

A DATED TYPE SERIES OF LONDON MEDIIEVAL POTTERY PART ONE: MILL GREEN WARE

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INTRODUCTION

Excavations by the Department of Urban Archaeology, Museum of London, at sites along the Thames waterfront have revealed many timber revetments, dated by a variety of means, including dendrochronology. In most cases these revetments are associated with dumps of refuse which must be contemporary with construction, either because the revetment has bracing keyed into the dump or because the front bracing must have had something to push against. Using the information from two waterfront sites, Seal House and Trig Lane, it is possible to construct a sequence of deposits starting *c.* 1140 and finishing *c.* 1440 with dated groups every thirty to fifty years (see Fig. 1). These deposits contain large assemblages of pottery and, as far as can be seen, very little residual material. This agrees with the observations of the excavators, who noted the very organic nature of the dumps, which suggests that contemporary rubbish rather than re-dug soil was used to provide most of the deposit.

This pottery can therefore be used to create a chronological framework for the medieval pottery of the London area, and sometimes beyond. In order to make the best use of this chronology the Department has combined a statistical study of the pottery, analysing the frequency of occurrence of fabrics and forms by two methods of quantification—weight and estimated vessel equivalents (EVEs)—with a typological and technological study

of the abundant complete vessels residing in the reserve collections of the Museum of London and the British Museum.

The results of this study are being published as parts of a series of papers, of which this is the first. They present the chronological and statistical evidence from the Seal House and Trig Lane excavations together with a type series constructed from all available sources. Discussion of the source and distribution of the pottery is based on a superficial survey of readily available evidence. The present paper is very largely the work of Roger White formerly of Liverpool University and Carol Cunningham of the Chelmsford Archaeological Trust.

‘MILL GREEN WARE’ AND ‘WEST KENT WARE’—TERMINOLOGY

The origin of the term ‘West Kent ware’ is now obscure, although it has been in use since 1972 when the second edition of Bernard Rackham’s ‘Medieval English Pottery’ with emendations by John Hurst was published. In the plate captions it is referred to as ‘West Kent ware’ when white slipped and green glazed, or ‘Kent-type’ when white slip decorated (Rackham 1972, Pl. 25, 32, 69). Since that time the terms have been used in some excavation reports in the London area, for example Angel Court (Orton 1977, 82), where the ware is first thoroughly described, or at King’s Langley Palace where a source in West Kent

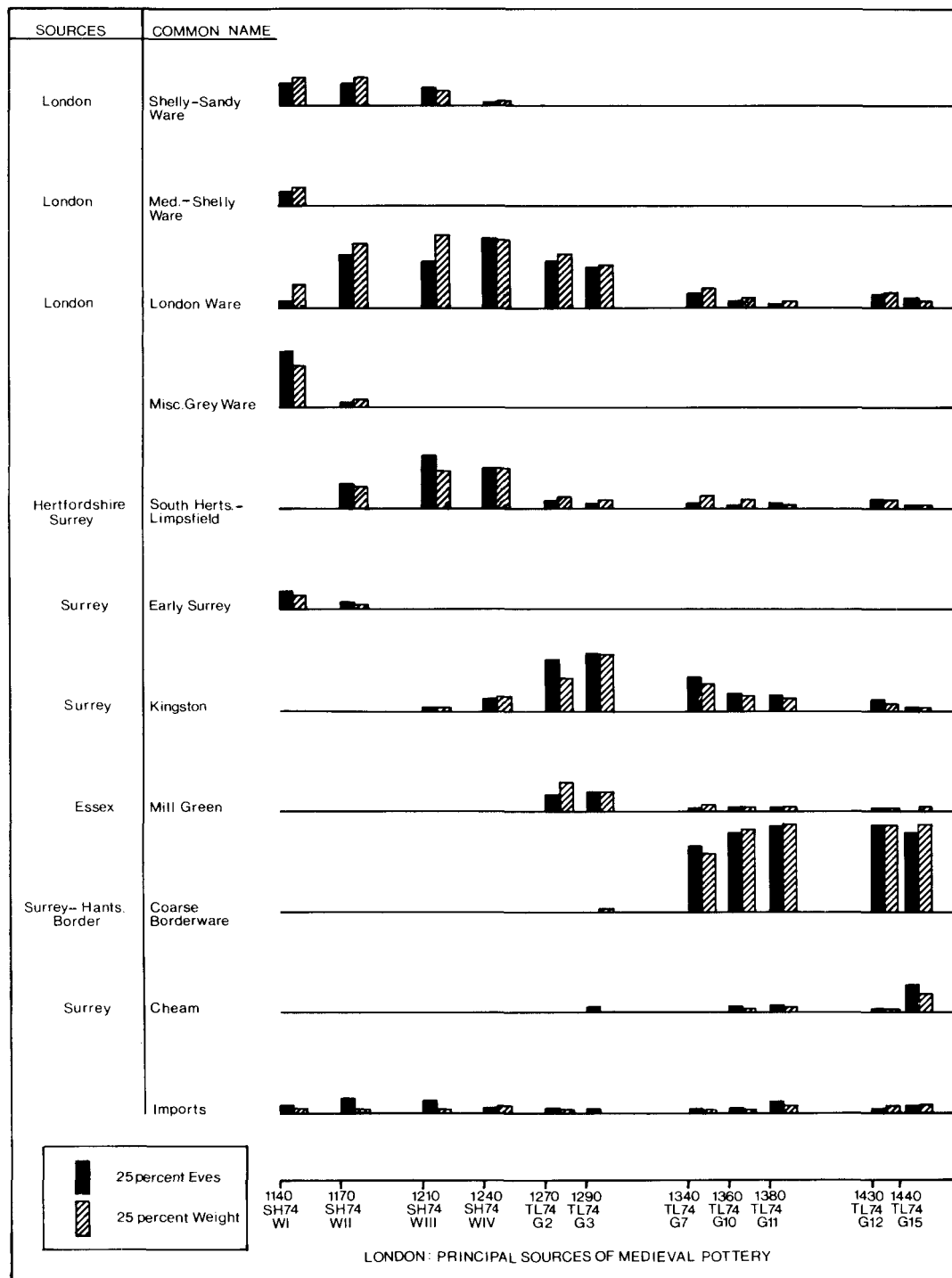


Fig. 1. Mill Green ware: The relative frequencies of the major pottery sources in the Seal House and Trig Lane waterfront revetment dumps.

is implied by the author (Hurst 1977, 155–7). The same ware is, however, called ‘Mill Green ware’ in the report on the excavation at King John’s Hunting Lodge at Writtle, Essex (Rahtz 1969, 94–5). This term does not appear to have been used in Kent itself until very recently, when the Essex origin of the ware is suggested (Thorn 1979, 157).

It is the conclusion of the present paper that the latter term is more correct and that all the vessels previously termed ‘West Kent ware’ have the same source, in and around Mill Green, near Ingatestone, Essex (TL 643022). The term ‘West Kent ware’ is therefore obviously a misnomer, and will not be used in this paper.

This paper is concerned largely with the fine glazed wares, which predominate in London. However, the same kilns were also producing undecorated and unglazed coarsewares, some examples of which have been found at Trig Lane. A preliminary note on the fabric and typology of this ware is therefore included. The coarseware is of considerable local importance in south and central Essex but does not have the wide distribution of the fine glazed ware.

SOURCES

Explorations have been carried out on the medieval kiln dumps at Mill Green, Ingatestone, on six occasions. Evidence of pottery manufacture was first discovered there in 1879 (TL 641013; Christy, 1884), when it was thought to be Roman. A further site was excavated in 1914 (TL 643017; Christy and Reader 1918), and was dated to the late 15th or early 16th centuries. The pottery is now stored at the Colchester and Essex Museum (Acc. No. 1916:10:3384.15).

No further work took place until 1962–3 when Mr David Saunders col-

lected the material now in the possession of the Chelmsford and Essex Museum (Acc. No. 1977:151; TL 640024; TL 639015). Explorations continued in 1963–4 under Mr Kenneth Marshall and Mr Walter Davey (TL 642014) on a dump thought to have been situated very close to a kiln and consisting largely of unfired fragments. The fired vessels amongst them seem to be entirely wasters, and are now in the Passmore Edwards Museum (PEM Acc. Nos. 008, 0005-008, 00012) and Harlow Museum (Acc. Nos. HMB 5604, 2716, 2717, 2719–21, 2723, 2724, 2727, 2729, 2731, 2738, 2774).

The most significant excavations were conducted by Mr J. and Mrs E. Sellers in 1967 (Sellers 1968; 1970a and b; TL 643022), and were both more extensive and well stratified, with evidence of four periods of production. The material remains in their possession, with the exception of four complete squat jugs in the Colchester and Essex Museum (Acc. No. 12, 1968/1–2; Fig. 12 no. 32; Fig. 14 Nos. 34–5). Only one fieldwalking collection has been published since (Eddy 1980, 71; TL 643021).

All of the groups so far found at Mill Green contained fineware jugs with exactly the same forms and decoration as those found in deposits dated to the late 13th and early 14th centuries at Trig Lane. Petrological analysis reveals no distinctive inclusions, but in thin section samples from Mill Green are identical to those from London. This dating corresponds with the documentary evidence. A survey of the manor of Ingatestone in *c.* 1275 (contained in a Rental of 1521; ERO D/DP M150) mentions two Thomas Potters and a John le Potter, indicating that pottery production had started at least by this date.

Only the smaller kiln groups found in 1962–3 and 1979 produced both coarse and finewares entirely consistent with the

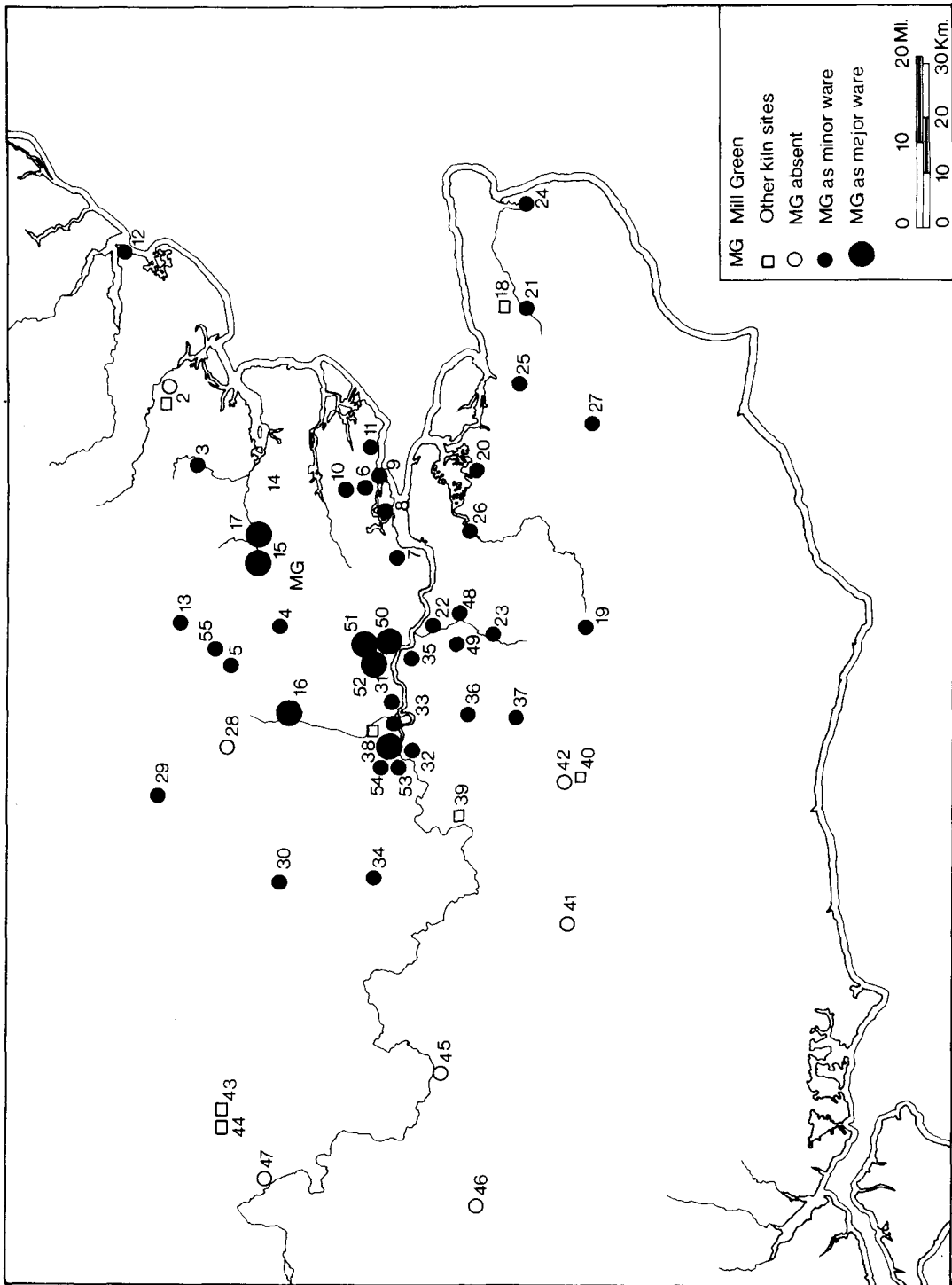


Fig. 2. Mill Green ware: The distribution of Mill Green ware (for site names and details see Appendix 2).

dated material from London. The larger groups all contained pottery which arguably could post-date the disappearance of Mill Green products from London, for example, cisterns, which are not unusual in the second half of the 14th century but are common in the 15th century. The dripping dish, cauldron and probably the skillets are also more consistent with a late 14th-century date.

Culinary stamps (Drury forthcoming) were found in 1914 and 1963–4 and, in substantial numbers, in the 1967 group. This increase in the variety of vessel forms may indicate a slightly later date, in accordance with the development of the coarseware fabric towards the harder, sandier types similar to transitional wares in Essex (Cunningham forthcoming). Plain and decorated floor tiles were found in association with pottery in 1967, and the former were provisionally dated to the late 14th century at Pleshey (Drury 1977, 107–8). Subsequent work has confirmed this (Drury and Norton forthcoming). The tiles were possibly hardcore derived from a nearby kiln site rather than products from the potter's workshop.

Pottery manufacture at Mill Green flourished in the late 13th and early 14th centuries, producing mainly jugs, cooking pots and some large bowls. It probably continued for some time after the mid 14th century, perhaps until *c.* 1400, producing a rather wider range of vessels and floor tiles which, like the later coarse wares, had a purely local distribution. Peg-tile and floor-tile production in the Mill Green area continued throughout the medieval period and later (Drury 1981, 132, 140; Sellers 1970b).

DISTRIBUTION

The distribution of Mill Green ware is at present imperfectly known. An attempt to present the current state of knowledge

is to be found in Fig. 2. Collections in the major museums of Hertfordshire, Essex, Kent, Surrey and London have been examined, whilst the pottery of Berkshire is known to contain no Mill Green ware (Vince forthcoming). It is possible that there is a minor coastal distribution outside this region; Mill Green ware, for example, has been identified at Bergen and Trondheim, Norway, by J. G. Hurst (*pers. comm.*).

Only in London itself (and there only at a few sites) can the quantity of Mill Green ware at any period be determined (Fig. 1; Appendix 3). This shows that at the height of its popularity Mill Green ware supplied between 10 and 20% of the pottery in the City, at a time when jugs accounted for between 60 and 70% of all pottery used.

Although similar figures were not available for sites outside London, a subjective impression of frequency has been obtained. Those sites with a similar or higher proportion of Mill Green ware to London are shown on Fig. 2 with large dots. Other sites either have a lower proportion, or not enough late 13th to 14th-century pottery was present for the proportion to be estimated. It is, however, clear that at the fringes of the plotted distribution, Mill Green ware is rare, for example at Kings Langley Palace, where two sherds only are known (Hurst 1977, 155). Other kiln sites producing fine, glazed jugs in the late 13th to early 14th centuries are shown on Fig. 2 as open squares. The distribution of Mill Green ware in two areas extends into what should be the market area of other potteries: London and Tyler Hill. A possible explanation for this distribution is that cheap water transport was used. Similar extended coastal distributions are known for Grimston-type ware and Ham Green ware (Clarke and Carter 1977; Barton 1963).

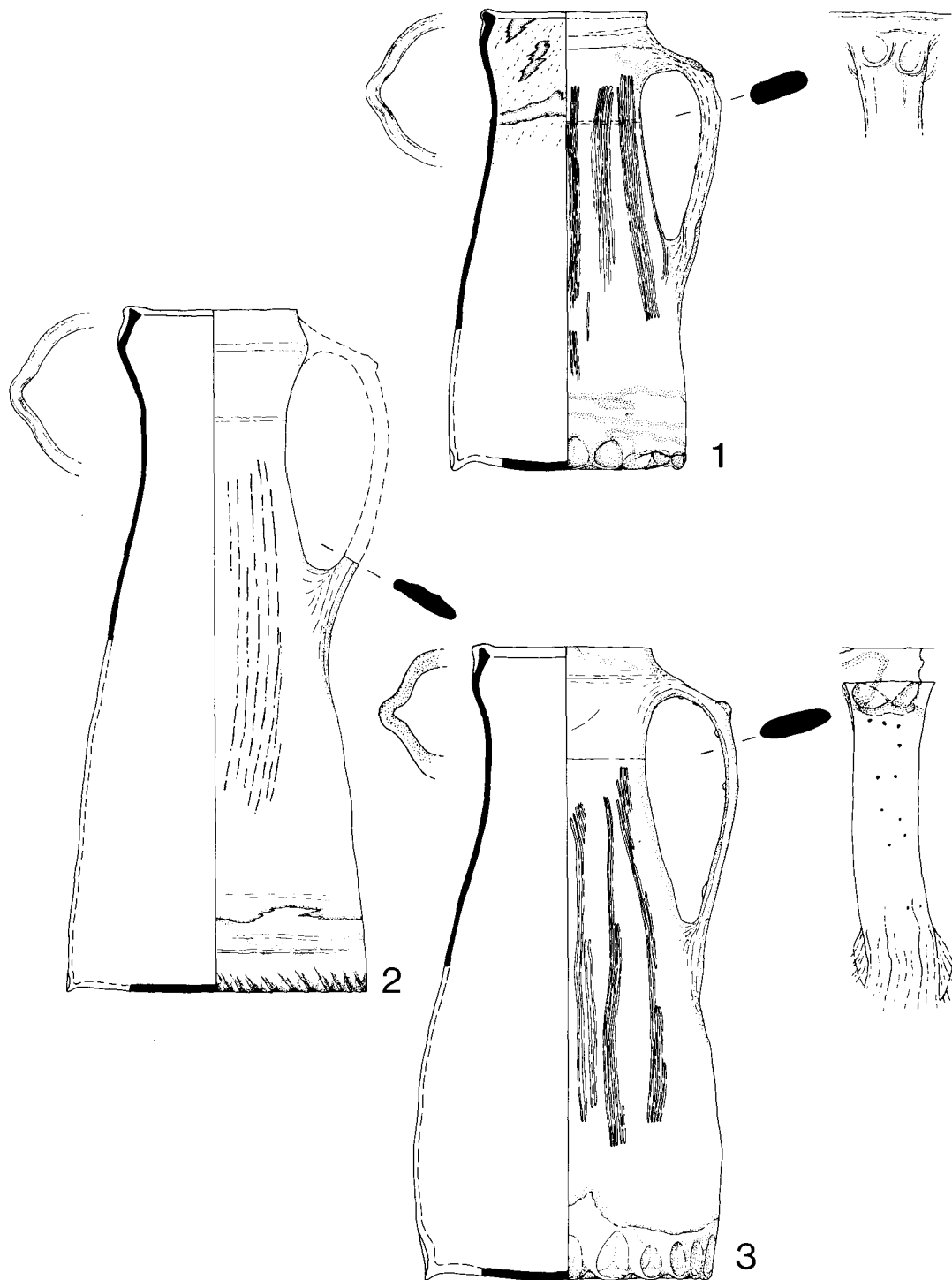


Fig. 3. Mill Green ware: Conical jugs with white slip and green glaze. No. 1 MOL Acc. No. A22555; No. 2 MOL Acc. No. A16922; No. 3 MOL Acc. No. 5630. (1/4)

DATING

The dating of Mill Green ware, as with all other medieval wares in London, has been well secured by association with successive Thames waterfronts, renewed approximately every thirty years. Examples of these waterfronts have been excavated and can be closely dated by several complementary methods including dendrochronology (Milne and Milne 1982). At Trig Lane seven waterfronts were excavated and dated:

- G2 : *c.* 1270
- G3 : *c.* 1290
- G7 : *c.* 1330
- G10: *c.* 1360
- G11: *c.* 1380
- G12: *c.* 1430
- G15: *c.* 1440

The G2 and G3 waterfronts produced large quantities of Mill Green ware, indicating that it was already in production by *c.* 1270. It was therefore necessary to examine the pottery from a slightly earlier waterfront site at Seal House (Miller and Schofield forthcoming), in the hope that this would establish a date for its introduction into the London area.

The Seal House site produced four medieval waterfronts. The timberwork of the third waterfront was dated to *c.* 1210, and a drain in use with the revetment was dated to *c.* 1220 (Morgan and Schofield 1978). The fourth waterfront was dated by estimation, to *c.* 1240. In the latter phase, the waterfront had been divided into two areas of contemporary dumping by the stone foundations of a building (D). The pottery in the dumping contained no Mill Green ware, so its introduction would seem to post-date *c.* 1240. The secondary floor levels in building D were dated, again by estimation, to *c.* 1270 and it is in these levels that the first examples of Mill Green ware occur. It therefore seems likely that the ware was

introduced into London between *c.* 1240 and 1270, probably nearer the later date rather than the earlier.

The quantity of Mill Green ware in the Trig Lane deposits was measured using two methods, weight of sherds and Estimated Vessel Equivalents (EVEs). The latter method compares the actual number of vessels of Mill Green ware with other wares and the former compares the bulk of the vessels only. The results are shown in Fig. 1 (see also Appendix 3), suggesting that in the late 13th century Mill Green was the third most important pottery source supplying London but by *c.* 1340 had been essentially supplanted by kilns in the West Surrey–N. E. Hampshire area.

In order to investigate the relative proportion and starting date of the various Mill Green forms and decorative types, all the Mill Green ware from the site was examined and every featured sherd described. This information was then compared with the type series of complete forms.

At Trig Lane, waterfronts G2 and G3 (*c.* 1270–1290) contain slip-decorated, clear-glazed Mill Green jugs as well as white-slipped green-glazed vessels. Although the actual proportions of forms could not be determined it is clear that conical jugs outnumbered squat jugs.

The foreshore deposit in front of the G3 revetment and sealed by the G7 revetment (i.e. *c.* 1290–1340) contained sherds of a Mill Green polychrome baluster jug. A complete example (Fig. 7 No. 13; Pl. I) was found in a pit at the G.P.O. site (POM79 Context 2048) associated with a complete Saintonge polychrome jug, dated to the early 14th century. Mill Green polychrome ware was totally absent from the largest sample groups, G2 and G3. However, at King John's Hunting Lodge at Writtle, Essex, sherds have been found in phase 1, dated to



Plate 1. Mill Green ware: Baluster jug with polychrome decoration. MOL Acc. No. 5671
(Height 360mm)

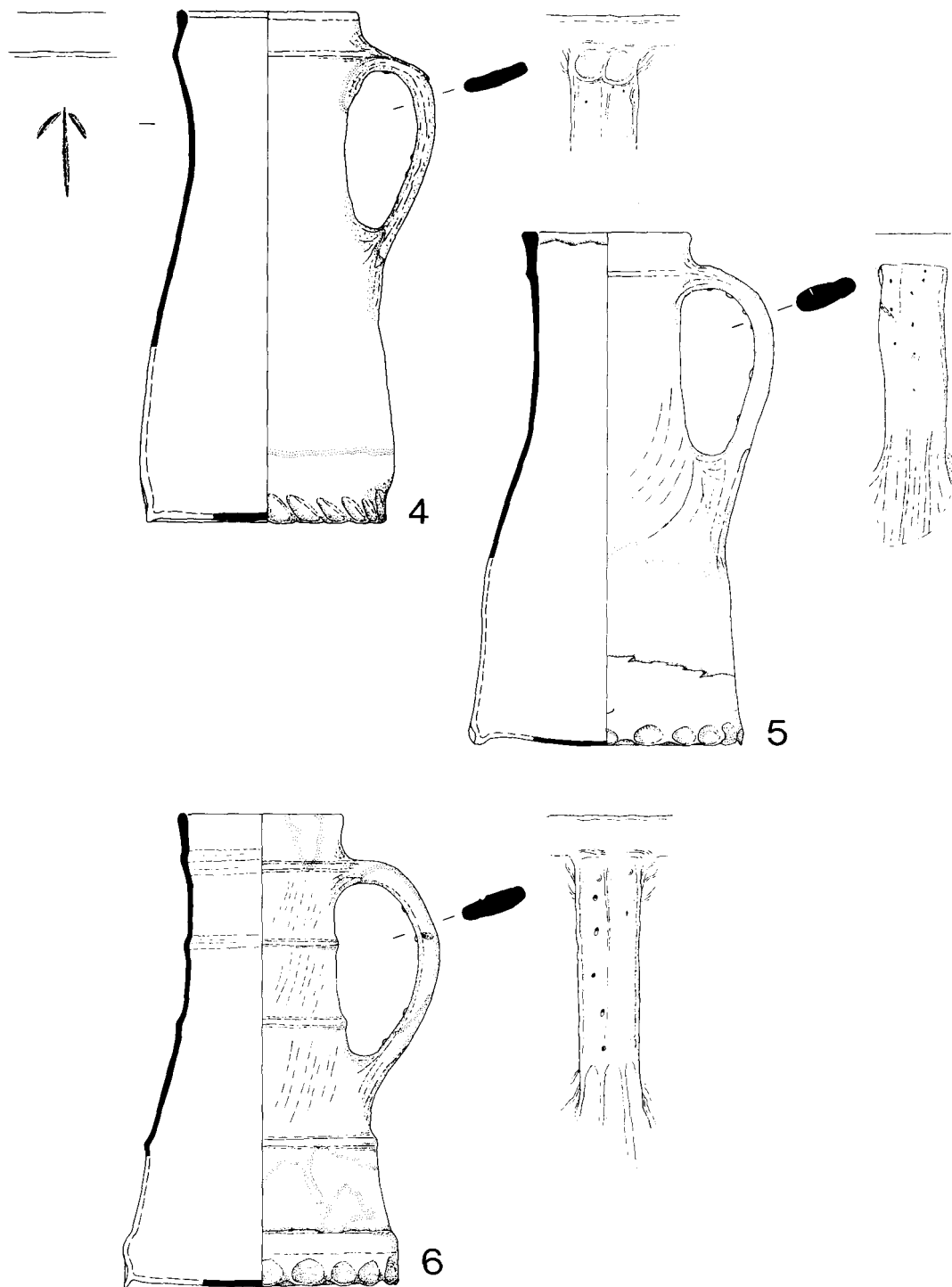


Fig. 4. Mill Green ware: Conical jugs with white slip and green glaze. No. 4 MOL Acc. No. 13615 very pale glaze, 'owner's' mark opposite handle; No. 5 MOL Acc. No. A1441; No. 6 MOL Acc. No. 5658. (1/4)

c. 1306 (Rahtz 1969). By the time the G7 revetment was constructed, Mill Green ware formed only a small proportion of the pottery found, but it may be significant that the number of identifiable sherds from squat jugs was higher than that of conical jugs. The late 14th and 15th-century deposits at Trig Lane contained only a minimal proportion of Mill Green jugs, but it is unlikely that they were contemporary with the contexts in which they were found.

THE ORIGINS AND AFFINITIES OF THE MILL GREEN POTTERY

In the mid 13th century, when the Mill Green pottery industry first started, there were three comparable fineware industries in the London/Essex area which between them supplied the whole region with glazed jugs. London-type ware, made somewhere in the immediate vicinity of London, was supplied to London itself and much of the surrounding area. Kingston ware, made at Kingston-on-Thames (Hinton 1980) was also supplied to London, but at this date, the industry was just getting underway, and it flourished at the same period as the Mill Green industry. Sible Hedingham ware was supplied to much of Essex, including Chelmsford (the nearest market to Mill Green). Little is yet known of the Sible Hedingham industry, but those of London and Kingston are now well-known through the vessels in the Museum of London reference collection and the excavations on the Thames waterfront. From a comparison of the products of the Kingston and London-type industries in the mid 13th century with those of Mill Green in the late 13th century, it may be possible to show whether or not the Mill Green pottery industry derived from either of these sources.

Mill Green white-slipped, green-glazed jugs are frequently decorated using a tech-

nique also found in the London-type industry; a total slip of white clay on a red-firing body is scratched through with a comb, and the whole vessel is then covered with a thick, glossy, green glaze, coloured by the addition of copper. However, the combing on London-type jugs is much more controlled than that on the Mill Green vessels and occurs in more complicated designs.

The presence of 'ears' either side of the rim-handle join is a feature which ultimately originated in northern France, and is found, for example, on Rouen ware jugs. On Mill Green ware jugs, these 'ears' are pressed into the handle, whereas on Rouen, London-type and Kingston jugs they are applied strips.

There is, as yet, no evidence that the polychrome-decorated baluster jugs were an original component of the Mill Green industry. However, they have close parallels with the tall, highly decorated baluster form in both London-type and Kingston wares (no examples of these 'polychrome' jugs have yet been found at the Kingston kiln-sites but occur frequently in the Kingston fabric in London). In both these industries the vessels are white-slipped, clear-glazed and decorated with applied clay strips of white and red-firing clay. Green paint was added to some of the strips to emphasise the design. This is close, but not identical to the technique used on Mill Green polychrome jugs. All three wares use red slip in broad painted stripes, but whereas London and Kingston then use applied slip in a plastic state, all of the Mill Green slip decoration was applied in a liquid state. This probably includes the green paint, which might be formed by adding copper to a white slip, and was certainly painted onto the jugs. The blobs on Mill Green ware are used decoratively in the same way as those on London and Kingston polychrome jugs, but were applied by



Plate 2. Mill Green ware: Squat jug with white slip decoration and clear glaze. MOL Acc. No. A25546 (Estimated height 248mm)

dabbing slip onto the jug with the finger-tips rather than by rolling plastic clay into small balls and pressing them onto the jug.

The same level of similarity is found in the white-slip decorated squat jugs. The general form and type of decoration may again be seen in the London-type industry on vessels which are definitely of early and mid 13th century date (from Seal House Waterfronts III and IV).

In the period immediately preceding the introduction of Mill Green ware, there are no local wares employing precisely the same range of shapes and techniques. By contrast, the earliest Kingston ware jug forms are identical to those found in London-type ware. Therefore, either the Mill Green potters originated the style for themselves or one has to look further afield for its origins.

Once the Mill Green industry was established, close links began to develop with several other industries. Late 13th and early 14th century Kingston ware includes some conical jugs which copy the Mill Green form precisely. Similarly, the one Mill Green scale jug known (Fig. 10 No. 25; Pl. 3) is similar to vessels produced at Kingston (e.g. Museum of London Acc. No. 5664). The same range of miniature jugs found in Mill Green ware may also be seen in Kingston ware (e.g. Spencer 1969, 388).

A recently defined group of jugs from Colchester, presumably made in or near the town (Cunningham 1982), share certain characteristics with Mill Green ware in having white slip and, in some instances, green glaze. At present, however, there is insufficient evidence to indicate whether the start of this industry pre- or post-dates the first production of Mill Green ware, and the links between the two wares are rather tenuous.

A more general similarity can be seen between Mill Green ware and a series of

white-slipped, green-glazed wares produced in southern England, notably from the kilns at Earlswood, Surrey and Nash Hill, near Lacock, Wilts. and Newbury Group C, produced somewhere in central or eastern Berkshire. The Nash Hill industry and Newbury Group C, like Mill Green ware, have a definite late 13th century origin (Vince forthcoming). The Earlswood kiln, however, is not independently dated, and to judge by the reduced, sandy, coarsewares produced, may start slightly earlier, perhaps in the early to mid 13th century (Turner 1974).

The decline in Mill Green fineware production in the 14th century is paralleled by the decline of Kingston ware. Both industries continued into the second half of the century, but on a greatly reduced scale, and making more utilitarian products. In the London area their place is taken by coarse, green-glazed, whiteware vessels from the Surrey-Hampshire border (Coarse Border ware).

DESCRIPTION AND TYPE SERIES

THE FINEWARE

Fabric

The fabric of Mill Green fineware is hard, and smooth to slightly rough in feel, with a finely irregular fracture. It is generally brick-red in colour (2.5 to 5YR 6/10; 5YR 5/4 to 6/8) with a grey core (N3-7), although completely reduced and completely oxidised examples are not uncommon.

Ten examples of Mill Green ware from London were examined in thin-section (Appendix 1) and comprised six fineware and four sandy ware sherds. Nine examples of Mill Green ware from the kiln excavated by Mrs Sellers in 1967, comprised five fineware, one sandy and three coarseware sherds.

The matrix of all nineteen sections is similar and consists of abundant, very fine quartz (average size 0.08mm) with sparse to moderate, fine mica, sparse iron ore (0.14mm),

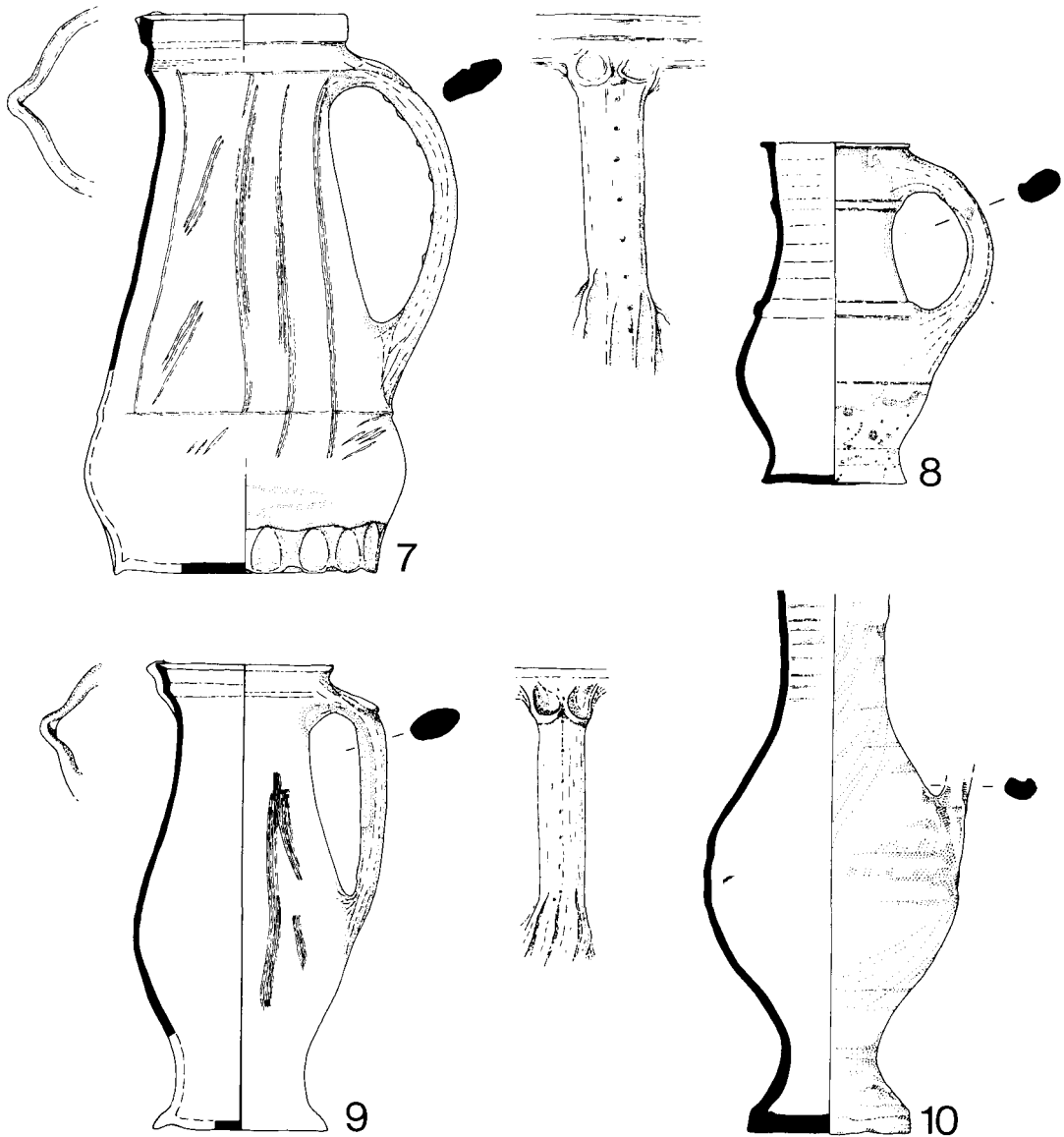


Fig. 5. Mill Green ware: Pear-shaped jug with white slip and green glaze. No. 7 MOL Acc. No. A20355. Baluster jugs with white slip and green glaze. No. 8 MOL Acc. No. A27569; No. 9 MOL Acc. No. A252268; No. 10 V&A no Acc. number. (1/4)

occasional very fine organic matter and occasional plagioclase feldspar. The majority of examples have ill-sorted, moderate tempering, probably deliberate, which consists of sub-angular and rounded quartz and metamorphic quartz (0.28–0.8mm). The quartz temper is more abundant in the sandy and coarseware fabrics. In addition to the quartz temper, sparse red clay pellets (*c.* 1.3mm) are present in the sandy and coarse fabrics and occasionally in the fine fabric, while rounded flint (0.26–0.44mm) occurs in the sandy fabric in greater quantity than in the coarse fabric. The white slip on the decorated sherds contains a very fine quartz silt.

Form

There are four basic types of fineware jugs. Their capacities were measured to the nearest 10ml, when possible, using dry rice.

(1) Conical and pear-shape (Figs 3–5 Nos. 1–7). These forms are closely similar and are often difficult to tell apart in sherd material. The profile basically forms the lower part of a truncated cone with no distinct neck and often curving gently into the base. In some examples, this curve is more pronounced and sometimes forms a definite carination. Conical jugs are by far the most common form, both in the complete collection and from excavated contexts. In the late 13th century, a small proportion are more pear-shaped than conical (e.g. Fig. 5 No. 7). Although a wide range of capacities is found, from 2,500 to 4,500ml, the average is in fact close to the late 13th century Wine Gallon of 3,540ml (Zupko 1968; Skinner 1967).

(2) Baluster (Figs 5–7 Nos. 8–15). This form has a distinct, generally straight-sided neck, semi-bulbous or pear-shaped body and a flared or pedestal base. Baluster jugs are much less common than conical or squat types and seem to fall into two groups: small vessels, all white-slipped and green-glazed, with capacities ranging from 750 to 2,000ml (Fig. 5 Nos. 8–10); and larger vessels (Fig. 6 Nos. 11, 12 and Fig. 7 Nos. 13–15), comparable in capacity with the conical jugs. The capacity of the largest complete example (Fig. 7 No. 13; Pl. I), has been calculated by Clive Orton

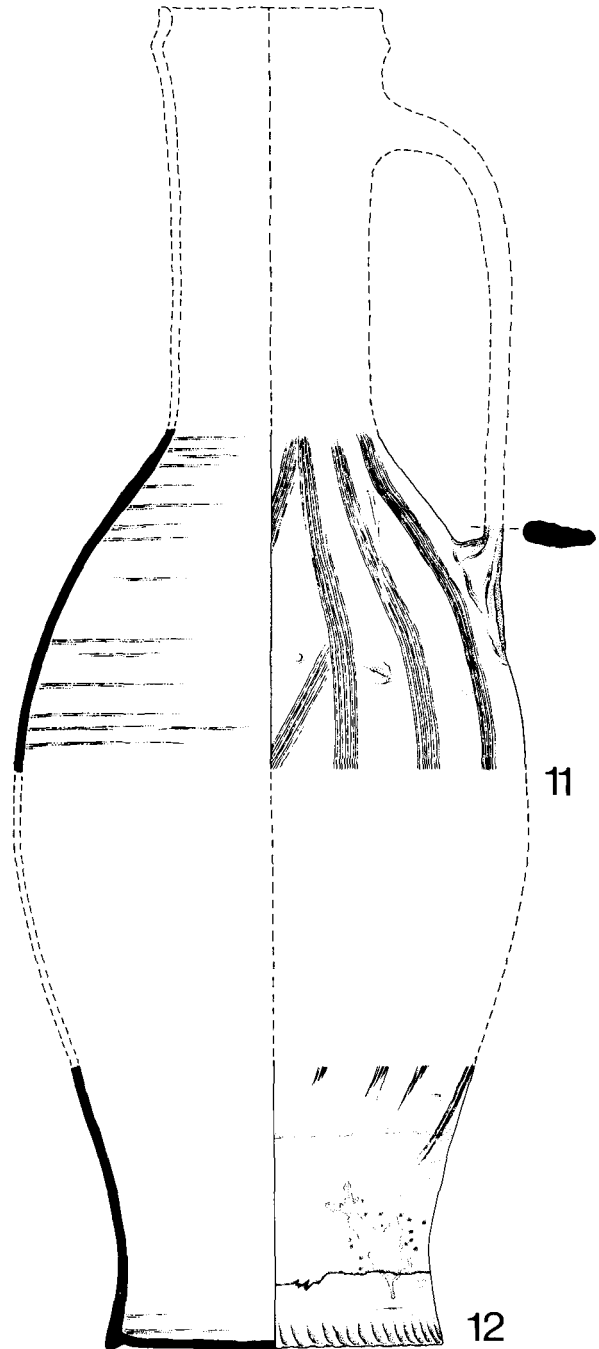


Fig. 6. Mill Green ware: Large baluster jugs with white slip and green glaze. No. 11 MOL no. Acc. number; No. 12 MOL Acc. No. 78. 159/12. (1/4)

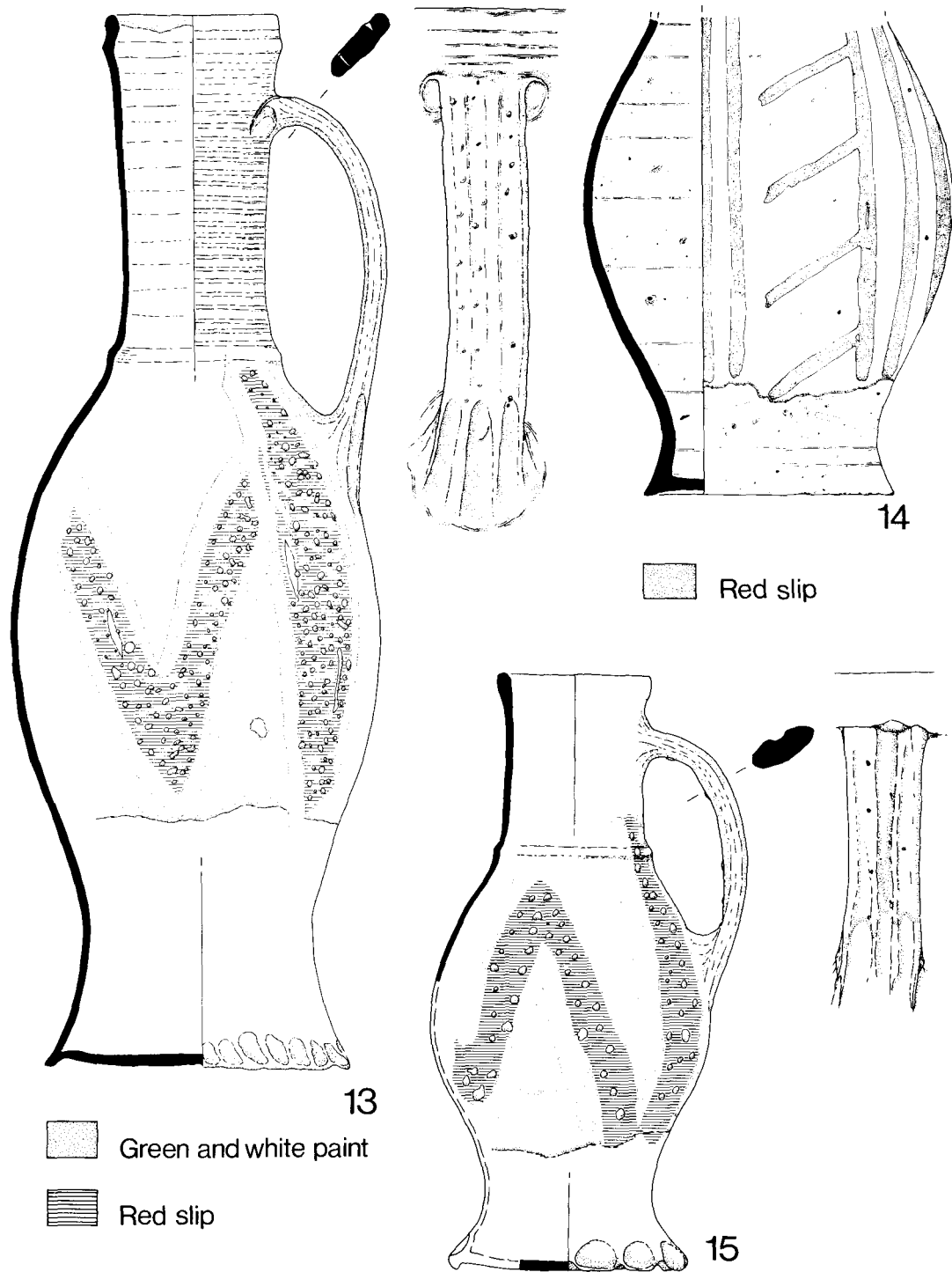


Fig. 7. Mill Green ware: Baluster jugs with polychrome decoration, No. 13 POM 79 Context 2048; No. 14 MOL Acc. No. 18.413; No. 15 MOL Acc. No. 5671. (1/4)

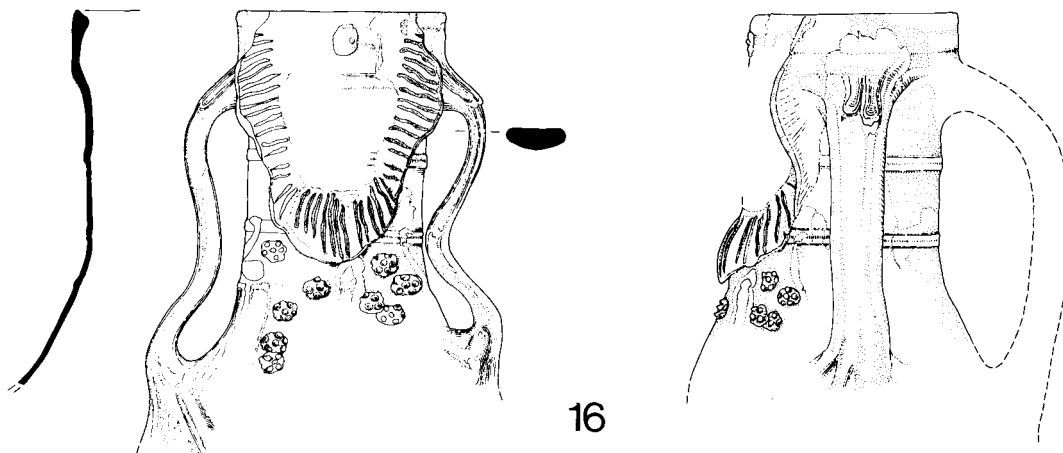


Fig. 8. Mill Green ware: Anthropomorphic jug. No. 16 AL 74 Context 1357. (1/4)

to be approximately 10,080ml. These vessels are sometimes painted with red slip or are polychrome-decorated (Pls. I and 1).

(3) Squat (Figs 11–14 Nos. 26–35). These have a bulbous or globular body whose height and girth are approximately equal. They appear to have slightly larger capacities than the conical jugs. Surviving vessels range from 3,400 to 5,500ml but larger jugs are known, mostly from fragments (Fig. 11 No. 28, Fig. 12 No. 30, Fig. 13 No. 33). A vessel from South Norwood has a capacity probably in excess of 9,000ml (Thornhill 1975, 150–4). Squat jugs are the second most common form found. There are slight indications that, although present in the late 13th century, the jugs become more common in the early 14th century at the expense of the conical and pear-shaped jugs.

(4) Rounded (Fig. 10 Nos. 23–25). These have a distinct, roughly straight-sided neck and rounded body tapering gently into the base. They appear to be much less common than any of the types described above, but are difficult to recognise from fragmentary material. The capacities of only two vessels were measured, 3,830ml and 4,750ml (Fig. 10 Nos. 23, 25). These are comparable with the capacities of the squat jugs.

It would appear that the jugs produced at Mill Green were primarily intended for carrying and serving liquids. There is no evidence that large cisterns with a bung-hole to take a spigot were produced in fineware, and only two examples, from a kiln site, are known in coarseware (Fig. 18 Nos. 57, 58).

Neck forms fall basically into two types: a distinct, approximately cylindrical, but often slightly flaring neck (Fig. 10 Nos. 23–25); and, by far the commoner form, curving gently and with no distinct break out of the body into a collar, situated generally 15–20mm below the rim. The collar is typically slightly wider than the rim (Fig. 3 Nos. 1–3), although straight and everted rims are also known (Fig. 4 No. 5; Fig. 5 No. 9). The latter neck form is generally a feature of conical, pear-shaped and squat jugs. With either neck form, the rim may be rounded (Fig. 4 No. 6), flat-topped (Fig. 4 No. 5) or, most commonly, internally bevelled (Fig. 3 Nos. 1–3). A slight cordon at the juncture between neck and body may be present on any vessel type. Baluster jugs in particular may have up to three pronounced cordons on the neck. Pouring lips, when present, are pinched. Handles are commonly of strap form, ranging in width from 30–50mm. The upper surface may have slight vertical ridges (Fig. 11 No. 27). They are frequently stabbed, down the central ridge alone (Fig. 5 No. 7) or more at random in roughly double

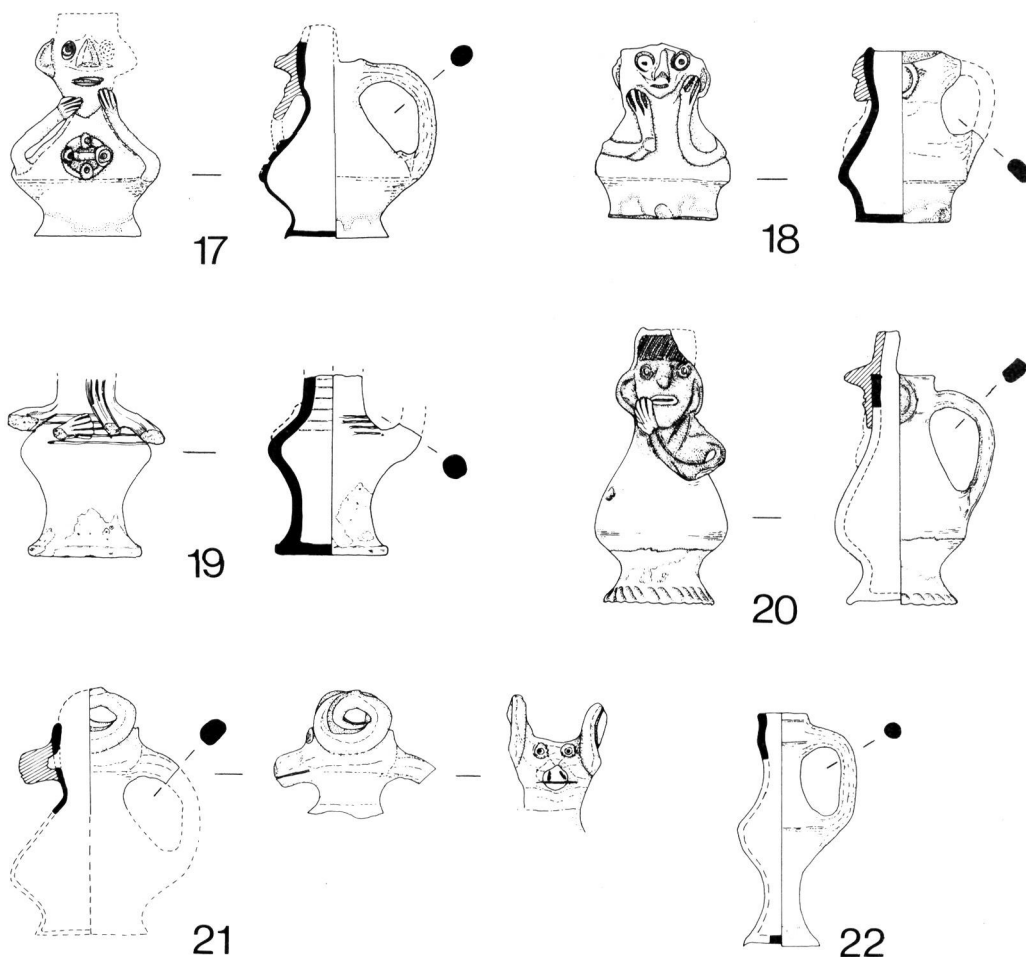


Fig. 9. Mill Green ware: Miniature jugs, No. 17 MOL Acc. No. A1357; No. 18 MOL Acc. No. A1358; No. 19 BM B52; No. 20 BM B81; No. 21 MOL Acc. No. A3915; No. 22 MOL Acc. No. 25991. (1/4)

or multiple vertical rows (Fig. 10 No. 25; Fig. 12 No. 31). Such stabbing may have ensured the correct firing of the handle. It is certainly unlikely to have been decorative since it appears to have taken place before the application of the white slip which subsequently somewhat obscured it. Handles are attached at the rim by inserting a plug fashioned on the handle into a hole cut into the vessel wall. The join is invariably smoothed over inside. The exterior of the rim/handle join is either left plain or is 'eared' by making two distinct thumb impressions (Fig. 1 No. 1; Fig. 5 No.

7). The lower attachment may also be plugged or made by pushing the vessel wall into the thickened handle base, leaving the join unsmoothed inside (Fig. 14 No. 38). Externally, the attachment is smoothed over, usually leaving two or three elongated, shallow thumb-marks. Plain rod handles are uncommon except on miniature jugs (Fig. 9 Nos. 17, 19 and 22). Handles of flattened oval section are also known (Fig. 5 Nos. 8 and 9).

In the majority of vessels examined, of all forms, the base has been pushed out from inside, giving a slightly convex profile. In

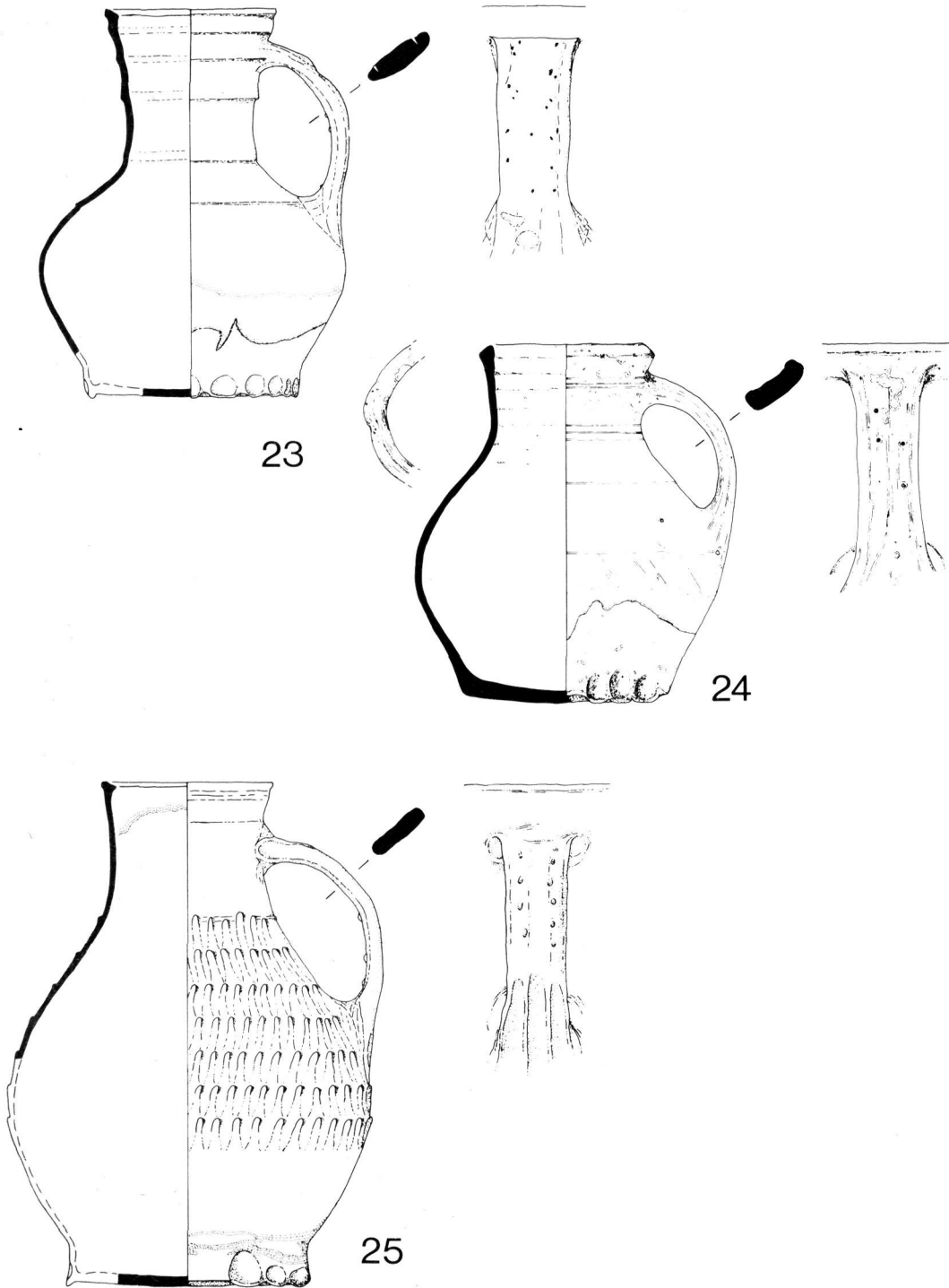


Fig. 10. Mill Green ware: Rounded jugs with white slip and green glaze. No. 23 MOL Acc. No. 78.185/2; No. 24 MOL Acc. No. 15948; No. 25 MOL Acc. No. 5641. (1/4)



Plate 3. Mill Green ware: Rounded jug with white slip and green glaze and scale-decoration.
MOL Acc. No. 5641 (Height 299mm)

some instances, the base has then been somewhat flattened as a result of the vessel being placed before completely dry on a flat surface. The parallel marks of the wire used to remove the pot from the wheel are often visible, although sometimes obscured by knife-trimming, especially close to the edge. The lower part of the body, just above the base angle, is also knife-trimmed after the application, by hand, of white slip. In some instances, this causes the slip to end in a markedly straight line (Fig. 3 No. 2; Fig. 6 No. 12). Knife-trimming is noticeably heavy on squat jugs with their generally more pronounced convex profile. With few exceptions, the base is then thumbed, continuously on conical and pear-shaped and baluster jugs, and in groups, commonly of three or four, on squat and rounded forms. Thumbing may be oblique in appearance (Fig. 4 No. 4; Fig. 7 No. 13) and occasionally takes the form of a series of thumb-nail nicks (Fig. 3 No. 2; Fig. 12 No. 29). In all instances, the vessels appear to have been glazed after this treatment has taken place.

A few exceptions to this general procedure may be noted. The bases of baluster forms whose necks are too narrow to allow the potter's hand to work inside the vessel may be more or less flat rather than pushed out. They may also have a slightly recessed appearance caused by smoothing underneath with a thumb or finger (Fig. 5 No. 9) and one squat jug from the kiln site has a noticeably flat, unthumbed base (Fig. 14 No. 35).

The even, unpitted quality of the glaze suggests that the method of application was different from that used on London ware jugs, which appear generally to have been dusted with powdered lead and copper. Since Mill Green vessels do not seem to have been dipped in a glaze, it is likely that they were glazed by being dusted with a lead oxide or sulphide, with or without the addition of copper. Glaze varying in colour from a pale yellow with specks of green to an overall dark green, depending on the quantity of copper added, is used over a white slip on by far the greatest proportion of Mill Green jugs of all forms found in London. The slip is wiped onto the body by hand and generally ends just inside the rim and at approximately 1/5 of the height

from the base. Wipe-marks may be just visible on the body (Fig. 11 No. 27).

Four basic types of decoration have been recognised:

(1) Combing

This takes the form of lines incised through a white slip, and is found mostly on conical or pear-shaped and squat jugs. Made with a three- to five-pronged comb, the commonest pattern consists simply of intermittently spaced vertical lines, often discontinuous (Fig. 3 Nos. 1 and 3). A more deliberate but less common design consists of groups of two or three vertical lines separated by panels of short oblique combed strokes (Fig. 5 No. 7). One example combines wavy lines with both vertical and horizontal combed lines (Fig. 14 No. 39).

(2) White slip painted decoration

Relatively rare in London, white slip decoration is painted straight onto the body of the pot, with no overall white slip. The glaze is clear and is often restricted to the body alone. Vertical lines again form the principal design scheme, irregularly spaced (Fig. 12 No. 32; Fig. 14 No. 34), or grouped evenly around the body of the pot (Fig. 12 No. 29; Pl. II). In one example, groups of three vertical lines are separated by rows of semicircular hoops (Fig. 12 No. 30). Horizontal lines are frequently painted just below the rim and at the point at which the body curves into the neck (Fig. 14 Nos. 34 and 35). A line of slip may also be painted down the centre or along the edges of the handle (Fig. 12 No. 31). More complex designs make use of foliate and chequerboard patterns, inverted horseshoes or somewhat less coherent geometric devices (Fig. 12 No. 31; Pl. 2), and one large, squat jug (Fig. 13 No. 33) has cross-hatched panels filled with white slip dots.

(3) Red slip painted decoration

Only one example has so far been found in London, a baluster jug with red slip decoration painted onto an overall white slip under a clear glaze (Fig. 7 No. 14; Pl. III). The design mirrors that of the combed examples described above (e.g. Fig. 5 No. 7), consisting

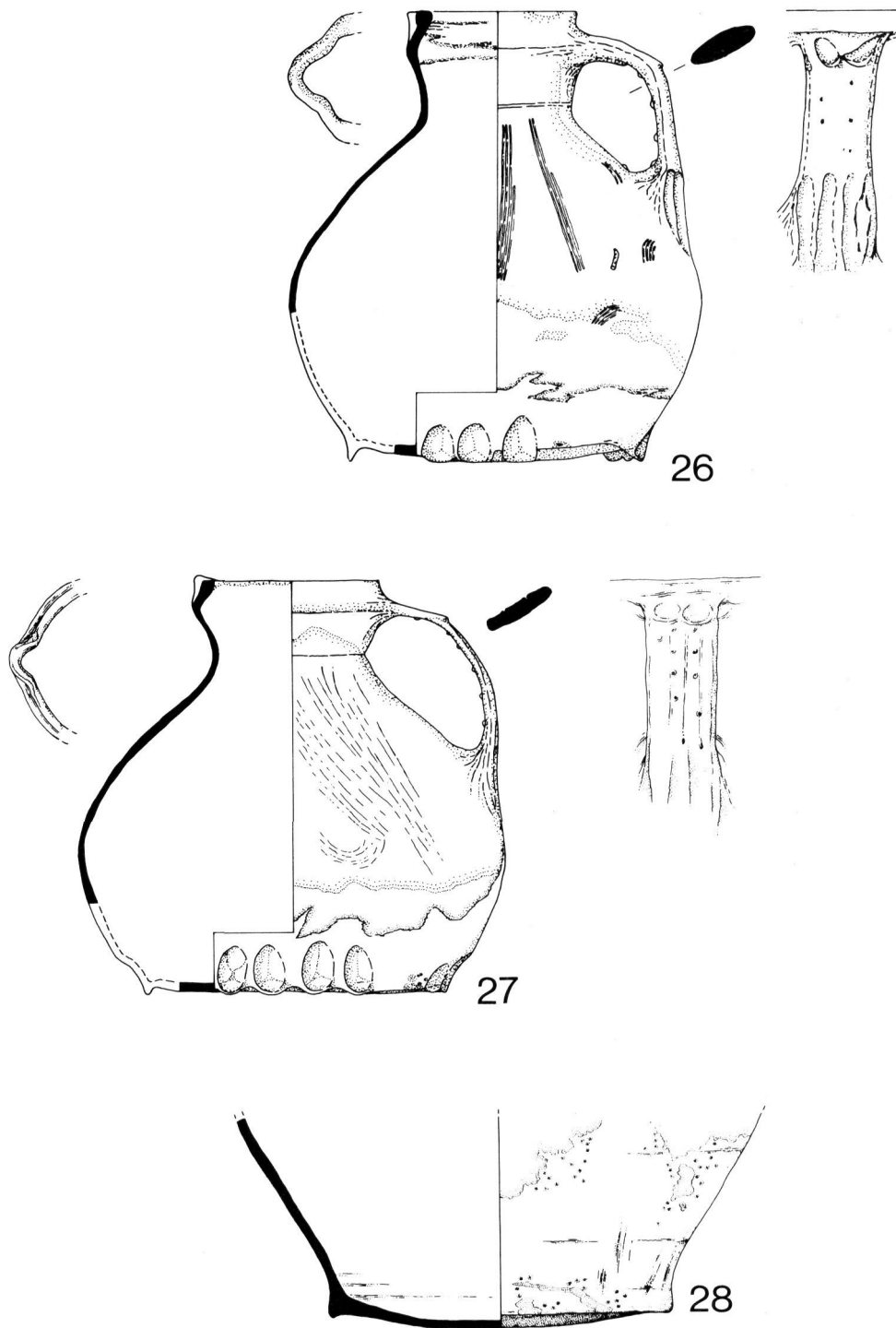


Fig. 11. Mill Green ware: squat jugs with white slip and green glaze. No. 26 MOL Acc. No. B160; No. 27 MOL Acc. No. A5214; No. 28 MOL Acc. No. 78.159/71. (1/4)

of groups of three vertical lines alternating with panels of short oblique lines.

(4) Polychrome decoration

This appears to be limited to baluster jugs, and so far only one basic design has been recognised, directly paralleling London ware Rouen copies (Fig. 7 Nos. 13, 15; Pls. 1 and I). Red slip vertical lines and chevrons, 40–50mm wide, and with white slip dots applied at random, are painted onto an overall white slip, and outlined in green with white clay painted onto the vessel in a slip mixed with copper. The glaze is clear.

Applied decoration is relatively rare. The only complete example examined was a rounded jug with seven horizontal rows of applied scales approximately 10mm high around the body (Fig. 10 No. 25; Pl. 3). Sherd material from Trig Lane included one example of a thumbled vertical strip (Fig. 14 No. 37) and a plain horizontal strip applied across the base of a handle (Fig. 14 No. 38).

Slashed decoration appears to be even less common, and only two sherds are illustrated, one from a jug with a row of shallow oblique cuts around the collar just below the rim (Fig. 14 No. 42). The other is part of a strap handle, also with shallow oblique cuts (Fig. 14 No. 40).

A very unusual, highly decorated jug (Fig. 8 No. 16), probably of baluster form, has the remains of a prominently modelled, bearded face set between two subsidiary strap handles that curve in the middle to meet the neck of the pot. The vestiges of two arms spring from the base of these handles presumably meeting on the body. The main, and more substantial, handle is missing. The body is clear-glazed, and the facial features have deeply incised decoration through white slip. Additional decoration consists of vertical lines of white slip, and a somewhat random arrangement of applied, raspberry-stamped, white slip pads.

A single handle is known from a large vessel (Fig. 15 No. 43), and since no jug with such a robust handle has yet been found, it might come from another form, such as a storage jar or possibly a decorated curfew (cf Jennings 1981, 42–3). However, the thin walls of the vessel suggest that it was more likely to have

been a jug. The ring-stamp decoration down the centre and on the sides of the handle is so far unparallelled, as are the deeply indented finger-impressions pushed into the base of the handle from inside the body.

Miniature jugs

Six miniature jugs are known, from the Museum of London and British Museum reserve collections (Fig. 9 Nos. 17–22), although none have yet been identified in any of the kiln groups. Four are anthropomorphic, including one of Dunning's type II with a brooch (Dunning 1969, 388–390), one has a ram's head and one is plain. All the vessels are of baluster form, and all are covered with white slip and green glaze. However, the faces are unslipped and have a clear glaze. Applied white clay is sometimes used to emphasise lips, eyes and hands (Fig. 9 No. 17). Red slip is also used on the face and arm of one of the jugs (Fig. 9 No. 20). Apart from the one brooch, none of the jugs have any indications of dress. Two have free-standing arms with hands holding the chin (Fig. 9 Nos. 17 and 18), and two have one hand on the stomach and the other on the chin (Fig. 9 Nos. 19 and 20). The fingers are indicated by slashing. The eyes are either applied blobs with a pierced pupil or, in one case, ring and dot stamps (Fig. 9 No. 18). The settings on the brooch are similarly made from applied blobs centrally pierced. The lips on two jugs are applied (Fig. 9 Nos. 17 and 20). These jugs have capacities of less than 200ml and, if they were not merely decorative, were probably used to hold liquids.

'Owner's' marks

There is one example in the Museum of London reserve collection of a deliberate mark made by the potter himself (Fig. 4 No. 4; Pl. 4). This takes the form of a deeply incised arrow pointing upwards placed just below the collar, opposite the handle and made with three distinct knife cuts. It is not unlike the broad arrow War Department mark found on government property and may be an early example of this. However, it may simply be a personal mark or may represent an order placed with the potter (Hinton 1977, 225–6). Only one example of a mark made after firing

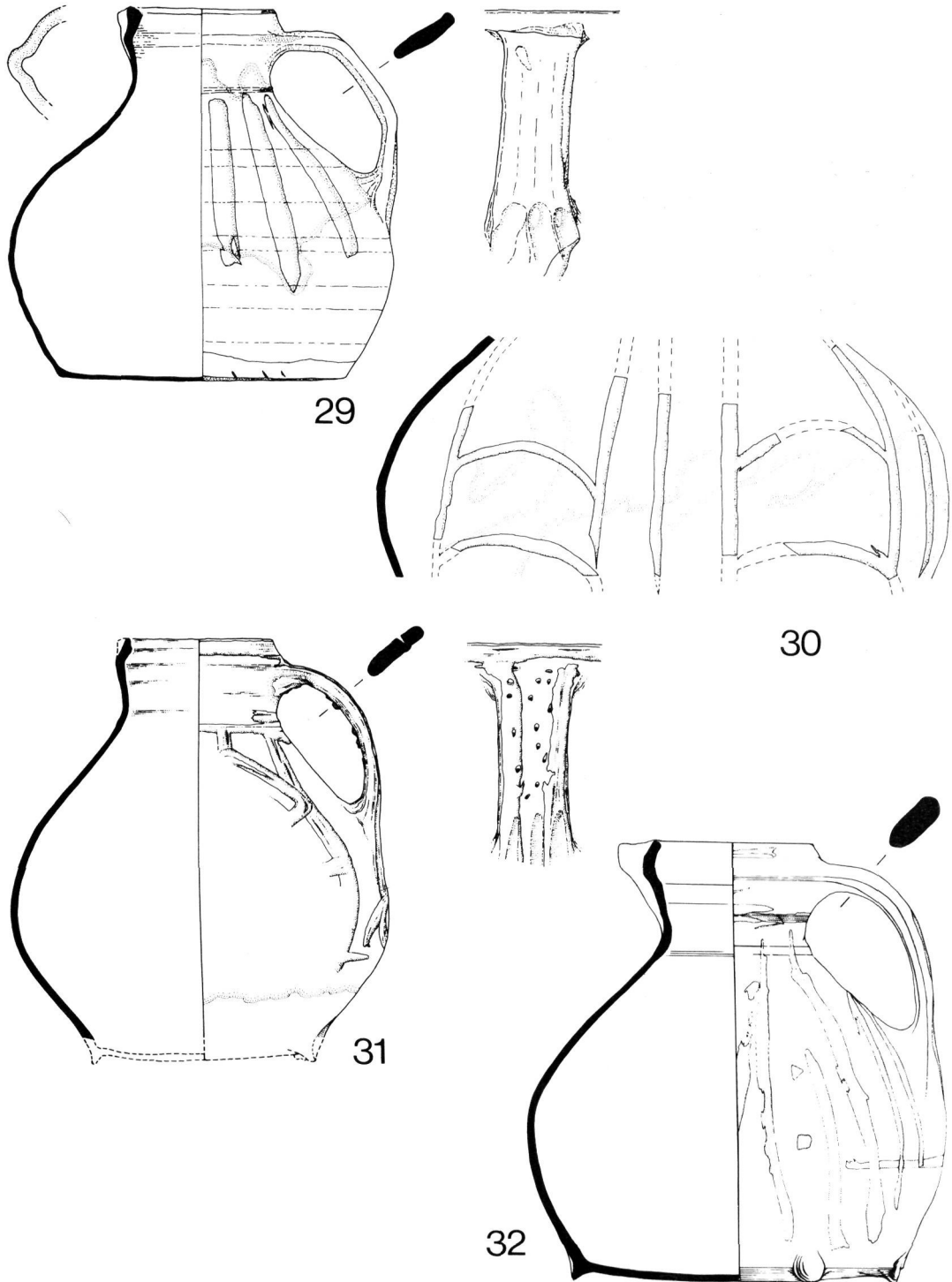


Fig. 12. Mill Green ware: Squat jugs with white slip decoration and clear glaze. No. 29 MOL Acc. No. 5690; No. 30 MOL Acc. No. ER 1522 Pit 27; No. 31 MOL Acc. No. A25546; No. 32 Colchester and Essex Museum 12, 1968/2. (1/4)

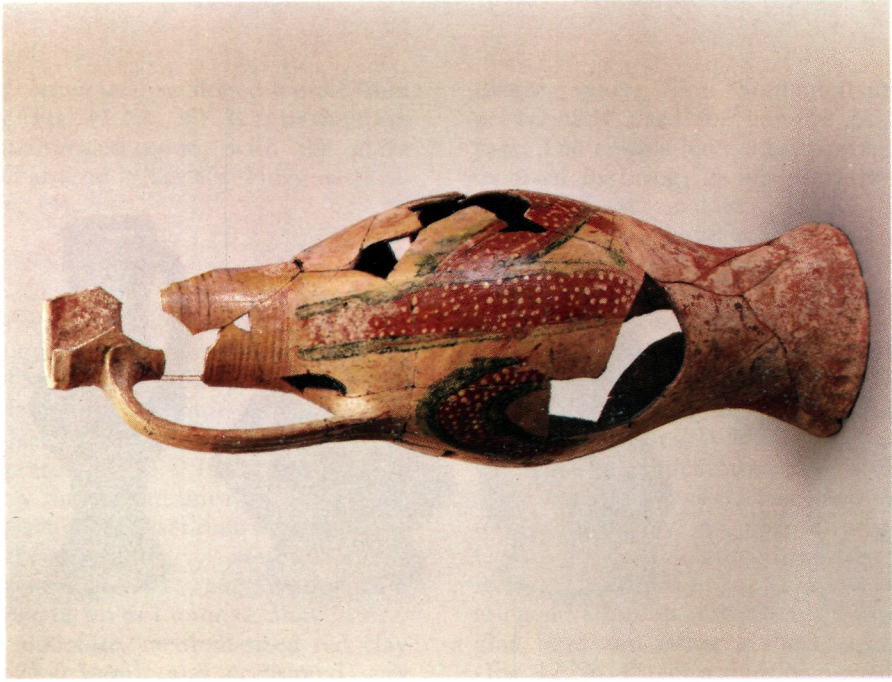


Plate I. Mill Green ware: Baluster jug with polychrome decoration. POM 79, context 2048 (Height 634mm)



Plate II. Mill Green ware: Squat jug with handle decoration and clear glaze. MOL Acc. No. 5690 (Height 225mm)



Plate III. Mill Green ware: Baluster jug with red slip painted decoration. MOL Acc. No. 18.413 (Estimated height 288mm)



Plate IV. Mill Green ware: Miniature jugs. MOL Acc. No. A3915 (Estimated height 130mm); MOL Acc. No. A1358 (Estimated height 91mm); MOL Acc. No. A1357 (Estimated height 118mm); MOL Acc. No. 25991 (Height 124mm)

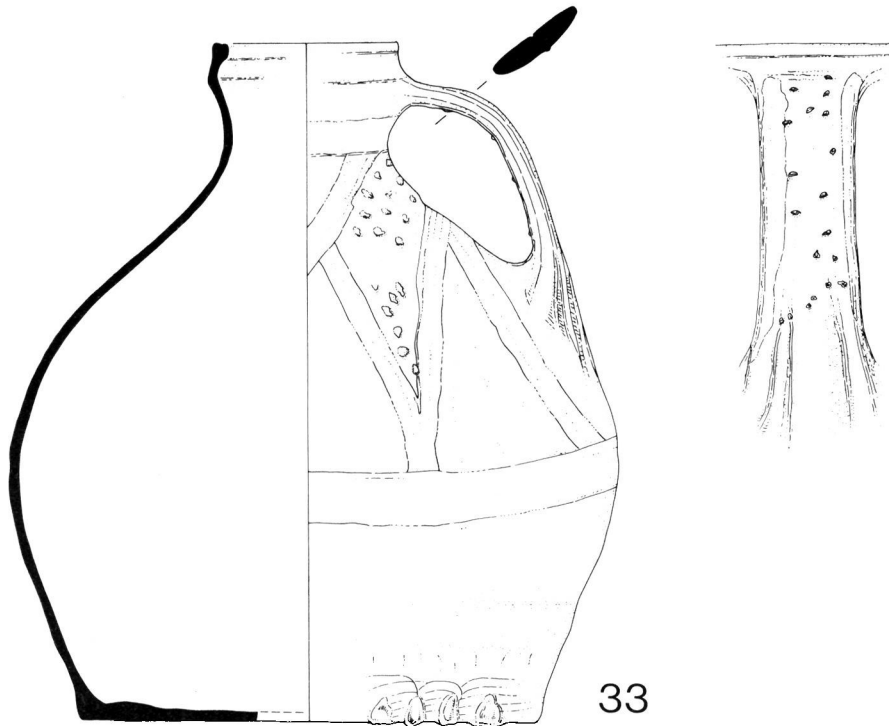


Fig. 13. Mill Green ware: Large squat jug with white slip decoration and clear glaze. No. 42 LUD 82 Context 1048. (1/4)

was found, on an oval-sectioned handle from Trig Lane (Fig. 14 No. 36). It is in the form of an equal-armed cross, with the glaze chipped off around it (see also Huggins 1972, Fig. 19 No. 14).

THE COARSEWARES

Examination of the pottery found at the kiln site (except for that from the 1967 excavations) suggests that coarsewares constituted 20–40% of Mill Green's total production. The fabric is basically the same as that of the finewares (see p. 277ff.) with abundant, clear, angular quartz, up to 0.1mm in size, and sparse, very fine, white mica. However, the tempering is much coarser than that generally added to the finewares, consisting of moderate, clear and brown, sub-angular and rounded quartz, up to 1.0mm or more in size; sparse to moderate, medium-sized red clay pellets (0.25–0.5mm); and occasional very

coarse, sparse flint. Similar tempering is occasionally used for handles on fineware jugs. The vessels have most commonly been oxidised in firing, giving the fabric a pale orange/brown colour (5YR 6/8–5/8), although some have a grey or completely reduced fabric (5YR 4/8; 10YR 5/1–5/2).

Coarseware forms are normally undecorated, although cooking pots may sometimes have applied thumbled strips (Fig. 16 No. 44; Fig. 17 No. 50; see also Christy & Reader 1918, Fig. 15 No. 4). Thumbing is generally absent from bases. With the exception of the cooking pots, which often have a thin green glaze on the inside of the base, and the louvre, mentioned below, no glaze or slip is used. Cooking pots, which together with the bowls, seem to form the major coarseware output, are generally thin-walled with a slightly sagging base and either a short, upright neck (Fig. 17 No. 47), or a sharply everted rim and

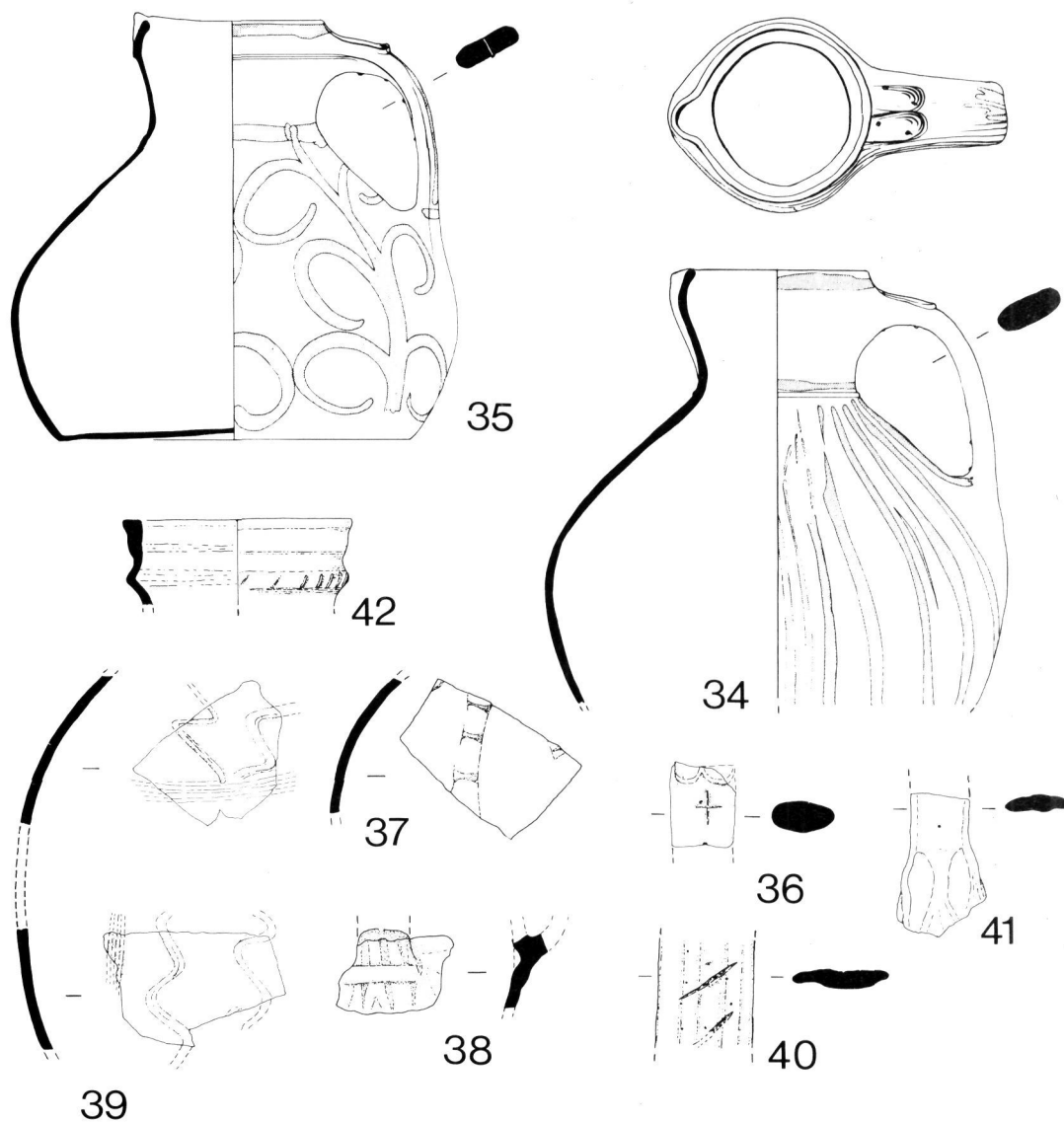


Fig. 14. Mill Green ware: Squat jugs with white slip decoration and clear glaze. No. 34 Colchester and Essex Museum no number; No. 35 Colchester and Essex Museum 12.1968/1. Miscellaneous jug fragments with white slip and green glaze. No. 36 TL 74 Context 2467 'owner's' mark on handle; No. 37 TL 74 Context 1743; No. 38 TL 74 Context 2422; No. 39 TL 74 Context 2482; No. 40 TL 74 Context 47; No. 41 MOL no number; No. 42 TL 74 Context 2422. (1/4)



Plate 4. Mill Green ware: Conical jug with white slip and clear glaze, showing 'owner's' mark.
MOL Acc. No. 13615 (Height 304mm)

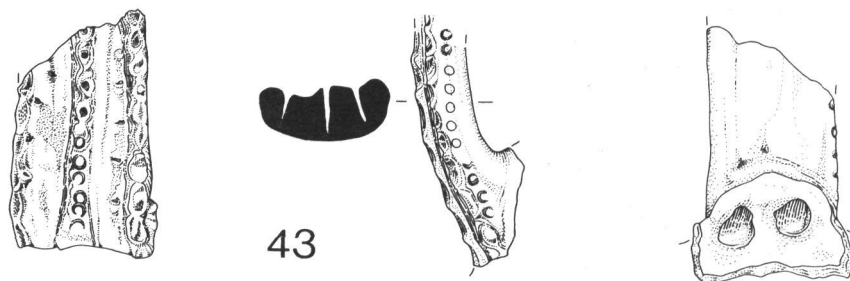


Fig. 15. Mill Green ware: Large jug or curfew handle with white slip and clear glaze, No. 43 LUD 82 Context 1060. (1/4)

no neck (Fig. 17 Nos. 49 and 52). Rims are flat-topped (Fig. 17 No. 49) or occasionally bevelled and thickened externally (Fig. 17 No. 51). The bowls, which are marginally less common, are large with heavy, flanged rims and often have a slight angle just below the rim (Fig. 17 No. 54). As yet, no bases have been recognised and a complete profile cannot be reconstructed.

A number of small, curved, pipkin-type handles have been found (Fig. 18 No. 55), but again no complete profile is known. They may, however, be associated with the lid-seated rims from small, cooking pot-shaped vessels (Fig. 18 No. 56). Cisterns are equally uncommon and have been mainly identified from the bungholes alone. These are usually plain (Fig. 18 No. 58), but may be pierced, with a thumb collar (Fig. 18 No. 57). Although jug-shaped cisterns are known (Sellers 1968; 1970a), it is possible that jar-shaped vessels were also made.

One fragment of a dripping dish has been found at the kiln site (Fig. 18 No. 59). It appears to be part of a crudely formed, D-shaped vessel rather than an oval or rectangular form. Deduction of this form is confirmed by an example from Hadleigh Castle (Drewett 1975). Only one example has so far been found of a two-handled cooking pot or cauldron (Fig. 18 No. 60). The rim is of simple, everted form and the handles are distinctly angular, possibly in imitation of metal forms. There was one fragment of a louvre with white slip decoration and green glaze. In addition to the forms recognised here, Mrs

Sellers records the presence of dishes, 'plates' or perhaps lids, and cups (Sellers 1970).

CONCLUSION

On the basis of the distribution evidence, the petrological analysis and comparison of the material from the kiln excavations with that from London, it seems certain that the Mill Green kilns are one source, if not the only source, for what has been termed 'West Kent' ware in London. It is therefore recommended that in future the use of the term 'West Kent' ware should be dropped in favour of Mill Green ware.

A type series has been produced based on the forms in the Museum of London reserve collection although this may of course be modified by further material from excavations. The dating of the ware in London seems now to be securely established. Its introduction occurred *c.* 1240–1270, probably closer to the latter date rather than the former, and importation reached a peak *c.* 1300 and stopped or tailed off after *c.* 1350. The polychrome ware was introduced to London probably during the peak period, *c.* 1290–1306. The latest material, possibly produced in the late 14th century, is mostly coarseware, and is found predominantly in south and central Essex.

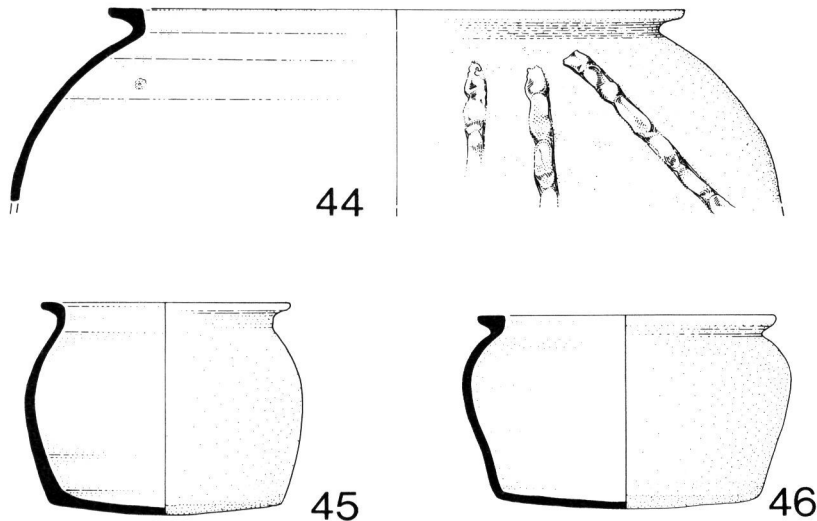


Fig. 16. Mill Green coarseware: Cooking pots, No. 44 MOL no number; No. 45 MOL Acc. No. 11921; No. 46 MOL Acc. No. A27898. (1/4)

ACKNOWLEDGMENTS

First and foremost we would like to thank Brian Spencer and John Clark for allowing us to use the vessels in the reserve collection in the Museum of London; John Cherry for permission to study vessels in the British Museum; and Mrs E. Sellers for supplying sample sherds and information on Mill Green itself. The compilation of the distribution map necessitated writing to many museums in the Home Counties and we would like to thank the following for their prompt replies and help when Roger White came to view their pottery collections: M. J. Winter of Colchester and Essex Museum; P. Wilkinson and P. Greenwood of the Passmore Edwards Museum; M. Shaw of the Croydon Natural History and Scientific Society; K. L. Crowe of Southend-on-Sea Central Museum; I. K. Jones of Harlow Museum; J. Arthur of Guildford Museum; D. B. Kelly of Maidstone Museum and Art Gallery; N. Macpherson-Grant of the Canterbury Archaeological Trust; C. Partridge of the Hertfordshire

Excavation Trust; D. J. Turner; E. Hills; S. Jordain of Saffron Walden Museum; C. R. Baker of Dartford Borough Museum; C. V. Dawes of Stevenage Museum and L. Millard of the Kent Museums Service.

Thanks are also due to Kate Armitage and Anne Jenner who provided some of the illustrations, and to Rita Rattray who carried out the fabric analysis. Roger White would like to thank Andy Carden for correcting a typescript, Lloyd Laing for suggesting the project and for his subsequent help and his mother for typing the first draft.

Fig. 17 Nos. 49, 50, 53–54 and Fig. 18 Nos. 55–56, 59–60 are published by kind permission of the Curator, Passmore Edwards Museum, Stratford, E15 4LZ.

We are grateful to the Colchester and Essex Museum for permission to publish Fig. 12 No. 32; Fig. 14 Nos 34 and 35; Fig. 17 No. 47; Fig. 18 Nos. 57 and 58; and to the Chelmsford and Essex Museum for permission to publish Fig. 17 No. 48.

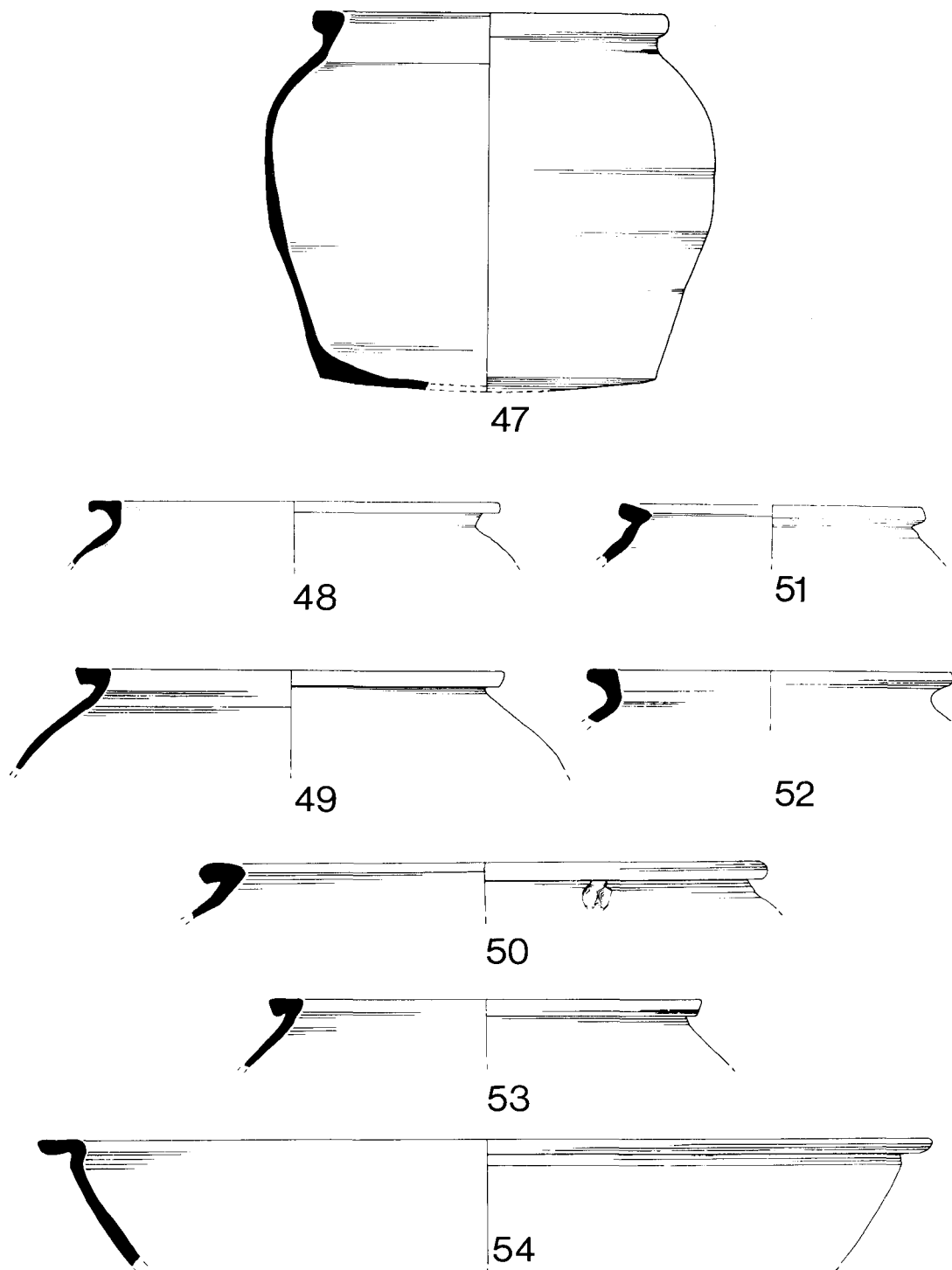


Fig. 17. Mill Green coarseware: Cooking pots, No. 47 Colchester and Essex Museum 3384.15; No. 48 Chelmsford and Essex Museum 1977.151; No. 49 Passmore Edwards Museum Acc. No. 008.0005; No. 50 Passmore Edwards Museum Acc. No. 008.0006; No. 51 Chelmsford and Essex Museum 1977.151; No. 52 TL74 Context 2415; No. 53 Passmore Edwards Museum Acc. No. 008.0007, Bowl No. 54 Passmore Edwards Museum Acc. No. 008.0008. (1/4)

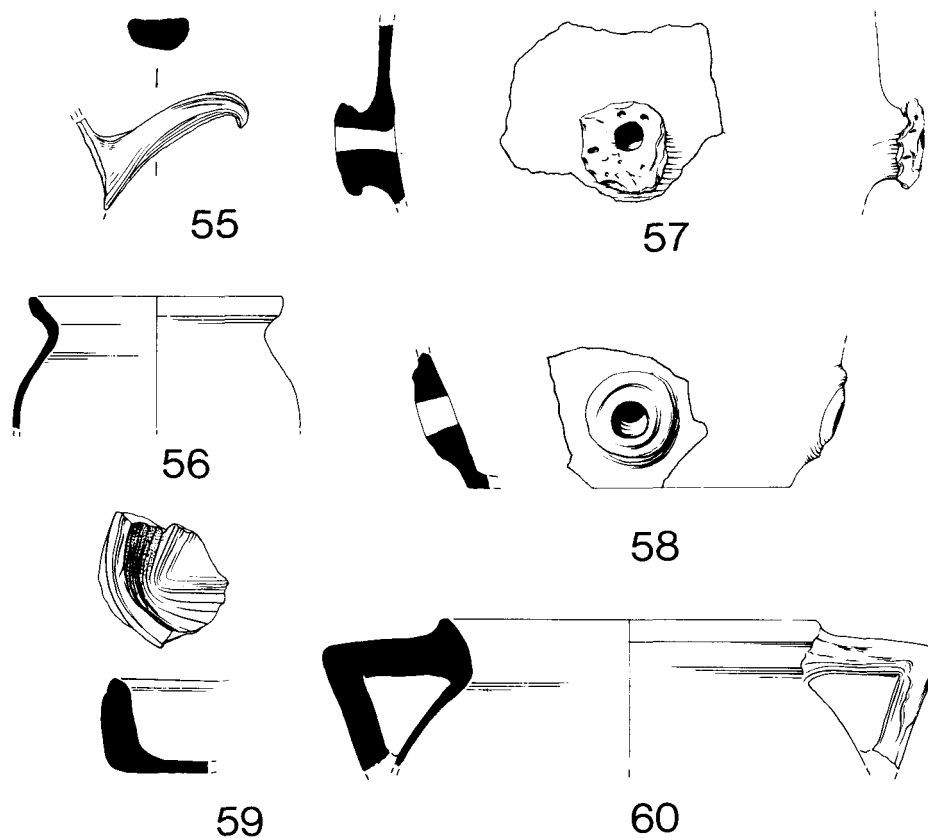


Fig. 18. Mill Green coarseware: Pipkins, No. 55 Passmore Edwards Museum Acc. No. 008.0009; No. 56 Passmore Edwards Museum Acc. No. 008.00010. Cisterns. No. 57 Colchester and Essex Museum 3384.15; No. 58 Colchester and Essex Museum 3384.15. Dripping dish, No. 59 Passmore Edwards Acc. No. 008.00011. Cauldron. No. 60 Passmore Edwards Museum Acc. No. 008.00012.

(1/4)

APPENDIX 1

<i>D.U.A. T-S No.</i>	<i>Source</i>	<i>Fabric code</i>	<i>Comments</i>	<i>D.U.A. T-S No.</i>	<i>Source</i>	<i>Fabric code</i>	<i>Comments</i>
212	London	Skw 1046	fine	218	Kiln	Sgnw 582	fine
213	London	Sgnw 1078	fine	402	Kiln	Sgnw 2398	fine
214	London	Sgnw 1088	sandy	403	Kiln	Sgnw 2398	fine
216	London	Sgnw 579	fine	404	Kiln	Sgnw 2398	fine
217	London	Skw 1046	sandy	405	Kiln	Sgnw 2398	fine
219	London	Sgnw 1086	sandy	406	Kiln	Sgnw 2399	sandy
220	London	Sgnw 1086	sandy	407	Kiln	Smw 2403	coarse
221	London	Sknw 2248	fine	408	Kiln	Smw 2403	coarse
222	London	Sgnw 2248	fine	409	Kiln	Smw 2403	coarse
223	London	Sgnw 579	fine				

APPENDIX 2

List of find-spots of Mill Green ware and other relevant sites (see Fig. 2).

Essex

- (1) Mill Green, Ingatestone
- (2) Colchester (Cunningham 1982)
- (3) Rivenhall (Drury forthcoming)
- (4) Ongar Castle (Colchester Mus. unpubl.)
- (5) Harlow, Chalk Lane (Passmore Edwards Mus. unpubl.)
- (6) Hadleigh Castle (Drewett 1975)
- (7) Mucking Windmill (Cunningham forthcoming)
- (8) Canvey Island (Southend Mus. unpubl.)
- (9) Two Tree Island (Southend Mus. unpubl.)
- (10) Rayleigh Castle (Helliwell and Macleod 1981; Southend Mus. unpubl.)
- (11) Southchurch Hall (E. Hills pers. comm.)
- (12) Harwich (C. Cunningham pers. comm.)
- (13) Dunmow
- (14) Danbury
- (15) King John's Hunting Lodge, Writtle (Rahtz 1969)
- (16) Waltham Abbey (Huggins 1972; 1976)
- (17) Chelmsford (Cunningham forthcoming)
- (55) Sheering, Back Lane (Passmore Edwards Mus. unpubl.)

Kent

- (18) Tyler Hill
- (19) Moat Farm, Leigh (Parfitt 1976)
- (20) Upchurch (Rackham 1972)
- (21) Canterbury (N. Macpherson-Grant pers. comm.)
- (22) Dartford (Mynard 1973)
- (23) Eynsford Castle (Rigold 1971)
- (24) Stonar (N. Macpherson-Grant pers. comm.)
- (25) Ospringe (Thorn 1979)

- (26) Rochester (Tester 1979)
 - (27) Pivington Manor, Pluckley (Rigold 1972)
 - (48) Darenth (J. Thorn pers. comm.)
 - (49) Joyden's Wood, Bexley (Dunning 1958)
- Herts
- (28) Hertford
 - (29) Stevenage (C. Dawes pers. comm.)
 - (30) King's Langley Abbey (Hurst 1977)
- Greater London
- (31) West Ham, Bakers Row, Church St. (Passmore Edwards Mus. unpubl.)
 - (32) Southwark (Orton 1978; Celoria and Thorn 1974)
 - (33) Stepney (Blackmore 1982)
 - (34) Northolt Manor (Hurst 1961)
 - (35) Lesnes Abbey (Dunning 1961)
 - (36) South Norwood/Beckenham (Thornhill 1974)
 - (37) Addington (Thornhill and Savage 1979)
 - (52) Barking Abbey (Passmore Edwards Mus. unpubl.)
 - (50) Dagenham (Passmore Edwards Mus. unpubl.)
 - (51) Beredens (Passmore Edwards Mus. unpubl.)
- Inner London
- (38) City
 - (53) Palace of Westminster, Cromwell Green (Platts 1980)
 - (54) Tottenham Court, Euston Road, (Whytehead in prep.)
- Surrey
- (39) Kingston (Hinton 1980)
 - (40) Earlswood (Turner 1974)
 - (41) Guildford
 - (42) Reigate
- Bucks
- (43) Brill (Jope 1953-4)
 - (44) Boarstall
- Berks
- (45) Reading (A. Vince pers. comm.)
 - (46) Newbury (Vince forthcoming)
- Oxon
- (47) Oxford (M. Mellor pers. comm.)

APPENDIX 3: QUANTITIES OF MILL GREEN WARE IN THE SEAL HOUSE-TRIG LANE SEQUENCES

(i) Trig Lane Group G2, *c.* 1270.

Jug	3.38 Eve's	6,880gm	13.95% Eve	16.13% wt
CP	0.22 Eve's	66gm	0.91% Eve	0.15% wt
Non-MG	20.63 Eve's	35,712gm	85.14% Eve	83.72% wt
Totals	24.23 Eve's	42,658gm		

(ii) Trig Lane Group G3, *c.* 1290.

Jug	3.21 Eve's	5,622gm	16.06% Eve	16.01% wt
CP	0.27 Eve's	218gm	1.35% Eve	0.62% wt
Misc	0.00 Eve's	50gm	0.00% Eve	0.14% wt
Non-MG	16.51 Eve's	29,223gm	82.59% Eve	83.23% wt
Totals	19.99 Eve's	35,113gm		

(iii) Trig Lane Group G7, *c.* 1340.

Jug	0.22 Eve's	1,242gm	1.34% Eve	3.71% wt
CP	0.00 Eve's	28gm	0.00% Eve	0.08% wt
Non-MG	16.15 Eve's	32,200gm	98.66% Eve	96.21% wt
Totals	16.37 Eve's	33,470gm		

(iv) Trig Lane Group G10, *c.* 1360.

Jug	0.44 Eve's	991gm	2.08% Eve	2.31% wt
CP	0.00 Eve's	5gm	0.00% Eve	0.01% wt
Non-MG	20.68 Eve's	41,985gm	97.92% Eve	97.68% wt
Totals	21.12 Eve's	42,981gm		

(v) Trig Lane Group G11, *c.* 1380.

Jug	0.52 Eve's	1298gm	0.73% Eve	1.27% wt
CP	0.00 Eve's	9gm	0.00% Eve	0.01% wt
Non-MG	70.29 Eve's	101,018gm	99.27% Eve	98.72% wt
Totals	70.81 Eve's	102,325gm		

(vi) Trig Lane Group G12, *c.* 1430.

Jug	0.07 Eve's	463gm	0.82% Eve	3.08% wt
Non-MG	8.43 Eve's	14,558gm	99.18% Eve	96.92% wt
Totals	8.50 Eve's	15,021gm		

(vii) Trig Lane Group G15, *c.* 1440.

Jug	0.25 Eve's	829gm	0.27% Eve	0.59% wt
Non-MG	93.13 Eve's	138,950gm	99.73% Eve	99.41% wt
Totals	93.38 Eve's	139,779gm		

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The Society is grateful to the Department of the Environment for a grant towards the cost of publishing this report.