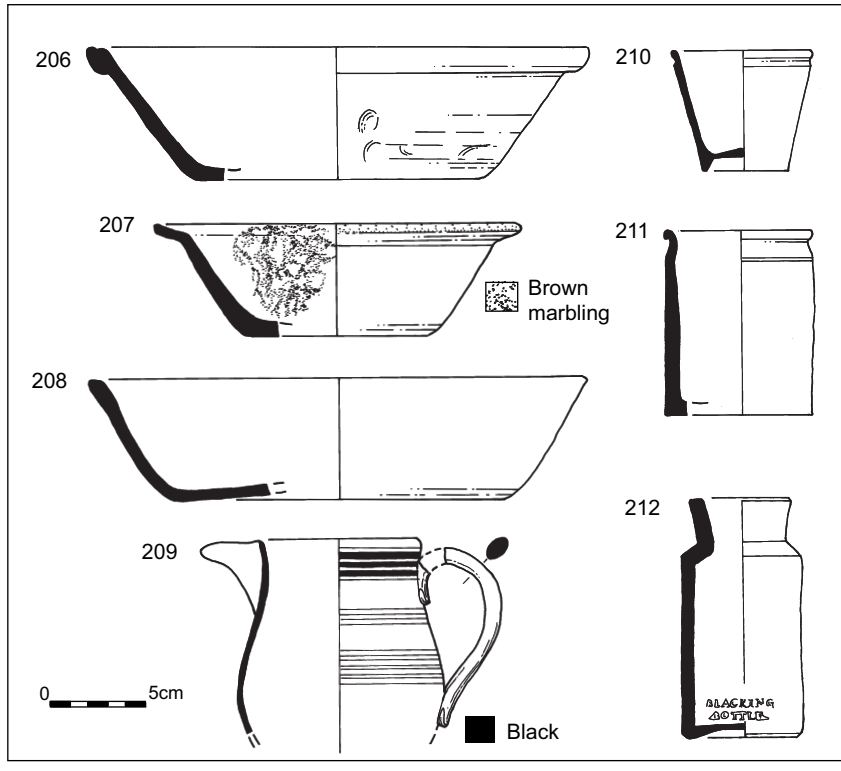

Fig. 39. Post-medieval pottery: group 13 nos. 206–209.

OTHER FINDS

THE CLAY PIPES by David Atkinson and Simon Stevens

Introduction

The two stages of archaeological work at the site resulted in recovery of a wide variety of clay tobacco pipes dating from the late 17th century until the late 19th century. Large groups were recovered from unstratified deposits, but there were also a number of groups from sealed contexts. Significant quantities of Sussex-made clay pipes were recovered, as well as a handful of imports. Although the vast majority of the material consisted of broadly datable stem fragments, large numbers of bowls were also recovered. Although many were well-known forms (Atkinson 1977), the assemblage also included many examples of types that were previously known only from broken or fragmentary examples, particularly some 19th-century examples. All the clay pipes assemblages have been listed, and are included in the site archive.

The local production centres

Chichester

The Chichester makers represented in the assemblage are Henry Taplin II, who was producing pipes in the period *c.* 1775–1800, James Pitt I or II, working up to 1810 and 1817 respectively, and Stephen Leigh, who worked from 1841 to 1855. There are no pipes for the earlier Taplins, who stamped their names on stems, or for the later Pitts up to the time when Stephen Leigh probably took over their business, albeit at a different address.

Arundel and Petworth

There are a small group of pipes from makers in the Arundel and Petworth area, marked '*IP*' (maker John Pain) and '*NA*' (maker Nic Artwell), dated *c.* 1720–50.

Horsham

Horsham pipes have a fairly wide distribution in Sussex and Surrey. Early 18th-century bowls from the town are present, marked '*IC*' or '*WC*'. The pipemakers were John and William Collis, whose pipes are dated to *c.* 1720–30. Other pipes from Horsham are those marked '*TC*', made by Thomas Clarke who was in business from at least 1754 until 1790.

Worthing

Pipe making in Worthing apparently only began around 1800 when it appears that James Freeman set up business, marking his rather poor-quality pipes '*IF*' on the spur. He died in 1842, aged 87, so must have been working in the early decades of the 19th century. The rather crudely made pipes of Charles Freeman I are also present. They are marked on the spur '*CF*' or '*FC*'. It is likely that Charles was the son of James. After this, the pipes of two other known Freemans are not present, though it is possible that the second Charles continued using his father's moulds, though he later changed to another trade.

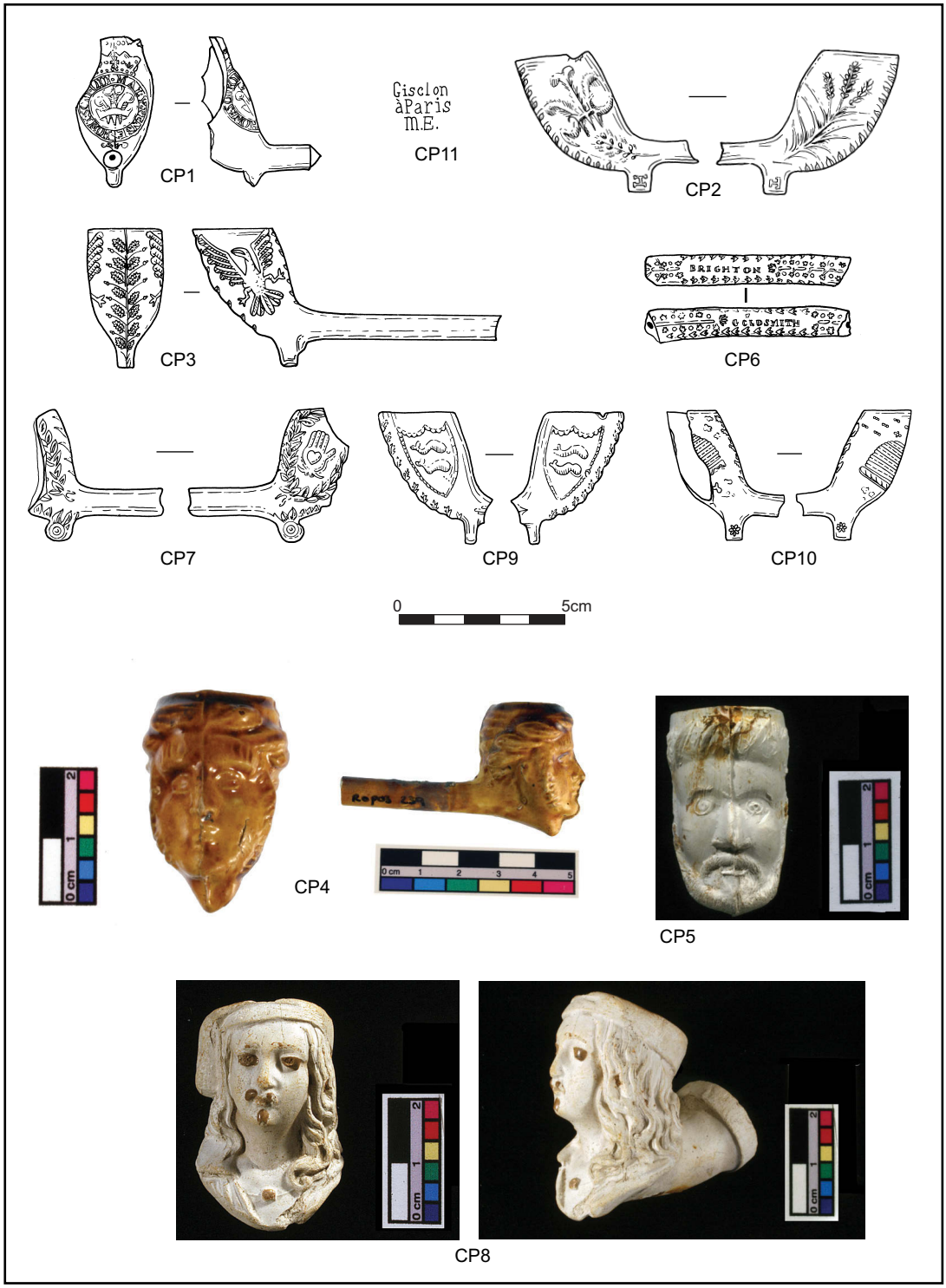

Fig. 40. Decorated clay tobacco pipes CP1–11.

Lewes
There are a few specimens from Lewes from the 18th century. Those marked '*TH*' (maker Thomas Harman) date from *c.* 1720–40 and those marked '*IH*' (maker John Harman II) are later eighteenth century in date. But there are no pipes of the various other known Lewes makers working in the 18th and 19th centuries.

Brighton
Brighton has no makers yet identified who were working in the 18th century but they do begin to appear in the record by the early 1800s. Three family names dominate the picture, namely John and Mary Goldsmith, John Drape, and later J. Harrington and Son.

The earliest identifiable Goldsmith pipes from Ropetackle are stems with the name in relief and a decoration of leaves and arrows (Fig. 40, CP6). There are two sizes of lettering and both types appear to have a fluted bowl. The earliest suggested date for these is 1826, and the latest 1846. Other designs were produced and have initials on the spur and occasionally a stamp on the bowl. Mary, John's wife, was in business on her own between at least 1845 and 1851, and most of her pipes have '*MG*' on the spur. Her son Will was described as a pipemaker in 1851, but the business seems to have died out soon after this.

John Drape worked in Brighton for 35 years, from at least 1832 to 1867. Early products have his name in relief along the stem, but later examples have stamped lettering, which had become fashionable by the 1850s or 1860s. Drape produced many designs in his long career; examples among the Ropetackle material include bowls with the Brighton Crest (Fig. 40, CP9).

Around 1870 the Harrington business took over, and at first he used old moulds of J. Kemp of Greenwick and of John Drape. Most of his later pipes have his name along the stem, moulded or stamped, and stamped on the back of the bowl, but there are very few examples in the Ropetackle assemblage. The business lasted until at least 1910, and at some period his pipes were fired in the Pipe Passage Kiln in Lewes. It seems that the deposition of pipe material at Ropetackle ceased about the time Harrington started business. He opened branches at Chichester and Horsham from 1866 and appears to have gained a monopoly of pipe making in Sussex, though none of his Chichester or Horsham pipes were recovered at Ropetackle

There were several other short-lived pipemakers in Brighton in the first half of the 19th century but only pipes of one, Henry Bartlett (1841–51), can be identified in the current assemblage.

The imported pipes

A few imported pipes were identified. One stem dating from the 17th century shows decoration typical of Dutch pipes of the period, but there are no bowls of the Superior Dutch styles of the eighteenth and nineteenth centuries. One 'head' pipe is glazed overall in brown but its origin is obscure (Fig. 40, CP4).

Two French makers are identified by their names stamped on the stem or bowl, Gisclon and Dumevil, the latter on the base of a 'head' pipe (Fig. 40, CP8). Both probably date after 1850.

The larger assemblages

Although a large percentage of the clay pipe fragments were recovered from unstratified deposits or were clearly intrusive or residual in earlier or later features, a number of significant groups from sealed deposits were present and allowed close dating of a number of features.

Groups datable to the 18th century were recovered from pit [123] (fill [124]) including examples with Prince of Wales feathers on the bowl (Fig. 40, CP1), from cesspit [738] (fill [739]) including lavishly decorated pipes made by Henry Taplin in Chichester (Fig. 40, CP2) and from well [382], fill [384], which contained a particularly closely dated group dating from *c.* 1670 to *c.* 1690. Pit [682], fill [684] included a number of local 17th century pipes.

The largest groups of 19th-century clay pipes from sealed contexts were recovered from the brick-built cellars encountered in evaluation Trench T3 (from pit [12], fill [13] and pit [14], fill [15]), and from a similar brick-built structure nearby, pit [238], fill [239]. All three assemblages included examples of pipes produced in Brighton and Worthing in the mid 19th century. Context [15] was especially rich in pipes produced by John Drape, including highly decorated examples incorporating a 'spread eagle' pattern (Fig. 40, CP3), and [239] included a bowl in the shape of a head of unknown origin (Fig. 40, CP4) and a fragment of another head bowl by Stephen Leigh of Chichester (Fig. 40, CP5).These deposits were probably associated with a building in the vicinity (see below).

Smaller closely datable groups of bowls came from the dumps of domestic rubbish in the Victorian cesspits encountered in Area 4B. The smallest came from context [649] and contained a small number of locally made pipes dating from the first half of the 19th century, including a number with lettering in relief on the stems (Fig. 40, CP6). The small group from context [644] consisted of pipes closely datable to the period 1830 to 1850. The identifiable examples were mostly made in Brighton and Worthing. Context [598] contained a slightly wider variety of pipes, mostly dating from the 1840s and 1850s. Again, pipes from Brighton and Worthing predominate. The assemblage includes a bowl with a particularly striking 'heart in hand' design with an ornate spur (Fig. 40, CP7).

The apparent (and perhaps unsurprising) domination of Brighton in clay pipe supply was also evident in the material in the other cesspit. Context [647] included a number of Drape products, but also contained a particularly attractive French import (Fig. 40, CP8). The pipes suggest a date of deposition no earlier than the 1850s.

Small groups of 19th century clay pipes were also recovered from the large number of post-medieval features that were widely spread across the site, including pits [145], [146] and well [386], fill [387] in Area 4A. This deposit included a number of highly decorated pipe bowls including a hitherto unknown example of a Brighton Crest (Fig. 40, CP9) and a bee-hive complete with minute bees (Fig. 40, CP10). The stem of an imported pipe was recovered from well 603, fill [605] (Fig. 40, CP11).

Discussion

The Ropetackle site produced one of the largest assemblages of clay pipes yet excavated in Sussex. The presence of closely datable groups in a number of features allowed refinement of broad dating based on pottery assemblages, especially for some of the 19th-century material (see above).

Of the large number of late 17th-century bowls and stems recovered, there is no sure method of establishing a place of production, but Chichester, Horsham, Lewes and

Brighton are possibilities. Outlying centres like Chichester and Horsham appeared popular in the 18th century, but by the middle years of the 19th century there is clear dominance of Brighton products, with Lewes, and to an extent Worthing, also popular. It is possible that this change reflects the opening of the coastal railway line in the 1840s (Elrington 1980, 142), but this is pure supposition and perhaps does not take into account the large number of pipes from unknown makers.

Deposition of the larger groups continued to *c.* 1870, when deliberate dumping of clay pipes appears more or less to have ceased at the site, although a handful of later 19th-century examples were recovered.

THE METALWORK by Elke Raemen and Luke Barber

Introduction

From a total of 2421 pieces of metalwork (208 contexts), 1732 objects were recovered from contexts of medieval date. Iron, usually in poor condition, dominates the assemblage (2233 pieces); copper-alloy, lead and pewter are represented in much smaller quantities. The material is predominantly of the 13th–14th and 18th–19th centuries, although small assemblages of early post-medieval ironwork are also present. This summary concentrates on the medieval assemblage associated with coastal industries. The full report can be found in the ADS Supplement.

Clench bolts

There is a relatively small quantity of clench bolts for securing timbers. Clench bolts with circular domed heads and diamond-shaped roves dominate, although a few triangular roves are also present. Clench bolts appear from at least the late 12th to early 13th century (25), peak during 1250–1350 (59), and then decline, with only 12 clench bolts recovered for the period 1350–1550, and some of these may be residual. The distribution of the clench bolts is similar to that of the large nails – indeed, the highest concentration comes from well [87] and it is clear that the assemblage has been re-deposited in domestic-type features.

Fishing tackle

Of particular interest are the remains of six fish hooks, one of which is very large (see ADS Fig. 43, F1). The x-ray shows that the hook is barbed and had a chain attached. The others are of the more usual, smaller, proportions and, although they are too corroded to be certain, it is likely that all were barbed with a spade end, like most other published examples (Barber 1993b; Barber 2008c; Steane and Foreman 1991). Lead objects include two rolled fish net weights, weighing 34g and 52g respectively.

Discussion

Although only a few fish hooks were recovered, their poor condition suggests that many others may not have survived. However, the surviving hooks demonstrate that fishing with lines was undertaken and their size suggests that larger offshore species were sought. The chain attachment on the largest hook strongly suggests that species with teeth, such as members of the shark family (Steane and Foreman 1991), were included in the catch. The presence of the lead net weights also suggests inshore fishing, although the small quantities may suggest that it was not a dominant part of the industry, or that the weights were melted and recycled, or alternatively difficult to locate during excavation (Barber 2008c).

Although clench bolts were used for a variety of purposes (e.g. in door construction), the relatively large quantity found, together with the small number of household fittings, suggests that most relate to boat-building, or at least boat repair, on or close to the site. The evidence of the fishing industry from the current site is meagre. However, this is fairly typical, and compares well with other assemblages from south coast sites such as Hastings and Denge (Barber 1993b; 2008c). Despite this, it is an important contribution to the growing corpus of data for this somewhat elusive industry.

THE GEOLOGICAL MATERIAL by Luke Barber (incorporating comments by Bernard Worssam)

Introduction

The site produced a large assemblage of stone: 1865 pieces (other than flint), weighing a little under 6605g, from 219 individually numbered contexts. Size ranges of individual pieces vary from as little as 2g to as much as 30,000g. The material was located in Late Iron Age/Roman, medieval and post-medieval contexts, though by far the majority was from deposits dated to the mid/late 13th to early/mid 15th centuries (1241 pieces, weighing just over 263.5kg from 120 individual contexts).

The full assemblage has been summarised in Table 25 (ADS) and fully quantified by stone type and context on Geological Record Forms which are housed with the archive. Stone identifications were undertaken with the help of Bernard Worssam by examination with a hand lens and use of source samples where appropriate. A wide variety of stone types/variants was present; in all 110 stone types were identified from the site. However, a number of these are simply variants of the same general type and probably reflect different outcrops, or indeed variation within a single outcrop, of the same geological rock type. A full list, with descriptions, of all the stone types is housed in the archive. For the purposes of the current report they are combined together into their related groups in Table 25.

Although the Late Iron Age/Roman and later 12th- to mid/late 13th-century deposits have no/low residuality, those of the later 13th to early/mid 15th centuries appear to have the potential to contain low to moderate residual earlier material. This is certainly in evidence from the ceramics, which show a generally low, but consistent, level of residual mid/late 12th- to mid 13th-century pottery in many of these contexts. Despite this, there does not appear to be a major shift in stone sources between these periods and it is considered that any residual material does not pose too much of a problem. Residuality, or re-use, is a much more acute problem for the early and late post-medieval periods when trying to judge stone supply. It is quite clear that stone brought in during medieval times was re-used to a great extent, perhaps because the existing material was sufficient in combination with local building materials such as flint, chalk and brick not to warrant specifically bringing more stone in. Although this report covers all periods on the site, it concentrates on the medieval assemblage because it is deemed the most informative.

The medieval assemblage

With a few exceptions the stone types are the same for the deposits from the later 12th/mid 13th centuries and the later 13th to early/mid 15th centuries and so they will be discussed together. Definite worked medieval stone residual/re-used in the post-medieval period will also be touched on where

relevant. Many pieces of stone, whether worked or not, show signs of having been burnt, though whether this took place on the site or elsewhere is uncertain. The overall assemblage can be divided into three categories: building materials, objects and other, though the division between the first and third categories is often not clear because many unshaped pieces could be equally employed as ballast, walling or both. The medieval assemblage was recovered primarily from infilled pits/wells spread across both excavated areas. Only one notable concentration was present; some 230 pieces of stone (just over 129kg) were recovered from 20 fills in pit [440], most notably fill [448] (106 pieces weighing just over 86.5kg). This pit group exhibits a very mixed assemblage, containing roofing/building material, artefactual material and irregular/ballast stones from a variety of sources.

Building material

The presence of West Country roofing slate in medieval Sussex deposits has been well established (Holden 1965; 1989; Murray 1965). It is most common on higher status buildings, particularly close to ports, due to the coastal nature of the mainly 12th- to 13th-century trade. It is not surprising, therefore, that the Ropetackle site has produced moderate quantities, though few large pieces are present: only two complete widths measuring 66mm and 127mm wide. Most pieces fall within the standard 7mm to 14mm thickness, but the presence of a 30mm-thick piece from pit [32] (fill [49]) hints that some slates may have been split on site after arrival. As with many of the building materials, it is uncertain whether the recovered slate has been dumped at the site after being removed from buildings, or represents wastage during initial unloading, since very few pieces have mortar adhering to them. West Country slate is often residual in post-medieval contexts (some are notably water-rounded: pit [428], fill [431]), though some of this may be due to the longevity of some of the medieval slate roofs in the town. The other stone roofing material represented at the site is Horsham stone 'tiles'. Although Horsham stone is represented from the 13th century, the first definite roof 'tile' is from context [217] and probably relates to the 14th century. Surprisingly few pieces of Horsham stone were recovered, and most of those that were are not definitely from roofing 'tiles'. Many more Horsham stone 'tiles' were encountered at the Marlipins site, mainly in late 14th- to 15th-century contexts, a period when this type of roofing appears to have become more common in Sussex (Barber 2005b).

Stones used in wall construction are also present in the assemblage. Those with mortar adhering, whether shaped or not, are easily placed in this category, but many unshaped pieces without mortar are more difficult to classify. Flint would undoubtedly have been the main walling material during this period, heavily supplemented by chalk for internal/foundation work as well as any other suitable ballast stone lying around on the foreshore. More diagnostic non-local/imported stone was brought in for quoins and architectural details. Perhaps the most common on the Ropetackle site is Caen stone. A number of ashlar block fragments are in evidence from the 13th century on, and it is interesting to note the presence of an 'unshaped' Caen building block from pit [440] (fill [448]), suggesting material being imported for finishing on site.

A number of architectural pieces are also present, mainly small fragments of simple jamb mouldings, though a voussoir block was recovered from pit 216 (fill 217) and a re-used fragment of window tracery from 19th-century cesspit 648 (Fig. 44, S1). This 19th-century lined cesspit had been constructed largely of re-used late medieval/early post-medieval ashlar blocks and architectural fragments, principally in Caen stone but also in Quarr and Lower Greensand. Most of the architectural fragments cannot be dated closely, though some pieces, such as the window tracery, are of later medieval/early post-medieval date (D. Martin *pers. comm.*).

In addition, medieval building stone appears to have included French Oolitic limestone (pit [440], fills [448] and [451]), some Wealden sandstone ashlar blocks (well 95, fill 518) and possibly some Purbeck limestone blocks too (C19th cesspit 648). The vast majority of the shaped building stone from the site relates to a building of some substance elsewhere in the town and, as has been noted, many pieces show signs of having been burnt. Why the stone should be brought to the excavation site to be disposed of in cut features is uncertain, but many pieces may relate to wastage, as ship's cargos were unloaded on the foreshore. Pieces broken in transit or dropped into shallow water/mud may have been left where they fell, only to be used later by people working in the area.

Stone objects

A number of different objects are represented in the assemblage. The most common are rotary quern fragments, though most pieces are too small to be certain whether the upper or lower stone is represented. Only two stone types were noted for querns: Lower Greensand (Lodsworth type; Peacock 1987) and German lava. It is probable that all pieces, whether exhibiting a worked face or not, are from querns. The Lower Greensand quern fragments are frequently larger than the lava pieces, though many are burnt post-breakage. One complete but fragmented burnt upper stone from a 'squarish' quern with shallow handle socket was recovered from 13th-century pit [402] (fill [476]: eight pieces weighing 4.275kg) (Fig. 44, S2). Another upper stone fragment, 46mm thick, was recovered from a similarly dated context (pit [335], fill [410]). The remaining Lower Greensand quern fragments relate to the later 13th to 14th centuries and include both upper and lower stone fragments (thicknesses ranging between 25mm and 76mm), the largest part coming from a lower stone with a diameter of *c.* 540mm (pit [440], fill [448]: Fig. 44, S3). The fragmentary nature of the lava querns meant it was not possible to positively identify upper/lower stones, though the stone thicknesses, which vary between 45mm and 83mm, suggest that both are represented. Interestingly, two fragments of broken lava quern have been re-used as roughly bun-shaped 'rubber' stones (pit [16], fill [46] (690g) and well [87], fill [108] (434g): Fig. 45, S4 and S5 respectively). Similar re-use of obviously valued quern stones has been noted in a Roman assemblage from Angmering (Barber 2003).

The medieval assemblage also includes a number of generally small fragments of stone mortar, which appear in later 13th- to 14th-century deposits. These are mainly in Caen stone (four examples), the largest of which consists of the base of a double-handled vessel, though too little is present to assign it a type (Dunning 1977) (pit [440], fill [448]: Fig. 45, S6). Two small fragments from Purbeck Marble mortars are also present (pit [75], fill [76] and pit [440], fill [448]) as well as two possible fragments from a mortar derived from the Folkestone formation of the Lower Greensand (pit [156], fill [195]).

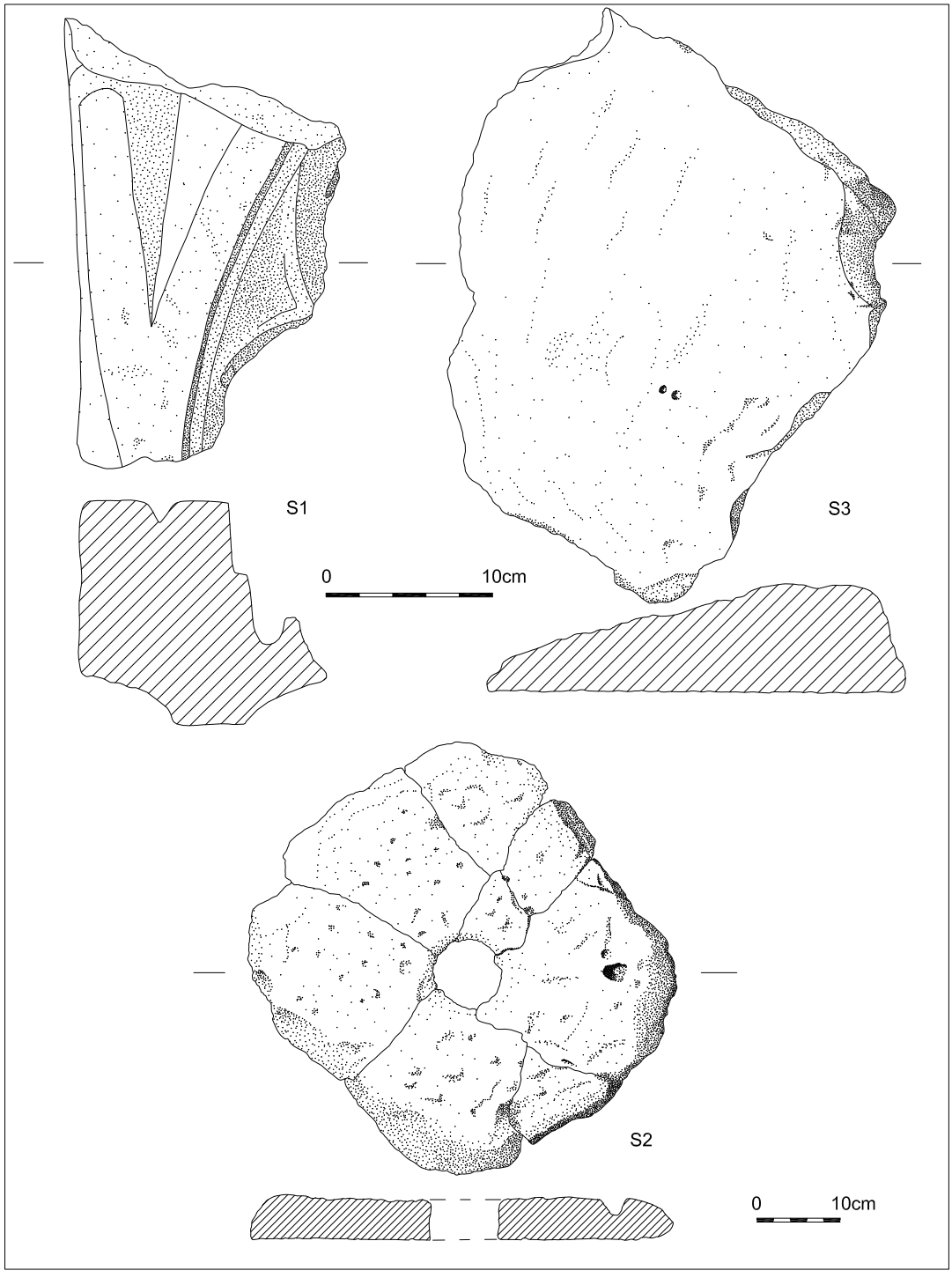

Fig. 44. Worked stone S1–S3.

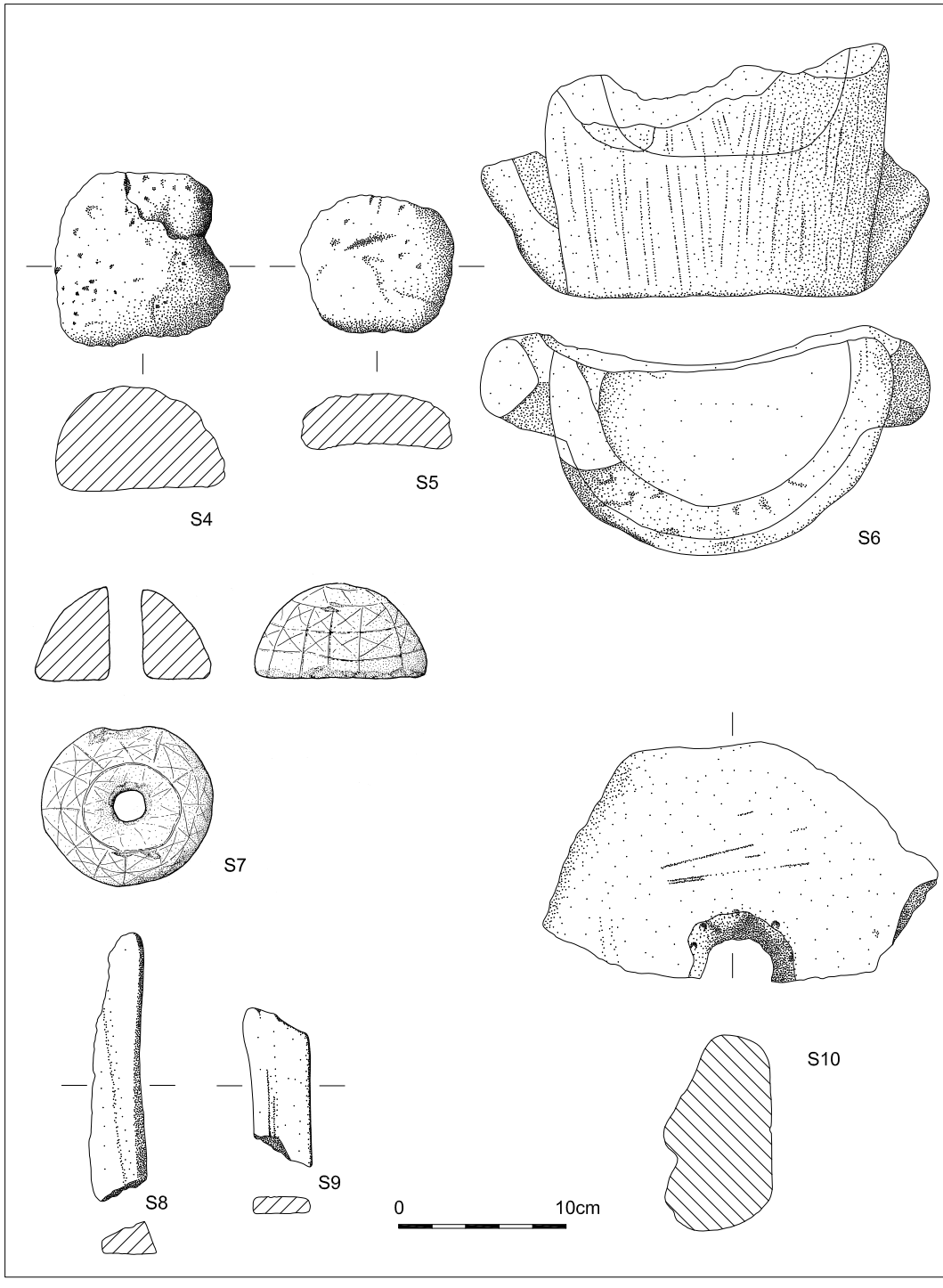

Fig. 45. Worked stone S4–S10.

Three spindle whorls/weights are present in the assemblage, suggesting cloth manufacture in the vicinity. Half a spindle whorl from pit [346] (fill [349]: dated later 12th to 13th century) is in chalk and, although incomplete, has a diameter of approximately 44mm with a 10mm-diameter central hole (original weight *c.* 32g). A fragment from pit [146] (fill [148], dated later 13th to 14th century), is in hard chalk and, although incomplete, has a diameter in excess of 52mm with a 15mm-diameter central hole. The only complete example is much larger (72mm diameter; 222g), possibly representing a loom/household weight (pit [440], fill [467], dated later 13th century). This is in calcareous Tertiary sandstone, probably from Hampshire, and is decorated with a number of incised lines (Fig. 45, S7).

Whetstones are not common in the medieval assemblage. The earliest consists of a fragment (12g) of Wealden sandstone from 13th-century pit [310] (fill [313]). The later 13th- to 14th-century deposits produced two fragments from a probable whetstone in Upper Greensand (pit [601], fill [812]) and a quartzite pebble whetstone (pit [30], fill [31]). The absence of locally/regionally available whetstones is quite surprising, considering how common they are at other sites in the south-east such as Lydd (Barber 2008d). The most common stone type for whetstones during this period was Norwegian Ragstone (schist), perhaps as a result of easy importation of this more suitable stone direct to the port. All this stone type on ADS Table 25 can be seen to be from whetstones, even if no diagnostic features are present. At least five different stones are present, the most complete of which are from contexts [504] (well [353]) and [541] (pit [540]) (Fig. 45, S8 and 9 respectively). Norwegian Ragstone from post-medieval contexts, including a large part of a whetstone from 19th-century cesspit [597] (fill [598]), are almost certainly residual medieval pieces.

Other objects include fragments of two small anchors, one circular, the other more elongated. (Fig. 45, S10 and Fig. 46, S11 respectively). Both are from fill [448] of pit [440], and are in unprovenanced sandstones. Both were likely to have been discarded after breakage rendered them useless. The original weight of the circular example would have been in the region of 5–5.5kg, while the elongated example currently weighs 5kg, with the extent of the missing section uncertain. Even when whole, both weights would have been suitable only for small boats. In addition, the excavations produced three conjoining fragments (2.00kg) from a triangular-sectioned bar in Wealden sandstone (pit/well [353], fill [354]) (Fig. 46, S12). The piece is heavily burnt and it is possibly a bar from the internal structure of a kiln.

Other stone

The remaining part of the medieval stone assemblage consists of a wide variety of irregular pieces or rounded/semi-rounded cobbles and boulders. Although some of this material may relate to stone brought in for building, the majority may well represent ship's ballast (even if subsequently used in construction). Although the interpretation of ballast has its difficulties (Peacock 1998), the current assemblage is considered to be a fairly good indicator of trade because, to a certain extent, it reflects the ceramics. The locally available material appears to have been derived from the Downs to the north, though the presence of some chalk boulders with marine burrowing activity demonstrates that some of this material was collected from the shore (e.g. pit [732], fill [733] dated to the 13th century). It is possible that these boulders were used as ballast by ships sailing along the coast from places such as Seaford, where chalk is more abundant on the beach due to the cliffs; the presence of shelly limestone from the Tertiary Beds at Newhaven would strengthen this suggestion.

In addition to the building material/worked stone, a number of other Wealden stones are represented, most notably Upper Greensand (malmstone), again often present as boulders (pit [732], fill [733]), Wealden sandstones and clay ironstone. Although the latter two may have come from the Hastings area to the east, the former may have been more locally available in the Adur valley. Trade with Kent is represented by the Folkestone stone, usually in the form of beach cobbles/boulders and thus presumably collected from the shore.

Westward trade is indicated by the Tertiary sandstones from Hampshire as well as the Quarr and Bembridge limestones from the Isle of Wight. Although the residual Quarr block is from building, the Bembridge limestone is irregular and water-worn, often with traces of marine burrowing animals. This stone appears in both 13th-century (pit [732], fill [736]) and later 13th- to 14th-century (well [95], fill [518]) contexts and has clearly been collected from the shore. Stone from Dorset is well represented, both as building stone/objects in the case of the Purbeck Marble and as irregular pieces of various types of Purbeck and Jurassic limestone, some of which are again water-worn boulder fragments (e.g. pit [45], fill [116] and pit [440], fill [448] respectively).

Although West Country slate was the main stone type present from the south-west, a number of other types are represented in small numbers. With the exception of the diorite and quartzite pebbles, which could have been available more locally due to longshore drift, most of these stones have been brought to the site by man. The largest pieces consist of granite boulders up to 22.5kg in weight in 13th-century and later 13th- to 14th-century contexts which must represent ballast; pit [732], fill [733] is notable because it contains two boulders weighing a combined 38kg. The Devonian sandstone is also probably ballast material and includes a 2.8kg boulder with marine burrows on its surface (well [95], fill [518]). A number of the stone types of uncertain origin, such as the basalt, schist and green igneous rock, may also come from this south-west source, but other origins, including the Continent, cannot be ruled out. Other English stone in the medieval assemblage is confined to a few fragments of coal, which are almost certainly intrusive in these deposits.

The only definite Continental stone in the assemblage appears to be the result of deliberate importation of building material, querns or whetstones.

The post-medieval assemblage

Excluding residual or re-used medieval material, the assemblage for this period is quite small. Only a limited number of stone types appear to be specifically related to this period. They include Welsh roofing slate, coal and a single piece of Portland stone. Interestingly, there are two 19th-century whetstones in Tertiary sandstone (probably from Hampshire) (well [582], fill [583] and cesspit [648], fill [647], Fig. 46, S13) and three in possible Yorkshire sandstones (pit [648], fill [647] ×2; Fig. 46, S14 and S15 and pit [705], fill [715], Fig. 46, S16).

Discussion

The stone assemblage from the site has shed far more light on exploitation of the local/regional geological resources as well

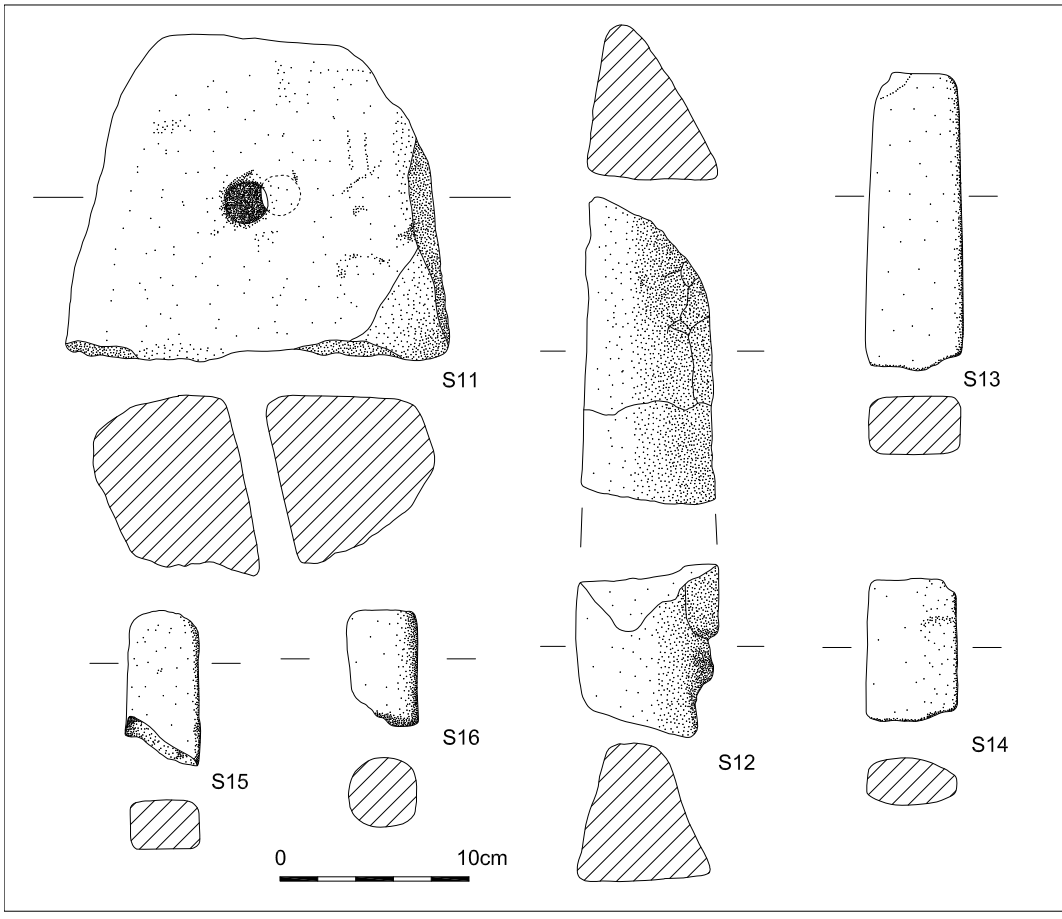

Fig. 46. Worked stone S11–S16.

as the trade network of the port during the High Medieval period than previous stone assemblages in the town (Barber 2006a; 2009b). Certain stone types clearly relate to specific goods imported for the suitability of the stone. This is the case whether the items are rotary querns from West Sussex or Germany, building material from France, the West Country or the Weald, or whetstones from Norway or the Weald. The assemblage of objects is fairly typical for an urban domestic context. However, the large proportion of Caen mortars over Purbeck examples hints at stronger links with Normandy than one might expect (Dunning 1977), and querns are well represented for an urban context. The anchors are in keeping with the site's location.

The unworked material, much of which is probably ship's ballast, demonstrates a number of contact points along the south coast including Cornwall, Devon, Dorset, Hampshire (including the Isle of Wight) and West Sussex. Eastward contacts are certainly suggested for East Sussex and Kent. The proportion of trade with each contact point cannot be estimated from the stone assemblage because the amount of material that has been removed, whether for re-use in construction or as ballast for another voyage, cannot even be guessed at. Although the ceramics indicate contact with the east coast, there is no such evidence in the current medieval stone assemblage unless some of the unprovenanced sandstones are from this area. At Lydd Quarry there was only slim evidence of this contact (Barber 2008d) in the form of an ammonite fossil in Lias. However, if the main contact with this area was related to summer fishing by the south coast fleets, it is more likely that they would have taken ballast from the south coast on the outbound trip, returning with their catch, and thus no ballast, at the end of the season.

Larger assemblages of stone are needed from the town itself to identify re-use of ballast on inland buildings. Similarly, larger stone assemblages from other ports on the south coast would be useful for comparative purposes; until now most excavated stone assemblages have been subject to a heavily biased collection policy towards the worked material. The published assemblage for Winchelsea, East Sussex demonstrates a similar range of purposely imported commodities such as Caen and Oolitic limestone building material, West Country roofing slates, German lava querns

and Norwegian whetstones (Cartwright 2004). Although Winchelsea produced Kentish stone and a small amount of shale indicating westward and eastward contacts, the town has yet to yield the great diversity of types represented by the Ropetackle site. Although this may be in part due to selective collection on older excavations in Winchelsea, it may well be because the harbour, where most of the ballast would be expected, lay below and outside the town, so most ballast, if present, was not carried up into the town. Future excavations on medieval Sussex ports should practise total recovery of stone to enable more direct comparisons to be made.

THE LARGER MAMMAL BONE by Gemma Ayton

Introduction

The bone assemblage comprises 6500 fragments from 224 contexts dating from the early Roman to late post-medieval periods. The majority is dated to the 13th–14th centuries, some 148 contexts containing more than 4600 fragments attributed to this phase. A summary of the key findings is presented here. The full report can be found in the ADS supplement.

Medieval assemblage

The preservation of the bone from this phase was relatively good, with many large fragments but few complete bones. The following taxa were identified: cattle (*Bos taurus*), sheep/goat (*Ovis/Capra*), pig (*Sus scrofa*), dog (*Canis familiaris*), equid (*Equus sp.*) and cat (*Felis catus*). Analysis of this assemblage provides some insight into the animal husbandry practices at Ropetackle during the 13th and 14th centuries.

Sheep/goat (53%) comprises the largest percentage of the assemblage in terms of NISP, cattle (43%) forming the next largest and then pig (4%). If we take into consideration MNI counts, the populations of cattle (10) and sheep/goat (11) were relatively similar. It also suggests that pigs (3) were better represented than the fragment count would suggest. Given that cattle provide a much higher meat yield than either pig or sheep, they would have provided most of the meat.

Age data for cattle suggests that the majority of the population survived beyond four years of age although a small percentage of the population was slaughtered at approximately two to three years. This suggests that a relatively small number of cattle were killed just for meat; the majority of the population would have also been used for secondary products. Some animals were slaughtered on site, with evidence for both primary and secondary butchering stages. The animals were probably consumed within the household.

Age data suggests that sheep/goat were also kept primarily for secondary products, although a small number of juvenile bones were present, suggesting that some animals were being slaughtered for meat and probably consumed within the household. MNE counts reveal an absence of skeletal extremities, suggesting that some of the meat came from elsewhere and was already partially butchered, or that primary butchery took place away from site. The absence of skeletal extremities may also be due to poor preservation, the smaller sheep/goat bones, such as phalanges, being more susceptible to destruction by taphonomic factors. O'Connor (1977) suggests that sheep were not used primarily as a meat supply before the 18th century, but as producers of wool, milk and manure.

The pig assemblage reveals that a large percentage of the population were slaughtered between two and three years of age. A small number of older animals were also present, and they probably represent the remains of a breeding population. MNE counts suggest that primary butchery of the pig carcass was carried out on site but then the meat was consumed elsewhere.

The range of species represented and their predominance are fairly typical of the animals that featured in the diet of a medieval population. Excavations at Tanyard Lane, Steyning (O'Connor 1977) concluded that cattle and sheep predominate, with sheep the slightly more widespread of the two. The predominance of sheep can be linked to the South Downs wool industry (Sykes 2005). The paucity of pig bones perhaps indicates a preference for pork or ham off the bone (Clements 1993). It may also reflect the fact that pigs were less economically viable since they produced no secondary products.

Early post-medieval assemblage

A total of 677 fragments from 28 contexts were recovered from this period. Cattle and sheep/goat are both evenly represented (45% and 46% respectively), the number of pig fragments remaining low (3%). The percentage of cattle fragments is higher than is generally found along the south coast during this period, though is in keeping with national trends (Sykes 2005). The cattle and sheep assemblages contain both skeletal extremities and meat-producing elements. This suggests that cattle and sheep were being slaughtered and consumed on site.

Late post-medieval assemblage

Some 682 fragments from 32 contexts were recovered from this period. Sheep/goat dominate the assemblage (52%), though we see a decrease in the number of cattle fragments (36%) recovered. Pig fragments make up 8% of the assemblage, showing a slight increase. Nearly all post-medieval sites from this region yield a caprine-dominated assemblage (Sykes 2005). This may represent a shift to using sheep as a meat supply as well as for secondary products such as milk, wool and manure (O'Connor 1977).

Conclusions

In summary, the Ropetackle assemblage conforms to the general picture of medieval urban life on the south coast. Sheep fragments dominate the assemblage and were kept mainly for wool rather than meat until the late post-medieval period. Cattle would have provided the bulk of the meat as well as being used for secondary products such as traction. There is a paucity of pig bones throughout all phases, which has long been a local archaeological puzzle (Clements 1993).

THE BIRD AND FISH REMAINS by Deborah Jaques

Introduction

The excavations produced a moderate-sized assemblage of fish remains and a smaller bird bone assemblage, recovered primarily from the fills of the many pits and wells uncovered, most of which were of 13th/14th century date. Although earlier (Late Iron Age/early Roman) and later (later medieval and post-medieval) deposits were sampled, very few fish remains were recovered from them. A small collection of fish bones were retrieved by hand during excavation, but these were mainly restricted to larger vertebrae and other larger skeletal elements. Following the recommendations outlined in the assessment (Jaques 2004), this report mainly details the fish remains from eight samples (representing the deposits

Table 30. Quantification of fish bones by sample.

Context	Sample	Context description	Litres processed	Total number of fish bones	Total weight (g)
88	1007	fill of well [87]	40	607	191
108	1051	fill of well [87]	40	1086	212
223	1027	fill of pit [222]	40	195	52
300	1035	fill of pit [298]	40	242	32
354	1045	fill of well [353]	40	301	51
453	1074	fill of well [87]	40	279	79
586	1080	fill of sub-rectangular pit [585]	20	273	45
736	1096	fill of squarish pit [732]	40	181	30

from which the largest concentrations of bone were recovered) of 13th/14th century date, with additional records of the hand-collected remains from deposits of the same period.

Methodology

The samples from which much of the assemblage was recovered were processed on-site using bucket flotation, with flots sieved to 250 microns and residues to 1mm.

Fragments were identified to species or species group, using the reference collections of Palaeoecology Research Services. For the fish, skeletal elements representing the olfactory, orbital, otic, oromandibular, hyoid and branchial regions of the fish skeleton were classified as being part of the 'head' for interpretation purposes, whilst those from the appendicular region, vertebral column and caudal skeleton were classified as the 'body'. Typically, undiagnostic skeletal elements such as spines, ribs and rays were not recorded unless they were particularly distinctive and could be identified to species or family group.

Measurable fragments were not numerous and many fragments were too incomplete or battered to provide biometrical data. Where a size of fish is given in the text, this is an estimate based on a comparison of the remains with those of modern reference specimens of known size. Total lengths (the length of the fish including the tail) rather than standard lengths (the length to the base of the tail) were used because standard length measurements were not available for some of the reference specimens. Fish sizes estimated for the gadids used the following categories: small (200–500mm), medium (500–750mm), large (750–100mm) and extra-large (≥1m).

Several methods of quantification were employed to calculate the significance of different fish species or groups within the assemblage. The simplest method used was to count the number of identifiable fragments for each species or group. Additionally, species were ranked on the basis of their frequency of occurrence (the number of contexts in which they were identified). It must be noted, however, that the relative abundance of different fish species in an archaeological assemblage is always difficult to ascertain. Differences in the number of identifiable elements for each species and differential preservation of certain bones are just two factors which can create an over- or under-representation of individual species.

The assemblage of bird bones recovered by hand collection and from the samples was smaller than that of the fish, and a detailed record was made of all the well-dated medieval remains. Similar records concerning preservation and alteration (such as butchery) of the bone were made, together with the usual measurements (after von den Driesch 1976) and any information regarding age at death.

Table 32. Hand-collected fish remains from 13th/14th century.

Species		Total
Anguilla anguilla (L.)	eel	1
Conger conger (L.)	conger eel	61
Gadidae	cod family	30
Merlangius merlangus (L.)	whiting	3
cf. *Merlangius merlangus* (L.)	whiting	1
Pollachius pollachius (L.)	pollack	2
cf. *Pollachius pollachius* (L.)	?pollack	1
Gadus morhua L.	cod	36
Molva molva (L.)	ling	30
Merluccius merluccius L.	hake	1
Sparidae	sea bream	4
Triglidae	gurnard	2
Scophthalmus maximus (L.)	turbot	3
Pleuronectidae	flatfish (plaice, flounder, dab)	7
Total		**182**

Results

Fish remains

Of the 89 samples examined during the assessment, 78 represented deposits of 13th- to 14th-century date, although few of them produced more than 30 identifiable fragments. Material from eight contexts was selected for detailed examination from wells [87] and [353] and pits [222], [298], [585] and [732] (Table 30). Fish remains recorded from these contexts amounted to 3164 fragments (Table 31), of which 1611 were identified. Hand-collected remains from these and from some of the other deposits of the same date amounted to 182 identified fragments (Table 32). Unless otherwise stated, all comments, frequencies and total identified fragment counts for fish refer to material recovered from the samples.

Preservation

Despite some variations of colour and angularity (nature of the broken surfaces), both within and between deposits,

Table 31. Fish remains from the 13th-/14th-century samples.

Species	Context	88	108	223	300	354	453	586	736	Total
	Sample	1007	1051	1027	1035	1045	1074	1080	1096	
Elasmobranch	ray/shark/skate	1	6	3		3	2	1		16
Raja sp.	ray			1	1				4	6
Raja clavata L.	thornback ray		1		12	2			4	19
Clupea harengus L.	herring	23	30	6	19	10	2	4		94
Anguilla anguilla (L.)	eel		1	1		1				3
Conger conger (L.)	conger	17	28	14	7	6	2	13	3	90
Gadidae	gadid	11	2	9		2	2	3	2	31
Small gadidae	small gadid	16	9	13	15	12	8	12	5	90
Gadus morhua L./*Merlangius merlangus* (L.)	cod/whiting		3					3	2	8
Merlangius merlangus (L.)	whiting	73	165	47	60	60	39	79	50	573
cf. *Merlangius merlangus* (L.)	?whiting	6				1	1			8
Trisopterus luscus (L.)	bib	1			2	13		3	14	33
cf. *Trisopterus luscus* (L.)	?bib			1				1	4	6
Pollachius pollachius (L.)	pollack	1	1							2
cf. *Pollachius pollachius* (L.)	?pollack		1							1
cf. *Pollachius virens* (L.)	?saithe	1								1
Gadus morhua L.	cod	17	16	4	2	14	17	5		75
cf. *Gadus morhua* L.	?cod		1	2	1	3	3	3	2	15
Melanogrammus aeglefinus (L.)	haddock	4			4			4	5	17
cf. *Melanogrammus aeglefinus* (L.)	?haddock				1					1
Merluccius merluccius (L.)	hake		1		1	1				3
Molva molva (L.)	ling	12	11			1	1		1	26
cf. *Molva molva* (L.)	?ling	2								2
?Lotinae	?rockling	1			1					2
Dicentrarchus labrax (L.)	bass				1					1
cf. *Dicentrarchus labrax* (L.)	?bass		1							1
Trachurus trachurus (L.)	horse mackerel/ scad	1	2			1				4
Sparidae	sea bream	10	16	4	4	1	6	1	7	49
cf. Sparidae	?Sparidae	1	1		1		1	1		5
Spondyliosoma cantharus (L.)	black sea bream		1							1
cf. *Spondyliosoma cantharus* (L.)	?black sea bream		1							1
Labridae	wrasse	1	1							2
cf. Labridae	?wrasse		1							1
Scomber scombrus L.	mackerel	4	3	14	5	3	3			32
Triglidae	gurnard	35	76		1	12	9			133
cf. Triglidae	?gurnard	3			2	1	1			7
Eutrigla gurnardus (L.)	grey gurnard		1							1
cf. *Eutrigla gurnardus* (L.)	?grey gurnard	2		1			1			4
Aspitrigla cuculus (L.)	red gurnard	2	3							5
cf. *Aspitrigla cuculus* (L.)	?red gurnard	1	22							23

Table 31. *(cont.)*

Species	Context	88	108	223	300	354	453	586	736	Total
	Sample	1007	1051	1027	1035	1045	1074	1080	1096	
Trigla lucerna L.	tub gurnard	1	2		1		2	1		7
cf. *Trigla lucerna* L.	?tub gurnard	2	7	1		1	1		1	13
Bothidae	flatfish (turbot, brill, megrim)	1	5	2						8
Scophthalmus maximus (L.)	turbot	3	1							4
cf. *Scophthalmus maximus* (L.)	?turbot	1	1							2
Scophthalmus rhombus (L.)	brill		1							1
Pleuronectidae	flatfish (plaice, flounder, dab)	29	89		10	12	4	9	14	167
Limanda limanda (L.)	dab		1							1
Platichthys flesus (L.)	flounder							1		1
cf. *Platichthys flesus* (L.)	?flounder	2								2
Pleuronectes platessa (L.)	plaice	1							1	2
cf. *Pleuronectes platessa* (L.)	?plaice		4						1	5
cf. *Hippoglossus hippoglossus* (L.)	?halibut		1							1
Solea solea (L.)	sole		2			2		1		5
Sub-total		***286***	***519***	***123***	***151***	***162***	***105***	***145***	***120***	***1611***
Unidentified fish		321	567	72	91	139	174	128	61	1553
Total		**607**	**1086**	**195**	**242**	**301**	**279**	**273**	**181**	**3164**

the overall condition of the fish bones was quite good. Some fragments, particularly from the larger assemblages, were of rather battered appearance, but others were in near pristine condition. A high degree of fragmentation was noted throughout, although it varied between deposits. Bones from the well fills were slightly better preserved than those from other contexts and, in the case of material from contexts [108] and [453], were less fragmented and included remains representing larger fish. In contrast, bones from [300], [354], [586] and [736] showed a high degree of fragmentation, remains from [736] being particularly fragile.

Contexts explicitly described as cesspit fills (e.g. [500], [510] and [535]) produced collections of bones of small fragment size (mainly less than 20mm in maximum dimension), varying preservation and with some fragments perhaps being mineralised. A herring vertebra from [510] showed damage characteristic of ingestion and passage through the human digestive system (Jones 1984), providing some evidence for the inclusion of faecal material in this pit. Several vertebrae (mainly of whiting and small gadid) from [88], [354], [586] and [736] were similarly crushed, or distorted in a manner which suggested that they might have been chewed. Again, this may be an indication of the presence of faecal matter. One of the vertebrae (from [354]) was quite large (from a conger eel) and more likely to have originated from dog faeces. Acid etching, another indication of the action of the gut (human or canine) on bones, was not seen on the fish remains, although it was noted on some pig phalanges from [504] (sample 1057).

Of the eight main fish assemblages, all bar that from [223] included small numbers of fragments that had been burnt or scorched. Varying degrees of 'burning' were apparent from the colour of these fragments, which ranged from dark brown/black through to blue/grey and white. These last had probably been subjected to high temperatures or prolonged exposure to the heat source, perhaps the result of deliberate burning of rubbish. Scorching/burning seen on several herring and whiting caudal vertebrae (recovered in articulation from [300] and [586] respectively) might be the result of cooking the fish.

Evidence of butchery or processing was not extensive and was encountered principally on remains of the larger gadids. Chopped caudal vertebrae of cod and hake were recorded from [88] and [108], whilst a group of nine large cod precaudal vertebrae from [223] (hand-collected) had had their neural spines removed. Two precaudal ling vertebrae showed similar damage, and knife marks were noted on several large cod caudal vertebrae from [88], one being chopped longitudinally. The articulating surface of a cod post-temporal fragment from [453] had been chopped and a similar fragment was noted from [88]. Butchery marks were also observed on some of the large conger eel and flatfish fragments. Knife marks or shallow chops were recorded on a conger eel articular (context [88]) and a cleithrum ([281], hand-collected) and marks seen on several flatfish vertebrae from [108] were also thought to have been caused by a knife.

Species representation

The assemblage dated to this period comprised mainly marine species; no freshwater fish were identified (Table 31). Gadidae, both large and small, were abundant and included the remains of cod, ling, whiting, haddock, pollack and bib. Hake, a species related to the gadids, was also occasionally identified. Other species of apparent significance were conger eel and gurnard, the remains of flatfish including

flounder/plaice, dab, sole, brill, sea bream and cartilaginous fish (probably mostly rays) also occurring quite frequently. Several deposits (e.g. [88] and [108]) produced fragments of turbot, a flatfish which is often interpreted as an indicator of high-status occupation, whilst a possible halibut vertebra fragment was noted from [108].

Remains of herring appeared to be far less numerous than typically recorded from medieval assemblages, whilst eel bones, again usually one of the more abundant taxa present, were rarely recorded. Additionally, there were a few bones identified as scad/horse mackerel, whilst sporadic occurrences of mackerel, bass and wrasse were also recorded. Several other taxa were noted from the scanned samples (not shown in Table 31) including John Dory (*Zeus faber* L.), spur-dog (*Squalus acanthias* (L.)) and ?smooth hound (cf. *Mustelus mustelus* (L.)).

A closer examination of the relative frequencies of the different species represented in the material from the eight samples showed that, although proportions of the main family groups fluctuated slightly between deposits, generally the overall composition of the assemblages (including species presence, skeletal element representation and fish size) was fairly homogeneous. Overall, numerically, Gadidae remains were prevalent, forming 55% of the recorded fish remains, and one of the smaller gadids, the whiting, provided the largest component (36% of the 55%). A further 10% of the gadid bones could only be identified as small gadid but these too are likely to be predominantly whiting. Amongst the other gadids, only cod appeared to be of any significance, making up 5% of the entire assemblage, together with smaller frequencies of bib (also known as pouting), ling and haddock. Pollack and ?saithe were represented by just a few fragments, as was the closely related hake.

Other fish families that were of some importance (on the basis of fragment counts) were the flatfish (Heterosomata), of which 11% (of the identified fish bones) were the remains of Pleuronectidae (primarily plaice/flounder/dab), and approximately 2% were Bothidae (turbot/brill) and Soleidae (sole), the former (Bothidae) being more common than the latter. Gurnards, their remains including red, grey and tub gurnard, provided 12% of the identified assemblage, but these fish, with their distinctive and very robust bones, are almost certainly over-represented because even very small fragments can be identified. This is also the case for conger eel bones, which are equally sturdy and recognisable and accounted for 6% of the identified fish remains. Whereas the relative frequency of gurnards and conger eels is likely to be exaggerated, the opposite is true for Elasmobranchs (sharks, dogfish, rays and skates) because this group have a cartilaginous skeleton which tends not to survive in archaeological deposits, and they are mostly represented by teeth and dermal denticles (small tooth-like structures protruding from the skin). Here 3% of the fragments were from rays or sharks, their vertebrae, on the whole, being poorly preserved. One of the deposits, [300], produced a small collection of thornback ray (*Raja clavata* L.) dermal denticles, however. As noted above, remains of herring were not particularly numerous, amounting to 6% of the identified assemblage, Sparidae bones providing 4% and Scombridae 2%.

The hand-collected remains showed a somewhat different picture, with, not surprisingly, an emphasis on larger fish, such as large cod, ling and conger eel. The inherent bias in favour of larger fragments in the hand-collected material largely precluded the occurrence of remains from smaller fish, but a few fragments of flatfish, seabream and whiting were noted.

On the basis of frequency of occurrence, most of the main recorded taxa, e.g. gadids, flatfish, conger eels, gurnards, sea breams and Elasmobranchs, were represented in each of the eight samples examined. Herring, although apparently less well represented numerically, were found in seven of these eight larger samples, and were absent from only [736]. Other taxa, such as scad and eel, for which only a few fragments were recovered, were found in three samples, whilst bass and wrasse were identified from just two. The method of judging the relative importance of a species or taxon based simply on its presence, regardless of the number of fragments recovered, fails to account for taphonomic factors such as burial conditions and differential preservation, but it does show that a diverse range of fish was available throughout the features represented. The same might also be said about numbers of fragments but, in this assemblage, the numerical importance of the species does seem to be a reflection of their importance as food.

Body-part representation

An examination of skeletal element representation showed that 56% of the identified fragments were vertebrae, but a range of other skeletal elements were present. For the individual species, whiting showed an emphasis on vertebrae and remains representing the oromandibular area of the fish, i.e. the jaws (dentary, premaxilla and maxilla) and the bones supporting the lower jaw (articular and quadrate). This was apparent in all the samples with the exception of [453], which was dominated by vertebrae (82% of the fragments) to the exclusion of most head bones. Remains of bib showed a similar pattern, whilst fragments identified as 'small gadid' included bones from some of the areas that were less well represented by the more closely identified fragments, e.g. the basicranial (mainly parasphenoid and basioccipital fragments) and branchial areas. Cod remains were again primarily composed of vertebrae, both precaudal and caudal, the smaller (approximately 600mm or less in total length) individuals showing a greater range of elements representing the head. Similarly, more than half of the ling bones were vertebrae (mostly caudal), with just a few fragments from the cranium, e.g. preoperculae and ectopterygoid. Remains of Sparidae showed a similar picture to the whiting; caudal vertebrae were most numerous (with very few precaudal) and a range of other skeletal elements were present, almost all from the oromandibular area of the fish. Flatfish remains showed a slightly different emphasis in that, although as seen for the other taxa vertebrae were prevalent, there were also fragments from the hyoid, oromandibular and appendicular areas of the fish. Gurnard remains, mainly concentrated in [88] and [108], included fragments representing all areas of the head and appendicular skeleton, including opercular and cleithrum, elements which were generally under-represented for most of the other identified taxa. This is a clear indication of the robust nature of gurnard bones and their greater likelihood of identification resulting from distinctive morphology. In contrast, 96% of all the herring bones identified were vertebrae. Details of skeletal element representation are presented for Gadidae (Table 33) and sea bream, gurnard and flatfish (Table 34).

Table 33. Skeletal element representation for Gadidae recovered from 13th-/14th-century deposits.

Body group	Skeletal element	gadid	small gadid	whiting	bib	cod	haddock	ling	Total
appendicular	cleithrum	2	10	1			3		16
	post cleithrum	2							2
	radial	1							1
	supracleithrum		2	9	1	1			13
basicranial	basioccipital		2						2
	parasphenoid		15						15
branchial	branchial arch fragment		1						1
	ceratobranchial	3							3
	pharyngeal plate		6						6
	pharyngobranchial							1	1
hyoid	branchiostegal							1	1
	ceratohyal	1	3	8		1			13
	hyomandibular	1	3	4		1		1	10
	interhyal	1		1					2
	interopercular			1			1		2
	preopercular	1		5	1	1		2	10
	symplectic		7						7
	upper hypohyal					1			1
olfactory	vomer			3					3
orbital	lacrimal		1						1
oromandibular	articular	1	8	33	1	2			45
	dentary		1	48	1	1			51
	ectopterygoid		4	1				2	7
	maxilla		2	18	1	2	1		24
	palatine		3	1		1			5
	premaxilla	1	3	29	2	1			36
	quadrate		1	9		2	1		13
otic	post-temporal	1	1	15	1	5	1		24
vertebral column	caudal vertebrae		6	169	8	35	4	11	233
	precaudal vertebra	1	11	218	17	21	6	5	279
	vertebra	12						3	15

Fish size

Comparison of the gadid remains from the samples with modern reference specimens suggested that the whiting, bib and 'small gadid' bones represented quite small fish, most being less than 400mm total length, typically approximately 300mm. A few bones of whiting suggested that some slightly larger individuals were present, but none represented fish that were greater than 550mm. Evidence from the cod remains indicated that few fell into the small and medium-sized category range (200mm–600mm), and that most fragments were from fish of greater than 600mm in length, with a few bones from individuals of over 1000mm. Ling bones also represented large fish, some probably being between 1.5m and 2m in length.

Conger eels varied considerably in size, from some quite small individuals of approximately 500mm in total length to others which must have been approaching 2000mm or perhaps more; unfortunately no modern reference specimens of very large individuals were available for comparison. Flatfish represented in the assemblage ranged in size from 250mm to approximately 750mm in length, fragments representing the larger specimens (of over 500mm) being fewer in number and mostly identified as the remains of turbot or brill. Bones of gurnards were mostly from individuals of between 300mm and 500mm, whilst the Sparidae were of a similar size with a few fragments from larger fish of approximately 600mm in length.

Table 34. Skeletal element representation for flatfish, sea bream and gurnard recovered from 13th/14th-century deposits.

Body group	Skeletal element	flatfish	gurnard	sea bream
appendicular	cleithrum	8	15	
	supracleithrum	4	1	
branchial	branchial arch fragment	3		
	pharyngeal plate		1	
caudal skeleton	hypural/epural	2		
hyoid	ceratohyal	1	5	1
	epihyal	2		
	hyomandibular	1	3	4
	opercular	3	11	1
	preopercular	6	2	
	upper hypohyal	1		
	urohyal	4	4	
olfactory	vomer	1		
orbital	frontal	1		
	lacrimal		14	
oromandibular	articular	3	3	1
	dentary	1	3	4
	ectopterygoid	2		
	maxilla	3	6	1
	palatine	1	3	5
	premaxilla		4	3
	quadrate	6	3	2
otic	post-temporal			1
vertebral column	caudal vertebrae	32	26	25
	precaudal vertebra	30	12	
	ultimate vertebra	6		1
	vertebra	34		1
other	anal pterygiophore	12		
	scute		17	

Bird remains

Bird bones from this site were recovered by hand collection and from the sample residues. As for the fish, pit and well fills of 13th/14th-century date produced the bulk of the remains and only bones from well-dated deposits of this period have been recorded. The assemblage, representing 62 contexts, amounted to 289 identified fragments (Table 35), of which 173 were recovered from the samples and 116 by hand collection.

The main domestic birds, chickens and geese (assumed, on the basis of the size of the bones, to be domestic) formed the largest component of the bird assemblage (61% and 22% of the remains respectively). Other taxa in the assemblage were far less well represented but included great northern diver/black-throated diver (*Gavia immer* (Brünnich)/*Gavia arctica* (L.)), red-throated diver (*Gavia stellata* (Pontoppidan)), gulls (Laridae), kittiwake (*Rissa tridactylus* (L.)), razorbill/guillemot (*Alca torda* L./*Uria aalge* Pontoppidan), petrels/shearwaters (Procellariidae) and wader (Charadridae), together with Corvidae, Columbidae and Turdidae remains. Unidentified passerine bones, all similar in size to sparrows, were present in three of the samples (from [80], [453] and [504]).

In general, the bird bones were of good preservation and little variation in condition was seen between deposits. Some fresh breakage was apparent but did not affect many bones, whilst distinctive tooth marks seen on chicken bones from [108] and [453] were probably evidence of cat gnawing. The distal articulation of a chicken tarsometatarsus in [453] showed evidence of a break or fracture. The bone was misaligned but had healed extremely well, and the bird must have survived for quite some time after the break. Knife and chop marks were seen on several bones, mostly chicken and goose remains. A common occurrence was knife marks on the distal articulation of the tibiotarsus and on the distal and proximal articulations of the humerus. The former is probably

Table 35. Bird remains (both from hand collection and from sieved samples) from 13th/14th century deposits.

Species		**Total**
Anser sp.	goose	64
Anas sp.	duck	4
Gallus f. domestic	fowl	174
cf. *Gallus* f. domestic	?fowl	8
Gavia immer (Brünnich)/*Gavia arctica* (L.)	great northern diver/black-throated diver	5
Gavia stellata (Pontoppidan)	red-throated diver	1
Procellariidae	petrels and shearwaters	2
Wader	wader	1
Laridae	gull family	2
Larus tridactylus L.	kittiwake	7
Alca torda L./*Uria aalge* Pontoppidan	guillemot/razorbill	1
Columbidae	pigeon family	1
Turdidae	Turdidae	5
Passerine	passerine	9
Corvidae	corvid	5
Total		**289**

indicative of the removal of the lower leg, whilst the latter is related to cutting off the wing, both probably occurring during food preparation. A single large diver (*Gavia immer* (Brünnich)/*Gavia arctica* (L.)) tibiotarsus (context [405]) may have been chopped at the distal articulation.

Most of the bird bones, other than those of chicken, were from adult individuals; material from [500], [510] and [586] included small collections of bones from juvenile chickens, some of which were probably part skeletons, whilst a matched pair of humeri from a small chick were identified from [770]. From the chicken remains, it was also possible to identify the presence of male and female birds. Tarsometatarsi can be used for sex determination by the presence or absence of spurs. In general, those bones with spurs are interpreted as cockerels (or capons), whilst it is suggested that those without represent females, although occasionally hens have small spurs (Allison 1985). Of the 23 tarsometatarsi recovered from the site, 4 were spurred, or showed evidence of spurs, and 11 were unspurred. The others were too fragmentary or from juvenile individuals. A scatter plot (see ADS Fig. 47) using proximal breadth (Bp) and greatest length (GL) measurements for tarsometatarsi, shows a clear division between the smaller unspurred specimens and the larger spurred bones, supporting the presence of larger male and smaller female birds. There is one ambiguous spurred tarsometatarsus whose measurements fall into the group which is likely to represent female birds; this could represent a spurred female. Evidence for female birds was based not only on the tarsometatarsi but also on the presence of medullary bone, a specialised type of secondary bone which forms in the marrow cavity of some of the bones of laying hens (as a source of calcium for the egg shells), which was seen in three bones, two femora ([108] and [442]) and a tibiotarsus ([242]).

Skeletal element representation for chickens showed that all parts of the body were represented. The major limb bones were prevalent, particularly the femur (Table 36; see ADS Fig. 48). Those elements that appeared under-represented in the assemblage are typically quite fragile, such as the head and bones representing the tips of the wings (carpometacarpals and digits) and the toes (phalanges). Given the extensive sieving undertaken, it is likely that these parts of the body were genuinely absent, suggesting that some of the chicken remains represent dressed carcasses and that most of the bones are domestic and household refuse from preparation and consumption of food.

Table 36. Total numbers of fragments for each skeletal element for chicken and geese from 13th/14th century.

Skeletal element	**chicken**	**goose**
cranium	1	4
scapula	8	3
humerus	24	3
radius	9	1
ulna	19	4
femur	27	2
carpometacarpus	7	25
coracoid	11	4
digit	8	8
furcula	-	1
phalanx	6	1
sternum	2	2
synsacrum	4	1
tarsometatarsus	23	2
tibiotarsus	25	3
Total	**174**	**64**

In contrast, goose remains were dominated by carpometacarpals and, to a lesser extent, by associated digits (Table 36; see ADS Fig. 49). These skeletal elements were not concentrated in any particular pit or well but scattered throughout the features. Other parts of the skeleton were present but were less well represented. The carpometacarpals and the digits make up the wing tips of the birds, which would obviously be removed prior to cooking, but the dearth of other remains in the pit and well fills suggests that the wing tips may have been waste from some specialist activity. One had knife marks on the distal articulation showing that it was deliberately cut from the radius and ulna and the rest of the carcass.

The remains of seabirds included bones of divers, kittiwakes, guillemot/razorbill, gulls (these could not be more closely identified) and two ulnae fragments representing a shearwater. This last may have been a manx shearwater, but the bones represented a bird that was slightly larger than the available reference skeleton. These remains may be food waste but only the large diver tibiotarsus fragment from [405] showed any evidence of butchery marks. Wing bones, ulnae in particular, were the most numerous skeletal elements for this group of birds, the three great northern diver/black-throated diver bones from [586] being part of the same wing (ulna, radius and carpometacarpus). Unfortunately, these remains and those from [405] and [800] could not be identified more closely because no reference specimen for black-throated diver was available. However, their modern distribution suggests that both are found off the south coast during the winter months, although the great northern diver is rarer.

Corvid remains were of a similar size to jackdaw but a specific identification was not possible; this was also the case for the Turdidae fragments which were of thrush/blackbird size. No attempt was made to identify the passerines to species.

Discussion

The numerous pit and well fills of 13th/14th-century date produced varying quantities of fish remains, with the largest accumulations recovered from the fills of well [87]. Gadidae remains were prevalent, one of the smaller members of this family, the whiting, being the most numerous throughout. Other gadids were less well represented, but the larger cod and ling were probably also of some importance, whilst the consistent presence of the remains of conger eel, flatfish, gurnards and sea breams suggested that they made a significant, although smaller, contribution to the diet.

Most of these fish are inshore marine species, with the smaller gadids (e.g. whiting, bib and small cod) found in shallow water in the winter months, and other taxa, such as gurnards and sea breams, found closer to shore in the summer. The flatfish, too, are rarely found in deep water, preferring sandy or muddy shores, with the flounder most commonly found in estuarine waters (Wheeler 1969). The dominance of whiting and other inshore species strongly suggests that much of the fishing carried out at Shoreham was local and undertaken along the coastline. Gadids, conger eels, rays, gurnards and sea breams could have been caught using hooks and lines, although nets were sometimes used for catching whiting. Flatfish were probably netted or caught in tidal traps, although some of the larger specimens may have been caught on lines. Species for which only a very few fragments were recovered, such as wrasse and John Dory, were probably incidental catches. The range of species identified and the seasonal availability of the different taxa suggest that inshore fishing was undertaken all year round.

Skeletal elements representing the smaller fish, and in particular those of whiting, indicated the presence of whole fish. Bar a single cut mark on a whiting premaxilla (which may represent hook damage), there was no direct evidence for processing and, considering the site's close proximity to the sea, these fish were almost certainly eaten fresh.

The scarcity of remains of pollack and hake, species usually found in abundance off the southwest coast (and recovered from a number of medieval sites in the south west such as Launceston Castle (Smith 1995) and Exeter (Wilkinson 1979), may also be an indication of the limitations of the fisheries, the fishing boats from Shoreham venturing eastwards rather than exploiting the waters around the coasts of Devon and Cornwall. A claim by the Lord of the Borough in 1279 that '… his sailors of Shoreham had chase of the sea [presumably an exclusive fishery] from Beachy Head to the Isle of Wight' seems to support the archaeological data (Elrington 1980).

Another fishery is, perhaps, indicated by the small quantity of remains of large cod and ling (recovered both by hand and from the samples) of approximately 750mm and over in maximum length. These fish favour deeper, and in the case of ling more northerly, waters and are likely to be the result of offshore fishing. Remains identified as these species often represent imported fish that had been cured, by drying, by salting, or by a combination of the two. The treatment of the fish depended largely on the distance from the fishing grounds to the port and subsequently to the market. Fresh fish could be transported, but the 'shelf life' of the fish limited the distance. Recognition of remains of stored or fresh fish is usually determined by the presence or absence of different groups of bones. For example, the absence from an assemblage of cranial elements and precaudal vertebrae is usually an indicator of stored rather than fresh fish (because the head of the fish is removed prior to salting or drying), the caudal vertebrae and the appendicular part of the skeleton (i.e. the cleithrum, supracleithrum, post-temporal, scapula and coracoid) remaining in the cured product (Barrett 1997). The percentages for different groups of body parts for both ling and large cod from Ropetackle demonstrate that parts of the head and body were represented, suggesting that these remains represent whole fish rather than cured (see ADS Fig. 50). It is therefore likely that they were fresh when they arrived at the port, and they provide some evidence that offshore fishing was undertaken by Shoreham fishermen and that their catch was brought home for processing. This was only a minor component of the assemblage and, despite the butchery marks noted, there was no evidence that these fish were being commercially processed at this site.

Comparable material was recovered from 12th- to 14th-century deposits at Townwall Street, Dover (Nicholson 2006). A very similar range of fish species was recorded, although here at least four types of fishery were identified. A coastal fishery was apparent from the quantities of remains representing the smaller gadids, flatfish, conger eels, gurnards and rays, and this equates well with the material identified from Ropetackle. An offshore fishery for cod was also indicated and this too appears to be represented at Ropetackle, as shown by the presence of the bones of the larger gadids. However, at Dover two other fisheries were evident, one based on herring and one on mackerel. Both of these taxa were identified at the Shoreham

site but neither was well represented. In the case of herring, this was particularly surprising since this species is normally abundant from medieval sites, being a cheap alternative to meat on days when religious abstinence precluded consumption of animal flesh. Documentary evidence exists to suggest that in the 13th century herring were very much a part of the fishing industry at Shoreham. It was recorded that in 1223 'Hugh Baldefard exported two ship loads of herring [from Shoreham]' and a little later in date (*c.* 1270) it was noted that 'a 1000 [herring] were paid as the consideration for the grant of a house in Shoreham' (Salzman 1923). The dearth of herring remains is unlikely to result from recovery techniques because systematic sampling was undertaken, but it may be that preservational conditions were such that the more fragile herring bones did not survive. Alternatively, herring fishing could have been undertaken but the fish might have been landed and processed elsewhere. Great Yarmouth was famed for its herring fair between September and November and many were caught in the main herring fishing grounds around the East Anglian coast. However, some shoals could be found in the Channel during the autumn, and the relatively small number of remains identified at the site may represent a supply caught more locally.

Other than the vast assemblage recovered from Dover, few other collections of fish remains have been recovered from archaeological sites of this date on the south coast. Earlier material of late Saxon date from Sandtun, West Hythe (Hamilton-Dyer 2002) showed a similar range of species to that seen at Ropetackle, with cod, whiting and flatfish being the most significant components of the assemblage. Medieval deposits at Southampton produced fish remains dominated by herring, eel and flatfish, whiting being the dominant gadid present (Coy and Hamilton-Dyer 1987). Conger eel also made a significant contribution to the material from Southampton, and this was also the case at Exeter (Wilkinson 1979), although the medieval assemblages here were dominated by remains of hake, a species represented here by only a very few fragments. In common with the fish assemblage from Ropetackle, most of these sites produced a range of species representing different fisheries, the emphasis at different sites showing some regional variations.

Bird remains from Ropetackle formed only a small proportion of the vertebrate material recovered from the site. Most of the fragments were identified as chicken remains and these were primarily waste from initial preparation of the bird prior to cooking and food remains from consumption. Heads and feet were scarce, suggesting that some of the chickens may have arrived at the site pre-prepared or, perhaps, bought in as 'dressed carcasses'. Both male and female individuals were indicated, and some juvenile birds were also recorded; it is likely that people may have kept a few birds themselves, both for eating and for the eggs that they could provide.

Remains of geese were the only other species of bird represented by more than one or two fragments. None of the bones came from immature birds and, on the basis of the size of the bones, the geese were probably domestic individuals. Some of the geese remains represented food debris but an over-representation of fragments representing the wing tips was clearly evident. These are probably waste from preparing the birds for cooking, but could just possibly hint at craft activity associated with the use of the feathers, e.g. for the construction of arrow flights or the making of quill pens. Similar occurrences of wing bones (but on a far larger scale) were noted from medieval deposits at Winchester (Serjeantson 2002) and from a post-medieval pit fill from the Shires, Leicester (Gidney 2000), but in both of these cases the concentration of bones was greater and, at Leicester, found in one feature, whilst the remains seen at Ropetackle were scattered throughout the site and were too few to support such an interpretation. However, feathers were a useful resource and it seems unlikely that they were just discarded.

The small number of bones from wild birds provided little evidence for exploitation of wild resources. All could have been eaten as food, although some are more likely than others to represent waste from consumption, e.g. duck, pigeon and wader. The seabirds are perhaps likely candidates, too, although the few fragments recovered do not suggest that they were anything other than occasional additions to the diet. There was little direct evidence to support this assumption, however, only one great northern/black throated diver fragment showing any marks possibly indicative of butchery. At Dover, knife marks characteristic of food preparation were noted on some of the seabird bones, mainly the gulls, and it was suggested that these birds were probably eaten (Allison 2006). The pelagic nature of some of these birds does, however, imply that they arrived on site by human agency. Allison (2006) suggests that they may have been caught at sea whilst following the fishing boats, some perhaps becoming entangled in the fishing nets.

The large quantity of vertebrate remains recovered from Ropetackle appears to represent primary butchery waste, domestic and household refuse and general rubbish. A minor component of the fish bone probably derived from faeces, the main evidence for which was seen in material from features already identified by the excavators as cesspits, although there were some slight indications of the presence of faecal matter in some of the other pit and well fills; this may have been from dogs. However, most of the fish and bird remains were from the pieces of the carcasses removed during preparation or left once the food had been eaten. The pits had evidently been dug deliberately or re-used for disposal of such refuse, whilst the large well (once no longer in use) was clearly a convenient receptacle for discarding noxious and unpleasant waste.

THE MARINE MOLLUSCS by David Dunkin

Some 249 contexts with marine molluscs (wt 391.404kg) were recorded from across all phases. The medieval assemblage, however, provides the largest and most interesting group and is summarised here. The full report is available in the ADS supplement.

The medieval assemblage is dominated by the Common Oyster (*Ostrea edulis*). Other species include *Pecten maximus* (Great Scallop), *Mytilus edulis* (Common Mussel), *Cerastoderma edule* (Common Cockle), *Buccinum undatum* (Common Whelk) and *Littorina littorea* (Periwinkle).

The oyster shells (left and right valves) in excess of 5 years (5–10 years+) comprise 60% of the medieval oyster assemblage, which could suggest either a farmed or a wild colony source, depending on exploitation levels. Most oysters exhibit very low levels of infestation and shell distortion. The one exception to this is 13th-century pit [736]. This has 25% polychaete worm infestation, with 40%+ of the shells showing distortions, many of which have been caused by 'adhering' shells. The pit also contains a large number of inedible individuals within the younger grouping of valves. It is therefore unlikely that the oysters from this context

were recovered from a 'farmed' colony. It is not possible to identify the source of the oysters, but they almost certainly derive from the estuarine reaches of the River Adur in the vicinity of the town.

The relatively small quantities of the other four principal edible species indicates that these were probably only a supplementary food resource, whereas very low levels of other species suggest that their presence is accidental or residual and cannot be regarded as an important food resource at the site.

THE PLANT REMAINS by Lucy Allott

Introduction

A total of 114 environmental samples, ranging in size from 5 to 40 litres, were collected during excavation from dry and waterlogged pits, wells and gullies, to aid the recovery of plant remains, including macrobotanicals and charcoal. Abundance, diversity and preservation of macrobotanical remains were recorded during assessment (Gray 2004) and 41 samples from LIA/ERB, late Saxo-Norman, High Medieval, Transitional, and early and late post-medieval occupations were recommended for further analysis. Several of the features were thought to contain cess deposits, and therefore mineralised as well as charred and waterlogged plant remains were anticipated. Analysis aimed to characterise the botanical evidence for agricultural practices and subsistence during each phase of occupation, with specific focus on the medieval period.

Methodology

All samples, from dry and waterlogged contexts, were bucket-floated. The light fractions (flots) and heavy residues were captured on 250µm and 1mm meshes respectively. Flots from dry contexts were air-dried and those from waterlogged deposits kept wet prior to assessment. Specimens were viewed at magnifications of x7–45 and identifications were made using modern and archaeological comparative material held at the Institute of Archaeology, University College London and through reference to identification atlases (Berggren 1969 1981; Anderberg 1994; Cappers *et al*. 2006; Jacomet 2006). Identifications are provided in Tables 39, 40a & b and 41 with nomenclature and habitat information according to Stace (1997). Scientific names are given when first mentioned and subsequently referred to by common names. The term 'seed' is used in the text to encompass a range of fruiting bodies such as fruit stones, nutlets, caryopses and achenes, and all remains recorded in the tables should be considered charred unless otherwise stated.

Results

A list of identified taxa, their habitat preferences, abundances and preservation state is presented by occupation phases in Tables 39, 40a & b and 41. Three modes of preservation, charred, waterlogged/uncharred and mineralised, have been noted. Charred botanical remains were present in many of the samples, while mineralised and uncharred remains were less common. Mineralised and uncharred remains are grouped where their mode of preservation was not clear. It is possible that some modern plant remains are present in the uncharred or waterlogged assemblage, but distinguishing them from the ancient seeds is not possible where a range of preservation conditions are evident. It appears that many of the uncharred stones and seeds originate from sealed pit contexts that were sufficiently anoxic to allow such remains to survive.

Key to macrobotanical Tables 39, 40a & b, and 41.

Plant part

gb	glume base

Preservation

Ch	Charred
Unch	Uncharred
Wl	Waterlogged
Min	Mineralised

Habitats/uses

A	weeds of cultivated land
B	weeds of disturbed ground
C	woodland, scrub and hedgerow plants
D	grassland plants
E	aquatic and/or damp ground plants
F	edible plants
G	medicinal and poisonous plants
H	miscellaneous uses e.g. fibre, dyes, buildings construction
I	cultivated plant

Feature type

P	pit
W	well
PC	cesspit
Pr	privy
G	gully
H/O	hearth/oven

Preservation varied considerably, but on the whole the botanicals from the medieval occupations were better preserved than those from the oldest or youngest occupation phases. This observation may be slightly skewed because medieval features are more numerous than LIA/ERB or post-medieval features. In support of this observation, however, individual features from these occupations contain fewer botanical remains and less diverse assemblages than those from medieval occupation phases. The notable absence of pulses and the smaller number of cereals in contexts containing waterlogged fruit remains are likely to result from differential preservation.

Late Iron Age/early Roman period

Samples from this early occupation phase were (Table 39) dominated by wheat cereals, many of which remain as broad genus identifications due to their poor preservation and lack of securely identifiable characteristics. Grains consistent with bread-type wheat (*Triticum aestivum* sl.) and spelt glume bases (*Triticum spelta*) provide evidence for both free-threshing and glume wheat varieties. Other cereals present include oats (*Avena* sp.) that may be wild or cultivated and hulled barley (*Hordeum vulgare*). Several types of legume including common pea (*Pisum sativum*) and wild taxa such as vetch/tare/wild pea (*Vicia/Lathyrus* spp.) were noted. Small legumes were comparatively common in these deposits, and in the absence of diagnostic features were grouped according to overall form. Indeterminate grass seeds as well as other weeds such as fat hen (*Chenopodium album*), cabbage/mustard (*Brassica/Sinapis* sp.) and cinquefoils (cf. *Potentilla* sp.) that are common to arable or disturbed ground were also noted. Elder (*Sambucus nigra*) and blackberry/raspberry (*Rubus fructicosa/idaeus*) seeds

Table 39. Macrobotanical remains from Late Iron Age/early Roman and late Saxo-Norman occupations.

			Sample no.	**1071**	**1072**	**1075**	**1083**	**1065**	**1070**
			Context no.	**539**	**563**	**553**	**635**	**520**	**529**
			Feature context no.	**P 538**	**P 562**	**G 549**	**P 634**	**P 505**	**P 505**
			Phase	**LIA /ER**	**LIA /ER**	**LIA /ER**	**LIA /ER**	**Late S-N**	**Late S-N**
Latin name	**English name**	**Preservation**	**Habitat & use**						
Triticum aestivum sl.	bread wheat		FI	5	4	3			
Triticum spp.	wheat		FI	19		11	25	10	
cf. *Tricticum* spp.			FI	31	8				
Hordeum vulgare	hulled barley		FI	3	3	5	4	350	
Avena sp.	oat		AFI	3	3	5		20	1
Cerealia	Cereal caryopses (indeterminate)		FI		19	23			
Cerealia	cereal (indet) g.b., chaff and stem frags		FI				>50		
cf. *Bromus* sp.	brome/chess		ABD		3			5	
Poaceae indet	grass		ABCDEFHI	3		12	5	2	
Pisum sativum	pea		FI			2		1	
cf. *Vicia* sp.	vetch							1	
Vicia/Lathyrus spp.	vetch/tare/wild pea		ACDEFI		1	2			
Vicia/Lathyrus spp. (sm. round)			ACDEFI	16	7				
Vicia/Lathyrus spp. (oblong)			ACDEFI		1				
Fabaceae (indeterminate)					18	2	5	2	
Sambucus nigra	elder	min/unch	BCFGH				10		
Rosaceae				1					
Rubus fructicosus/idaeus	blackberry/raspberry	min	CFGH			1			
Ranunculus/ Potamogotaceae	buttercup/pondweed		ABCDEG		1				
Polygonum sp.	knotgrass	wl	ABCDEFG			4			
Rumex sp.	docks		ABCDEFG		1				
cf. *Potentilla* sp.	cinquefoils	min	BCDEFGH			2			
Brassica spp.	cabbage		BFHI	1					
Raphanus sp.	radishes				1	2			
Papaver cf. *dubium*	long-headed poppy fruit		ABGHI	1					
Chenopodium sp.	fat hen		ABCDFH			2	6		
Malva sp.	mallow	min	BCDF			3			
cf. *Scirpus* sp.	wood club-rush							1	
Indeterminate	weed seeds			19	13		15		
Indeterminate	fruit						1		
Indeterminate	wood	wl							*
Indeterminate	weed seeds	min					3		

Table 40a. Macrobotanical remains from High Medieval occupations (pits).

			Sample no.	1000	1002	1011	1013	1027	1029	1035	1058	1050	1067	1068	1082	1092	1089	1106	1102	1114	1088	1107	1112
			Context no.	74	76	116	122	223	163	300	80	448	515	523	33	631	535	802	770	770	673	803	804
			Feature context no.	P 73	P 75	P 115	P 121	P 222	P 156	P 298	P 79	P 440	P 440	P 440	P 32	P 620	P 534	P 601	P 601	P 601	P 665	P 665	P 665
Latin name	**English name**	**Preservation**	**Habitat & use**																				
Triticum aestivum sl.	bread wheat		FI		6	11		10	450	33		14				2	3	2					
Triticum spelt/dicoccum	spelt/emmer wheat		FI					25	1			77											
Triticum sp.	wheat		FI			13	2	9	120	20	2		15	2	5	12	24	4					
cf. *Tricticum* sp.			FI		6					55													
Hordeum vulgare	hulled barley		FI	52	8	11	1	17		26	2	33	130	2	9	10	28	6					
Hordeum vulgare	barley rachis		FI															1					
Avena sp.	oat		AFI			3		10		3		10	83		1	3	7	3					
Cerealia	cereal caryopses indeterminate		FI	80	18	18	8	52		33	2	56			8	6	50	11					
Cerealia	cereal caryospes indeterminate	min?	FI																			3	
Cerealia	indeterminate g.b., chaff and stem fragments		FI														2	1				5	
cf. *Bromus* sp.	brome/chess		ABD		1			3															
cf. *Vulpia* sp.	fescue								1														
Poaceae indet	grass		ABCDEFHI					2									3	3					
Poaceae indet	grass	min?	ABCDEFHI								2												
Pisum sativum	pea		FI	1		1		1	1	2			1					2					
cf. *Pisum sativum*	pea		FI							1													
Vicia faba var. *major*	broad bean		FI														47						
Vicia faba var. *minor*	celtic/horse bean		FI						2			2											
Vicia/Lathyrus spp.	vetch/tare/ wild pea		ACDEFI					3	2	15			1					4					
Vicia/Lathyrus spp. (sm. round)			ACDEFI			3		5		8		6											
Vicia/Lathyrus spp. (oblong)			ACDEFI									1											
Fabaceae indeterminate				2	1	2		2		22		1	2		3		13						
Fabaceae indeterminate		min						1						1									
Sambucus nigra	elder		BCFGH		1																		
Sambucus nigra	elder	min/unch	BCFGH				67																
Corylus avellana	hazel		CF												3		8				4		
Quercus sp.	oak acorn																				1		

			Sample no.	1000	1002	1011	1013	1027	1029	1035	1058	1050	1067	1068	1082	1092	1089	1106	1102	1114	1088	1107	1112
			Context no.	74	76	116	122	223	163	300	80	448	515	523	33	631	535	802	770	770	673	803	804
			Feature context no.	P 73	P 75	P 115	P 121	P 222	P 156	P 298	P 79	P 440	P 440	P 440	P 32	P 620	P 534	P 601	P 601	P 601	P 665	P 665	P 665
Latin name	**English name**	**Preservation**	**Habitat & use**																				
Rubus fructicosus/idaeus	blackberry/ raspberry	wl/unch	CFGH					1													1		1
Prunus spp.	cherry/plum/sloe	ch	CFGI							2	1						1						
Prunus spp.	cherry/plum/sloe	min/unch	CFGI																>60			40	
Prunus spp.	cherry/plum/sloe	min	CFGI														33						
Prunus domestica	plum/ bullace	min/unch	CFI																26	9		9	2
Prunus domestica	plum/ bullace	min	CFI								4						2				4		
Prunus spinosa	blackthorn/sloe	min/unch	CFG														12 min		74	59	4	12	21
Malus sp.	apple	min									1												
Ficus carica	fig																						68
Juglans regia	walnut shell	wl																					1
Vitis vinifera L.	grape		FI							1								4					
Brassica spp.	cabbage		BFHI	1								1											
Raphanus sp.	radishes												1										
cf. *Centaurea* sp.	knapweeds		ABDGH						1			1											
Polygonum sp.	knotgrasses		ABCDEFG									1											
Rumex sp.	docks		ABCDEFG						5														
Polygonum/Rumex sp.			ABCDEFG	2																			4
Galium sp.	bedstraws		ABCDE							1													
Chenopodium sp.	fat hen		ABCDFH	1		1																	
Caryophylaceae	pinks																	1					
Silene sp. type	campion/catchfly		ABCDF						2														
Malva sp.	mallows	min	BCDF																				2
cf. *Carex* sp.	sedges		CDEH																				
Indeterminate	weed seeds				5	2			12			7				5	1						
Indeterminate	fruit					1																	
Indeterminate	weed seeds	min									4			9									12
Indeterminate	stem																2						
Indeterminate	stem	min																					1
Indeterminate	wood/ charcoal							3				5											

Table 40b. Macrobotanical remains from High Medieval occupations (hearth/oven, wells, cesspits and gullies).

			Sample no.	**1020**	**1045**	**1007**	**1008**	**1049**	**1056**	**1073**	**1017**	**1015**	**1059**
			Context no.	**206**	**354**	**88**	**108**	**108**	**108**	**135**	**172**	**46**	**500**
			Feature context no.	**H/O 235**	**W 353**	**W 87**	**W 87**	**W 87**	**W 87**	**W 134**	**G 171**	**C 16**	**C 207**
Latin name	**English name**	**Preservation**	**Habitat & use**										
Triticum aestivum sl.	bread wheat		FI	2250	16	10	30	32	27	8	18		
Triticum cf. *spelta/dicoccum*	spelt/emmer wheat		FI		14		7						
Triticum sp.	wheat		FI	300	22	14	85	124	21	20	33	3	3
Hordeum vulgare	hulled barley		FI			3	8	23	16	9	19	3	
Avena sp.	oat		AFI					4	2	1	4	1	4
cf. *Secale cereale*	rye		FI					1					
Cerealia	cereal caryospes (indeterminate)		FI	200	35	25	18	36	17	28	34	10	4
Cerealia	cereal (indet) g.b., chaff and stem frags		FI			1		1					
cf. *Bromus* sp.	bromes/chess		ABD										2
Poaceae indet	grass		ABCDEFHI							1		4	
Pisum sativum	pea		FI	38		2	6	8	6	2	1		
cf. *Pisum sativum*	pea		FI						1				
Vicia/Lathyrus/ Pisum	vetch/tare/pea		ACDEFI		14								
Vicia faba var. *minor*	celtic/horse bean		FI	4				1					
Vicia cf. *sativa*	common vetch						9				1		
Vicia/Lathyrus spp.	vetch/tare/wild pea		ACDEFI	20	2	1	7	3	2	1	5		3
Vicia/Lathyrus spp. (sm. round)			ACDEFI		1					8	1		
Vicia/Lathyrus spp. (oblong)			ACDEFI						1	1			1
Fabaceae (indeterminate)				>200		6	35	19	12	10	5		
Sambucus nigra	elder		BCFGH					1		1		2	
Sambucus nigra		min/unch	BCFGH		15							21	
Corylus avellana	hazel		CF				11	2					
Quercus sp.	oak acorn and involcre							1					

			Sample no.	1020	1045	1007	1008	1049	1056	1073	1017	1015	1059
			Context no.	206	354	88	108	108	108	135	172	46	500
			Feature context no.	H/O 235	W 353	W 87	W 87	W 87	W 87	W 134	G 171	C 16	C 207
Latin name	**English name**	**Preservation**	**Habitat & use**										
Rubus fructicosus/idaeus	blackberry/ raspberry	wl/unch	CFGH									1	
Prunus spp.			CFGI						1				
Asteraceae indet.					1								
Polygonum sp.	knotgrasses		ABCDEFG							1			
Persicaria maculosa/amphibia/ lapathifolia type	red shank/ amphibious/ pale persicaria		ABCDEFG							1			
Polygonum/ Rumex sp.			ABCDEFG							1		3	
Galium sp.	bedstraws		ABCDE	1	2		1			1			
Brassica spp.	cabbage		BFHI			2							
Chenopodium sp.	fat hen		ABCDFH									2	
Silene sp. type	campion/catchfly		ABCDF				1						
cf. *Carex* sp.	sedges		CDEH							1			
Indeterminate	weed seeds				1	8		2				7	
Indeterminate	fruit											2	
Indeterminate	weed seeds	min				2							
Indeterminate	stem				1						8		2
Indeterminate	wood/charcoal			4	1						1		

Table 41. Macrobotanical remains from Transitional, early post-medieval and late post-medieval occupation.

			Sample no.	**1003**	**1006**	**1012**	**1091**	**1099**
			Context no.	**94**	**100**	**120**	**719**	**570**
			Phase	**Transi-tional**	**Transi-tional**	**Early post-medieval**	**Late post-medieval**	**Late post-medieval**
			Feature context no.	**P 93**	**P 99**	**P 119**	**SP 819**	**CP 565**
Latin name	**English name**	**Preservation**	**Habitat & use**					
Triticum aestivum sl.	bread wheat		FI	4	3			
Triticum sp.	wheat		FI	3	18	1		
Avena sp.	oat		AFI	1				
Hordeum vulgare	hulled barley		FI	2	3			
Cerealia	cereal caryospes (indet)		FI	9	76			
Fabaceae (indeterminate)				3	1			
Pisum sativum	pea		FI		2			
Vicia/Lathyrus spp.	vetch/tare/wild pea		ACDEFI					
Vicia/Lathyrus spp. (sm. round)			ACDEFI	2				
Vicia faba var. *minor*	celtic/horse bean		FI					
Vicia cf. *sativa*	common vetch				1			
cf. *Trifolium* sp.	clover	min?						2
Galium sp.	bedstraws		ABCDE					
Sambucus nigra	elder	min/unch	BCFGH			2000		
Corylus avellana	hazel		CF					2
Rubus fructicosus/ idaeus	blackberry/ raspberry	wl/unch	CFGH			2500		33
Prunus spp.		min	CFGI			1		
Prunus spinosa	blackthorn/ sloe	min/unch	CFG					2
Vitis vinifera L.	grape		FI					6
Indeterminate	weed seeds							10
Indeterminate	fruit				1			
Indeterminate	wood/ charcoal					****		
Indeterminate	wood	wl					*	
Mineralised insect remains								*

provide limited evidence for edible fruits during this phase of land use.

Late Saxo-Norman
Samples taken from large pit [505] (Table 39) contained a limited range of botanical remains. The basal fill [529] contained one charred oat seed and several wood fragments. A richer assemblage in [520] was dominated by hulled barley with lesser components of wheat, oat and pea as well as weed/wild seeds of brome/chess (*Bromus* sp.), grasses and possible wood club-rush (cf. *Scirpus* sp.). Given the prominence of barley, this deposit is likely to derive from a single source rather than gradual accumulation in the pit, in which a broader range of taxa might be anticipated. Twisted/asymmetrical lateral grains provide evidence for six-row hulled barley.

High Medieval
The majority of samples correspond with this phase of occupation and provided the richest assemblages of macrobotanical remains at this site (Tables 40a and b). Preservation mode and quality were variable across the samples, with some features such as pits [665], [534] and [601] rich in waterlogged and mineralised remains while others, such as pits [156] and [440], contained large quantities of well-preserved charred cereals.

In both the wells and pits bread-type wheat and hulled barley were the most commonly occurring cereals, and grains more consistent in form with spelt/emmer (*Triticum spelta/dicoccum*) were only sporadically present. Although chaff was poorly represented in this occupation phase, this is not surprising given the prominence of free-threshing wheat grains. Arable seeds are also relatively infrequent, suggesting that much of the grain was brought into the area cleaned or part-cleaned, with most crop processing undertaken elsewhere. Two features of particular interest are pit [156] and hearth/oven [235]. Samples from both consist almost entirely of bread-type wheat caryopses and may represent discard of spoiled grain rather than gradual accumulation. The fill [206] of hearth/oven feature [235] cut into a large pit of 13th- to 14th-century date was extremely rich in free-threshing bread wheat (Table 40b), and occasional peas and celtic/horse bean were also indicated. Charred weeds were uncommon, although a bedstraw and several vetch/wild pea were recorded. Assemblage composition is consistent with crops that have been cleaned of weeds, chaff and other incidental plant remains. Rather than representing an amalgam of discarded rubbish in which a more diverse spectrum of macrobotanicals would be present, it is possible that the hearth/oven was used to dry grain and legumes prior to storage. As no sprouted grain was recorded, it appears that grain was being dried to aid storage or milling rather than to halt malting as part of beer making. A similar assemblage rich in bread wheat was recorded by Hinton (2001) in a grain dryer of the 13th to early 15th century at Little High Street, Worthing.

Common pea and broad bean are the primary non-cereal crop plants represented. Large broad beans (*Vicia faba var. major*) were recorded in pit feature [534], and smaller celtic/horse beans (*V. faba var. minor*) were present in pits [156] and [440] and in well [87]. Many of the beans are intact or have split in half, but very few are fragmented and they show no signs of being further processed before becoming charred. In addition, several wild pea/vetches that might have been used for animal fodder are also evident.

Mineralised and waterlogged stones of cherry, plum/bullace and sloe (*Prunus* cf. *cereasus/ avium*, *P. domestica* and *P. spinosa*) are common in pit features [534], [601] and [665]. Seeds of other fruits are less abundant, although hazel (*Corylus avellana*) and walnut shell (*Juglans regia*), grape (*Vitis vinifera*) and fig (*Ficus carica*) seeds are also present in these pits. The scarcity of waterlogged botanicals in samples from the wells and waterlogged or mineralised botanicals in cesspits (Table 40b) is surprising, since both often provide anaerobic and mineral-rich conditions suitable for such preservation. Fruits were represented by a small quantity of charred remains, but uncharred/waterlogged elder and blackberry/raspberry seeds were recorded only in well [353] and cesspit [16], and several of the elder seeds in [16] appear partially mineralised.

Other food plant remains were scarce, with only occasional seeds of edible wild plants such as cabbage/mustard (*Brassica*/*Sinapis* sp.), radish *(Raphanus* sp.) and fat hen. These seeds could equally be associated with sporadic occurrences of arable weed plants and taxa more common to disturbed ground such as bedstraw (*Galium* sp.), knotweed/dock *(Polygonum/Rumex* spp), knapweed (*Centaurea* sp.), campion/stitchwort (*Silene/Stellaria* sp.), mallow (*Malva* sp.) and wild grasses. Sedge (*Carex* sp.) may be indicative of damp ground in low-lying areas of the flood plain nearby.

Transitional, early post-medieval and late post-medieval
Following the High Medieval occupation there is a marked decline in samples containing significant quantities of macrobotanical remains. Two pits [93] and [99] (Table 41) of Transitional date contained small assemblages of charred cereal grains including wheat, hulled barley and oats, as well as common pea and vetch. Although some bread wheat seeds were recorded, the majority of cereal grains were considered undiagnostic. The fill of an early post-medieval pit [119] (Table 41) revealed in excess of 2000 intact uncharred seeds of blackberry/raspberry and elder, with many more fragments of the same fruit seeds. A single mineralised cherry/sloe stone, a charred wheat grain and wood fragments were the only other botanical remains present. The fill of a stone-lined cesspit [565] (Table 41) dated to the late post-medieval occupation produced a similar assemblage, with uncharred and mineralised seeds of elder, blackberry/raspberry, sloe and several indeterminate fruits, as well as charred grape seeds and clover (cf. *Trifolium* sp.). The majority of fruits represented could derive from the local vegetation and, although they may provide evidence for food remains, they may derive from only a small number of fruits and in some instances they could have accumulated naturally, from animal droppings, for example.

Discussion and conclusions

Environmental interpretation
Evidence for environmental conditions and local vegetation is limited due to the relatively small number of weed seeds present in the assemblage and their limited identification. Throughout the occupations typical arable weeds or weeds of disturbed ground that were probably brought to the site as contaminants within crops are present. Although they provide evidence for cultivated or disturbed ground, on the whole they are otherwise not habitat-specific and do not provide further information about the cultivated land. Changes in local vegetation may be obscured by the location of the site, on the eastern edge of the tidal River Adur and in close proximity to the coast, both of which have an ameliorating

effect. There is, however, sporadic evidence for sedge, wood-club rush and buttercup/pondweed which provides limited evidence for damp or poorly drained ground, and perhaps wetland vegetation along the flood plain in the lower reaches of the Adur River Valley. These taxa are present in such small quantities that it is difficult to interpret their presence at the site. Although there is no direct archaeobotanical evidence, this habitat could have provided valuable resources for thatching, for example.

Fruit seeds, stones and nut shell fragments provide supporting evidence for some of the woodland and hedgerow taxa recorded by Gale (this volume) in the wood and charcoal assemblages. Several of these, such as the immature acorn noted in well context [87], may be accidental introductions with fuelwood, but the majority probably represent food items. Larger woodland trees include oak and hazel, while blackthorn, elder and apple are smaller trees common in hedgerows or at woodland margins. These were common in several contexts, but the evidence for larger trees is most prominent during the medieval occupation, which may be linked to preservation conditions rather than indicating changes in vegetation.

Agricultural evidence

The majority of assemblages almost certainly represent domestic rubbish discarded in pits, much of the botanicals deriving from multiple sources. Throughout the occupations these assemblages are dominated by crop seeds and therefore provide an indication of agriculture associated with different occupation phases. The most commonly identified cereals are bread-type wheat and hulled barley and, although their totals are notably skewed by three samples (late Saxo-Norman pit [520] and High Medieval pit [206] and oven [534]), these crops are typically prominent in charred assemblages of comparable date in the region (Hinton 1979; 2001) and bread wheat is a typical crop of the medieval period (Godwin 1975). Glume wheats are present but not prominent in assemblages from the LIA/ERB to High Medieval occupations. Continued cultivation of spelt is also apparent at Tanyard Lane, Steyning (Hinton 1979) and Little High Street, Worthing (Hinton 2001). Wild or cultivated oats were present throughout the occupations, while only one possible rye grain was noted in High Medieval well [87]. Although rye has also been recorded sporadically in medieval assemblages elsewhere, it is generally an infrequent occurrence in the region, which appears to fit well with Robinson's (1999) observations at Pevensey. The prominence of seed and the relative absence of cereal chaff throughout suggest that cleaned grain was brought to this part of the settlement, with early stages of crop processing being undertaken elsewhere. The small quantities of chaff may represent remnants in grain, kindling or building materials.

There is also evidence for cultivation of large and small broad beans and peas, grown for human consumption, as well as other legumes more likely to have been grown for fodder. It is reasonable to assume that charred peas and beans in hearth/oven feature [534], together with a large quantity of grain, were being dried and became accidentally charred. Drying grain and pulses would have facilitated storage for consumption throughout the year and, in the case of grain, it may have been used to harden the grain prior to milling.

Economy and diet

Fruit stones were prominent in medieval pits, and the majority of them could have been collected from natural vegetation in the area. Medieval assemblages are similar to those recorded at The Marlipins, Shoreham-by-Sea (Gray 2005) and Phoenix Brewery, Hastings (Hinton 1993) in which blackberry, apple, sloe and plum were common in deposits from cesspits. Grape and fig were also particularly prominent in the Phoenix Brewery assemblage and, although both fig and grape are evident at Ropetackle, they are certainly not a large component of the assemblage and may not have formed a significant part of the diet. The assemblages differ, however, because the majority of plants recorded at Ropetackle are food remains discarded in pits, while those at The Marlipins and Phoenix Brewery are from cesspits. Small quantities of mineralised remains may derive directly from faecal matter but as these do not necessarily correlate with medieval or post-medieval cesspits the evidence for cess is not clear from these assemblages.

Grapes, figs, walnut and domesticated plums/cherry provide evidence for non-native plants. Many such luxury items were first brought to Britain during the Roman occupation and the end of this period is often marked with a decline in exotic plant foods, particularly those that could not be assimilated into local cultivation (Van der Veen 2003). At Ropetackle these food items are first recorded during the High Medieval phase, although no emphasis should be placed on their absence in earlier occupation phases because they are poorly represented at this site. All the non-native plants at Ropetackle can be grown in temperate climates, and it is certainly possible that, following the Roman period, they were grown locally, becoming more regular food items by the High Medieval period. While close proximity to the coast may have enabled access to imported foods together with other imported items, there is no evidence for spices or rarer food items at Ropetackle.

DISCUSSION

The archaeological excavation at Ropetackle offered an unsurpassed opportunity to examine a substantial area in the heart of one of Sussex's most important medieval coastal towns. With high levels of deposition combined with ground conditions offering excellent preservation of a range of artefacts, the site provided a wealth of information on Shoreham's past. Clearly, most of the evidence related to life in the medieval and post-medieval periods, but the discovery of Late Iron Age/early Roman remains widened the data set.

LATE IRON AGE/EARLY ROMAN

Although feature density and the pottery assemblage are notably small, the Late Iron Age/early Roman evidence suggests that a settlement,

perhaps based on local industry, existed in the immediate area and represents the first major phase of activity on the site.

The presence of briquetage and the similarity of some of the pottery to that from other contemporary salt-working sites (Barber 1998) are indicative of production of this valuable commodity. Although medieval saltern mounds are known from the lower part of the Adur Valley on the opposite side of the river at New Monks Farm (James 2002), evidence of Iron Age and Roman salt-working is somewhat limited in the area (Holden & Hudson 1981, 122–3). The pottery evidence from the site suggests coastal and even international trade links, and the discovery of the Roman well incorporating tesserae to the north of the site (Witten 1978) has led to suggestions of a Roman villa in the Shoreham area (Rudling 1998, 43, Fig. 2).

SAXO-NORMAN

The complete absence of pre-Conquest Anglo-Saxon material supports the long-held view that the settlement was founded after 1066 to replace the settlement of Old Shoreham further up the River Adur (Aldsworth and Freke 1976). Although the Late Iron Age/early Roman activity shows that New Shoreham was not founded on an entirely 'virgin' site, it was clearly not 'planted' on an existing settlement like Sussex's arguably better-known medieval new town of Winchelsea (Martin and Rudling 2004; Martin and Martin 2004).

Interestingly, the boundary drainage ditch [579] shares a similar alignment to the ditches of the Late Iron Age/early Roman field system, suggesting that this was still relevant or visible by Saxo-Norman times. This comparable alignment might also suggest that Roman and Saxo-Norman ditches share a common orientation, perhaps derived from a prominent landscape feature such as a road which might have braced both periods. Alternatively, both field systems may simply be laid out at right angles to the river.

Although the evidence of Saxo-Norman activity is limited, it is nevertheless significant. Clearly domestic refuse was deposited at the site in the years soon after the Conquest, and the scatter of early material across both examined areas supports the view that this quarter of the town saw at least limited activity at this time. Arguably, the ditch may also suggest burgage plots.

LATER MEDIEVAL

It is clear from the assemblage of pottery and other artefacts that there is a marked upturn in activity in the 13th century, with perhaps a peak of deposition from the mid 13th to the early 15th century, a pattern seen elsewhere on the Sussex coast (e.g. Pevensey: Barber 1999a). As elsewhere on the coast (cf. Seaford, Stevens 2005, 91) this evidence does not seem to bear out the view that many of the towns were in decline at this time (Aldsworth and Freke 1976). Perhaps the partial destruction of the town (see above) did lead to an economic downturn, but there may be other factors affecting deposition of domestic waste (Stevens 2005).

However, despite such issues, the range of deposited artefacts offers some elucidation of life in medieval Shoreham. The range of animal bones recovered showed the expected predominance of cattle and sheep remains, with hints at the presence of domestic pets, scavenging rodents and birds, and even trade in cat fur. Study of the larger mammal bones suggests that some butchery was undertaken in the vicinity, if not at the site itself, and the evidence from the small-scale hearths or kilns, as well as the presence of a number of quernstones, hint at small-scale food processing in medieval Ropetackle.

Much of the medieval waste had been deposited in disused wells at the site, following a pattern seen elsewhere in Sussex, as in Crawley (Stevens 2008). Bulky material such as flint nodules had been dumped in them along with a range of artefacts, and there was also evidence of cess disposal.

Despite the paucity of any features which could be directly equated with the port's medieval maritime heritage, the presence of artefacts such as clench bolts, net weights, fish hooks, anchor weights, and possibly even needles used in net manufacture, shows clear links with the sea and fishing. However, the extraordinary range of fish bones is probably the best indicator of the presence of a fishing fleet working local waters, the catch ranging in size from small fish to sharks and rays suggested by the presence of the larger fish hooks. Although there is no clear evidence of large-scale processing at the site, a small number of the fish bones show signs of basic preparation for consumption, and others from the cesspits show direct signs of ingestion.

Clearly locally available oysters and other molluscs also formed an important part of

the local diet during all the main periods of occupation at the site. The importance of the industry to the economy of the town in the post-medieval period is borne out by documentary and cartographic sources, and evidence of 'farmed' oysters at the site, and elsewhere in the Adur area (e.g. at Southwick: Stevens 2006), shows apparent over-exploitation and parasite infection in the local oyster beds.

But perhaps the most intriguing evidence is that of the clearly wide-scale trading links enjoyed by the port in the medieval period. The level of imported pottery is perhaps slightly lower than might have been expected (see below), but this evidence has been supplemented by examination of the origin of a range of other materials clearly brought into the port from other parts of Sussex, from other regions of Britain and from abroad.

Whether brought to Shoreham deliberately (e.g. as building stone) or accidentally as ballast on board ships, the range of geological material recovered from the later medieval pits at the site is remarkable. Evidence of a trade network involving direct and/or indirect contact with the Weald, the Isle of Wight, Hampshire, Dorset, the West Country, Yorkshire, Northern France, Germany and Scandinavia is clear from the wide range of stone types encountered. In addition, the pottery assemblage suggests some contact with the east coast of England, the South of France and perhaps Iberia. However, based on work carried out it in Hull, it has been suggested that more than 90% of imports 'would have been in goods that either leave no archaeological trace or which cannot at present be provenanced' (Schofield and Vince 2003, 172–3), so the available data undoubtedly represents only a tiny fragment of the true picture.

Given the town's status as an important medieval port (Cheal 1921, 114), Shoreham clearly acted as a trade node, which may explain the relatively exotic origin of some of the discarded medieval material (cf. Hull et al. 2003). However, the port was also a settlement in its own right, requiring materials as varied as buckles and building stone. (The frontage of the Marlipins and ?contemporary repairs to St Mary de Haura incorporate Caen stone similar to that found at Ropetackle.) Some of the material may have just been 'passing through' when it was broken or lost, but other material might have been brought to the town by design to be used close to where the material was eventually deposited (and recovered).

The nature of the pottery groups perhaps underlines this factor in the characterisation of the Ropetackle medieval assemblage as a whole. The vast majority of the pottery appears to have been locally produced for domestic consumption (although the absence of wasters shows that the pottery manufacture was apparently not in the immediate vicinity of the site itself). Imports were surprisingly sparse compared with analysed assemblages from ports such as Winchelsea (Orton 2004), although still forming a significant percentage of the overall assemblage, mainly owing to the presence of complete or near complete vessels.

Arguably the most spectacular single find from the site was the near complete aquamanile, manufactured in the Scarborough area in East Yorkshire. The piece has genuine visual appeal, and forms part of a growing corpus of evidence for the presence of such highly decorated pottery pieces on the south coast, although the recovery of a near complete vessel during a modern excavation in Sussex is unique (cf. fragments from Seaford; Machling 1995; Farmer 1979). Curiously, the Metropolitan Museum of Art in New York has a similar piece, apparently from the northern French coastal town of Etaples (Peter Barnet, Curator in Charge, Department of Medieval Art, Metropolitan Museum of Art, *pers. comm.*). It is somewhat more simple in decoration than the Ropetackle example (for instance it has no facial features), but is very similar in overall form, fabric and glaze.

An attempt to explain the presence of such an apparently high-status item (Farmer 1979) at a site that produced no other items suggesting such wealth is problematic. Although the bones from turbot are seen as an indicator of high status, their distribution and quantity at the site were limited. Indeed, attempting to interpret the taphonomy of the medieval and early post-medieval site as a whole is equally vexing.

The nature of the artefactual assemblage, and certainly of the environmental material, does not suggest large-scale industrial activity at the site at this time, either. The virtual absence of slag from ironworking forges certainly suggests that shipbuilding or repair was not undertaken nearby.

Clearly the site was used for disposal of domestic detritus, and the cesspits show direct deposition of human waste, but the scarcity of evidence for organised property boundaries is

challenging. As suggested in the preceding phase for earlier medieval features, the layout of features may relate to the existence of some landscape feature beyond the site, such as a road, or to the Saxo-Norman ditch if still visible and/or used as a boundary marker. The presence of a building further suggests that a road or route way ran northwards from the river close to the eastern limit of the site and/or between Areas 4A and 4B along a similar route to Little High Street. If the former of these scenarios were the case, then this might also suggest a likely candidate for the location of a river crossing, perhaps a bridge or ferry.

It is possible that medieval dwellings fronted on to Little High Street and were lost during post-medieval widening of the lane, and that the activity at the site represents 'backland' pit digging without surviving boundaries on either side of the lane, low-level 'cottage' industry leaving no archaeological traces. The presence of roofing tile, chimney fragments and the louver in medieval pit fills certainly suggests the presence of buildings in the vicinity.

However, it is equally possible that the site lay on the fringes of the 'habitation' area of the medieval town, perhaps close to wharfs or the harbour (cf. Cheal 1921, inside rear cover, Map of Shoreham *c*. 1350), and was used by those living and/or working nearby to deposit rubbish, as a 'convenient' area for more urgent needs and a place from which water could be drawn, or where an occasional cow could be slaughtered or fish gutted. Unfortunately it is impossible to test this hypothesis, and indeed the nature of the deposits makes interpretation of possible subtle changes of use through the later medieval and later Transitional phases unfeasible.

POST-MEDIEVAL

Interpretation of some of the later features is equally problematic. Too few 16th- and 17th-century features survived to allow in-depth interpretation, and the apparent dearth of activity is obscure and may represent a period of abandonment, perhaps relating to a plague or some other local event.

The 18th-century evidence consisted of features on either side of Little High Street. Again, the contents of all these post-medieval features suggest domestic occupation in the vicinity, in the absence of any other evidence. The material demonstrates trade links with other parts of Britain, mainland Europe and the Far East.

However, the presence of the loosely dated sawpit perhaps adds a more industrial flavour to the site. Based purely on the archaeological evidence, it would not be unreasonable to suggest a link to shipbuilding or repair, given the geographical position of the sawpit and the known importance of Shoreham's shipyards in the medieval and post-medieval periods (Cheal 1921, 147–158).

However, a survey map of 1782 shows no obvious wharves or slipways in the vicinity. A handful of buildings fronting on to Little High Street (marked as 'Raptacle') are shown, with mudflats to the west and the site of a windmill to the south-west. The current sawpit is clearly marked, as is another example labelled 'How's Sawpit' further upstream. Details recorded as part of the survey show that the Ropetackle sawpit was described as 'enclosed', and that it was owned by 'Innott & Pelham' (who also owned 'How's Sawpit') then later by 'John Boyce'**.** The Pelhams are known to have been involved in shipbuilding, so a connection is indeed likely (Roger Bateman *pers. comm.*).

The large assemblages of 19th-century material recovered at the site are clearly closely associated with domestic occupation. Much of the material was deposited in brick- and stone-lined cesspits located on the north side of Little High Street, and this material has offered a clear picture of the range of ceramics and other material available to the occupants of the Ropetackle area.

The tithe map of 1849/1850 extends to the very northern fringe of Ropetackle and does not include the current site. The OS map of 1872/3 (Fig. 3), however, shows very clearly a row of five terraced houses to the north of Little High Street, and it is to these that the four cesspits in Area 4B are most likely to relate. Further terraced housing can be seen flanking the south-east of Ropetackle.

Examination of the census data for the years 1841–71 has provided further information on the occupants of the area. Census returns for 1841 (NA, HO 107/1096/6) document only two households for Ropetackle; both household heads are labourers.

The 1851 census (NA, HO 107/1647/312) lists nine households for Little High Street, which is named Gas House Street at this time. Occupations included are three labourers, two sawyers, a laundress and a fisherman, a blacksmith and two mariners. The manager of the gas works is resident in this street as well. Unfortunately the erratic path

of the enumerator makes it impossible to link the households to a specific house. Ropetackle, listed separately at this point, contains six households, occupations including a brickmaker's labourer, two common labourers as well as two farm labourers, a fisherman, a coke burner and a cordwainer; a pauper's family was also recorded. Again, it cannot be established which household belonged to which house.

The following census of 1861 (NA, RG 9/603/73) does not distinguish between Gas House Street and Ropetackle. Instead, all have been listed under 'Rapticle Street'; included are again various labourers, a shoemaker, a timekeeper, a brewer, a stoker, a bricklayer and a cordwainer. The manager of the gasworks, still the same Edward Vinall as listed in 1851, is also present. Other people still resident since 1851 are Peter Merrit, then sawyer now timekeeper, and Edward Winton, in 1851 listed as a coke burner and now a labourer. A total of 16 households were recorded. In this case house numbers (13 numbers in total) are documented as well but it is not possible to tie any of the numbers with certainty to a house.

The 1871 census (NA, RG 10/1089/95) lists again a few familiar people including Peter Merritt and Edward Vinall. Represented occupations are similar to previous years. It should also be noted that inhabitants in 1851 originate from a variety of counties, including Surrey, Middlesex and Kent, but the majority (mainly the labourers) derive from New Shoreham or neighbouring parishes. By 1871 the proportion of locals rises; a large proportion of residents are moving around, some within New Shoreham, with very few households staying put in Ropetackle for a whole decade.

1871 is also the last year Edward Vinall appears on the census list and he does not get replaced. This seems to tie in with cartographic evidence, where the gasworks are present on the 1872 OS map but no longer on the 1898 map (Figs 3–4). This, and the first appearance of a 'manager of the gasworks' in 1851, suggest that the gasworks may have been active from between 1841 and 1851 to between 1871 and 1881. It is probable that a large proportion of the local residents listed as labourers were employed by the gasworks, including coke burner Edward Winton in 1851–61.

The census details imply that the area was predominantly 'working class' in character and much of the material recovered does suggest 'low status' occupation including mismatched dinner services, but clearly more exotic goods were available, and the presence of a cowrie shell in a late 19th-century deposit highlights the potential for the transport of exotic goods from the Near East.

The level of cleanliness of the cesspit deposits was remarkable; there was very little soil or dirt within the deposits, which were made up almost entirely of artefacts. The nature of deposition and character of the assemblages are remarkably similar to groups from the London Borough of Lambeth that have been the subject of a recent study (Jeffries 2006).

Jeffries' analysis highlights the phenomenon of the deliberate backfilling of cleaned out cesspits with 'dry and proper rubbish' in the 1850s and 1860s, a practice associated with sanitary reform in Lambeth at the time (2006). It is interesting to note that no outflow pipes were noted in any of the Ropetackle cesspits, and it is possible that they may have been backfilled as a result of a change in sanitary arrangements, too, perhaps the introduction of local mains drainage, which was completed in Shoreham between 1866 and 1872 (Elrington 1980, 166).

The date of deposition of the Ropetackle cesspits assemblages broadly matches those of the Lambeth groups, and perhaps includes an element of opportunistic backfilling of convenient receptacles, in the way that modern uncovered skips are filled (Jeffries 2006, 286). This highlights the possibility that not all the deposited rubbish came from the houses in whose backyards the cesspits were located. This phenomenon has been noted at a recent large-scale excavation in Lewes, where large assemblages from broadly contemporary deposits have been recovered in association with similar houses (Stevens 2009c).

On something of a tangent, the masonry of one of the cesspits incorporated 18th-century bricks as well as building stone including architectural fragments from a window. Although of unknown provenance, it is possible that this masonry came from the western end of the church, known to have been ruinous by the early years of the 18th century, although the process of the ruination is unclear (Cheal 1921, 186). The substantial quantity of stonework involved would undoubtedly have been a useful 'quarry' in later years.

Further 19th-century assemblages shed light on other elements of Victorian life. An assemblage

recovered from brick-lined pits/elements of cellars to the south of Little High Street shows clear evidence of having come from a public house. Along with the high concentration of clay pipes in the vicinity, and a scatter of material in other local features, it forms the archaeological evidence for the former function of a brick- and stone-built, post-medieval building whose scant remains were encountered in the north-eastern corner of Area 4A. This building was the King's Head, which lay on the corner of Little High Street and Old Shoreham Road, clearly shown on the 19th-century maps (Fig. 3).

Another pub site in Shoreham, The Royal Sovereign in Middle Street, has also produced limited evidence of this type (Stevens 1994). The nature of the deposits at both sites is indicative of periodic clearance (Boothroyd and Higgins 2005). The King's Head was eventually demolished in the 1980s.

Clearly the archaeological investigations at the Ropetackle site have cast much light on this part of medieval and post-medieval Shoreham, with tantalising glimpses of Roman activity too; the results stand as a fine example of the range of data that can be recovered from archaeological work on sites in the coastal towns of Sussex.

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