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Report on the Excavation of Three Pottery Kilns in the New Forest, 1955

by BARRY CUNLIFFE

THE excavations described below were carried out by Miss E. M. Collinson, whose untimely death in 1956 prevented the earlier publication of this work. Miss Collinson's notes and finds were given to Mr Andrew Richardson who, at the suggestion of Professor S. S. Frere, kindly sent them to the writer. The description below of the Crock Hill excavation is based entirely on Miss Collinson's field notes; that of the Linwood kilns comes from a type-script written by Miss Collinson and published here with little alteration. The description of the pottery and the general discussion is the work of the present writer. The finds and the original records are now in the Salisbury Museum.

LINWOOD NORTH KILNS

In 1934, when Colonel and Mrs Ogilvie were planting trees in the drive of their house, Clonmore, Linwood, they struck a patch of burnt clay, indicating the presence of a kiln. A gap was left in the avenue to mark the site, and the next tree in the avenue failed to flourish, thus confirming the evidence. This site is named the North Kiln on the map of the Linwood Kilns published by Professor Hawkes,¹ (Fig. 1).

Colonel and Mrs Ogilvie very kindly allowed Miss Collinson to excavate this site at Whitsun 1955, with Mr Andrew Richardson's assistance. Other helpers in the excavation included Misses Daphne Terry, Margaret Davidson and Jennifer Collinson, Mr Anthony Stinson, Mr Raymond Ford and Mr and Mrs Sydney Dymott. The excavation was continued by Mrs Ogilvie, Mr Richardson and Mr Graham Dymott. The excavators were indebted to Colonel Ogilvie for permission to dig and for keeping the site open for so long.

KILN I (Fig. 2)

The whole site was covered with about 6 in. of soft blackish earth, full of potsherds and flints. About 6 in. from the surface the earth became very much blacker and the potsherds much more numerous, and lumps of carbon and burnt red clay appeared. Many of the flints were burnt red and cracked. This layer covered a wide area.

1. Hawkes, *Antiq. J.* XVIII, 117.

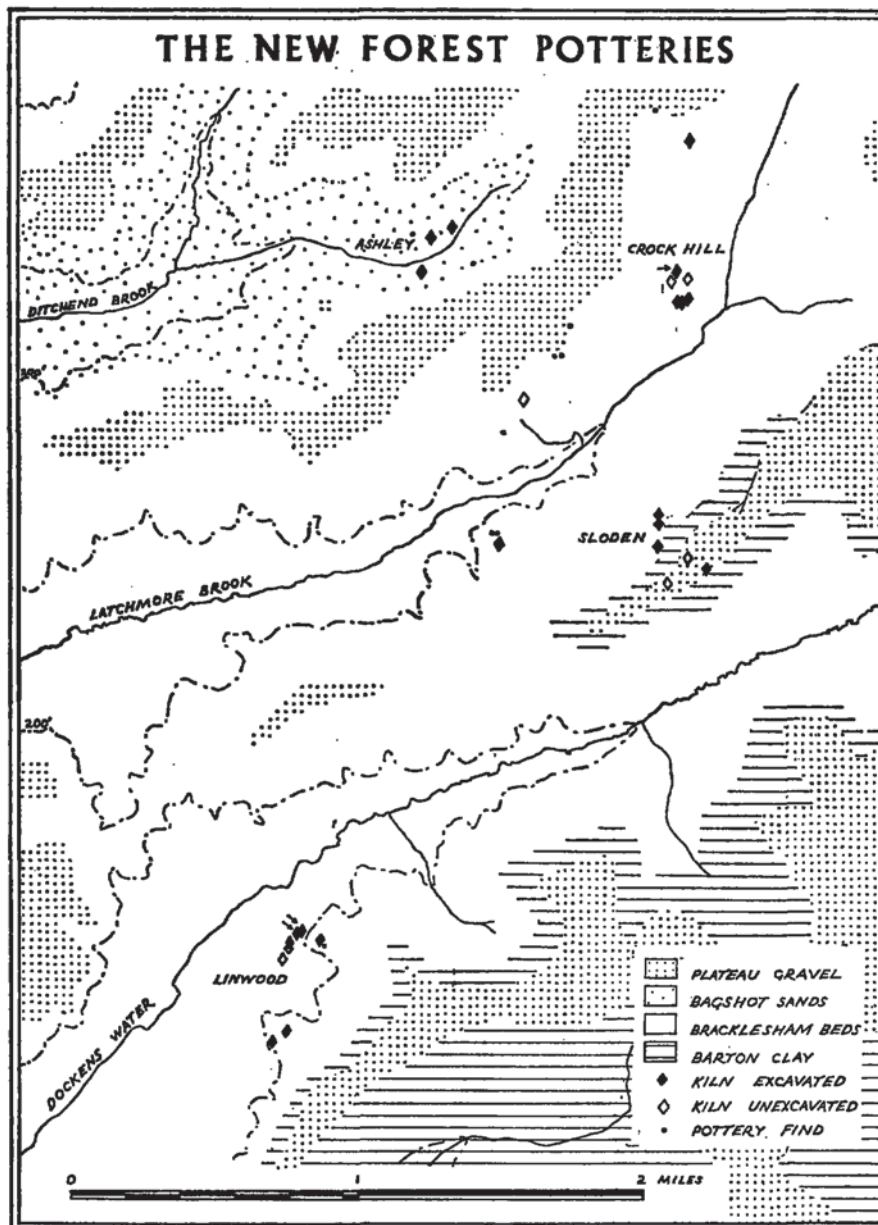


FIG. 1. Map of the New Forest pottery kilns. The arrows mark the kilns referred to in this report.

EXCAVATION OF THREE POTTERY KILNS

The oven wall and floor. Beneath the burnt layer was found the circular wall of Kiln I, 2 in. thick, resting against the natural sand which had burned slightly pink where it was in contact with the kiln. The oven floor was smooth and hard, and very much thicker than the wall, measuring about 3 to 6 in. On this pottery was dense, occurring as large sherds, complete jug necks and large sections of bowls.

The floor of the oven was broken in the centre, and perforated by 9 or perhaps 10 vents, roughly rectangular in shape, 4 by 8 in., arranged concentrically around the combustion chamber. Three pieces of the central part of the floor, vitrified by the heat, were found showing small circular holes about 1 in. in diameter. These fragments showed that in the centre the thickness of the floor was only about an inch less than it was at the broken edge.

The combustion chamber. Underneath the floor was a bowl-shaped combustion chamber, scooped out in the natural sand. The clay walls were baked a hard blue-grey on the inside, and vitrified in places near the vents. The outer edge was softer and reddish in colour, and on the extreme outer edge it was still bright yellow as in its natural state. The hard-fired grey clay floor was continuous with the walls and was broken only by the bases of the vent-holes. From between the vents pillars of clay projected forward into the combustion chamber to take the weight of the oven floor above. The combustion chamber was packed with pieces of the floor, soot and earth. A complete jug, together with a few other sherds, was found on the floor at the end most distant from the stokehole; a thin layer of ash covered the floor towards the stokehole end.

The stokehole. The stokehole of Kiln I was covered by a massive arch of clay, 2 ft. high, burned brick-red. It was packed with black ash, soot, and a large number of potsherds, including a complete, but cracked, jug evidently regarded as a waster. The floor of the stokehole was the natural sand. A ramp led down to it at a steep angle, but was broken by a step about 3 ft. from the entrance to the stokehole. The ramp was narrow, a little less than 2 ft. wide, and was packed with ash and potsherds.

In spite of its comparatively complete state of preservation it seemed that this kiln was the earlier and the first to be abandoned. Exactly opposite the stokehole of Kiln II the wall of Kiln I had been breached as if to give more elbow room to the stokers of Kiln II. This was the only indication given as to the relative ages of the two kilns.

KILN II (Fig. 2)

At a distance of 6 ft. to the north-east of Kiln I the entrance of the stokehole of the second kiln was found.

Only the walls of the combustion chambers of this Kiln II survived, but three separately fired walls were found, suggesting that the kiln had been reconstructed twice, each time on a smaller scale.² The bases of the vent-holes of the outside wall (No. 1) were apparent. This wall rested on a floor of natural clay containing flints. Wall No. 2 was built from a floor at a lower level than Wall No. 1, and was obviously made to reduce the size of the combustion chamber. It stopped up several of the vent-holes in Wall No. 1, but contained vent-holes of its own. Wall No. 3 reduced the size of the combustion chamber still more, and must have been subjected to great heat, as it was very highly vitrified. It contained no sign of vent-holes. Loose earth was found between Walls 2 and 3.

2. In her notes Miss Collinson tentatively put forward the view that the kiln had been reconstructed three times. It is the opinion of the present writer that this was not so.

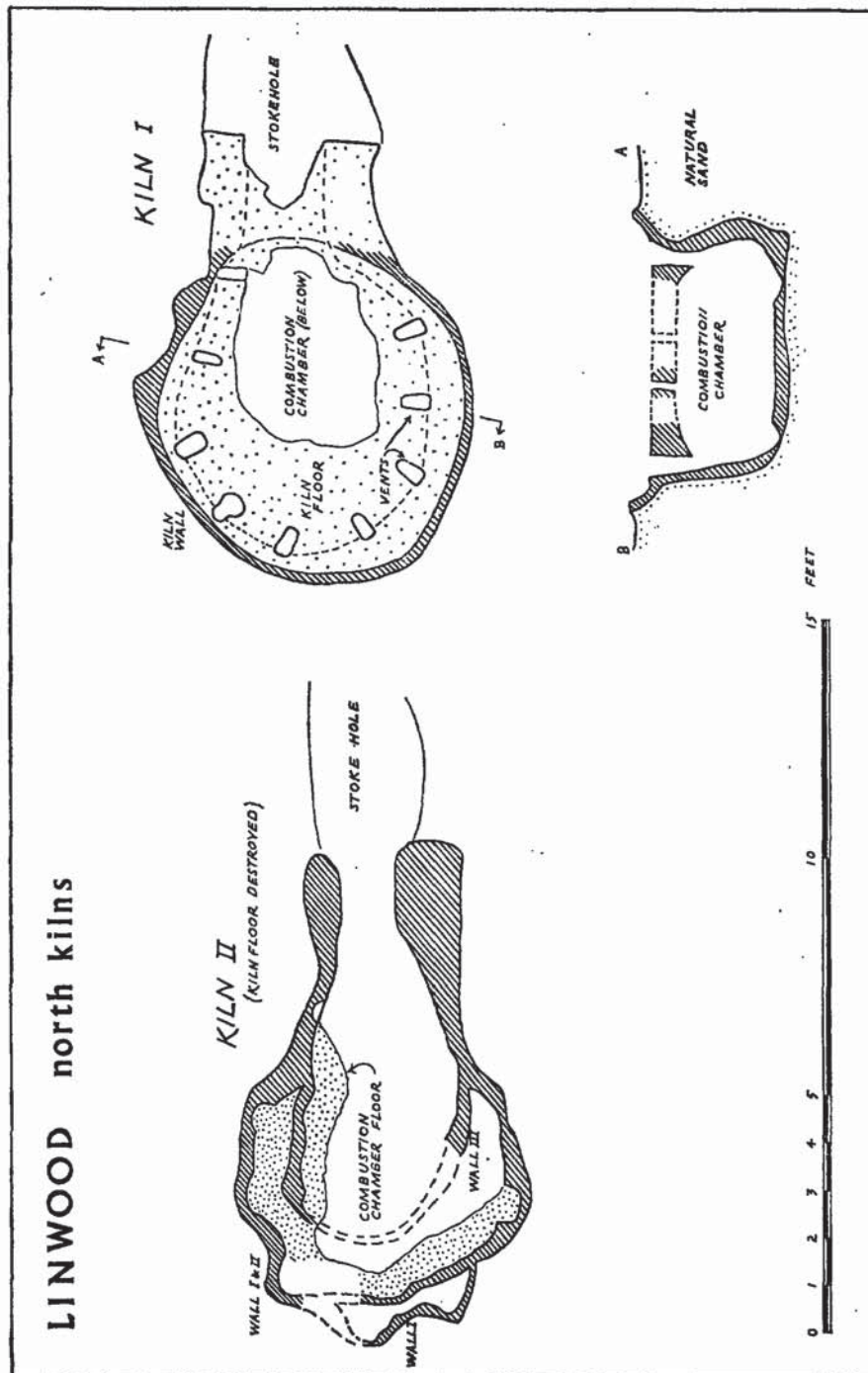


FIG. 2. The Linwood North kilns.

EXCAVATION OF THREE POTTERY KILNS

No remains of the oven floor were recovered *in situ*, but the whole site was littered with broken pieces of burnt clay which could have come from the floor. It is possible that it was broken up by cultivation, as it must have been at a considerable higher level than the floor of Kiln I. The wide area over which the potsherds were scattered is probably due to the destruction of Kiln II by the plough.

CROCK HILL, KILN VII

THE SITE

In 1950 Mr Andrew Richardson recognised surface indications suggesting the existence of a hitherto unrecognised kiln lying about 100 yards north of the 6 kilns excavated by Bartlett and Wise in the last century³ (Fig. 1). The site lies on the gently rising yellow Bracklesham sand. About 100 yards to the west is a spring. It was evident before excavation that much of the kiln had been badly disturbed by badger digging and by the growth of trees.

THE KILN (Fig. 3)

In 1955 Miss Collinson undertook the excavation of the kiln. Beneath badger scrapings and the original loam, together measuring about 18 in. thick, an artificial surface of rammed clay was discovered, forming a platform around the kiln.

The kiln wall and floor. The oven chamber, about 5 ft. in diameter, was surrounded by the remains of a wall 2 to 3 in. thick. The centre of the floor had completely collapsed into the combustion chamber below, but sufficient remained to show that it had been perforated by at least 8 rectangular vents arranged in a circle. That the centre of the floor had been perforated by smaller holes, about 1 in. in diameter, was shown by a fragment of collapsed floor found in the combustion chamber.

The combustion chamber. The combustion chamber was cut into the natural sand and lined with clay fired hard and blue on the surface. The weight of the oven floor above had been supported by pilasters of clay projecting into the combustion chamber from the wall between the vents. Over the floor of the chamber was a thick layer of ash, above which lay the collapsed remains of the oven floor. On top of this was a layer of tightly-packed potsherds sealed by a mass of red clay, evidently the remains of a fallen oven dome.

The flue and stokehole. The flue and much of the stokehole were almost completely destroyed by animal disturbances and tree roots. However, part of the side of the stokehole survived, showing it to have measured about 5 ft. in diameter. It was filled with dark earth mixed with charcoal and potsherds.

GENERAL DISCUSSION

The discovery and excavation of three new kilns in the New Forest has added several interesting details to the industry as a whole. The two well preserved examples, Linwood North I and Crock Hill VII, both contained a permanent oven floor perforated by vent-holes and supported on pilasters which were nothing more than thickenings of the combustion chamber wall between the vents. These two examples (and probably the less well preserved kiln, Linwood North II) clearly belong to Corder's Type IAI—upright kilns with permanent

3. *Archaeologia*, XXXV,

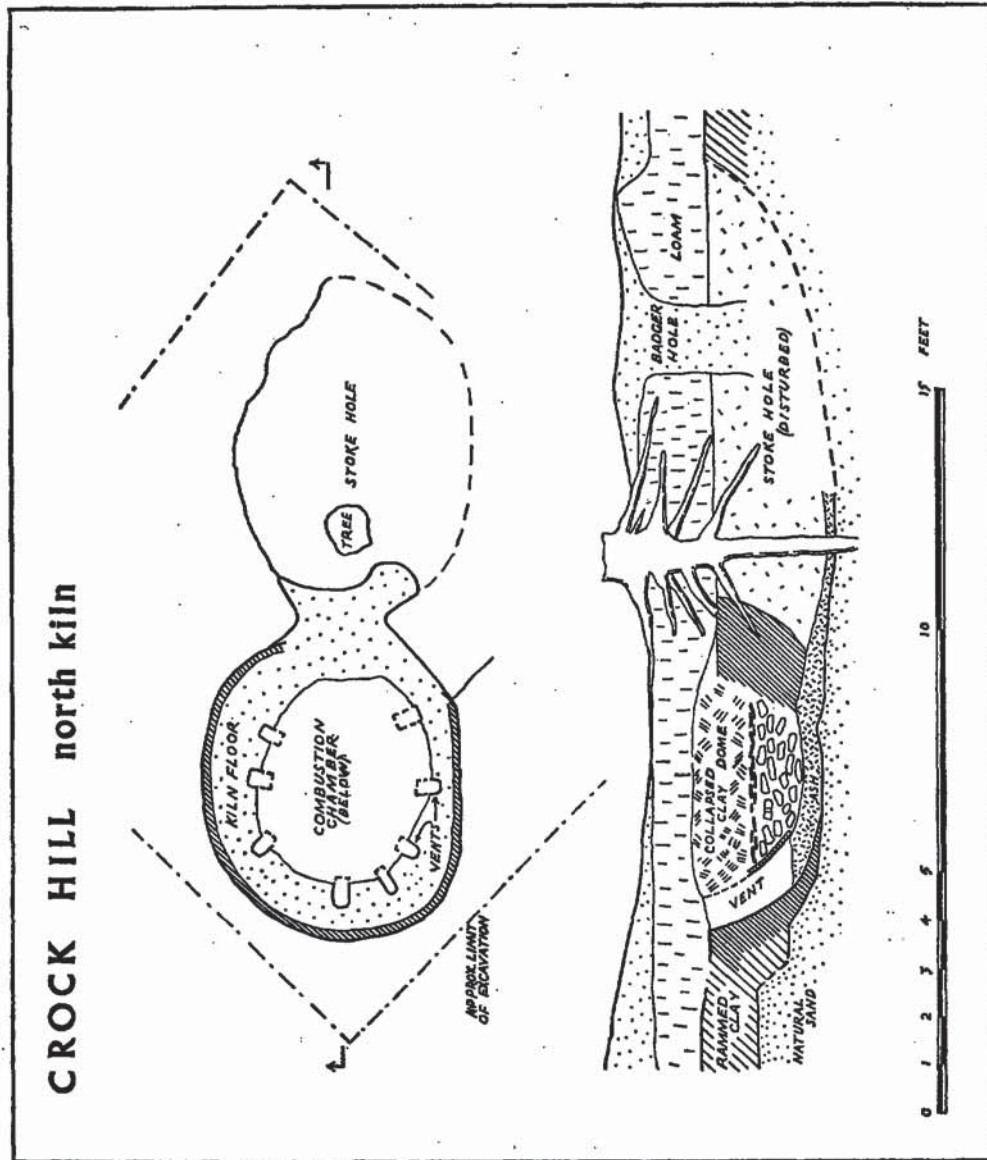


FIG. 3. The Crock Hill kiln.

vent-holed floors without supports.⁴ All the New Forest kilns appear to be variants of this type, the kiln at Black Heath Meadow⁵ (Linwood South) approximating the most closely to the recently excavated examples. The chimney, however, noted by Sumner to be a feature of his kilns does not occur at Linwood North I or at Crock Hill VII.

4. Corder, *Arch. J.*, CXIV (1957), 15.

5. Sumner, *Excavations in the New Forest Roman Pottery sites*, 76.

EXCAVATION OF THREE POTTERY KILNS

THE POTTERY

LINWOOD NORTH

The large quantity of pottery sent to the present writer had been divided into groups according to its stratigraphical position. For the purpose of description and illustration these groups have been treated as one, but in the Table the relative numbers of each type of pot have been arranged according to the stratigraphical position in which the pottery was found. This table shows that both kilns were associated with the same types in approximately similar proportions. It is of course possible that one kiln had gone out of use before the other and was being used as a waster dump; therefore too much importance should not be attached to the individual columns of figures. The actual figures recorded were arrived at by counting the number of rim fragments, recording as one those which clearly belonged to the same pot. The figure thus approximates to the maximum number of wasters in the excavated sample.

TABLE 1. Linwood North Kilns.

		Kiln 1			Kiln 2			Total	%
		Soil above kiln	On kiln floor	In flue	In combustion chamber	In flue	Between walls 2 and 3		
Flagon	A 1	—	2	15	4	6	—	27	17.7
	A 2	—	—	24	10	1	—	35	
	A 3	—	—	4	1	—	—	5	
	A 4	—	—	3	—	—	—	3	
	A 5	—	—	2	—	—	—	2	
Bowls	B 1	—	6	—	4	1	—	11	9.6
	B 2	—	1	—	—	—	—	1	
	B 3	1	11	—	15	—	—	27	
Jars	C 1	3	5	—	4	—	—	12	64.5
	C 2	40	30	—	135	32	7	244	
	C 3	2	—	—	3	1	—	6	
Necked jar	D	—	4	—	6	—	—	10	2.5
Storage jar	E 1	—	3	—	3	—	—	6	3.5
	E 2	—	1	1	1	5	—	8	
Lid	F	—	4	—	2	3	—	9	2.2
TOTAL								406	100

FLAGONS (Fig. 4)

The ware was sandy and fired grey throughout. Some examples showed traces of a thin white slip on the neck and upper part of the body. The necks were sometimes vertically burnished. On the more friable underfired examples this type of decoration would have worn off. The necks were made separately from the body and added later. The simple handles were pressed on to the outside of the rim and shoulder.

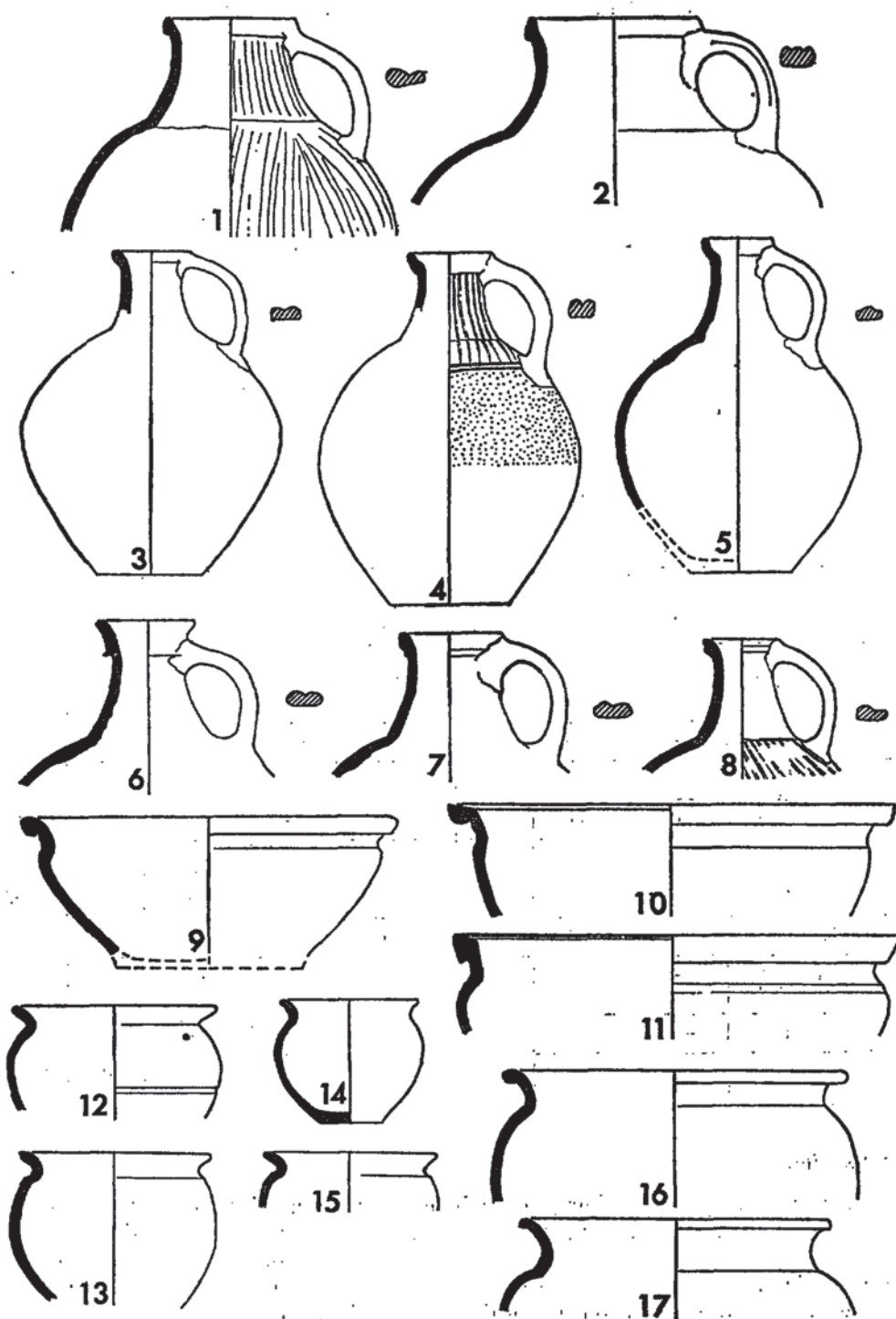


FIG. 4. Pottery from Linwood, $\frac{1}{2}$.

EXCAVATION OF THREE POTTERY KILNS

- Type A 1. Flagon with simple beaded rim, sometimes slightly grooved. Greater than 6 cms. in diameter.
1. Hard grey sandy ware. External white slip applied in vertical streaks.
 2. Hard grey sandy ware.
- Type A 2. Flagon with simple beaded rim, less than 6 cms. in diameter.
3. Grey sandy ware.
- Type A 3. Flagon with rim internally cupped.
4. Grey sandy ware with vertical burnishing on neck.
 5. Grey sandy ware.
- Type A 4. Flagon with a collared rim.
6. Grey sandy ware.
- Type A 5. Flagon with simple ringed rim.
7. Grey sandy ware.
 8. Grey sandy ware, burnished on body.

BOWLS (Fig. 4)

The kiln produced three types of bowls with maximum diameter at the rim, and depth equal to less than half the radius. The ware was sandy and fired grey throughout.

- Type B 1. Bowl with simple rolled out rim.
9. Grey sandy ware.
- Type B 2. Bowl with rolled out rim flattened on the top.
10. Grey sandy ware.
- Type B 3. Bowl with thick out-bent rim reeded on the top.
11. Grey sandy ware.

JARS (Figs. 4 and 5)

The ware was grey and sandy, sometimes fired hard. White external slip was frequently used and occasionally the jars were ornamented with a simple girth groove. Burnished lattice decoration was absent.

- Type C 1. Jar with out-bent rim, less than 12 cms. in diameter.
12. Grey sandy ware. Girth groove.
 13. Grey sandy ware with white slip inside the rim. Irregular burnishing outside.
 14. Grey sandy ware.
 15. Grey sandy ware.
- Type C 2. Jar with out-bent rim, more than 12 cms. in diameter and with the ends of the rims slightly thickened.
16. Grey sandy ware with external white slip.
 17. Sandy ware fired red with external white slip.
 18. Sandy ware fired red with external white slip.
 19. Grey sandy ware with external white slip.
- Type C 3. Jar with narrow body and everted rim.
20. Grey sandy ware.

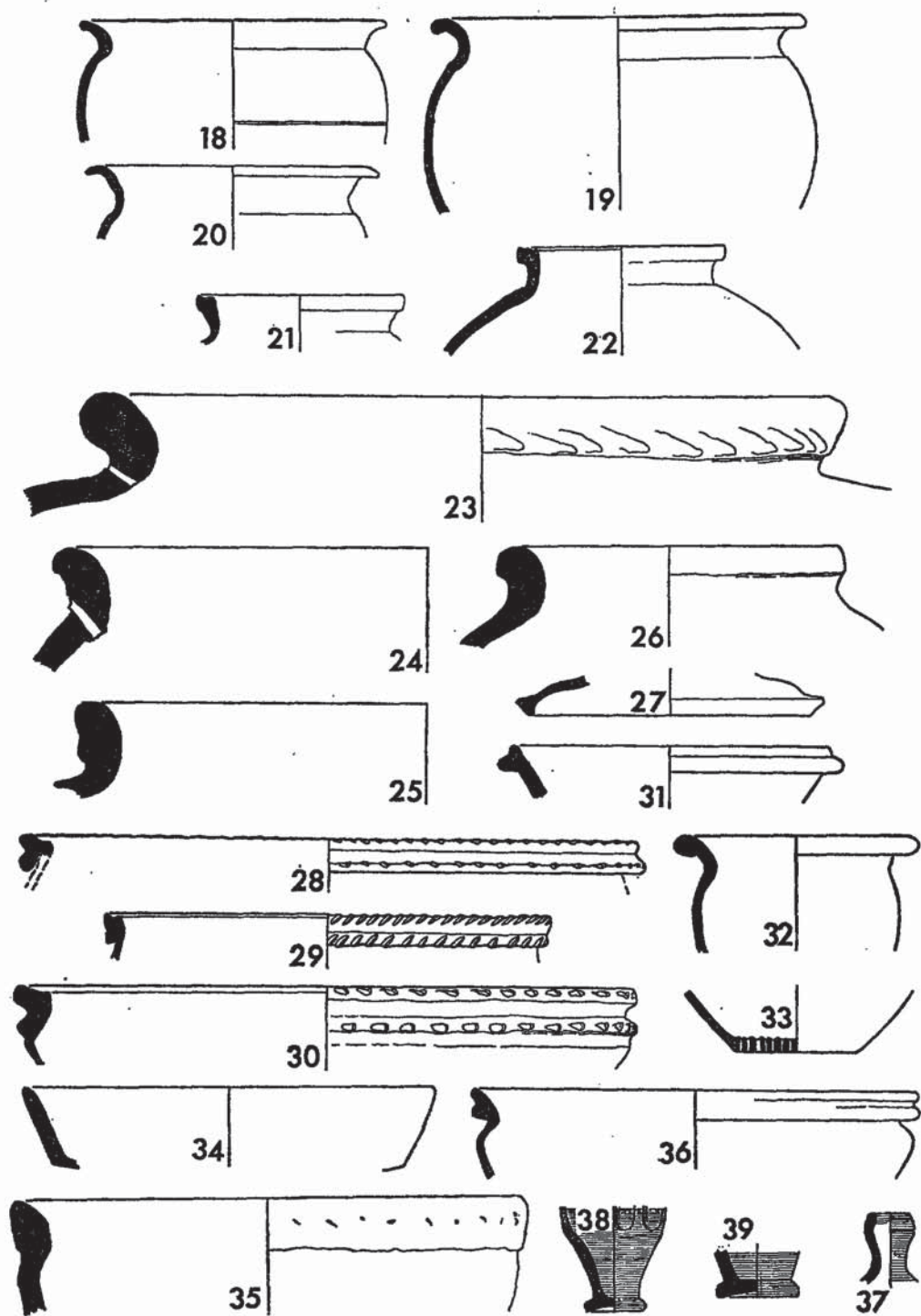


FIG. 5. Pottery from Linwood, $\frac{1}{4}$.

EXCAVATION OF THREE POTTERY KILNS

NECKED JARS (Fig. 5)

The ware is grey and sandy. White slip was sometimes used externally.

Type D Necked jars with out-turned rim reeded on the top.

21. Hard grey sandy ware.
22. Grey sandy ware with traces of white slip over the rim.

STORAGE JARS (Fig. 5)

Nearly all of the sherds were fired to a much harder grey fabric than was usual for these kilns. White slip was occasionally used.

Type E 1. Rope-rimmed storage jar with thick out-bent rim impressed externally with overlapping finger marks. Sometimes with perforations through the neck made before firing.

23. Grey sandy ware.

Type E 2. Storage jar with thick plain out-bent rim. Sometimes with perforations through the body. The jars varied in size.

24. Grey sandy ware.
25. Hard grey sandy ware.
26. Hard grey sandy ware with white slip outside and over the inside of the rim.

LIDS (Fig. 5)

In grey sandy ware.

Type F. Lid with 'T' shaped rim.

27. Grey sandy ware.

MISCELLANEOUS (Fig. 5)

The types represented by the vessels listed below occurred very infrequently amid the kiln wasters. This fact, together with a consideration of the fabric, suggest that these vessels were not made at the two kilns described above. In all probability they were produced in neighbouring kilns and were used by the potters at work here.

28. Bowl with heavily moulded everted rim. Hard grey sandy ware.
29. Bowl with heavily moulded everted rim. Hard grey ware.
30. Bowl with heavily moulded everted rim. Hard dark grey ware.

This type of bowl was made in the Black Heath Meadow kiln, *Sumner* XXII, 10-12. Stray sherds were also found at Ashley Rails, *Sumner* XI, 8-9 and at Old Slodden, *Sumner* XIV, 15.

31. Flanged dish. Hard grey ware with internal white slip.
32. Jar with out-turned rim heavily beaded. Hard grey ware.
33. Colander. Grey sandy ware, possibly from the Linwood North kilns. 3 examples.
34. Dish. Grey sandy ware with internal pale grey slip. Possibly made at the Linwood North kilns. 3 examples.
35. Heavy bowl or jar. Hard grey ware.
36. Bowl with heavily moulded rim. Fine buff ware with blue-grey slip.
37. Nozzle of an 'oil flask'. Buff ware with dark blue-black slip.
38. Folded beaker. Hard grey ware with black slip.
39. Base of beaker. Hard grey ware with glossy purple slip.

HAMPSHIRE FIELD CLUB PROCEEDINGS

CROCK HILL

For the purpose of analysis the pottery from the Crock Hill kiln can be considered as one group. The figures in the table should be regarded as approximating to the maximum numbers of wasters found on the site, since they were arrived at by counting the number of rims after joining fragments had been eliminated.

TABLE 2. Crock Hill kiln VII.

			%
Flagon	A 1	18	11.0
	A 2	4	
	A 3	3	
Bowl	B 1	13	7.5
	B 2	4	
Bowl	C 1	13	7.5
	C 2	5	
Jar	D 1	9	52.5
	D 2	98	
Storage jar	E 1	16	21.1
	E 2	32	
Necked jar	F 1	2	0.2
	F 2	4	
Flanged dish	G 1	4	0.2
	G 2	3	
TOTAL		229	100

FLAGONS (Fig. 6)

The flagons are uniformly of grey sandy ware, but some examples show burnishing on the neck. The necks were added to the bodies and the handles pressed on to the necks and shoulders.

Type A 1. Flagon with simple beaded rim, more than 6 cms. in diameter.

1. Grey sandy ware with burnished lines on the neck.

Type A 2. Flagon with simple beaded rim, less than 6 cms. in diameter.

2. Grey sandy ware.

Type A 3. Flagon with collared rim.

3. Grey sandy ware.

BOWLS (Fig. 6)

Bowls of two major types were recovered. Type B bowls are typified by a simple generally unexpanded rim and their relatively small size. They are all of grey sandy ware.

Type B 1. Bowl with simple out-bent rim.

4. Grey sandy ware.

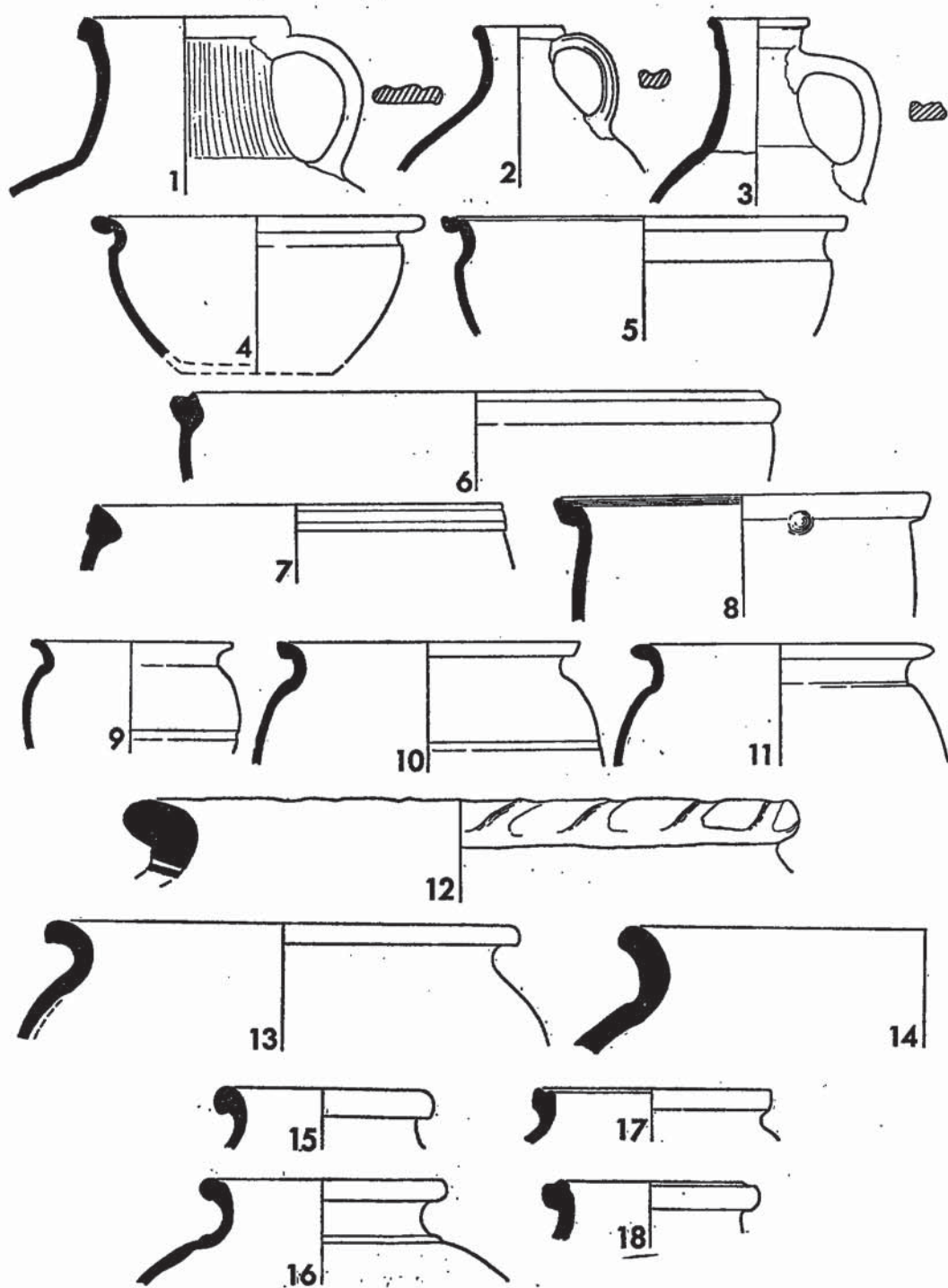


FIG. 6. Pottery from Crock Hill, $\frac{1}{4}$.

HAMPSHIRE FIELD CLUB PROCEEDINGS

Type B 2. Bowl with bent-out rim reeded on the top.

5. Grey sandy ware.

Type C bowls had heavily moulded rims and straight sides. They were all of grey sandy ware.

Type C 1. Bowls with heavy 'knobbed' rims.

6. Grey sandy ware, burnished outside.

7. Grey sandy ware—a variant form.

Type C 2. Bowls with heavily moulded rims reeded on top.

8. Grey sandy ware.

JARS (Fig. 6)

The jars were made in grey sandy ware, frequently decorated by a girth groove.

Type D 1. Jars with out-bent rim, less than 12 cms. in diameter.

9. Grey sandy ware.

Type D 2. Jar with out-bent thickened rim, more than 12 cms. in diameter.

10. Hard grey sandy ware.

11. Hard grey sandy ware.

STORAGE JARS (Fig. 6)

The storage jars were made in grey sandy ware. A large number of body sherds were found, including several with finger dragging inside.

Type E 1. Large 'rope-rimmed' storage jars, many with perforations below rim made before firing.

12. Grey sandy ware.

Type E 2. Storage jar with plain out-turned rim.

13. Grey sandy ware with a lightly burnished exterior.

14. Grey sandy ware.

NECKED JARS (Fig. 6)

Necked jars occurred with a variety of rim mouldings; most examples showed careful finishing of the surface. The ware is usually grey and sandy.

Type F 1. Necked jar with simple rolled over rim.

15. Grey sandy ware, burnished exterior.

16. Grey sandy ware, burnished exterior.

Type F 2. Necked jar with heavily grooved rim.

17. Hard grey sandy ware.

18. Hard grey sandy ware.

FLANGED DISHES (Fig. 7)

The ware in which the flanged dishes were made was grey and sandy, but usually the inside had been burnished or coated with white slip.

Type G 1. Flanged dish with the flange not much lower than the bead.

19. Grey sandy ware, burnished inside.

Type G 2. Flanged dish with bead higher than flange.

20. Grey sandy ware, burnished inside.

21. Grey sandy ware with pale grey slip inside.

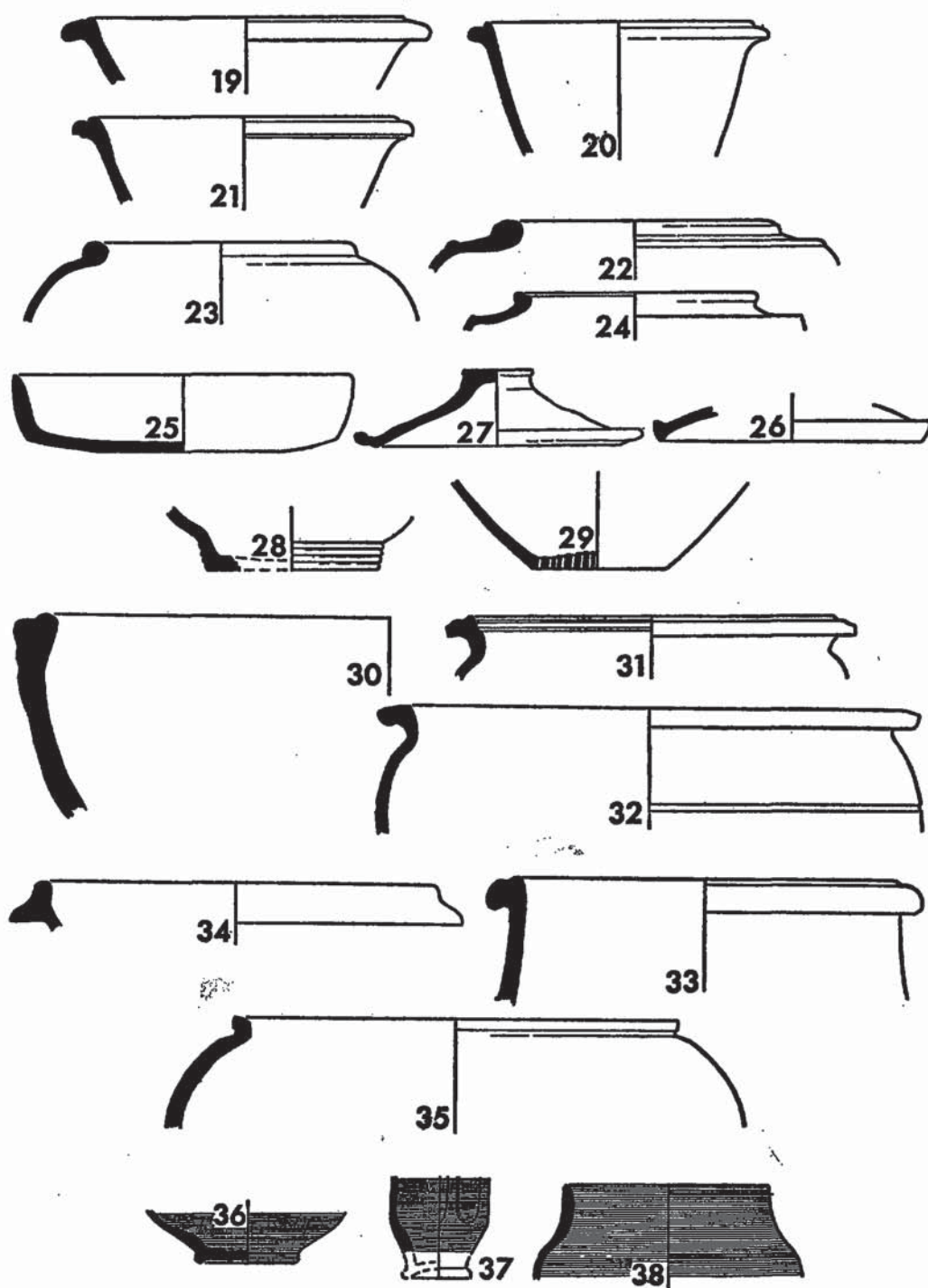


FIG. 7. Pottery from Crock Hill, 1.

HAMPSHIRE FIELD CLUB PROCEEDINGS

MISCELLANEOUS (Fig. 7)

The types illustrated below occurred in smaller numbers than those described in the foregoing section. Most of these were made in grey sandy ware similar to the main products of the kilns and may possibly be regarded as uncommon variants made here. The rest, 34-38, must have been imported from a neighbouring kiln.

22. Bead rimmed jar. Grey sandy ware.
23. Bead rimmed jar. Grey sandy ware.
24. Bead rimmed jar (with recessed bead). Grey sandy ware.
25. Dish. Grey sandy ware. 3 examples.
26. Lid with 'T' shaped rim. Grey sandy ware.
27. Lid with upturned rim. Grey sandy ware, burnished externally.
28. Base with grooved decoration. Grey sandy ware.
29. Colander. Grey sandy ware.
30. Large bowl. Grey sandy ware.
31. Jar? Grey sandy ware.
32. Jar or bowl. Grey sandy ware, exterior burnishing above girth groove.
33. Bowl. Grey sandy ware.
34. Flanged dish. White sandy ware.
35. Jar. Coarse gritty grey ware with a burnished external surface.
36. Beaker. Smooth ware with grey core fired to yellow on the surfaces.
37. Folded beaker. Hard grey ware with black slip.
38. Beaker. Red ware with blue-brown slip inside and out. A base in similar ware was found.

THE DATE AND AFFINITIES OF THE POTTERY

To date New Forest pottery with any degree of precision is notoriously difficult and until a detailed study of the industry as a whole is carried out little advance can be made on the summary published in 1939 by Hawkes⁶. In this he offers broad dates for Sumner's three periods:

- Early period A.D. 250-290.
- Middle period A.D. 290-330.
- Late period A.D. 330 onwards.

But Sumner's three periods were based on nothing more than a doubtful typological development of pottery decoration and the presence or absence of sherds of red and brown slipped wares, which by the very nature of the sites could have been dropped on the surface after the kilns had ceased to be used and have been carried down by roots and burrowing animals. To base a chronology on the occurrence of these sherds is clearly to be avoided. Further, the dates suggested by Hawkes must be modified to some extent by the recent demonstration that purple coated 'metallic' wares, typical of the late period (after 330), occur in at least two late third-century contexts in Winchester.⁷

Having outlined some of the difficulties inherent in accepting the traditional chronological framework, we must now consider the products of the kilns described above. Both kiln groups produced flagons, bowls and jars of similar types and wares and in approximately

6. Hawkes, *Antiq. J.*, XVIII, 113-136.

7. Cunliffe, *Winchester Excavations*, Vol. I 69 and 176-9.

EXCAVATION OF THREE POTTERY KILNS

similar percentages. At the Crock Hill kiln the output of storage jars was greater. At Crock Hill, too, a number of variant types were in evidence, but both groups may safely be regarded as contemporary or nearly so.

The relationship to other kilns is equally clear. The Linwood North pots bear certain marked similarities to the pots from the Black Heath Meadow kiln⁸ (Linwood South kiln), only 200 ft. away. Flagons, rope-rimmed storage jars, necked jars and flanged dishes are common to both, while three examples of the impressed 'Knob rimmed' bowls so common at Black Heath Meadow, where undoubtedly they were made, found their way to the Linwood North kilns. About 500-600 ft. east of the north kiln Sumner excavated another kiln (Linwood East)⁹ which, together with the contents of the nearby water jar,¹⁰ provides a small group of pottery loosely comparable to that from the north kiln. In particular the wide-mouthed bowl type B, apparently absent from Black Heath Meadow, is represented at Linwood East by several sherds.¹¹ This uncommon type is also found at Rough Piece¹². Further afield, relations with the Slodden kilns are not so clear. Flagons are common to both groups but apart from this similarities are few.

The Crock Hill kiln presents different problems. Basically it belongs with the Linwood group, but several of the types hint at an earlier tradition: for example the flanged bowl (No. 19) would not be out of place in a second century context and the two bead-rimmed vessels with pronounced shoulders hark back to even earlier times. Of course one possible explanation is that these sherds represent rubbish survival belonging to a pre-kiln period, but there is no positive evidence for this and, indeed, their numbers and their ware would support the view that they were produced in the kiln. The implications, then, would seem to be that this kiln, and with it the Linwood kilns, should be dated to the beginning of the third century or even earlier.

The presence of brown and black slip decorated beakers at both Linwood North and Crock Hill VII ought to imply that the kilns were in production late in the third century, but this is based on the assumptions that the sherds were contemporary with the use of the kilns and not intrusive from above, and that sherds of this type began to be produced only in the late third century. The difficulties inherent in dating (and even sometimes in recognising) third-century pottery in Britain as a whole are still very great, and until considerably more work has been carried out on this problem it would be unwise to relegate all of the slip decorated beakers produced in the New Forest to the last decade of that century and later.

In summary, the recently excavated kilns at Crock Hill and Linwood North fall into what has previously been called the 'Middle period' of production, but there are some indications, particularly from Crock Hill, that this phase should be dated earlier, possibly to the late second century or first half of the third century. To prove this contention it will be necessary to carry out further investigations, particularly into the stratification of the habitation sites supplied by the New Forest kilns.

8. Sumner, *op. cit.*, Pl. XXII.

9. Sumner, *op. cit.*, Pl. XXIV.

10. Hawkes, *op. cit.*, fig. 3.

11. Sumner, *op. cit.*, XXIV, 4 and Hawkes, *op. cit.*, fig. 3, 1.

12. Sumner, *op. cit.*, XXVII, 3.