Two medieval pottery kilns at Limpsfield Chart

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Introduction

The kilns at Loampit Field and Ridlands Farm, Limpsfield, Surrey, the latter of which was previously unknown, are two of a number in the Limpsfield area which produced coarseware from the mid 13th to mid 14th century. Eight other kiln sites are known, some of which were excavated in the last century (Prendergast 1973; 1974) (fig 2).

The Loampit Field site, which was discovered by Prendergast, was excavated in 1975. The site at Ridlands Farm was discovered after the field had been ploughed and an opportunity to excavate occurred at Easter 1978 before the field was sown. When excavated, damage from ploughing became evident, but a substantial part of the kiln structure remained showing that it was of the double flue type. The Ridlands Farm kiln is similar to, but not identical with, the Vicars Haw Kiln, an example of the twin-flue updraught type (Jope 1956). Post-excavation work has been carried out by members of The Bourne Society Archaeological Group.

Loampit Field TQ 424 527 (figs 2 and 3)

An extensive examination of the Loampit Field bank, which has been known for many years to contain a high proportion of pottery sherds, was undertaken by the Bourne Society Archaeological Group on 24–26 May 1975. It was hoped that a nearby kiln would be discovered.

METHOD

A grid of 12ft (3.6m) squares was laid out covering the ditch on the east side of the bank and the bank itself, later extended into the field in the west side where signs of the proximity of the kiln were discovered (fig 3). All rims, decorated sherds, handles and a selection of bases were collected, together with sherds of an unusual shape or colour. Except for those sherds illustrated, they have been reburied on the site. A small selection of diagnostic handles has been presented to the British Museum.

THE DITCH AND BANK (fig 3)

The bank with its high pottery content is part of the boundary enclosing the Gresham Estate.[1] The ditch which produced the material of which the bank was constructed must have cut through part of the waster heap very close to the kiln itself, which is now located beneath a large beech tree growing on the bank, its roots covering and penetrating blackened soil and disturbed burnt sandstone fragments. There are also sandstone fragments in the ditch but they, too, are disturbed and there is nothing recoverable of the construction of the kiln. It is probable that the earlier sherds are nearest to the surface of the bank (see below).

THE DITCH (fig 3)

The grid was laid out over a length of 48×12ft (14.6×3.6m) along the ditch covering the spread of sherds on both sides. It was noticed that the majority of sherds towards the southern edge of the ditch were rougher, ligher in colour and more abraded than those in the centre and towards the northern (kiln) end. The rims were of thicker, clumsier design and the fabric was more often light brown, pinkish or light grey. Comparison with Limpsfield pottery from the sealed levels at Alsted (Ketteringham 1976) suggests that the rougher type was similar to that which was in use before the

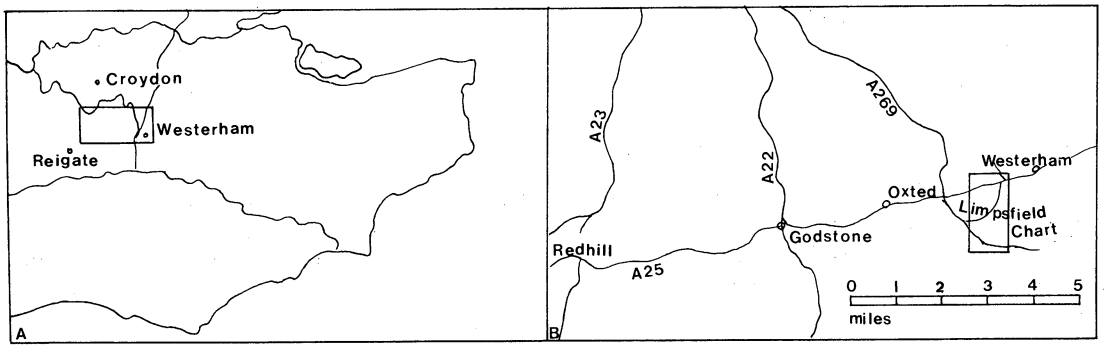


Fig 1. Limpsfield Chart. Location map

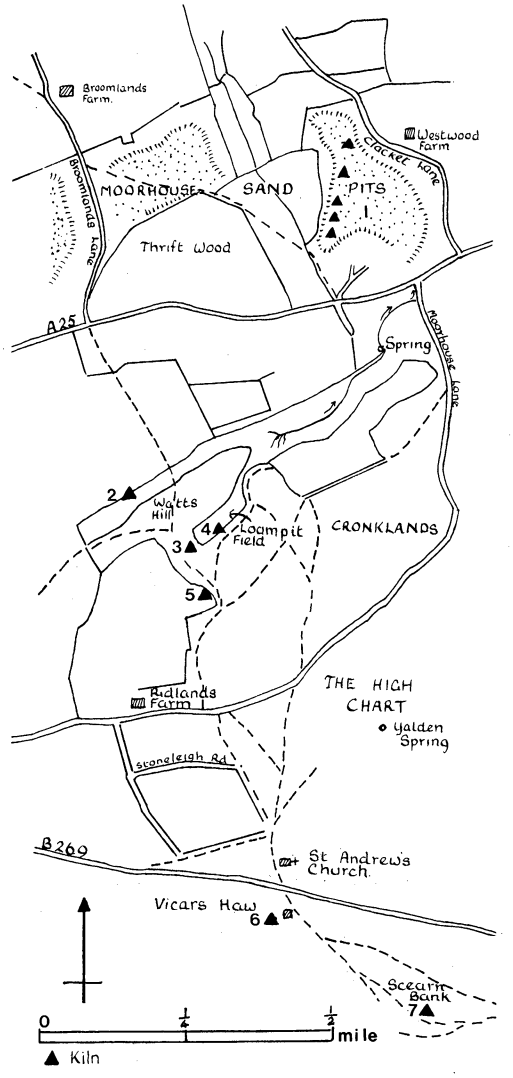


Fig 2. Limpsfield Chart. Location of pottery kilns: 1, Moorhouse Sandpit kilns; 2, Watts Hill 1; 3, Watts Hill 2; 4, Loampit Field; 5, Ridlands Farm kiln; 6, Vicars Haw; 7, Scearn Bank

rebuilding of the house *c* 1270. This might give some indication that Limpsfield sherds of this type can be assigned a date early in the sequence. The ditch was originally 8ft (2.4m) wide by 3ft (1m) deep and of an irregular V-shape.

THE BANK (fig 3)

The present height of the bank above field level is 1ft 6in (45cm) but it was probably higher originally. It is now planted with trees and a hedge, supplemented by a post-and-wire fence. Towards the northern (kiln) end it contained pottery of a fine hard ware, either dark grey or, in some cases, so pale as to be almost off-white. A few of the rougher abraded sherds were also found there.

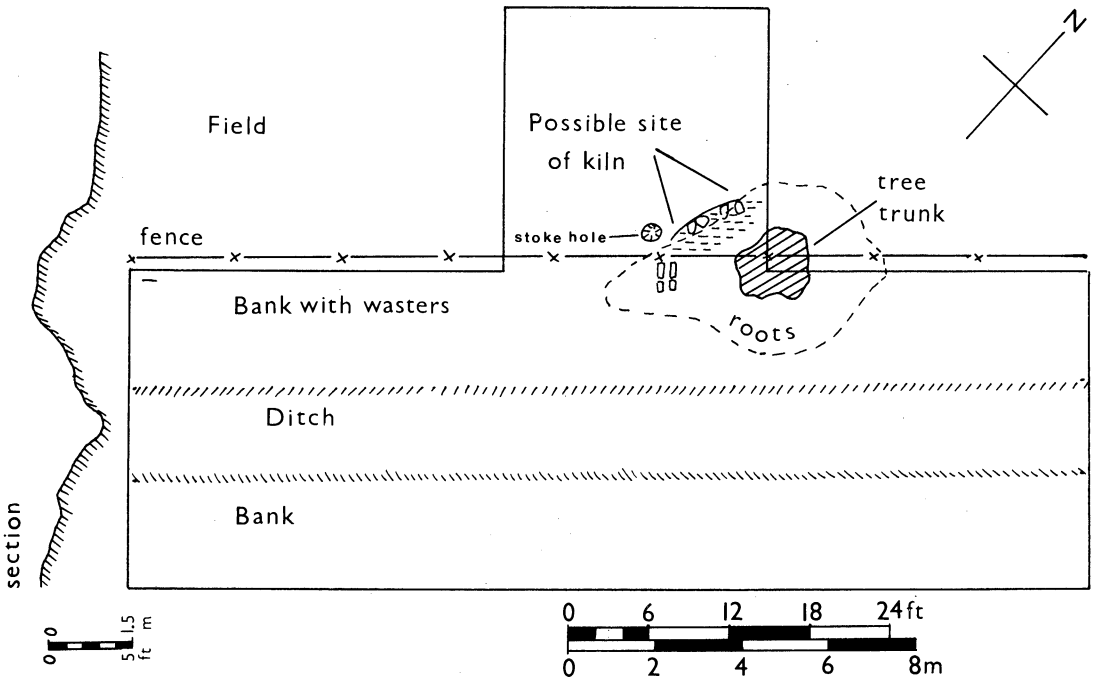


Fig 3. Limpsfield Chart. Loampit Field: bank, ditch and possible kiln

THE KILN AREA AND PIT (fig 3)

The soil towards the northern end was considerably blacker than that towards the southern end of the site and an area 12ft (3.6m) square was opened in the field close to the tree on the west side of the bank. This revealed a curved but disturbed line of sandstone blocks edging a hard clay floor approximately 23in (63cm) beneath the surface of the field at the perimeter, dipping to 29in (73cm) beneath the tree. The soil contained much charcoal and wasters but the feature was too disturbed by roots to form any recognisable plan.

Close to the perimeter on the west side was a pit about 1ft 6in (45cm) deep by 2ft (60cm) diameter, containing nothing but sherds and blackened soil. This has now been recognised as a partly destroyed stokehole and it is probable that the kiln was similar in size and shape to that found at Ridlands Farm in April 1978 (see below).

Ridlands Farm TQ 424 525 (figs 2 and 4; pl 1)

A dark patch containing sherds was found in a newly ploughed field by D Williams and R Ellaby of the Holmesdale Archaeological Group during field-walking and was reported to the Bourne Society Archaeological Group who undertook to examine and excavate it. Permission was kindly given by the farmer, Mr Skinner, and the excavation took place in April 1978.

The site was 10ft (3m) from the fence which had been moved about 3ft (1m) from its former position along an old bank and ploughing had taken place closer to the bank than had previously been possible so that this was the first time the soil over the site had been disturbed. Although about 6in (15cm) had been cut away from the west side of the kiln, the structure was relatively untouched. The bank was partly formed from the waster heap from the kiln and this has not been examined because of the farmer's wish that the newly erected fence should not be damaged. Running alongside the field on the east side of the hedge and bank is a broad hollow-way which may have linked other kilns in the Chart area. The soil in which the kiln was constructed is clay with small flints and gravel, but there are stretches of pure sand within 60ft (18m) to the east. Water is available from small streams in the vicinity. The site is on the 152m (500ft) contour.

THE KILN (fig 4; pl 1)

A trench 23×12ft (7×3.6m) was laid out over the dark patch in the topsoil and loose ploughed clay was removed, revealing the shape of the kiln. Where the plough had cut through the west side there were many pieces of burnt sandstone, presumably from the top of the oven wall. The structure measured 18ft (5.5m) from end to end of the stoke holes and about 5ft (1.5m) across the top of the middle of the oven, which would probably have been about 6ft (1.8m) wide originally. The surrounding clay was hard and lumpy at each end, blackened around the stokeholes and burnt red around the oven to a width of 9in (22cm).

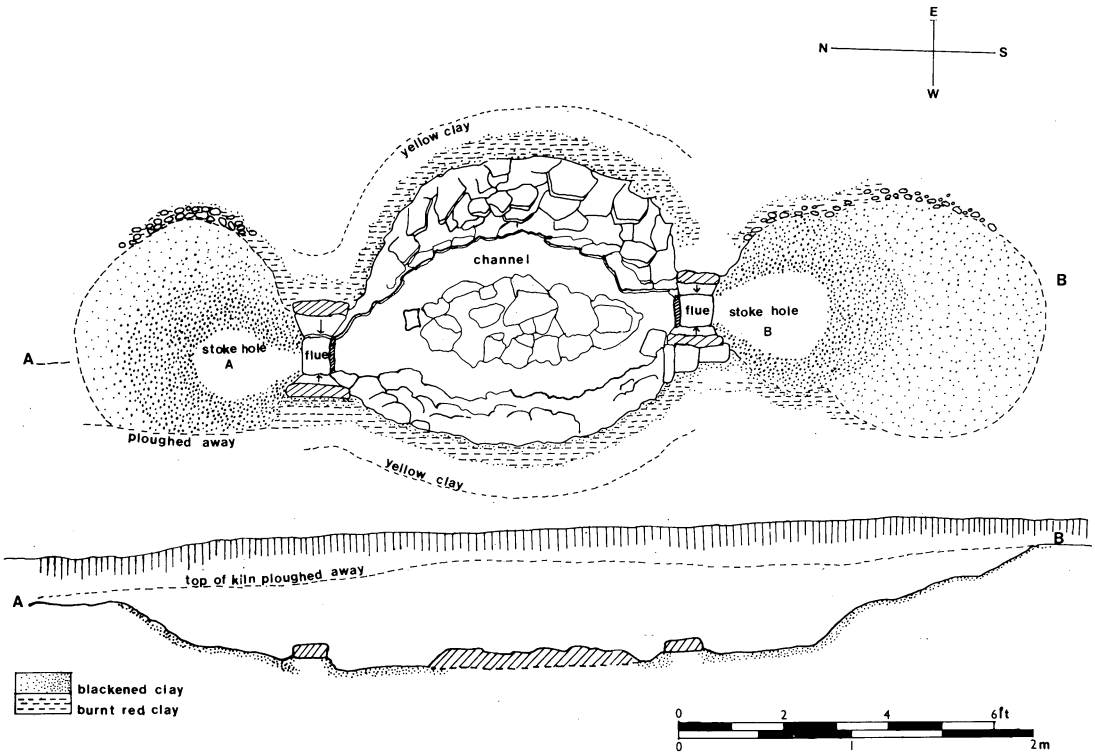
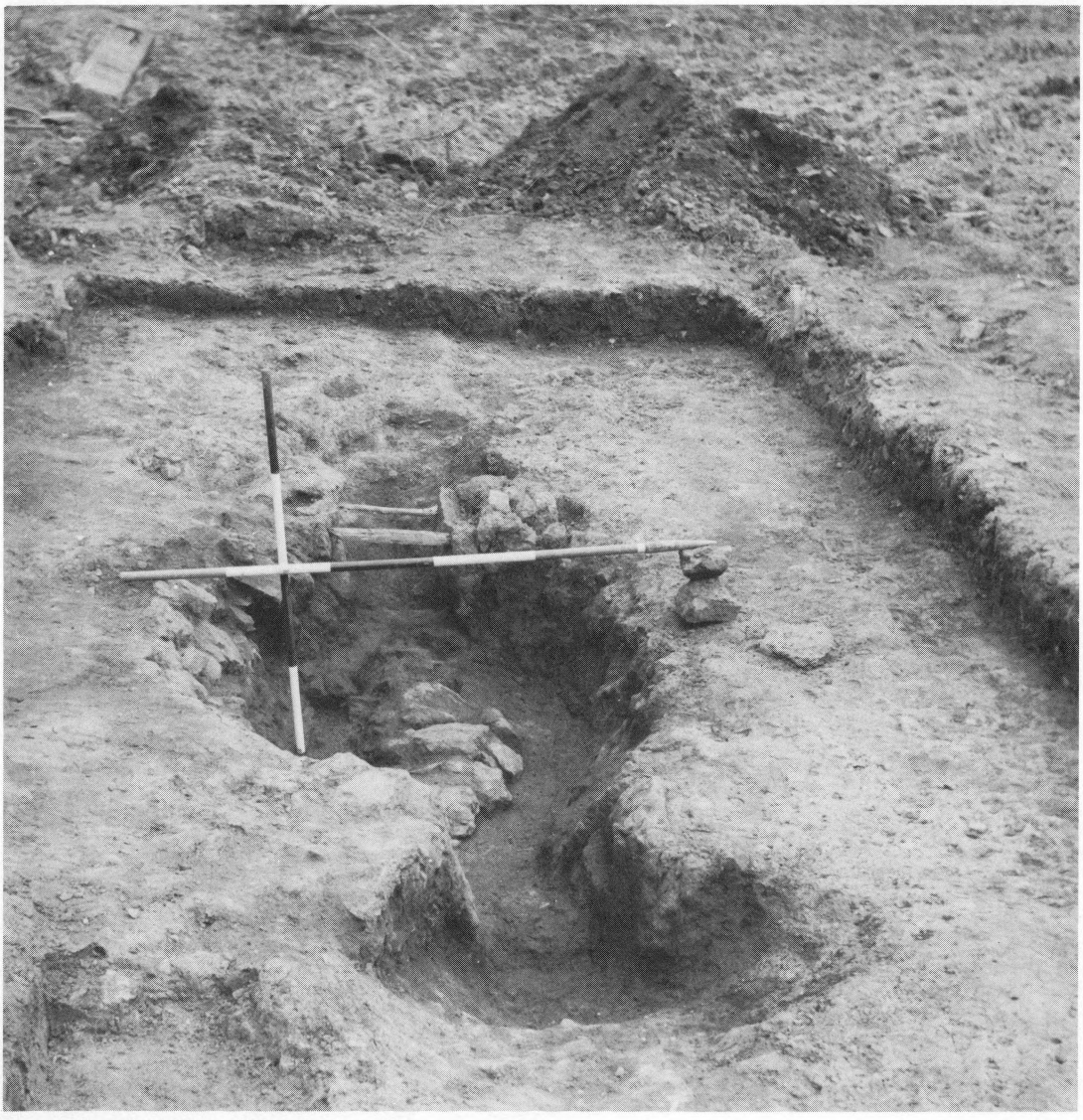


Fig 4. Limpsfield Chart. Ridlands Farm kiln

The structure was then sectioned lengthwise. It was full of broken sherds, black soil, charcoal and grey ash towards the bottom, but there were no pieces of burnt clay which could have resulted from the oven having been covered by a clay dome. The kiln was then emptied.

The stokeholes, each sloping towards the oven, were 2ft (60cm) deep, burnt black and lined with small pieces of broken stone. Both contained charcoal and were filled with sherds. Stokehole A was 2ft 6in (76cm) across the top but like Stokehole B was probably originally about 3ft (90cm) wide. Both were 3ft 6in (1.06m) long, almost circular in shape, each having a flue into the oven through a well-built stone and burnt clay passage 14in (35cm) long by 1ft (30cm) wide at the bottom and 14in (35cm) at the top. Across the entrance to each passage was a rectangular block of stone standing about 3in (7cm) above the floor. This would probably have served to prevent too much ash entering the flues and blocking them.

The passage widened out into an oval shaped oven, lined and floored with stone which was



Pl. 1. Limpsfield Chart. Ridlands Farm kiln

deeply burnt red and black. The floor was level but a small platform of stone had been constructed, 9in (22cm) high×1ft 6in (45cm) wide in the middle and tapering at each end, dividing the floor into two channels approximately 1ft (30cm) wide. Five large cooking pots which had been halved lengthwise, their bases neatly removed were lying along the eastern channel in the manner of a tunnel (fig 9). There were some small sherds and ash beneath the pots, but also hollow spaces and it is suggested that they may have served as firebars, providing both a foundation on which to stand the pots for firing and a clear passage of air between the flues. All sherds from the vicinity of these pots were examined to see whether they had resulted from the pots being crushed when whole, but this was not found to be the case. No firebars were found, but it is possible that some of the burnt sandstone fragments may have come from firebars.

The stone-lined sides of the oven sloped steeply inwards towards the bottom at an angle of 70°. It was noticeable that the majority of the sherds in the kiln were from cooking pots and dishes and comparatively few jug handles and rims were found. The jug handles in this kiln were almost all slashed diagonally.

DATING

An archaeomagnetic measurement gave a date for the last firing of 1300–30 at the 68% confidence level (see below), which is in good agreement with other evidence. Limpsfield potters are known from documentary evidence to have been operating from the mid-13th century to at least the mid-14th century (Percy 1969). This period is confirmed at Alsted, where Limpsfield pottery was found dating between 1260 and 1350, but not during the later period at the end of the 14th century. It is not at present possible to say how long this particular kiln worked but it was well built and could perhaps have seen a useful life of two or three decades. The ware was good, but not so hard and fine as that from the later material from Loampit Field, second period, which may have been the last of the kilns.

Marketing and distribution

The distribution of Limpsfield ware at consumer sites was discussed by Prendergast (1973) and included 14 sites. Recent analysis by Streeten (1981a; 1982) and Russell (see below) has extended the distribution and confirmed some of those attributions made by Prendergast. Textural analysis has shown that Limpsfield ware did not reach Southwark, Lesnes Abbey, Crayhouse or Eynsford Castle (Streeten 1982). To date 25 consumer sites are known, most of them to the north-west of Limpsfield. The paucity of sites producing positively identified Limpsfield ware in Kent and Sussex is as yet not fully understood and Streeten's theoretical discussion of medieval pottery distribution (1981a) serves to highlight this problem. The important market town at Reigate was apparently not supplied by Limpsfield potters, though some of the forms from Bell Street (Williams 1983) are remarkably similar to published Limpsfield examples (Prendergast 1974). Sites in the Surrey Weald with Limpsfield ware are not frequent, though this situation may be more a function of chronology than of differential distribution. The marketing of Limpsfield ware conforms to local distribution and is best seen as capturing a corner of a much wider coarseware market.

The pottery by M Saaler

LOAMPIT FIELD (figs 5 and 6)

The pottery from this site shows a marked difference in colour and texture between the vessels found in the ditch and those found in the kiln area. The predominant characteristics of the vessels from the ditch are the wide variation in colour and the coarseness of the fabric, which is invariably rough to the touch. The vessels from near the kiln show a much greater uniformity of colour and texture. They have a harder, smoother surface which gives quite a pleasing appearance. The variations in colour from buff to grey are presumably the result of uneven firing. The basic colour is

mid-grey, but it is evident that it cannot be taken for granted that all Limpsfield vessels are grey. The full catalogue is on Microfiche 2–4.

RIDLANDS FARM (figs 7 and 8)

The fabric from the vessels from Ridlands Farm kiln differs considerably from that of Loampit Farm kiln and is less smooth to the touch. Some Ridlands Farm sherds have a characteristic vesicular appearance. Of the 44 handles found in this kiln, 39 were slashed and the majority of these also carried stabbing with a round pointed instrument.

The main output from Ridlands Farm appears to be large cooking-pots while Loampit Field produced a greater proportion of jugs and dishes and its cooking-pots were smaller. The two cooking-pots shown on fig 7 were selected to illustrate the different methods of applying thumb-stripping. They had both been cut in half with their bases removed, and were found with three other vessels covering the east channel of the kiln. The full catalogue is on Microfiche 4–6.

Clay from the fabric of Ridlands Farm kiln by Brian Wright

This consists of a reddish material containing extremely coarse grains of quartz and traces of organics, possibly grass. It is not the same clay that was used for the pots and is considered probably to have come from the turf which was used to seal the oven.

Statistical analysis of pottery from Ridlands Farm and Loampit Field compared with Watts Hill 1 (Prendergast 1973; fig 10, on fiche) by Peter Kench

1 Size of sample

	Loampit	Ridlands	Watts Hill 1
Number of measurable rim diameters	450	700	400
Number of measurable rim flange widths	560	700	400

The samples from Loampit Field and Watts Hill 1 were taken from the waster heaps. The sample from Ridlands Farm was from the fill of the kiln.

Prendergast's comments regarding the small sizes of the sherds apply equally to Loampit Field and Ridlands Farm.

2 Rim diameter groups suggested by bargraphs, diameters given in centimetres

Group	Loampit	Ridlands	Watts Hill 1
1 Jugs	7.5–12.5	7.5–17.5	7.5–12.75
2 Pots	12.5–32.5	17.5–37.5	17.5–30.5
3 Dishes	27.5–62.5	27.5–62.5	35.5–42.25

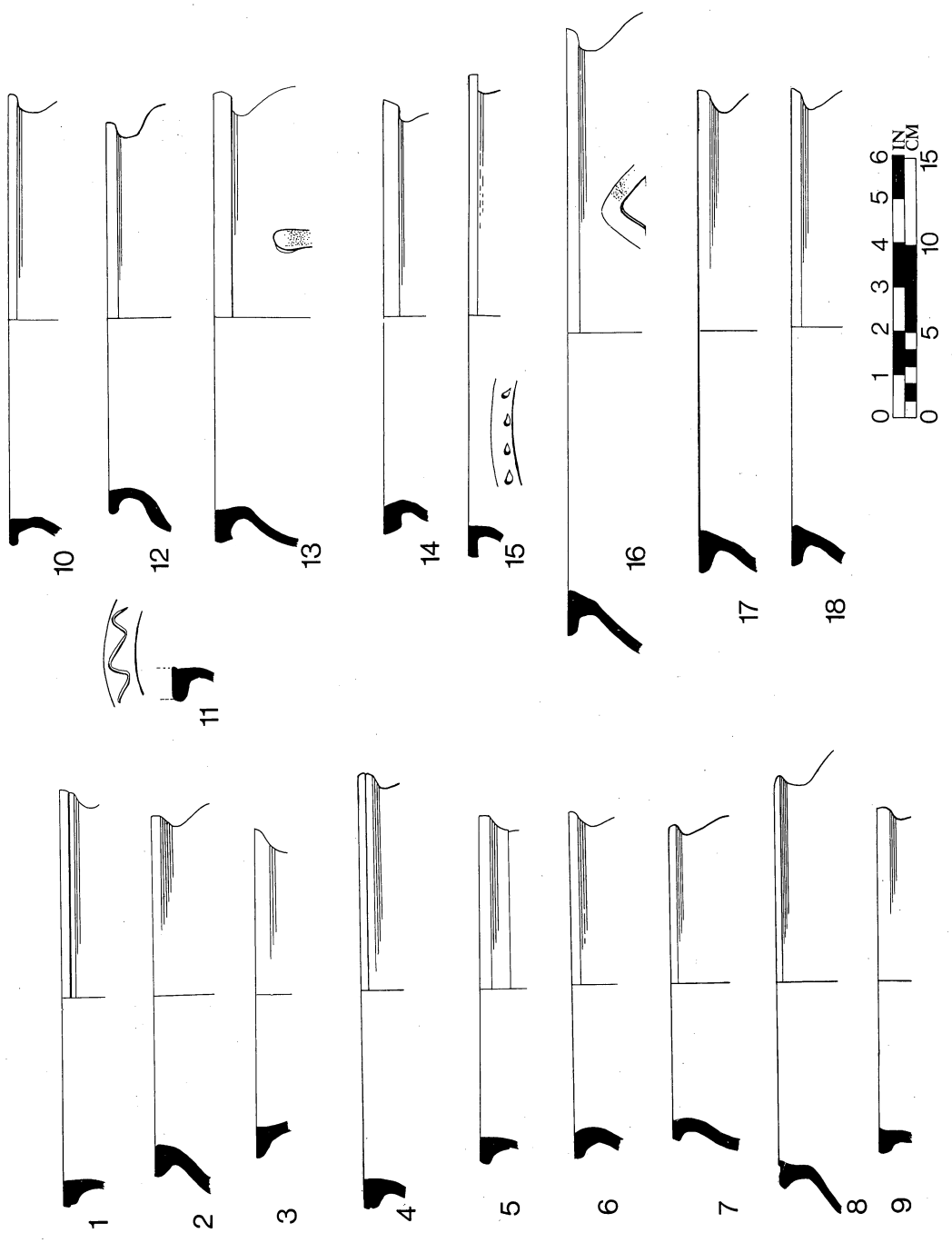
3 Rim flanges width groups suggested by bargraphs, widths given in millimetres

Group	Loampit	Ridlands	Watts Hill 1
1 Jugs	up to 11	up to 11	2.5–7.5
2 Pots	9–21	9–21	±12.5
3 Dishes	19–31	17.5–25	17.5–22.5

4 Approximate percentage proportions of manufacture

Group	Loampit	Ridlands	Watts Hill 1
1 Jugs	38	9	57
2 Pots	50	78	33.3
3 Dishes	12	13	10

5 The groups suggested above tend to confirm Prendergast's comment that the upper limit of rim flange widths for groups at Loampit Field appears to be larger than at Watts Hill 1. This also applies to Ridlands Farm except in the dish range.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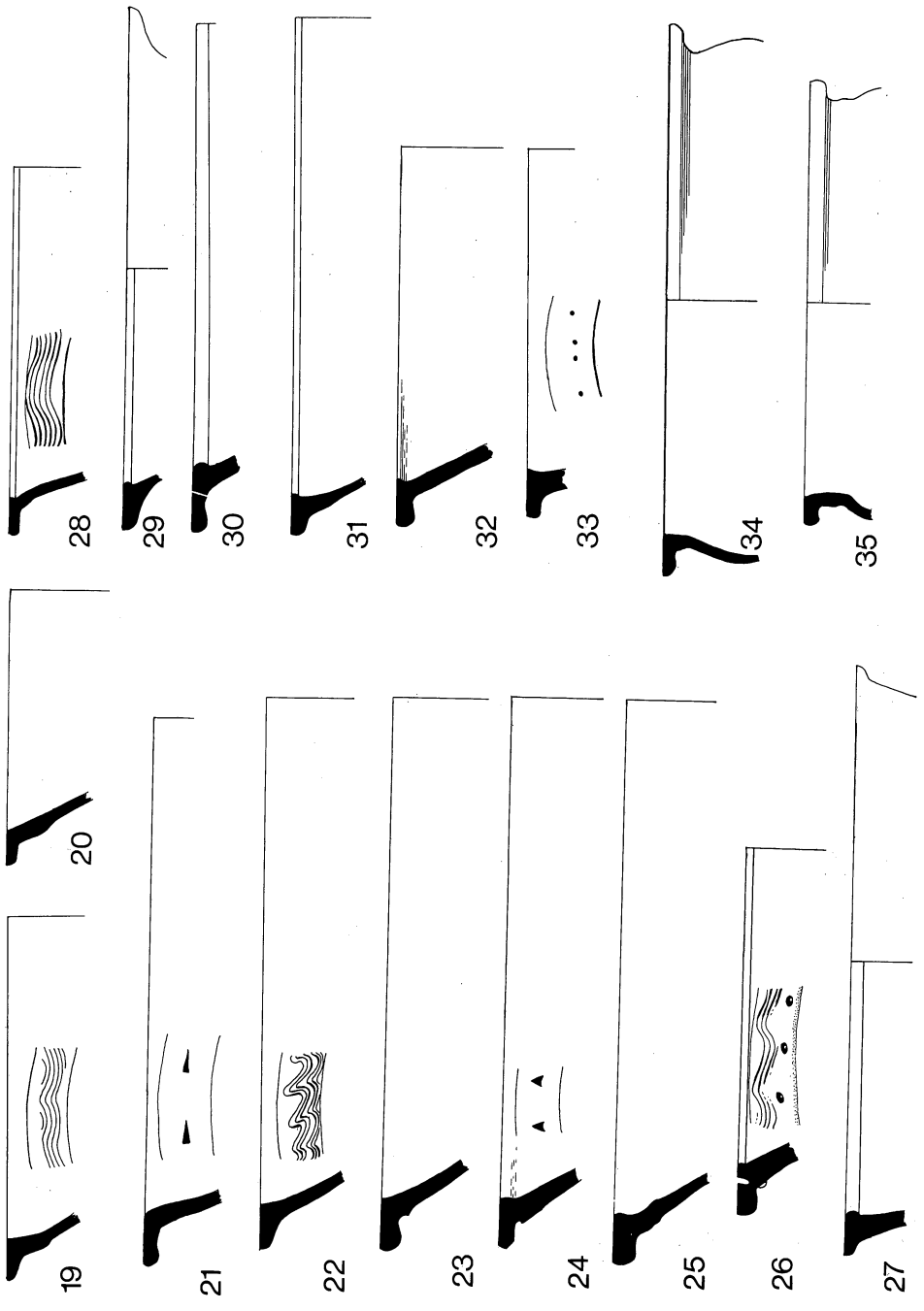
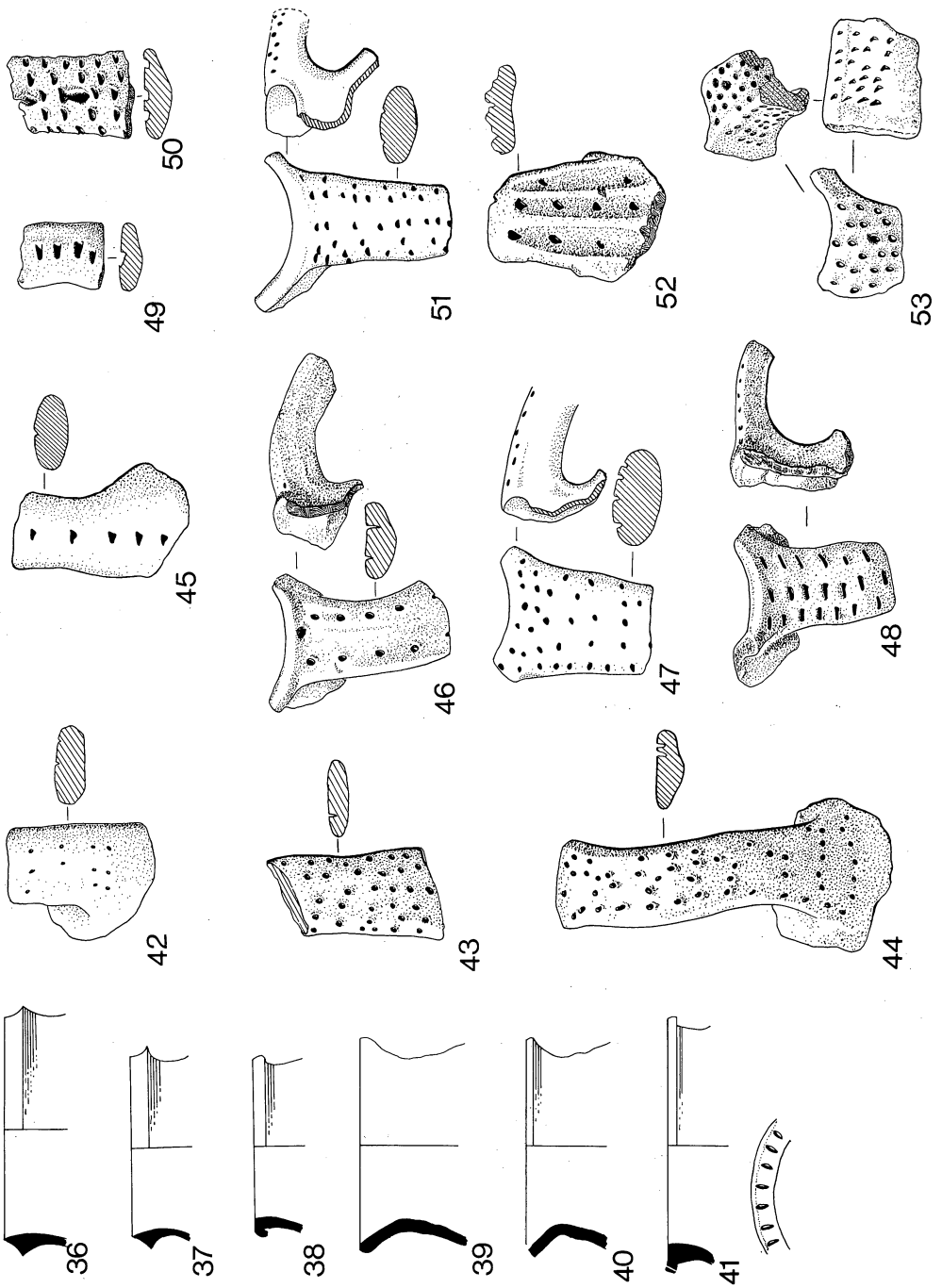


Fig 5. Limpsfield Chart. Loampit Field, pottery: cooking pots, dishes and bowls (1:4)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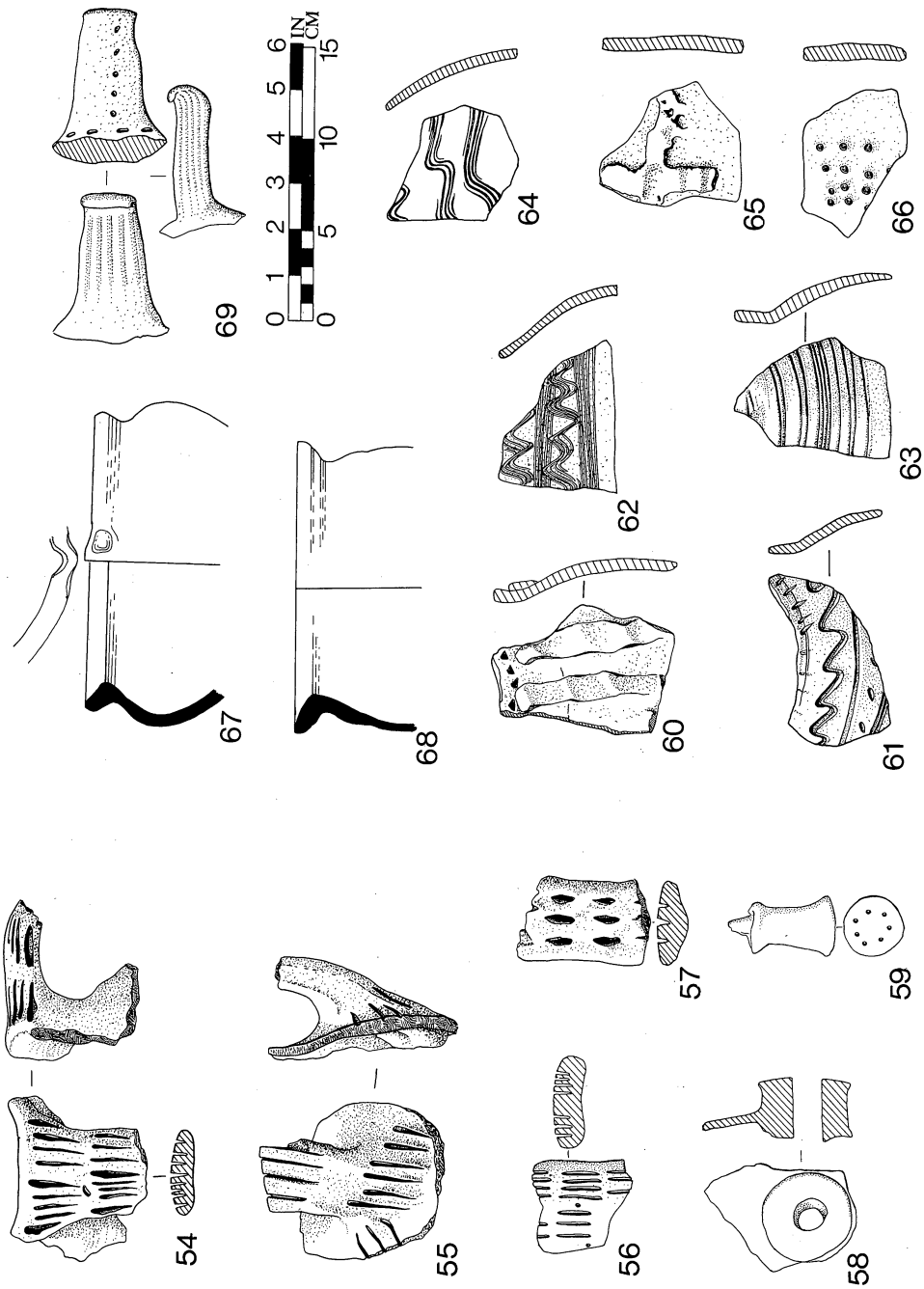
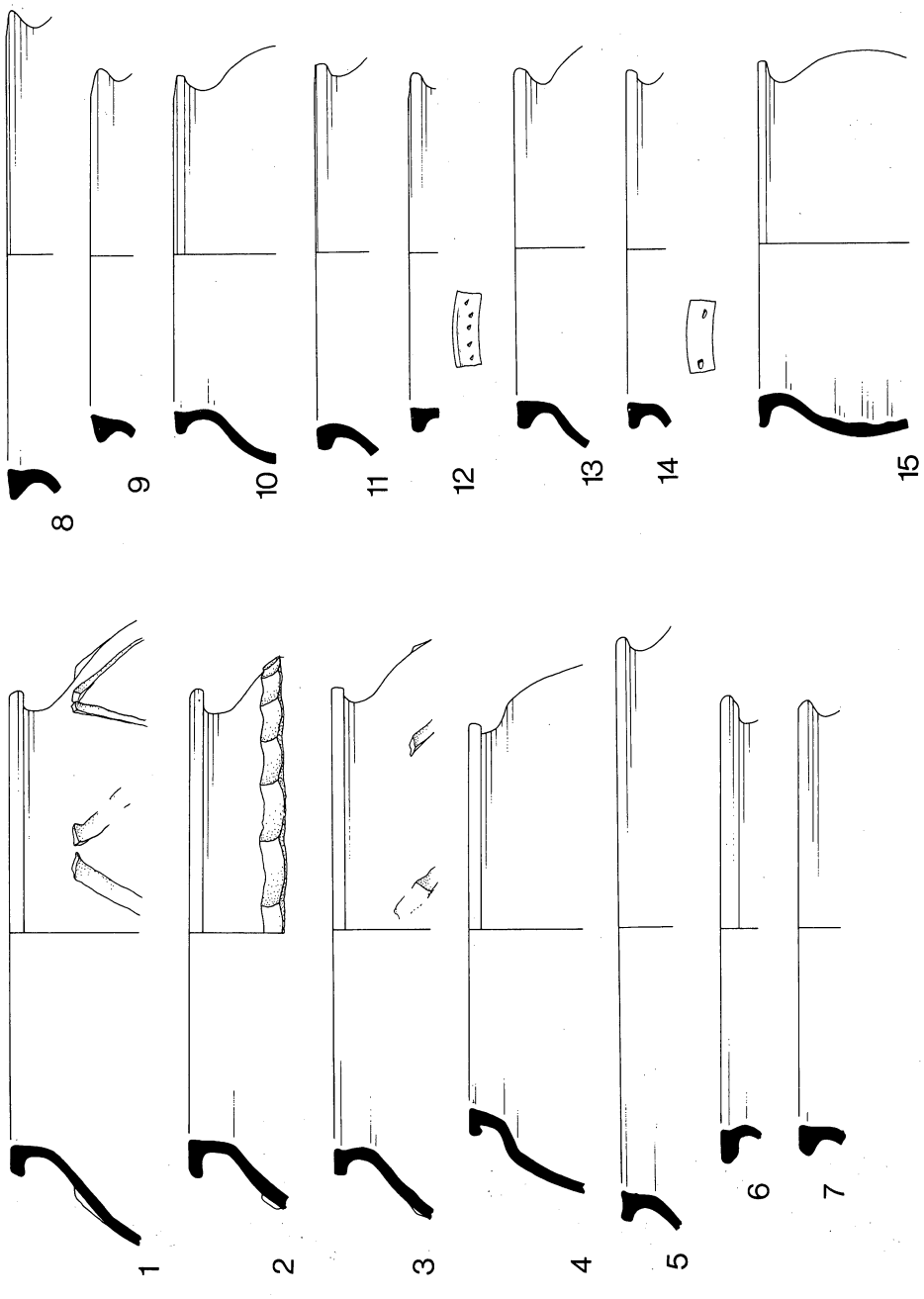


Fig 6. Limpsfield Chart. Loampit Field, pottery: pitchers, pipkin-type cooking pots and ?curfews (1:4)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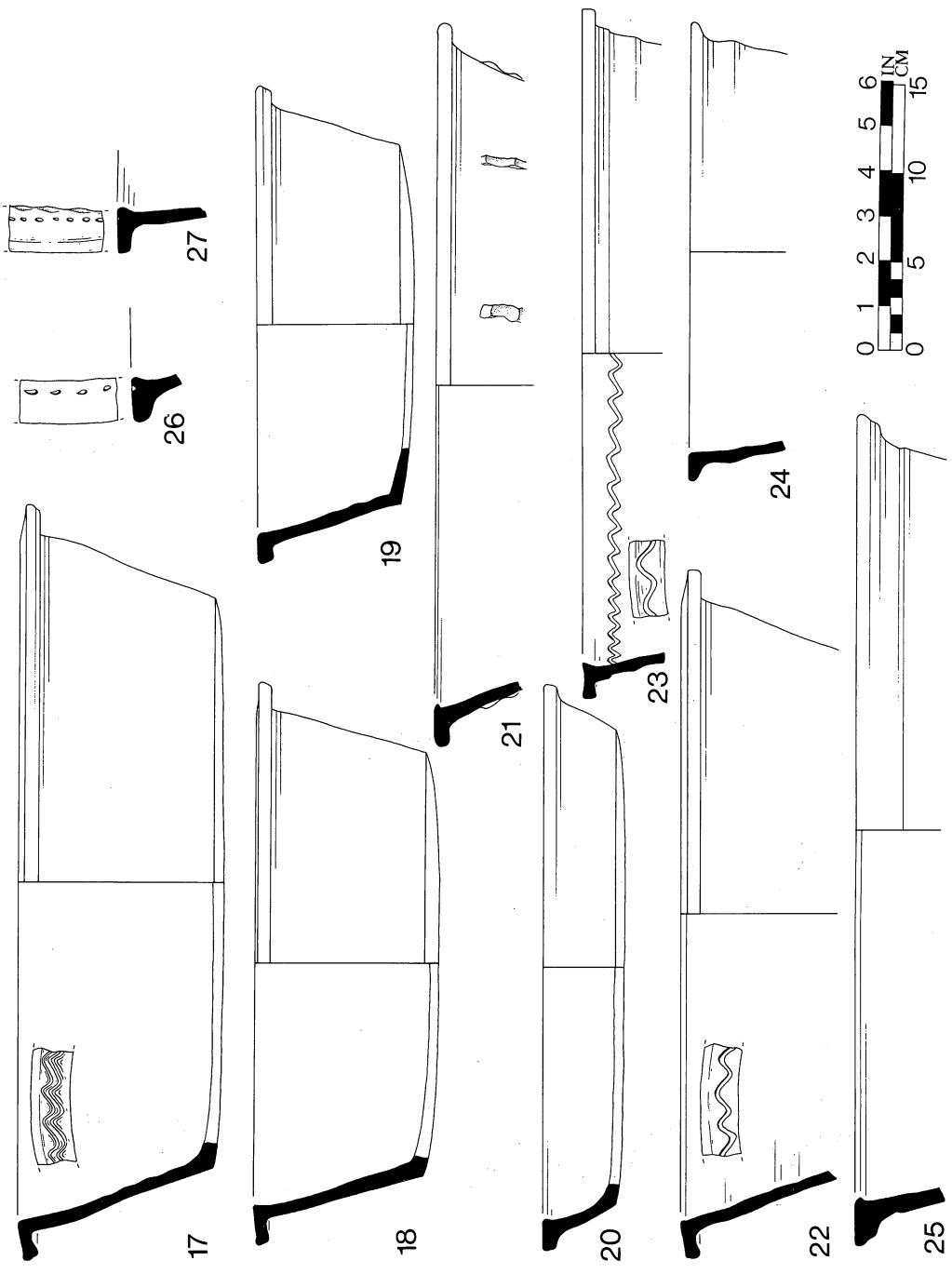
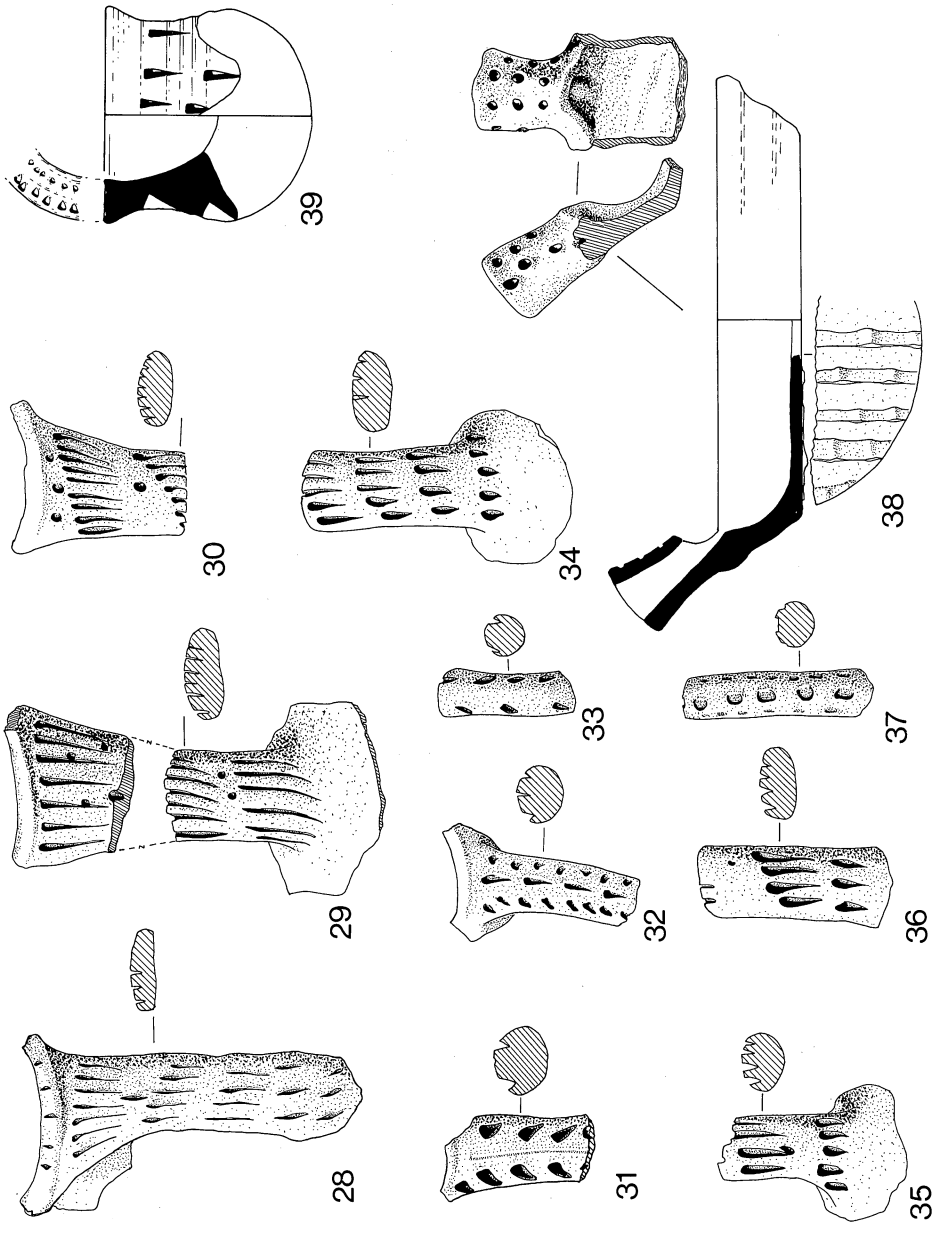


Fig 7. Limpsfield Chart. Ridlands Farm, pottery: cooking pots and dishes (1:4)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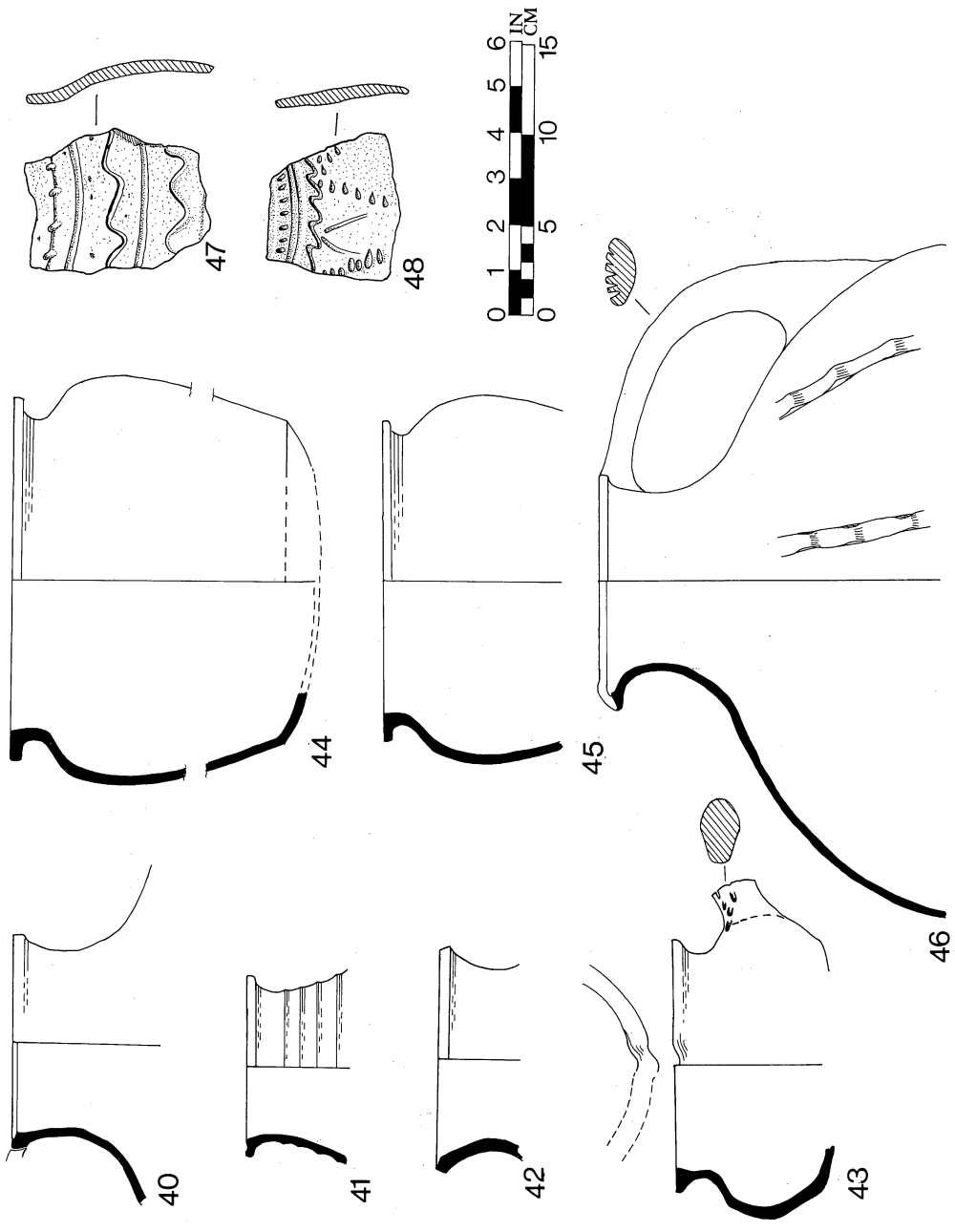

Fig 8. Limpsfield Chart. Ridlands Farm, pottery: pitchers, skillet, pipkin-type cooking pot and crucible (1:4)

The general tendency for rims to be narrower at Watts Hill 1 is illustrated by the bargraphs on which the peak occurs at 12.5mm whereas at Scearn Bank, Loampit Field and Ridlands Farm it occurs at 15mm. Very wide rims in excess of 25mm were only present at Loampit Field.

The figures for the approximate proportions of manufacture show the very small number of jugs found at Ridlands Farm although the proportion of dishes at the three sites was practically constant. However the distribution at Ridlands Farm may be distorted as the sample was taken from the fill of the kiln and may only represent a very small period of manufacture.

Watts Hill 1 does not appear to have produced the very large dishes found at Loampit Field and Ridlands Farm.

Assemblage composition, variability and industrial context by Michael Russell

Although Limpsfield ware, represented by nine waster groups, has been previously described as a uniform ware (Prendergast 1974), more recent studies have indicated significant interassamblages variability. The large assemblage from Loampit Field and Ridlands Farm are suitable for statistical analysis and were examined for evidence of variability; quantification was by vessel equivalents (Orton 1975; 1980) and weight for body sherds, expressed as proportions of the total assemblages.

LOAMPIT FIELD (figs 5 and 6)

Two separate contexts were excavated: part of the kiln structure which produced hard, quite large, unweathered sherds and the presumed waster heap, disturbed by a boundary ditch, which yielded some small, soft, rolled and badly weathered sherds. Despite superficial differences, such as weathering and fragmentation, thin-sectioning and trait analysis failed to detect any observable textural or typological variation between the pottery from the two contexts and the whole is treated here as a sample (Cherry *et al* 1978). A typical range of products is present including common forms such as cooking pots, pitchers and dishes, and rarer categories such as bowls, pipkins and possible curfews.

Cooking pots (fig 5)

These form the most numerous category (48.6%), and are high-shouldered globular vessels with plain convex bases. Two sizes are represented: large cooking pots or storage vessels with rim diameters from 19 to 40cm, the majority in the 20–30cm range, and small cooking pots with rim diameters from 8 to 19.5cm. Large pots are roughly four times as numerous as small ones. Rims are typically flat-topped and flanged with slight undercutting (55%) or simple sub-triangular (23%), the latter most frequently associated with small cooking pots. Variants, possibly firing accidents, include inward sloping (14%) and outward sloping (8%) flanged forms. Rim decoration is extremely rare (only 4%), as is stabbing. Body decoration is apparently not common (about 15%) and consists of vertical applied thumbed strips. Some of the decorated sherds attributed to pitchers may belong to cooking pots. Small cooking pots are never decorated.

Pitchers (fig 6:36–57)

This is the second most abundant category (36%). Although no complete profiles can be reconstructed it is clear that these vessels are large, necked and globular with plain convex bases. Most of the rims are inward sloping and flanged (58%) or 'beaked' and triangular (31%), similar to examples from Watts Hill 1 (Prendergast 1974, fig 4:7–8), and less commonly (11%) flat-topped and flanged. Each vessel has a pinched pouring lip opposite a strap or sectioned handle. Handles, attached by a simple plug, are mainly decorated with rows of stabbing (77.5%): only 15% are slashed and even fewer (7.5%) have a combination of the two. Lower handle attachments are usually decorated in the same manner as the handle, but one has a thumbed finish.

About 71% of the pitchers are decorated, the decoration being perhaps the most refined of all that from Limpsfield sites. Combing, using 5–7 toothed combs, is most frequent (69% by weight of all decorated pitcher sherds) and occurs in roughly equal amounts of horizontal wavy or horizontal wavy and horzontal patterns. Applied thumbed strips are less common (25%) and are usually vertical or more rarely diagonal or horizontal. Single incised wavy lines are very rare (6%). Bases are typically plain and convex, though one small base sherd is continuously thumbed (cf Prendergast 1974, fig 9:72). Two undecorated bung-holes (diameter 17mm) probably belong to large bung-hole pitchers rather than to cisterns.

Dishes (fig 5)

Although this category is quite common (11.8%), no complete profile can be reconstructed. Dishes are distinguishable from bowls by their steeply sloping sides, large rim diameters relative to height (Dawson 1979, 40) and wide rim flanges. The majority of the rims (about 88%) are flat-topped and flanged with internal beading, but a small quantity (12%) are flat-topped and thickened, with or without internal beading. The undershape of rims is very variable. About 62% of the rims are decorated, combed wavy lines being the most common (73%) decoration and generally associated with smaller vessels, while stabbing (27%) is found only on dishes of larger diameter. Body decoration could not be assessed owing to the fragmentary nature of this group. Bases are plain and convex.

Bowls (fig 5:34, 35)

Bowls are poorly represented (only 3.1%) and are generally smaller in diameter than dishes. Their body profile is distinguished by the presence of a neck and a kind of shoulder which never exceeds the rim diameter. Rims are exclusively flat-topped and flanged with very slight undercutting, and are apparently never decorated. Bases are plain and convex.

Pipkin-type cooking pots (fig 6:67, 68)

These are very rare (0.5%) and have similar profiles to small cooking pots, but are much smaller both in rim diameter and height and also have pinched lips and handles. Rims are generally inward sloping and slightly flanged but flat-topped forms exist. Rim decoration occurs on only one sherd and is stabbed. Small oval-sectioned stub handles, attached by a plug, are decorated with stabbing. Bases are probably convex.

Curfews (fig 6:65, 66)

Two flat decorated sherds do not appear to belong to any other category. Since the underneath of bases are rarely decorated at any Limpsfield site, these sherds probably belong to curfew tops. It is possible that some of the very largest dish rims belong to curfews since this site has some of the largest from all Limpsfield sites.

RIDLANDS FARM (figs 7 and 8)

Total excavation of the oven and stokeholes recovered a large complete pottery assemblage. The waster heap, some metres distant, was not examined. Differences in the fills of the stokeholes and oven were noticed during excavation and were reinforced by subsequent examination of the pottery. Most of the pottery (about 90%) came from the oven. It is generally larger and has fresher breaks than that from the stokeholes; significantly, almost all these sherds are small body fragments, while a full range of items is represented from the oven.

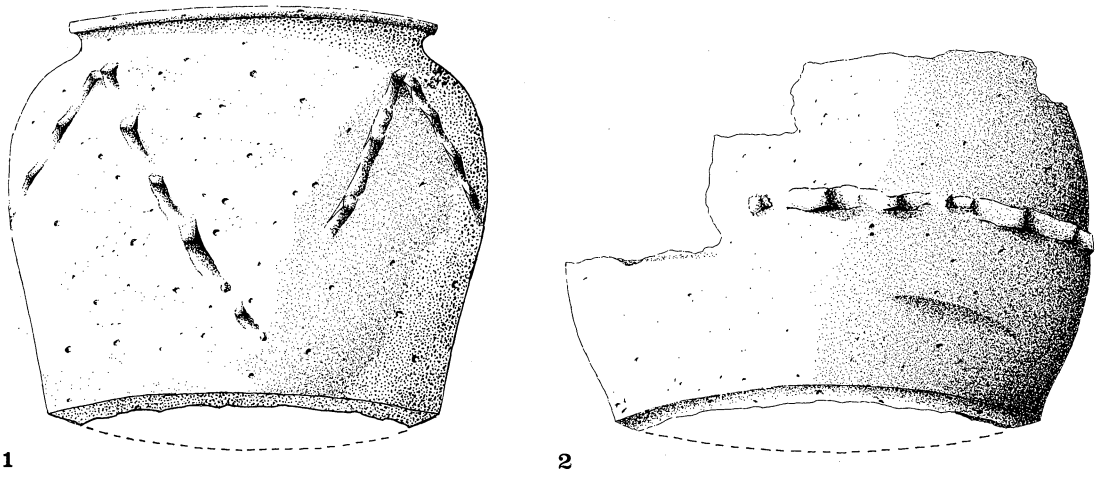

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Fig 9. Limpsfield Chart. Ridlands Farm kiln: vessels from kiln channel

Cooking pots (fig 7:1–15)

This is by far the most abundant category (58.2%) and body profiles are very similar to Loampit Field examples. Two size groups are distinguished: large vessels with rim diameters from 20.5 to 32cm, most of which are in the 21–29cm range; and small cooking pots with rim diameters from 10 to 20.5cm, the majority occurring between 17 to 19.5cm. Large pots are about three times as frequent as small cooking pots. Rims are remarkably uniform and mainly flat-topped and flanged with very slight rounded undercutting (71%). Only 27% of the rims are either simple sub-triangular and thickened or outward sloping and flanged (2%). Rim decoration is extremely rare (less and 0.5%) and is only found on sub-triangular rims. Most (78.3%) of the large cooking pots are decorated with applied thumbed strips; small cooking pots are apparently never decorated. Applied thumbed strips are disposed as contiguous Vs (47%), vertical strips (39.4%) or horizontal strips, usually as a girth band (13.6%). Bases are plain and convex, sometimes with prominent knife trimming.

Pitchers (fig 8:28–37, 40–42, 46–48)

Pitchers are quite common (26%) and have necked, high-shouldered and bulbous body profiles with plain convex bases. The majority of rims (85%) are slightly thickened and inward sloping but there are also flat-topped and flanged (11%), and flaring (4%) rims. Each vessel has a pinched and pulled pouring lip opposite a generally oval or strap handle. Handles are almost always (88.6%) decorated with deep slashing, though handles with slashing and central row stabbing (8.2%) are also present. Atypical small oval sectioned or rod handles (about 6% of total) are decorated with slashing (49.3%), stabbing (32.8%) or stabbing within thumb impressions (17.9%).

Body decoration is quite common (about 53% of all pitcher sherds). Applied thumb strips (76% of the group) consist of vertical (62.4%) or contiguous Vs (37.6%), and incised motifs (24% of the group) consist of horizontal wavy lines (37%), horizontal wavy and straight lines (31.8%), horizontal lines (29.4%) and a very unusual incised and stabbed motif (1.8%).

Three undecorated bung-holes (diameter 17mm) probably belong to bung-hole pitchers.

Dishes (fig 7:17–24)

This group (13.7% of total vessels) comprises open forms with steeply sloping or gently sloping sides with convex bases. Rims are predominantly flat-topped and flanged with slight undercutting and internal beading (46%), outward sloping, flanged and undercut with vestigial beading (44%)

and simple thickened sub-triangular forms with rounded fronts (about 10%). About 40% of the rims are decorated, of which 48% have faint combining in wavy lines, 36% have single incised wavy lines, and 16% have stabbing. Body decoration is not so common (only 18% of dishes) and consists of vertical applied thumbed strips. One sherd has a single horizontal wavy line on the inside of the vessel just below the rim, but is atypical.

Skillets (fig 8:38)

This is a very rare category (1%) but two complete profiles are represented. Both have sloping sides, flat-topped and thickened rims with internal beading, and slightly convex bases. One example has a tubular handle decorated with stabbing carried onto the rim at the join, with a most unusually decorated base with applied thumb stripping in parallel lines underneath.

Pipkin-type cooking pot (fig 8:43)

A single complete profile represents this category (0.6% of total assemblage). It is necked, shouldered and globular but squat with a plain convex base. The rim is a simple thickened triangular form. A pinched pouring lip is at right angles to an oval-sectioned, presumably stub handle. The handle is attached by a plug and is decorated with stabbing on top. One other rim, attributed to pitchers, may also belong to this group.

Crucible (fig 8:39)

A unique item (0.5%) with slightly sloping, extremely thick sides and a presumably rounded base. The rim is a thickened extension of the vessel wall, and is decorated with shallow stabbing. Very deep V-sectioned cuts occur randomly on the side of the vessel and, although probably functional, also serve as decoration.

INTER-ASSEMBLAGE VARIABILITY AND INDUSTRIAL CONTEXT

The preceding discussion has highlighted certain inter-assemblage differences which help to establish relationships between the two sites. Although assemblage composition need not reflect actual production (Musty 1974; but cf Nuttgens 1981), and thus differences in composition between assemblages need not represent diachronic change in output, it is argued that certain internal features, such as rim forms, vessel shape and decoration, are susceptible to change and are affected less by sampling errors. The main differences are summarised below.

Morphology

Vessel shape, within each category, is similar between sites. Ridlands Farm cooking pots are sometimes less highly shouldered and more globular (fig 7:1–15) than Loampit Field examples.

Rim form

Rim shape is variable at both sites but in general rims are more uniform homogeneous groups at Ridlands Farm. Flat-topped and flanged forms appear predominant in cooking pot and dish categories, and inward sloping and flanged rims are typical of pitchers at both sites. The 'beaked' sub-triangular pitcher rims from Loampit Field are unusual and there is an interesting parallel with Watts Hill 1 examples (Prendergast 1974, fig 4:7–8).

Decoration

1 *rims* Pitcher rims are never decorated. Decoration on cooking pot rims is always rare (4% at Loampit Field and 0.5% at Ridlands Farm) and stabbed. Dish and bowl rims are commonly decorated (62% at Loampit Field and 40% at Ridlands Farm) and combing is most frequent at both sites. Single incised wavy lines are only found at Ridlands Farm, though stabbing occurs at both.

2 *handles* Marked differences are apparent in the decoration on pitcher handles. At Ridlands Farm most (88.6%) are slashed while at Loampit Field most are stabbed (77.5%). Stabbing is never found in isolation at Ridlands Farm. Both pipkin handles are stabbed, as is the skillet handle from Ridlands Farm.

3 *body* While most Ridlands Farm cooking pots are decorated with applied thumbed strips, only 15% are decorated at Loampit Field. Contiguous Vs are most common at Ridlands Farm. At both sites pitchers are frequently decorated, but marked differences occur between sites. The use of combing is associated with Loampit Field, while applied thumbed strips are typical at Ridlands Farm. Dishes are very rarely decorated with applied thumbed strips.

4 *bases* Apart from one continuously thumbed base at Loampit Field, all bases are plain and convex.

These differences tend to suggest that although the two sites are less than a quarter mile apart, the pottery assemblages are related only by common potting tradition. The parallels between Loampit Field and Watts Hill 1 (Prendergast 1974) have been mentioned above in relation to pitcher rims. Several other features, such as the high incidence of stabbing on pitcher handles, similarity of rim forms and variability in rim forms at Loampit Field, appear to reinforce this connection. It is not without interest that both Watts Hill and Loampit Field together with variability in rim form, might indicate a fairly long production run. The homogeneity of the Ridlands Farm rim forms, on the other hand, might point to a more limited kiln life.

Archaeomagnetic dating of the Ridlands Farm kiln by A J Clark

The kiln was sampled by the writer as part of the joint programme of archaeomagnetic research undertaken by the Ancient Monuments Laboratory and the Department of Geophysics and Planetary Physics, University of Newcastle upon Tyne. Because of its reasonably close archaeological dating, the kiln seemed likely to provide data for developing our understanding of the behaviour of the archaeomagnetic calibration curve in the medieval period. Although the measurement obtained from it was not very precise, it did indeed prove valuable for this purpose, while the curve as subsequently developed now makes it possible to suggest an archaeomagnetic date for the kiln.

The material most commonly used for archaeomagnetic dating is fired clay, which readily acquires a thermoremanent magnetisation aligned with the direction of the geomagnetic field, although heated stone can be effective providing it contains sufficient iron oxides. The kiln was built in clay, but this was protected from heavy heating by the Greensand stone lining. Therefore all samples were taken from this stone, which is suitably iron-rich. Fourteen samples were obtained from the walls and floor by the disc method (Clark *et al* 1988), and orientated by magnetic compass. Of these, four had to be rejected because of underfiring or obvious disturbance. The rest were subjected to partial demagnetisation in an alternating magnetic field of 6 millitesla peak value to remove viscous magnetisation, which can be acquired under the continuing influence of the geomagnetic field after heating. The result is given below. The figure alpha-95 is an indicator of the precision of the measurement, which was rather low for this set of samples.

Measurement ref AJC-38

Dec=1.0°W; Inc=57.6°; alpha-95=3.4°
Date of last firing: AD 1300–30 at the 68% confidence level;
AD 1280–1345 at the 95% confidence level.

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NOTE

1 Sir Thomas Gresham 'obtained permission in 1616 to inclose and impark 400 acres in the manor of Limpsfield and to stock the same with deer' (VCH 1912, 299–300).

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