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Roman Pottery Kilns at Gloucester

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Roman Pottery Kilns at Gloucester

By BERNARD RAWES

A KILN was discovered in the foundation trenches of the new College of Art site in Brunswick Road. Further investigation uncovered another kiln and waste pits. The evidence points to the existence of a potters' site outside the defences of the fortress of Glevum. The main period of production was Flavian. Several types of pottery were produced; beakers, bowls and dishes in red and grey, with a high quality finish; a variety of jar forms; and flagons with a cream slip. The importance of this site is emphasised by the finding of clay tubing in association with wasters and kiln debris, suggesting the presence nearby of other kilns perhaps superior to the usual Romano-British types.

Position and Discovery

The site, here called the College of Art site, lies opposite to the entrance to the City Library in Brunswick Road (SO 83281829). The area explored, approximately 60 ft. by 30 ft., is now under the forecourt of the new College of Art. The side nearest to Brunswick Road is 150 ft. from the back wall of the Library and Museum, under which is the Colonia wall overlying the legionary rampart.¹ Of this 150 ft. the berm would have occupied 12 ft. and the ditch at least another 12 ft., as Mrs O'Neil found at King's Square.² By comparing evidence from Lincoln,³ the outer edge of the ditch could be under Brunswick Road, leaving an area of at least 50 ft. wide where the evidence from this excavation suggests there were important kilns in the first century. There is no knowledge, as yet, as to the extent of the legionary defences beyond the rampart. The digging of the Colonia ditch, and later disturbances, would have partially destroyed these, and probably any kilns lying just outside them. However, this leaves a certain amount of ground next to the N.W. boundary line of the College of Art site. On this line there was some medieval and later digging, which did not encroach on Kiln 2 or to the N.E. of it. Pottery working might extend either way, parallel to the town wall, the position being mid-way between Eastgate and the south corner of the fort.

¹ For the line of the Roman wall: *Trans. BGAS*, 55 (1933), 65-68; and evidence of the rampart: *Trans. BGAS*, 81 (1962), 18-19 and 84 (1965), 20-22.

² King's Square site: *Trans. BGAS*, 77 (1958), FIG. I.

³ Lincoln: *J.R.S.*, xxxix (1949), 57-70, XLVI (1956), 22-26, XLIX (1959), 109-111 and L (1960), 187.

ROMAN POTTERY KILNS AT GLOUCESTER

The builders of the new College of Art, in digging foundation trenches, had uncovered burials,⁴ and then in the second half of July, 1966, they encountered a pottery kiln. Mr J. F. Rhodes, Assistant Curator of Gloucester Museum, mounted an emergency operation, and pottery from the kiln (K1) and from a pit (E), 22 ft. to the north-west, was taken into the museum. The writer arrived on the scene a few days after this. It became clear that no further archaeological work was planned. Since the builders, Messrs Noble of Gloucester, had no objection to excavation on the area of the future forecourt, a rescue dig was undertaken during week-ends and the light evenings between August, 1966, and March, 1967.

Acknowledgments

I would like to thank all the voluntary helpers for their assistance. The dig would have been impossible without the permission and advice of the builders' agent and the foreman; to everyone on the building site many thanks for their co-operation. Mr J. F. Rhodes of Gloucester Museum helped me with tools and temporary premises and was always willing to discuss the ever-changing situation. Mrs H. E. O'Neil gave me practical help, encouragement and the benefit of her knowledge; to her I am much indebted. Many thanks to all who gave me information, advice and assistance, particularly Dr Graham Webster, who read this report, Mr B. Hartley, Mrs K. Hartley and Mr D. Mackreth for their specialist reports, Mr N. Spry for drawing pottery and the small finds; also for help with the plans; and to my wife for her assistance in assembling this report.

Geological Levels

The geological succession is:—

Superficial Deposits:

1 ft. 6 ins. of quartzose sand, yellow to orange-red, with scattered pebbles.

About 6 ins. of large Bunter Sandstone pebbles lying in a fine light buff clay with a greenish tinge, merging into 1 ft. 2 ins. of fine clay, similar to the above, but gradually changing to a blue colour:

Solid:

Blue clay of the Lower Lias of the Jurassic. No natural gravel was found at the College of Art site. The clay was easily accessible in Roman times, lying under its covering of sand.

⁴ Skeletons in Gloucester Museum m.

Topography and Early Settlement

The O.D. (Newlyn) height at the College of Art site is 52 ft. at the forecourt level of the new building. In early Roman times the ground sloped gently to the south draining surplus water to the Sudbrook, as it would at present if left to its natural course. The O.D. height at the Cross is 65 ft. If one takes into consideration the accumulation of deposits there, this would not have been much higher than the kiln site in the first century, resulting in a very gentle hillock, typical of the undulating country of the Severn Valley east of the river.

The origin of Roman Gloucester remains obscure. The legionary rampart has been proved, lying under the line of the Colonia walls.⁵ First century barrack blocks have been noted.⁶ Various theories as to legionary movements have been proposed.⁷ The latest of these suggests a date of A.D. 66 or a little later for the laying out of the military fortress.⁸ Nearby Kingsholm remains as a possible site for earlier military occupation.⁹

No Roman kilns had been discovered in the Gloucester district previous to 1966. Green was able to distinguish a distinct ware among the pottery in the City Museum which he suggested was a 'legionary' ware and came from a local pottery. He describes the strong Belgic character of the early Roman pottery from Gloucester,¹⁰ an influence which probably came in with the Roman army from the south-east. If we assume a pre-Flavian fortress, a demand would be created to supply military needs.

Features and Finds

It is generally known that within the town walls the Roman levels are 10 to 20 ft. below the present ground level, owing to the later accumulations during Gloucester's long history. On the College of Art site the post-Roman deposits were about 3½ ft. thick on the side nearest to the town wall, tapering to 3 ft. or less under the new College of Art building. This deposit, plus the top Roman levels of 1 to 2 ft., depending on the distance from the town wall, was removed by the bulldozer. This modern surface is referred to as the 'Forecourt Level'.

⁵ *Trans. BGAS*, LXXXI (1962), 28-32; LXXXIV (1965), 15-27.

⁶ *Britannia*, I (1970), 295; *Glevensis*, No. 4 (Dec. 1969), 10.

⁷ *Trans. BGAS*, LXXXI (1962), 14-16; S. S. Frere, *Britannia* (London 1967), 80.

⁸ *Britannia*, I (1970), 188 and 295.

⁹ *J.R.S.*, XXXII (1942), 39-52; *Britannia*, I (1970), 188; S. S. Frere, *Britannia* (London, 1967), 80.

¹⁰ *J.R.S.*, XXXIII (1943), 15-28.



KILN I
(Ranging Rod in feet)



CLAY TUBE (6 ins high)
GLOUCESTER KILNS. PLATE I

NEW COLLEGE OF ART SITE, GLOUCESTER 1966-67

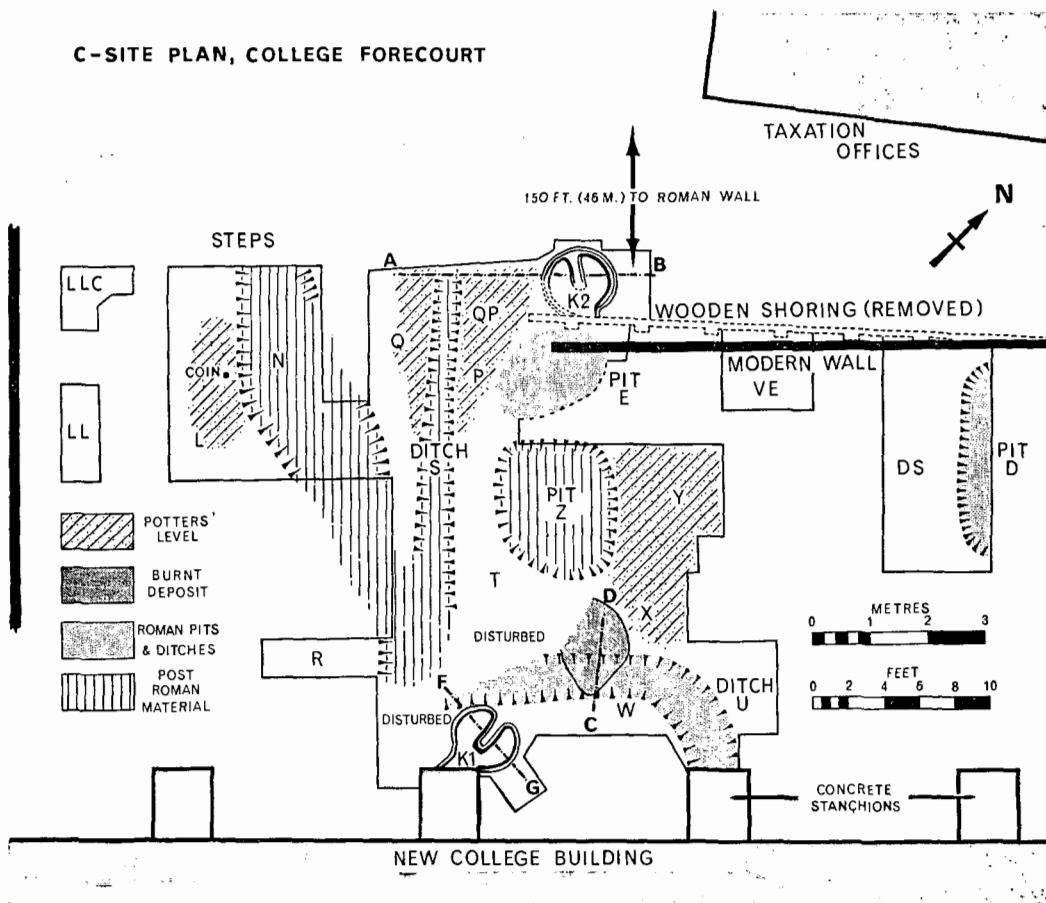
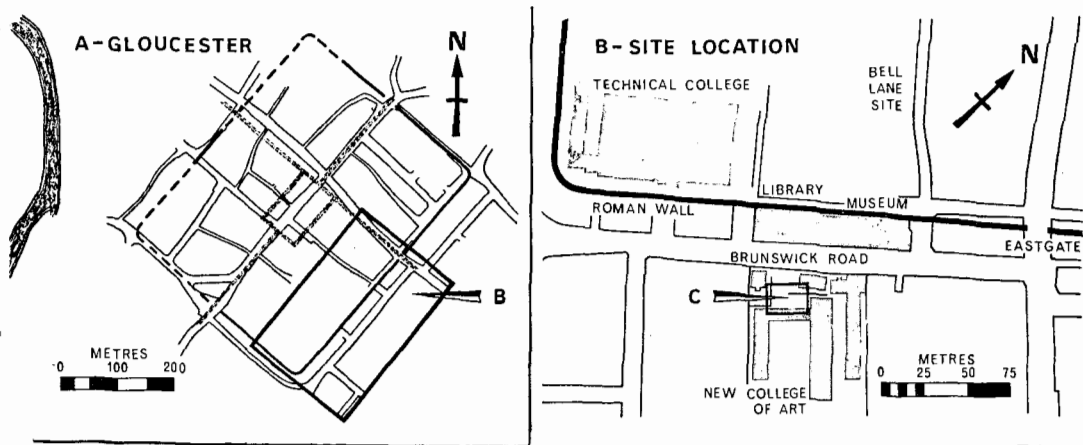


Fig. 1

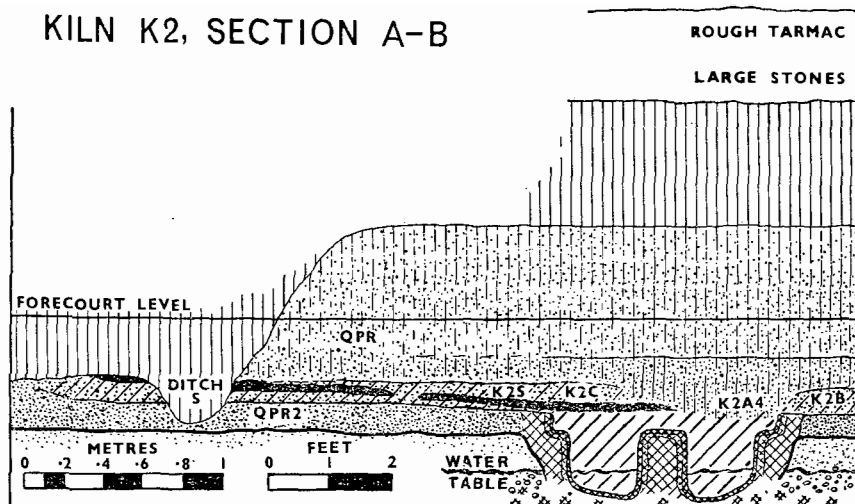
The medieval disturbances were verified by pottery. There was also much Roman pottery and debris present, including pieces of tile, brick, glass and plaster. Among the many bones there were two human skulls and scattered rib bones. These were assumed to be the disturbed remains of late Roman burials. The line of ditch S may have continued into the stokehole and flue of Kiln 1, destroying them before modern building operations. In the undisturbed Roman levels of square Y the first 4 to 6 in. under the Forecourt Level was a brown soil, tightly compressed, with a variety of sherds (including samian) amongst debris of broken tiles, stones of Cotswold freestone, red sandstone, and Lias limestone, oyster shells, bones and occasional pieces of glass and plaster. Under this was a layer of soft brown loam, gradually becoming firmer and more sandy. This change was accompanied by lessening debris, apart from the bones and the sherds. More pebbles were present, and, finally, a piece of kiln cover would indicate the first evidence of pottery working.

The 'Potters' Level' began at least 9 in. from the Forecourt Level and was often 1 ft. thick. It consisted of greenish-yellow sand or silt, sometimes gravelly, containing many round lumps of unbaked clay. These were red, buff and grey. Two hand-sized lumps of chalk were found. Many sherds from flagons had a chalky slip on them. In square X two whetstones were found, one of red sandstone; also a flat shoulder bone 5 in. by 3 in. with knife cuts on one side, which was probably used as a scoop or palette. Also in and near the kilns there was a small number of pebbles and flints worn down on one side after use for polishing or burnishing.

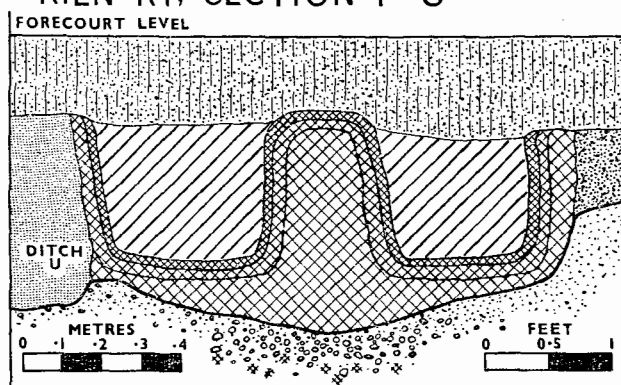
At about 1 ft. 6 in. below Forecourt Level as observed in area X and Y, there was a change to sand of mauvish-brown colour. It was clean with occasional small red sherds and charcoal, the latter persisting when all sherds ceased. This deposit might have been upcast from digging. Finally there was natural sand—very clean, light-coloured, reddish-brown to orange, with occasional small pebbles and rolled flints. No former soil level was noted, this probably having been removed during the first activity on the site.

Section C-D shows a burnt deposit, lying in a shallow basin surrounded by rough stones. Perhaps a hearth, it is dated by pottery to the second century A.D. Large fragments of three black cooking pots with lattice pattern were found on the top surface and could have been used *in situ*. Evidence of intense heat and the presence of coal and iron slag might suggest iron smelting. The site generally produced quantities of slag and many corroded pieces of iron, nails, etc., but no direct evidence of a bloomery.

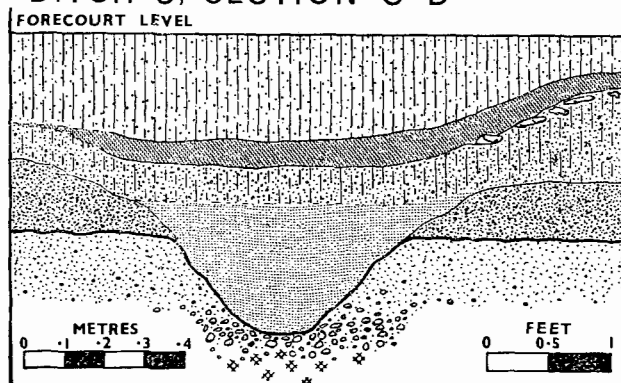
KILN K2, SECTION A-B



KILN K1, SECTION F-G



DITCH U, SECTION C-D



-  POST ROMAN MATERIAL
-  BROWN SANDY SOIL
-  SAND
-  POTTERS' LEVEL
-  KILN FILL
-  SOFT YELLOW CLAY
-  RED & BLACK BURNT CLAY
-  BURNT DEPOSIT
-  DITCH FILL
-  ASH
-  BUNTER PEBBLES
-  NATURAL CLAY

Fig. 2

In the rectangular area L the most important find was a coin of Vespasian (A.D. 71-72), the only coin from the site. It was found in a burnt layer 9 in. up from the lowest sherd and about 3 in. from the top of the 'Potters' Level'. Above this level there was a considerable depth of general Roman debris in a gravelly soil. It was here that a mortarium rim (M 10) stamped RIPANI lay at 1 ft. above the coin level. At 3 ft. to the S.E. of where the coin was found and an inch or two lower, in the 'Potters' Level', there were two bronze rings, probably parts of harness, and a bronze spatula (Fig. 12). The south side of L showed that the Roman levels were gradually rising towards Brunswick Road. The small probes LL and LLC showed that the 'Potters' Level' extended southwards.

The Sections (Fig. 2)

The brown soil above the kilns contained much Roman debris—sherds, broken tiles, slag, animal bones, etc. This continued down into Ditch U, where the soil became denser and darker.

The ash layer was particularly thick at the back of Kiln 2, where a mass of sherds overlay it (K2C). It extended to the south-west, and, although broken by later disturbances, was still evident in zone L where the coin of Vespasian was found embedded in the ash.

In Kiln 2 there was much ash around the damaged stokehole flue and in the bottom of the furnace forming a black sludge below the water table. In and above this there were pieces of the broken south wall and damaged pedestal end. There were also lumps of clay baked black with impressions of pot lids and bases. Among the debris were stones, pebbles, flints and sherds scarred and cracked with heat. The form of eight vessels has been reconstructed from the mass of sherds. These are some of the earliest of the kiln ware (Nos. 44, 51, 53, 54, 55, 97, 117 and 118). There was also much unfired yellow-buff clay of a putty-like consistency, similar to that used for making the kilns. Both furnaces appear to have been filled with discarded potters' materials. Ditch U ran right against the solid wall of kiln 1 and was dug deeper than the furnace floor. Pottery from the bottom half of the ditch was first century in type.

The Kilns

The two kilns were basically similar, being updraught circular structures, each with a fixed pedestal projecting from, and of the same construction as, the back wall opposite the flue entrance. In each case the stokehole had been destroyed: Kiln 1 by medieval

digging; Kiln 2 by the digging of Pit E, probably in the second century.¹¹ The flues had also been demolished, this time by modern building operations. In neither case was any of the oven left intact. So we have only furnace walls and floors, and the pedestals.

Kiln 1 faced south-west, while Kiln 2 was orientated to the south-east. The walls of Kiln 2 had a 4 in. wide ledge level with the top of the pedestal. This seems to point to a more solid floor, such as the vent-holed tiles of triangular shape used at Sibson, Northants,¹² that was carried off for re-use. Only one clay firebar was found on the site: about 5 in. by 2 in. by 1 in., tapering at one end.

Many pieces of broken oven cover were scattered about the site. They varied in size up to 6 in. by 6 in., but were mostly much smaller. They were impressed with straw, and, when they were curved, this was on the outside of the curve. The other side had been smoothed either by a flat piece of wood, a rough wooden trowel, or a stiff brush. The implement had been used with, or dipped in, a thin chalky slip. This was probably to assist in pressing the clay evenly into the straw.

A possible method of prefabricating the cover was to dig a hole of the required shape in the ground, place the straw in it and work the clay in from above. The straw was set alight and the clay baked. The cover could then be lifted and placed over the kiln. The cover pieces were in all cases broken off rough from a whole cover and in no instance showed any opening or any impression of a tie used as a support to a framework. The pieces were thin and it would have been easy to shatter the cover.

Some hundred fragments were retained and examined. Of these, a large proportion were flat or nearly so. The curved pieces were often turning through a right angle with the straw-impressed surface on the outside of the curve. A possible shape for the cover is similar to a flat dustbin lid. Another possibility is a flat sloping roof. In either case it was a light brittle structure with the edges left jagged. With oxidising conditions of firing, there would be no need for it to fit down tightly. Its purpose would be to keep the rain out and the heat in.

Broken pieces of clay piping were found in the two kilns, also in Pits D and E, as well as a few bits scattered on the site. Approximately forty pieces were found. The longest, which was not a complete tube, is 8 in. The diameters range from 3 to 5 in. The walls are $\frac{1}{4}$ to $\frac{1}{2}$ in. thick. The fabric is similar to the coarse ware, the clay

¹¹ Dated by samian.

¹² *C.B.A. Research Report 5* FIG. 8.

used being without inclusions. They are well-made with a smooth outer surface. In the centre they are truly cylindrical. In most cases the ends narrow, sometimes to almost three-quarters of the diameter. Some are cut off straight but others are cut at an angle. Could this be to fit the slant of a roof? Often the narrowed end has a rough out-turned lip which gives a hint that this was a chimney made to exclude as much rain as possible. Other tubes, with a straight-cut, narrowed end, could have been fashioned to fit into the next one. Three small pieces have small square holes punched in them. These may have been for supporting a stack of pots with wire or for steadying the tube itself. No tubes were found with grooving on the outside as at Colchester. No attempt has been made at classification as they vary in size and type of terminal in nearly every case. (Plate 1.)

The purpose of these pipes is problematical. They do not appear to have been supports, not being similar to the wide cylinders found elsewhere. Most of them do not seem to have been used as ventilation pipes, as heat and smoke have darkened the outer surface and they have a clean appearance on the inside. Mr B. Hartley has suggested that they were used as insulation pipes and were arranged as an upward continuation of the kiln wall above the oven floor. They would thus constitute the first foot or two of the oven wall. The straw-impressed 'plates' would presumably have formed the rest of the oven cover above this, if indeed these come from kilns using piping in this manner.

The remains of insulation pipes are often found scattered on samian kiln sites. However the oven floor on these sites was usually destroyed in antiquity, and most of the attempted reconstructions are hypothetical; in some cases the piping being shown as ventilation. The contemporary ground surface was on a level with the oven floor in these kilns. This makes it necessary to have an insulating jacket to ensure an even temperature for the production of better quality wares.¹³

If these tubes were used in the two kilns discovered, the reconstruction of the oven could be as follows:—a circle of insulating tubes set close together would be placed on top of the furnace wall rising one or two feet; in addition, there could be a solid but removable oven floor, through which three ventilation pipes could carry the fumes out past a roof. This roof could be a fragile replaceable structure of prefabricated clay as described above, or, possibly a temporary tile roof.

¹³ The reader is referred to M. R. Hull, *The Roman Potters' Kilns of Colchester* (1963), pp. 20–34, where there is a full discussion of kilns with piping or clay tubing.

Among the debris from the kilns were four pieces of much-fired flat 'tile', 1 in. thick, which may have been part of an oven floor. Some forty lumps of clay with impressions of sherds and potters' fingers were found. There are some pieces that fit the outside diameter of the clay tubes which were probably used as 'luting' to support them. One lump of clay was used as a plug for this tubing; for it fits into the end of one of the tubes, and has the impression from the potter's fingers when he pressed the soft clay into place.

The evidence, therefore, points to the existence of kilns superior to the usual Romano-British kiln, in that the potters could obtain greater control over the temperature and atmosphere in the oven; thereby producing finer quality ware.

Description of the Ware made at the College of Art Kiln Site

The standard surface colour is light red to pink or orange. Should unintentional reducing or overfiring occur, a dirty buff or grey is produced. In the majority of cases the fabric shows grey in the break in varying thickness, though some of the best quality ware is pink throughout. The paste is well levigated with occasional air cavities. Burnishing on a fast wheel produces a smooth polished surface. The body is hard, usually with surface mica,¹⁴ which varies in intensity from an occasional glitter to a beautiful sheen. However the mica is never so thick as to obscure the surface colour, and may be absent altogether. Apart from mica, the shine sometimes found on the surface may be due to a chemical change in the paste.

Decoration is not common. Rouletting is found on a few unusual sherds. Grooves occur generally, sometimes in pairs resembling a flattened cordon. Attempts were made to copy samian in shape and texture. Bowls, dishes and miniature beakers show the finest quality. Flanged-rim bowls and globular beakers with small everted rims were popular. A study of the bases shows a great variety of foot-rings, some with pedestal derivations.

When the kilns were fired under reducing conditions, typically a slate-grey surface was produced, often burnished, having a scatter of mica flakes. This was found principally in Pit D. There is also a variety of grey fabrics, the external colour varying from near-black to light grey. Some of the sherds with a dark grey burnished exterior and a light grey to buff body (often with a pinkish tinge) are very close to Terra Nigra. More ordinary grey wares were produced, particularly jars. Some sherds of rustic ware were found, but no wasters.

¹⁴ For local sources of mica see Richardson, *Proc. Cotswold Nat. Field Club*, xxxiii, Pt. III (1959), p. 110.

Ring-necked flagons, usually red or buff with a cream slip were produced in quantity. Many wasters of these were found together with those of the coarse jars and finer vessels, particularly in Pit E.

The Dating

The evidence for dating the pottery to the Flavian period comes from several sources. FIG. 17 of the 1912 report on Wroxeter is instructive, as here are illustrated many of the shapes found at the College of Art site. They are dated A.D. 80 to 120, most of the comparisons being with Corbridge and Newstead in the north and it is stated that the better finished vessels are early in the period. The ware has similarities to that from Gloucester, including mica on the surface. Is it possible that there was some direct influence from Gloucester to Wroxeter? The pottery found nearby at the Crypt School Grounds (*Trans. B.G.A.S., LV, (1933), 277-291*) is similar to the kiln ware and much of it is likely to have been made at the College of Art site. There are also some pieces bearing a resemblance to kiln ware from the Bell Lane site (report forthcoming).

The Flavian period was one of change. Some of the native and Belgic forms were dying out and others, altered by Romanising influences, were becoming established as standard Romano-British types. Copies of samian forms and new shapes from the Continent were added to the potters' repertoire.

Thus we have copies of samian form 29 and terra nigra; also tripod bowls, which at this period were becoming uncommon; and indented beakers, which are not usually found so early. The flanged-rim bowl, with the flat rim projecting from the top of the wall, reaches its maximum use at this time. The ring-necked flagons are also a type which reaches its full development in the Flavian period, though they continue well into the second century. Many of the jars continue in the same form until late Roman times, the quality and fabric helping to identify early vessels.

It would be safe to assume that the site was producing pottery some time between A.D. 70 and 110, that the two kilns discovered would not be out of place in the seventies or eighties, and that Kiln 2 may be the earlier. It is also possible that the well-finished ware was made in more sophisticated kilns nearby and that the date of their operation might be 20 years or so later.

The following points give weight to a Flavian date for the kilns found:—

Kiln 1, on the evidence of the brooches (Fig. 12) which were found in the kiln clay at the base of the furnace, is unlikely to be pre-

Flavian. The few sherds found in the clay or sand surround of the furnace were from vessels similar to those found in the kiln filling. These could all fit into a Flavian context, showing little variation from the pottery found in Pit E and around Kiln 2.

The ash layer covering area L and extending directly over the back of the furnace wall of Kiln 2 contained the coin of A.D. 71-72. This gives a *terminus post quem* for this deposit. It is unlikely that this coin was dropped before A.D. 75 and it is also unlikely that the kiln ceased operating more than five years before the ash was deposited.¹⁵ The mass of sherds lying over the kiln and the ash layer (K2C and K2A4) contained nothing that could be said to be second century or later. This pottery was again similar to most of that from Pit E; the same distorted and over-fired pieces of flagons being found, though there was a slightly higher proportion of orange-red sherds. The ash layer, near the top of the potters' level, could have been laid down by kiln-working after Kiln 2 fell into disuse. The pots lying in the bottom of the furnace of K2—nos. 44, 51, 53, 54, 55, 97, 117 and 118—are Belgic in character and could be pre-Flavian. Although pedestal-beakers, butt-beakers and large bowls with inturned rims continue to be made up to the end of the first century and beyond, it is surely unusual to find them together in a kiln at a date much later than A.D. 80.

However, there may have been two or more phases of production. It is suggested that the kilns were in operation in early Flavian times as is shown by the presence of wasters in forms dated elsewhere to this period. On the other hand there were some vessels one would usually date somewhat later. Furthermore, although the present evidence is that the majority of the pottery found was made in the earlier period, it is probable that there was a later period of production, perhaps at the foundation of the colonia, or even later, and that more kilns with their waster heaps await discovery. Some of the flagons and red 'quality ware' would fit into a late first or early second century context.

Second century samian was found with building debris and other Roman refuse in the brown soil overlying the sandier deposits of the first century. This brown soil was further disturbed in late Roman times by burials, and later by medieval diggings, but where it was undisturbed it suggested some extra-mural activity of an industrial nature. Pits D and E contained second century samian but the majority of the coarse ware was first century kiln waste. It is possible

¹⁵ The depth of the 'Potters' Level' deposit under the ash layer indicates kiln working before the coin was dropped.

that these pits were dug and filled in during the second century, though they could have been first century clay pits originally. The samian from Ditch U was all first century. The evidence from this feature points to its connection with Kiln 1, possibly for drainage. The presence of Neronian samian in Pit D and Ditch U, also the few sherds of plain samian in the Potters' level hint at pre-Flavian occupation, perhaps concerned with some activity outside the defences of the fortress.

THE POTTERY REPORT

The pottery illustrated is a selection from the mass of sherds from the pits, ditches, kilns and surrounding areas. In most cases it was unstratified. The heaviest concentrations were in Pits D and E, and in and around Kiln 2. *The location symbols give the position on the plan or on a section.*

The pottery has been selected on the basis of fabric and finish as indicated by wasters. Datable form has also been used. Comparative references are for shape only, except for local examples, where fabric and finish are taken into account.

A Flavian date can be inferred unless otherwise stated, though it is evident from recent excavations that some of the forms were being made in Gloucester in the early years of the second century.

A quantitative analysis has not been attempted, as any results could not produce a true picture because it is not thought that the area excavated was representative of the kiln site.

The term 'Glevum Ware' has not been used, the pottery from the College of Art site being different in certain respects from that described by Green.

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| <i>Bag</i> | CLIFFORD, E. M., <i>Bagendon—A Belgic Oppidum</i> (1961). |
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ROMAN POTTERY KILNS AT GLOUCESTER

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<i>J. W.</i>	KENYON, K. M. "Excavations at the Jewry Wall Site, Leicester" (1948).
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<i>Ver.</i>	RICHARDSON, K. M., "Report on Excavations at Verulamium: Insula xvii, 1938", <i>Archaeologia</i> , 90 (1944).

ABBREVIATIONS

K 1	Kiln 1.
K 2	Kiln 2.
F.L.	Forecourt Level.
K 1 S } and K 2 S }	Sherds found in the immediate vicinity of a kiln, six inches above or below the top of the furnace wall, but not above or within a kiln.
D S	
	Surrounds of Pit D.

Dishes 1-14

Although the platters and dishes are not numerous, they are of good quality and carefully finished.

1. *Platter*. Copy of Ritterling Type 1. Light orange. Fine exterior burnishing with very even close-set ridging. cf. *Crypt*, fig. 6, no. 14. Casual find.
Dishes 2-8, derived from Belgic and samian forms, appear to be peculiar to Gloucester. cf. *Green*, fig. 4, nos. 51-56. They have plain incurved rims and vestigial foot-rings. 2-5 have the internal wall divided by a ridge into two concave sections. They could have been used as covers.
2. Orange-red with mica sheen. From Pit E. Three others similar from K2.
3. Orange-red, polished. Two sherds joined from K2 and K2S.
4. Orange-red, highly polished with mica sheen. From K2S.
5. Offset above wide groove on outer wall. Orange-red. From LL.
6. Similar to 2-5 except it has external groove on plain wall below rim and quarter-round moulding at base of internal wall. Red to brown with blackened rim. From baulk between X and Y.
7. Foot-ring at base of wall with pronounced incurve. Broad flat rim. Unusually thin base. Orange-red with mica on surface. Grey in break. Fine quality burnishing. From Pit E.
8. Plain rim on simple incurved wall, probably flat base. Derived from *Cam.* form 16A and Hoffheim 99. These have foot-rings which disappear in the Flavian period. Brown-red, internal polish. cf. *Barnwood*, fig. 15, no. 38. From LL.
Similar dish shows more internal than external polish. From probable stoke-hole area of K1, two feet down from F.L.
9. Wall inclined at 45° from thick base to wide rim. Good polish. Dark grey micaceous surface contrasting with light grey paste. From DS.
10. Plain dish with slightly incurved bevelled rim. Dull red. From Pit E. One similar sherd from Pit D, another from R.
11. Similar form to 10 but very large, with coarse gritty fabric. Dirty red with flakes of mica. Two bands of circular grooving on internal base. From bottom of Ditch U.
12. Upright wall, bevelled rim, thin flat base. Blackened outer surface, very light grey inside. Some mica. cf. Ritterling Type 11 B, Hoffheim 1, also *Rich. IV*, no. 436, dated A.D. 70-90. From Pit E.

13. Similar to 12, but with thicker base and tapering wall. Red. Two sherds joined, from K2 and Y.
14. Vestigial foot-ring at base of outcurving wall. Flared rim. Hard thin body. Dark grey surface with mica. Pinkish fabric. Possibly a copy of Loeschke Type 77. cf. *Oswald and Pryce*, plate LV, no. 2. From Pit E.

Bowls 15-37

These are mostly of excellent surface finish, usually with mica sheen.

15-21. *Hemispherical bowls*. Copying Ritterling Type 8; although the fabric is very different they appear to be imitating *Cam.* 62 in that many have grooves below the rim. 19-21 show rouletting, some only faintly impressed. For this type of decoration see no. 144 of this report, also *Estcourt*, fig. 3, no. 14. Also cf. *Green*, fig. 3, no. 48; and *Barnwood*, fig. 15, no. 36 (decorative scheme different).

15. Plain rim. Flat base. An elementary shape. Brown, burnished surface. No mica. From X.
16. Wall slightly incurved to plain rim. Light red-brown. Burnishing in bands internally and externally. From Pit E.
17. Plain rim with two grooves below. Red with mica sheen. From Pit E.
18. Similar to 17, but grooves closer together. From K2S. Further examples from Pit E and near K1, with grooves differently spaced.
19. Two deeply incised grooves below plain rim. Dull red. Faint rouletting with burnishing over. From Pit E.
20. Unusual rim. Fine "terra nigra" type fabric, black shading to greyish buff. Highly polished surface with rouletting. Possibly not made at Gloucester. From Ditch U.
21. Dark grey with lower part buff-grey. Horizontal polished lines with vertical dashes across them and internal polish. From K2S.
22. Plain rim bowl. Deep red with fine mica sheen and very faint rouletting under burnishing. From Pit E.
23. Bead rim. Rouletted decoration. A burnt sherd. From Ditch U.
24. Small delicate bowl in fine fabric approaching samian. A simple but apparently unusual shape. Possible affinities with an Arretine cup. Deep orange-red. Three sherds joined, from K2C, K2S and K2A4.
25. Rim reminiscent of samian form 24/25. Abraded light grey sherd. From Y.
26. Small carinated bowl with groove under rim. Orange-red. May have had a pedestal. cf. *Aylesford-Swarling Culture*, fig. 26, no. 218, from Lexden; *Cam.* form 211 (without pedestal); *J.W.* fig. 34, no. 16. From K 1 S.
27. Bead rim. Brown-buff, shiny exterior polish. cf. *Green*, fig. 3 no. 50. From T.

28-34. *Carinated bowls with plain rims*. Varied attempts to copy samian form 29, 32 being the best example. Pedestal bases are possible.

28. Light grey. Rim and outer wall surface burnished. From X.
29. Orange-red. Glistening mica on dull rilled surface. From Pit E.
30. Red. Unburnished. From K2A4.
31. Orange-red with mica sheen. Joined sherds from K2S and K2C.

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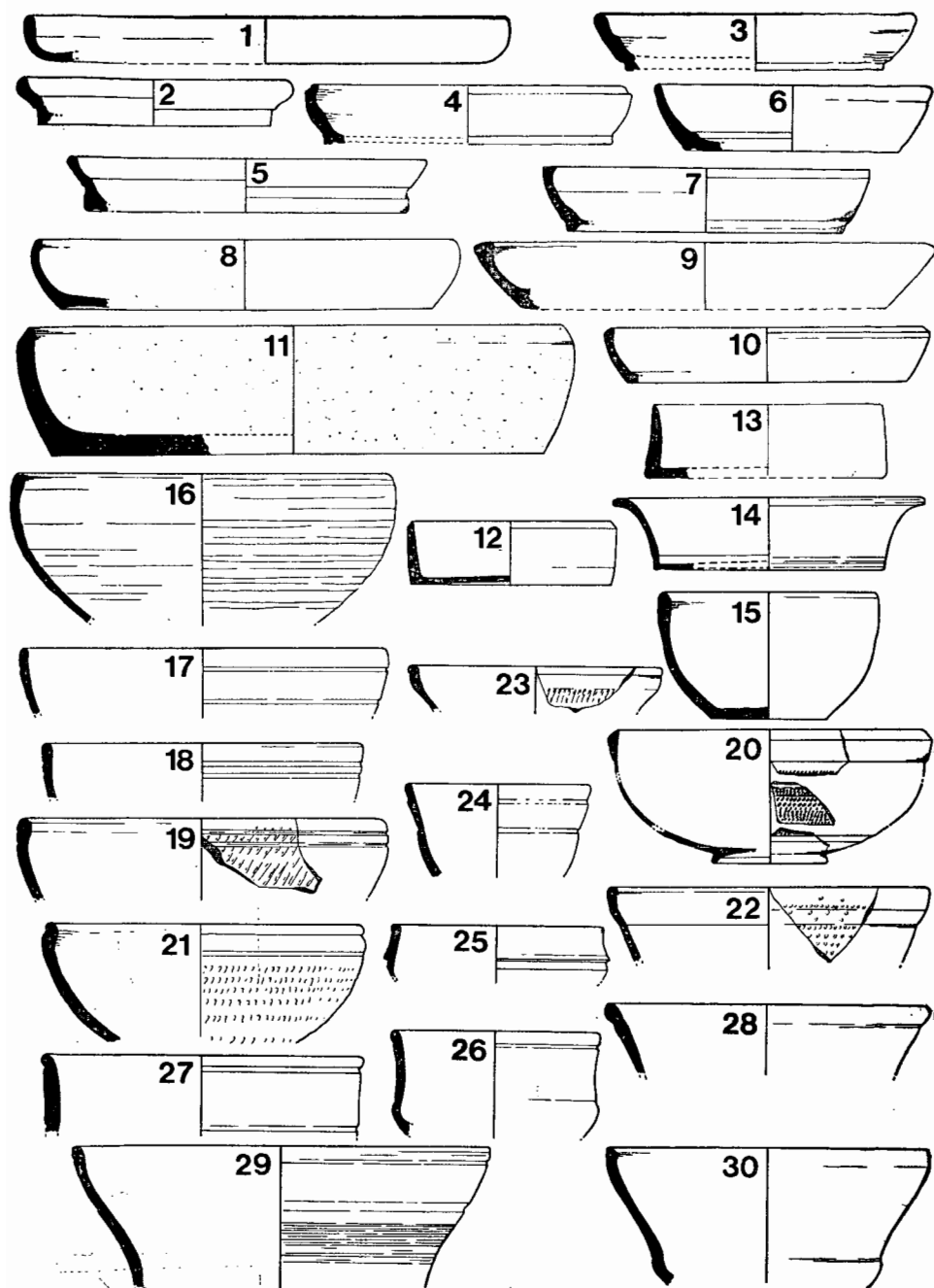


Fig. 3. Pottery from C. of A. Site, Gloucester. (1/2)

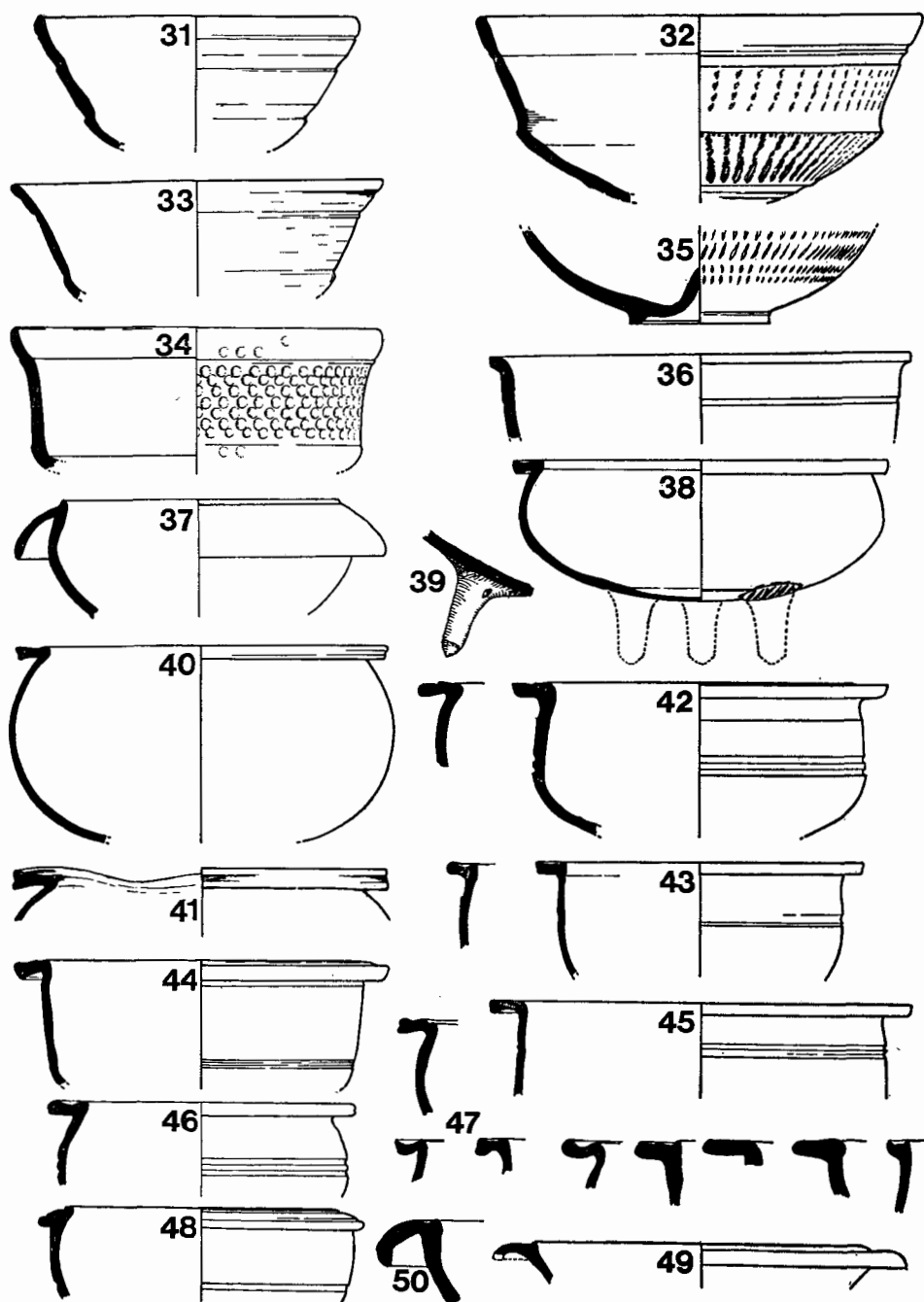


Fig. 4. Pottery from C. of A. Site, Gloucester. (1)

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32. Deep orange-red with mica sheen. Decoration of lower zone copies samian gadroons. Upper zone has faint rouletting. cf. *Gillam* form 193. From Pit E.
33. Orange-red with mica sheen. Pronounced rilling externally. From Pit E.
34. Almost vertical wall with rounded carination. Brown-red with mica. Unusual rouletting in upper zone of circular indentations, which continue faintly on rim moulding. From Pit E.
35. Base and wall of bowl with unusually prominent kick on basal interior. Dark grey surface on light grey fabric. Decoration on lower zone similar to 32. From Pit E.
36. Small out-turned rim. Red, unpolished. Possibly similar form to *Bon Marché*, fig. 10, no. 12, although fabric and decoration differ. From L, 2 ft. down from F.L.
37. Overhanging flange. Orange-red. Polished, with much mica. cf. *Rich.* IV, no. 440. From K2A4. Others from K2S, bottom of Pit D, and a waster with flat base from Pit E.
38. *Tripod bowl* with flanged rim. Red. From Pit E. Bowls of similar shape, which may also have had tripod legs are discussed in nos. 40-48. cf. *Cam.* form 45B, of which it is stated that these bowls "were not popular in Roman ware and seem to have died out by the end of the Flavian period". Similar examples from Wroxeter, Silchester and Richborough.
39. *Leg* of tripod vessel. Polished orange-red with much mica. Grey in the break. Two spike holes with finger impression on either side of the leg top. From K2A4. *Not illustrated.* 13 separate legs, all with red surface with mica. All these legs have had a wire passed through them where they joined the body, leaving a hole. The purpose of this is conjectural. It could have been to support the bowl during firing or to obviate cracking of the clay under heat. Most of these sherds were from Pit E.

Flanged Rim Bowls 40-48.

These are one of the four common types on this site, the others being the jars, the ovoid beakers and the ring-necked flagons. They have a rim projecting from the top of the wall which was used as a seating for a lid, a support for a metal frame to lift the bowl above a fire, or simply to assist in handling. These bowls were popular from Flavian times onward, and owe their origins to early first century forms which appear in small numbers at Colchester (*Cam.* forms 41, 42, 43, 245 and 246) and somewhat later at Verulamium (*Ver.* fig. 13, nos. 6-11). Over 100 rims belonging to separate bowls have been examined, being distributed fairly evenly over the site. Occasional wasters and over-fired specimens were found. Many are of fine quality, but there are some with a coarse finish probably due to poor firing, resulting in a dirty grey ware. Others are in unburnished red fabric with a light scatter of mica. Body grooves, either singly or in groups, appear on about half the pots. The same proportion of rims are reeded. For these bowls cf. *Green*, fig. 4, nos.

62-65; *Crypt*, fig. 4, nos. 9 and 10; *Gillam*, forms 214 and 215.

40-47. *Bowls with nearly horizontal straight flanged rims.* *J.W.* distinguishes between reeded and plain rims. This appears to have no dating significance in this assemblage. Reeded rim bowls are typical of sites dated A.D. 80-100. Non-reeded types with pronounced carination were found in pits 33 (A.D. 50-75) and 58 (A.D. 45-75) at Richborough, also in Claudian and Neronian levels at Verulamium. See *J.W.* p. 88 for discussion of this question.

40. Globular body. Thin grey fabric with matt surface. From K2. The globular body is unusual for this rim but there are other examples from this site such as:— One from Pit E, smaller. Red fabric with some mica. Another from K2, grey fabric with faint cordon 1 in. below rim. This form seems to be developed from *Cam.* form 244.
41. Distorted rim. Curved wall. Light buff-red, with mica. From Pit D.
42. Reeded rim. Rounded carination. This pot is unusual for this site in having a thick cream slip. Two close-set body grooves. cf. *Cam.* form 246A; and *J. W.*, fig. 38, no. 9.
43. Rim has good seating for lid. Wall starting vertical, then gentle curve to base. Over-fired to dirty grey. Thin strong fabric with glistening mica on outer surface. Potter's clay adhering. cf. *Crypt*, fig. 7, no. 16, which is a nearly identical form. From Pit E.
44. Rim angled slightly downward. Rounded carination with narrow grooves above. Grey burnt fabric. cf. *Gillam* form 215, and *Cam.* form 246 B. From K2.
45. Straight rim with sharp reeding and vertical wall. Red fabric with scattered mica, unburnished. cf. *Archaeologia*, xcii (1947), Silchester, fig. 12, no. 6. From Pit E.
46. Non-reeded rim. Light red, unburnished. Another copy of *Cam.* form 246. From K2C.
47. Rim variants. Mostly from surround of K2.
48. Flanged rim angled downward. Two grooves on rim. Incurving wall. Medium grey, unburnished. From Ditch U. Two similar rims in red; one from Ditch U, the other two feet down in L L. cf. *Friar's Orchard*, fig. 4, nos. 3 and 18.
49. Bowl with flange below bead rim. Good quality. Buff-red with mica. cf. *J.W.* flanged bowl type A, p. 143. *Cam.* form 46, and *Green*, fig. 4, no. 77. From Pit D.
50. Small bowl with heavy hooked flange. Two of the eleven rim sherds of this type show evidence of a spout. Mrs K. Hartley considers that these should be classed as flanged bowls, rather than mortaria, as none of the body sherds show grit. The fabric is coarse and has been brushed with a thick cream slip. There is a similarity in fabric between these small bowls and the mortarium stamped RIPANI (no. M10), suggesting the possibility that they were made by the same potter. cf. *J.W.* flanged bowl type E, p. 91. Illustrated bowl from DS.
51. Large bowl or jar with inturned straight flanged rim. The rim is flat and smoothly finished, providing good seating for lid. Deep bulging body of thick fabric. Dark grey burnished surface with potters' clay adhering in patches. Faint double groove on shoulder. cf. similarities to *Cam.* forms 252, 253 and 275; also *Rich. IV*, no. 485; and *Aylesford-Swarling Culture*, fig. 4, no. 30, Swarling grave 15. Other similar bowls are found in Belgic contexts; there are also

Durotrigian parallels. From K2.

52. Bowl with similar rim to 51, but smaller and with high shoulder. Red with grey exterior surface. References as for 51. From Ditch S.

Beakers 53-70

53. *Pedestal beaker* having globular body with three double grooves. Pronounced foot with flat circular base which was made separately. Thin reddish fabric. Damaged when it fell on its side during firing, distorting the body. The round body shape is similar to certain other bowls and beakers in this report, and is unlike Belgic types which are ovoid or pear-shaped. However, the grooves are imitative of cordons and the foot is derived from Belgic types, such as one from Swarling grave 2 (*Aylesford-Swarling Culture*, fig. 1, no. 3) and one from Ardleigh grave C (fig. 17, no. 141). On the other hand the potter may have been copying Arretine or metal craters. From K2.
54. *Butt beaker* with rim missing. Romanised foot-ring. Originally red fabric but much over-fired and distorted. cf. *Aylesford-Swarling Culture*, fig. 20, no. 174, from Lexden. *Cam.* form 119, *Bag.* form 62. Reconstructed from many small pieces found at bottom of furnace of K2.

55-67. *Globular or ovoid neckless beakers* with small everted rims. These are a common shape from the site, usually produced in a thin hard red fabric. Some appear in miniature form with beautifully turned bases. They are derived from *Cam.* forms 93, 94, 95, 104 and 108; and probably more directly from Déchelette, form 67. Also cf. *Bag.* forms 45 and 46. For similar beakers found in the Gloucester district, see *Green*, fig. 6, nos. 38-42; *Barnwood*, fig. 15, nos. 28, 29 and 31 for small beakers in grey ware; and *Crypt*, fig. 6, nos. 11 and 12 (with rouletting). Among the many rims not illustrated there are several wasters, also two sherds with colour-slip (black and brown) which is unusual. Most of these vessels came from Pit E, around K2, and a few from the filling of K1.

55. Ovoid, with flattened bead rim. Small solid well-tooled foot. Medium grey with finely burnished surface. Slightly distorted during firing. cf. *Crypt*, fig. 4, no. 3; also similar but with rouletting from *Barnwood*, fig. 13, no. 13. From K2.
56. Ovoid, with small thick rim. Colour varies from reddish buff to dark grey. Burnished in bands. Two others similar. cf. *J.W.* fig. 27, no. 2. From Pit E.
57. Small globular, with delicate upturned rim. Thin buff-pink ware with mica sheen. cf. *J.W.* fig. 27, no. 14; *Gillam* form 167. From Pit E.
58. Miniature ovoid beaker, with flattened bead rim. Light grey with very smooth surface. From Pit D.
59. Miniature beaker. Orange-red with mica sheen. From K2C.
60. Miniature ovoid beaker with delicate upstanding rim. Grey, unpolished cf. *Archaeological Journal*, cxxiii (1966), North Hill Colchester, fig. 11, no. 38. From Q.
61. Ovoid, with upturned rim and groove on shoulder. Buff-red with mica sheen. From T. For nos. 61 and 62 cf. *Ver.*, fig. 11, nos. 27 and 28.
62. Ovoid, with marked rilling on interior and near base on exterior. Light red. From K2C. Several similar examples including one over-fired to patchy grey and brown, with potters' clay adhering to rim and interior. From K2A4.

63. Ovoid, thin strong grey ware with very smooth surface. Decorated with two shoulder grooves and barbotined studs in groups. Brown fabric, sherd burnt grey. Some mica. cf. *Cam.* form 100. *Green*, fig. 6, no. 24. For barbotined studs *Barnwood*, fig. 15, no. 28. From Pit E.
64. Ovoid or globular. Straight rim angled upwards. Regular succession of ripples or corrugations on shoulder, perhaps descending further. Fine red-brown surface with mica sheen. Highly burnished. Rippling appears on *Cam.* form 229. From Pit E.
65. Ovoid. Single ripple on shoulder. Orange-red with mica sheen. From Pit E.
66. Globular, with almost vertical rim. Grey, burnished, dark stains. This shape is found in the *Aylesford-Swarling Culture*. cf. *Bag.* form 161 and *Green*, fig. 6, no. 23, which is pear-shaped. Casual find.
67. Similar to 66 with shorter rim. Brown-buff. From Pit D.
68. *Beaker* with everted rim. Sharp carination on shoulder. Orange-red with mica sheen. Derived from pre-Roman shape, perhaps *Bag.* form 127. From K2A4.
69. *Indented beaker* with distorted rim. Thin fabric. Orange-red surface with much mica. Several other sherds of indented beakers were found, including wasters. cf. *Cam.* form 101. From Pit E.
70. (a) and (b) Miniature indented beaker with very thin wall. Orange-red. (a) and (b) are probably not from the same pot, but from the evidence of other sherds it is likely they are of the same form. (a) Two joined sherds from K2S and K2A4. (b) From Pit E.
71. Beaker or Jar with near-vertical rim. Coarse grey ware. From Pit D.
72. Miniature beaker. Cream self-coloured fabric like pipe clay. Smooth exterior with rouletted pattern. Probably imported Belgic ware or copy of it. From QPR.
73. Beaker or Jar. Light grey. From Pit D.
74. Beaker. Thin straight wall with flat rim. Possibly derived from a butt-beaker. Light red, unburnished, with mica. cf. *J.W.*, fig. 34, no. 7. From Pit E.

Jars 75-108

The jars are varied in shape and fabric. A fine surface is uncommon. The majority are made from a thin hard fine fabric, red or grey, with a dull surface. Many wasters were found; the sherds distorted, overfired and with lumps of potters' clay stuck to them.

75-79 Jars with narrow mouths

The narrow necks curve to outsplayed rims which turn over. Developed from *Cam.* forms 231 or 272, and Belgic prototypes which often had pedestal bases and cordoned necks. No wasters of these were found. cf. *Green*, fig. 2, nos. 19, 21 and 25, and fig. 6, no. 27. Also for similar rims and necks *Barnwood*, fig. 11, nos. 2, 3 and 4; and *Crypt*, fig. 4, no. 12.

75. Slate-grey, finely burnished. From Pit D.
76. Globular. Complete rim survives. Light red. From potters' level in X.
77. Prominent cordon on neck with vertical burnishing below. Deep orange. Casual find.
78. Shorter rim. Buff-brown. From Y.

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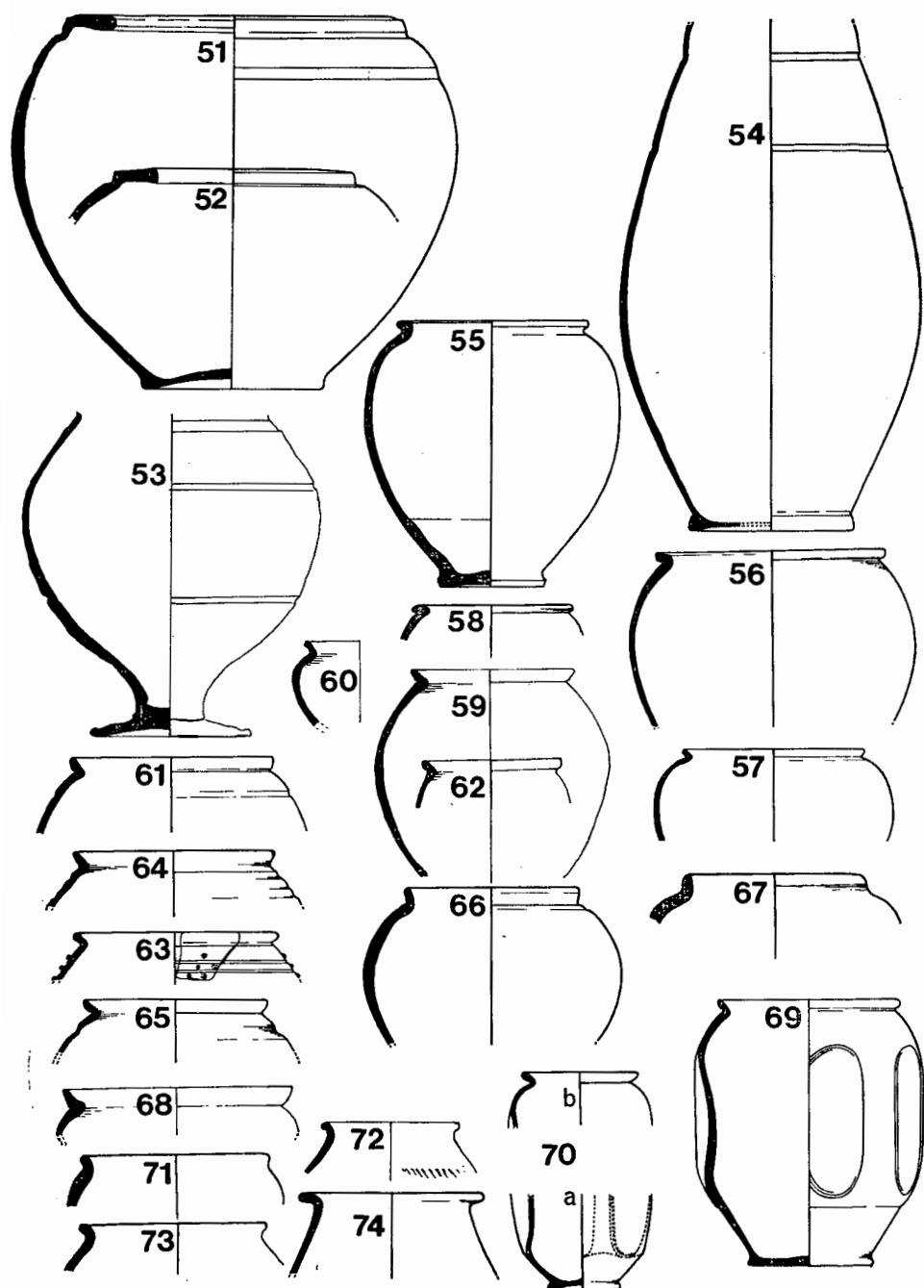


Fig. 5. Pottery from C. of A. Site, Gloucester. (1/4)

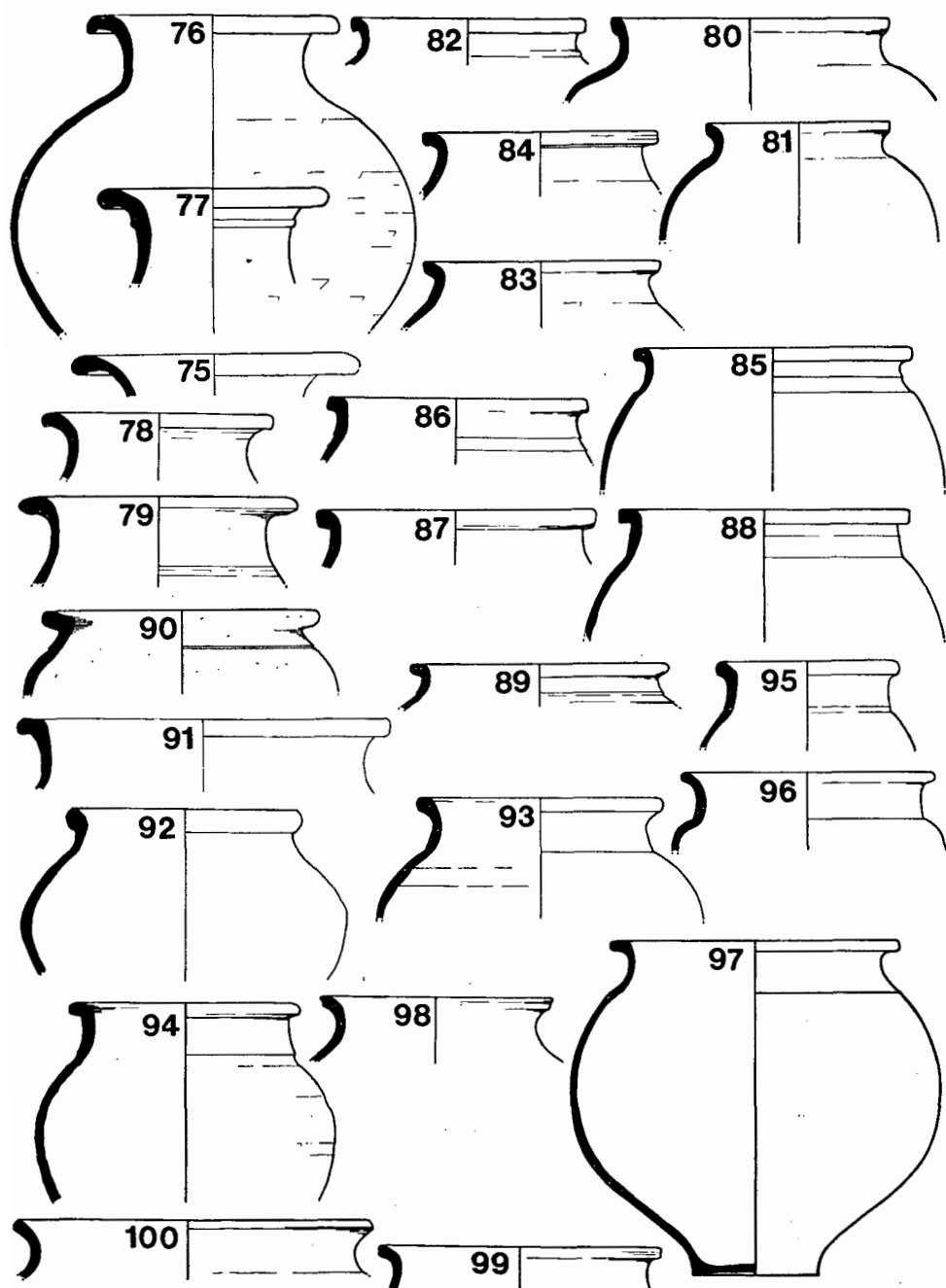


Fig. 6. Pottery from C. of A. Site, Gloucester. (4)

79. Curving neck and heavy rim. Dull red. Casual find.
80. Jar with short neck and high shoulder. Light brownish red. May be derived from *Cam.* form 204 or 205. From QPR2.
81. Jar with shorter neck and small everted rim. Buff to grey. From Pit E.

82-88 *Jars of medium size*

These jars have roughly squared short horizontal rims and grooves or slight offsets above an ovoid body. The majority are in grey ware, without surface shine, but smooth. This is a common type of jar. Derived from *Cam.* forms 266 and 267. cf. *Green*, fig. 6, nos. 34-37; *Crypt*, fig. 6, nos. 1-4; *Friars Orchard*, fig. 4, no. 1; *Estcourt*, fig. 3, no. 7; and *Gillam* forms 107 and 108.

82. Rim, squared and undercut. Offset below neck. Dull grey ware. cf. *Barnwood*, fig. 12, no. 9; *Bon Marché*, fig. 9, no. 3. From Ditch U.
83. Rim, slightly upturned. Grey, red in break. Red potters' clay adhering. From K2S.
84. Level rim. Slight groove on neck. Dull grey, red in break. From Pit E.
85. Rim, less angular. Two slight offsets on neck. Light grey brittle fabric. From K2.
86. Two offsets at base of neck. Dull grey ware. From QPR.
87. Rim, thicker and more beaded. Dull grey ware. cf. *Estcourt*, fig. 3, no. 7. From K2B.
88. Rim, squared and level. Slight grooves on neck. Dull pink, with traces of thin brown wash. Some mica. From Pit E.
89. Jar, similar to preceding group, but with rounded rim. Thin red body sherd partially blackened. From L.
90. Jar with rounded rim and seating for lid. Offset on shoulder. Brown-red. Coarse fabric. From bottom of Ditch U.
91. Jar with short flanged rim. Red surface with remains of cream slip. From Y.
92. Globular jar with rolled-over bead rim. Grey with some mica on surface. Affinities to *Cam.* form 259. Only one from site. From P.

93-99. These jars are somewhat varied. The rims have rounded ends and are sometimes upturned above a definite neck, this often being collared with a groove below. They appear to be a modification of Belgic forms. The nearest *Cam.* forms are 221 and 267. cf. *Crypt*, fig. 6, no. 5; *Barnwood*, fig. 12, no. 6.

93. Upturned rim with rounded end. Grey ware. From Pit E.
94. Level rounded rim above collared neck. Deep orange. No polish but with some mica. From Pit E.
95. Narrow-necked jar or flask. Grey, darker on exterior which is burnished. From R.
96. Upturned rim and pronounced shoulder. Grey, no polish. cf. *Green*, fig. 5, no. 17; *Hucclecote*, fig. 4, no. 7. From Ditch U.

97. Overfired and damaged in the kiln. Much potters' clay on outer surface. Two similar pots reconstructed and the rims of another two found. These pots were originally intended to be red as shown in the break, and overfiring in the kiln is evident. All five recovered from the bottom of K2 furnace. Affinities to *Cam.* forms 221A and 267B.
98. Outcurving rim with groove on edge. Red ware with lumps of clay adhering. From K2.
99. Rim, angled at 45° from neck. Light red with no polish and little mica. Several other similar rim sherds, some in grey ware, with variations of the angle. From K2.

100-103. *Larger jars* with flaring rims and curved necks. Cordons or grooves sometimes occur at base of neck or on body. These jars have resemblances to those illustrated in *Green*, fig. 2, nos. 10, 11 and 12, and have Belgian affinities.

100. Evenly curving rim. Brown-red, burnished. From K2C. Similar rim in grey with good polish. From Pit D.
101. Thick wall, probably cordon at base of neck. Brown-buff, grey in break. Good external burnish. From Pit E.
102. Out-turned rim curving to small cordon at junction of neck and shoulder. Brown. Well turned with fine burnish externally. From Pit E.
103. Heavy rim of large jar with flattened cordon above prominent shoulder. Light brown-buff with smoothed surface. Little mica. From bottom of Pit D.

104-108 *Miscellaneous Jars*

104. Large jar with heavy rim. Coarse light red ware. From W.
105. Upright neck above high shoulder. Buff-brown, smooth matt surface. Belgian affinities. From bottom of Pit D.
106. Plain upright rim. High shoulder. Grey, burnished. cf. *Cam.* form 264C, and *Bag.* form 161. From bottom of Pit D.
107. Straight rim, finely-tooled giving good seating for lid. Ripple between two grooves on shoulder. Fine example of orange-red finish with mica sheen. From Pit E.
108. Thin-walled necked jar with slightly projecting rim. Red fabric with mauve surface. From K2A4.

Flagons 109-130

The fourth abundant class of pottery from the site was found in quantity in Pit E, and in and around the two kilns. Many of the sherds were wasters; discoloured, distorted and overfired, though some of the ring-necks survived, enabling drawings to be made. Numerous separate handles were found as follows:— plain, 2; two-ribbed, 41; three-ribbed, 13; four-ribbed, 6.

The majority of the flagons were dipped in a chalky slip and the body clay fired to a light red colour. Bad firing sometimes turned the slip to a dirty green and the body grey

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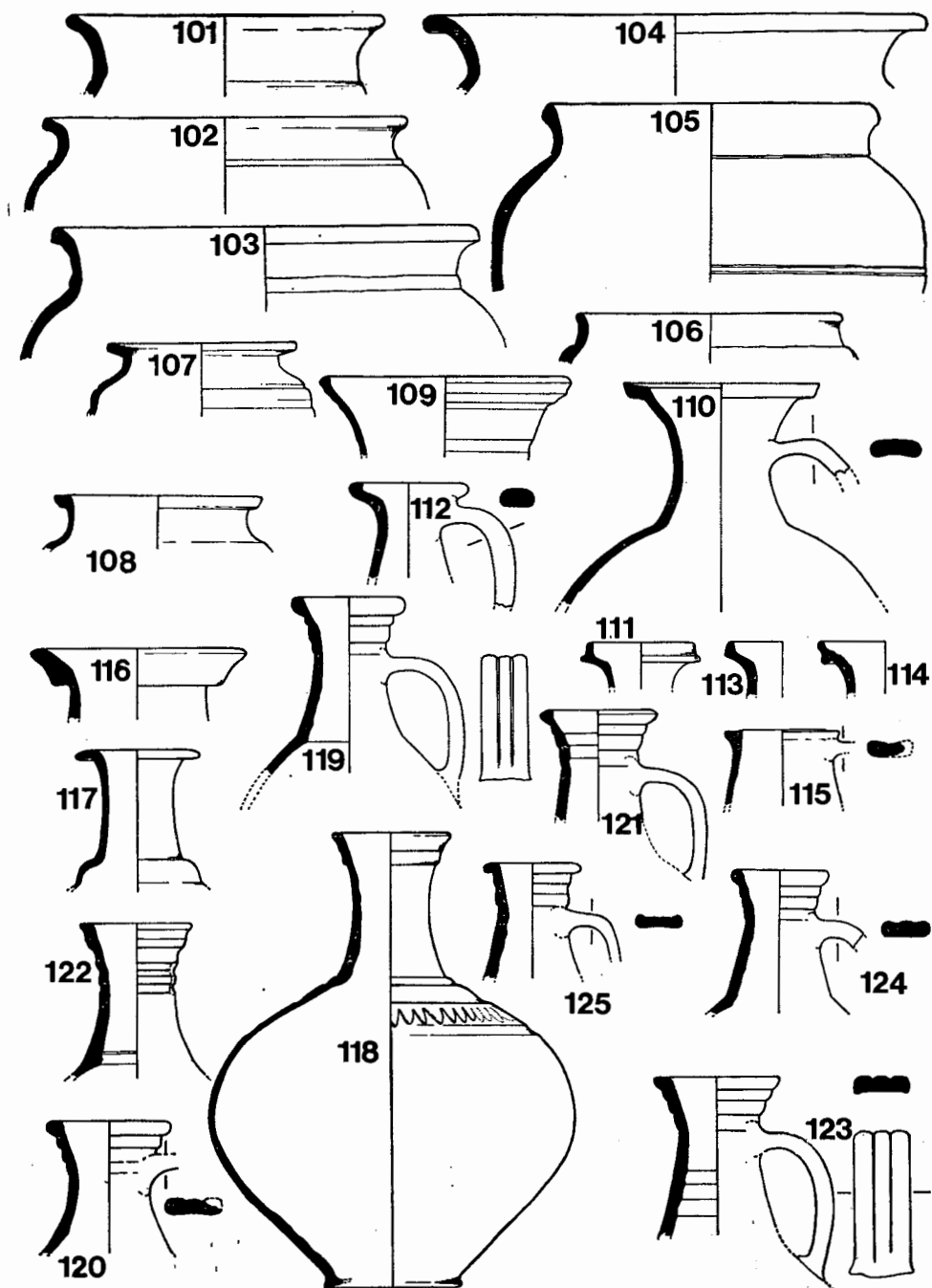


Fig. 7. Pottery from C. of A. Site, Gloucester. (†)

109. Top of flagon or jug. Well finished. Hard, thin fabric, red-brown with scattered mica flakes. Discoloured by burning. From P.
 110. Waster, top of rim left rough. Much overfired producing green tinge to cream slip. Possibly two handles. From Pit E.

111-114 *Small flagons* with cup-mouths and narrow necks. This rim shape assisted in filling the vessel. Variations of *Cam.* form 141b.

111. Rim with upright lip and small flange. Dull red fabric with cream slip. From Pit E.
 112. Wall of neck turning outwards, ending vertically with flat rim, handle starting high up under rim. Red fabric, smooth externally. From Pit E.
 113. Another good shape for receiving liquid. Red fabric with cream slip. From VE, 2 ft. down from F.L.
 114. Variant of rim. Pronounced moulding under cup. Red fabric with cream slip. From K2A4.
 115. Flagon or jug with straight neck and everted rim with lid seating. Probably two handles. Red fabric. For general shape see *Green*, fig. 5, nos. 11, 12 and 13. From Ditch U.
 116. Flagon with nearly cylindrical neck and out-curved thick rim, undercut. Cream slip. cf. *Rich.* IV, no. 369; *Cam.* form 140; *Green*, fig. 5, nos. 5 and 6 have affinities. From L, over 2 ft. below F.L.
 117. Unusual vessel without handle, having everted rim. Thin delicate fabric finely burnished. Dark grey, overfired. Rim slightly bent during firing. From furnace of K2.
 118. Another vessel probably without handle. Out-splayed rim with offset at join and gently curving neck. Globular body with fine grooving on shoulder and zone of etched 'wave' decoration. Whole pot finely tooled and thin walled. Potters' clay adhering. Neck and rim polished to metallic grey; body showing uneven firing in dark grey and brown. General shape has affinities to *Cam.* form 140. From furnace of K2.

119-128 *Ring-necked flagons* came principally from Pit E, where there was an accumulation of rejected vessels, evidently from a nearby kiln. These forms were not popular with Belgic potters and their frequency on the College of Art site shows the full development of Roman influence by the Flavian period. cf. *Barnwood*, fig. 13, no. 17, fig. 14, no. 21; *J.W.* Type B, fig. 28, nos. 2-5; and *Cam.* form 155.

119. Regular shape with narrow neck, three ribbed handle and pear-shaped body. Red fabric with cream slip. Three similar with neck and rim preserved; two with distorted rims. From Pit E.
 120. Well-fired light red ware without slip. cf. *Crypt*, fig. 7, no. 22. From Ditch U.
 121. Bevelled rim. Light red ware with cream slip. From T. Two others from Pit E.
 122. Flattened rim, finely grooved neck rings. Grooves at base of neck. Red ware with cream slip. cf. *Crypt*, fig. 4, no. 14. From K2C.

ROMAN POTTERY KILNS AT GLOUCESTER

- 123. Flat rim. Well-fired light red ware with even cream slip. From Ditch U. Another from Ditch U and one from K1S.
- 124. Three regular rings above three-ribbed handle. Cream slip. Distorted and cracked, through much overfiring. Potters' clay adhering. From Pit E.
- 125. Everted lip, slightly downturned. Light red fabric. From Ditch U near K1.
- 126. Small bead rim over two broad rings. Handle joined well below bottom ring. Red with cream slip. From LLC.
- 127. Projecting rim, flattened on top with internal moulding. Red with cream slip. From Pit D. Variants from K1S and K2S.
- 128. Large flagon of sandy cream fabric. Differs greatly from typical Gloucester ware but is included as form is similar. Casual find.
- 129 and 130 may not be local ware.
- 129. Collar rim. Projecting lower lip with handle immediately under. Narrow cylindrical neck. Smooth cream ware. This shape could be pre-Flavian. From bottom of Ditch U.
- 130. Small flagon with cupped rim, narrow mouth and short neck. Handle just below rim. Had an extra internal wall, perhaps as a non-spill device. Smooth cream ware. From X.

Lids. 131-134

The lids are first century Roman forms. See *J.W.* Type C; and *Cam.* plate LXXXV, nos. 6, 8, 9, 17 and 19. The knobs are usually solid and cut off straight on the top. The most common form has a rim squared off at the edge and projecting slightly upward. These are often orange-red with mica. Others appear in coarser ware and larger size. cf. *Crypt*, fig. 7, no. 19; *Friars Orchard*, fig. 4, no. 19.

- 131. The common type. Small delicate lid. Orange-red with mica. From Pit E.
- 132. Ridged exterior. Light red. From K2.
- 133. Less usual rim, rolled and slightly flattened. Red surface with sooty discolouration, grey paste. From K2.
- 134. Waster with base of handle on lid. Orange-red with grey core. From K2S.

Bases. 135-143

135 and 136. *Probably from flagons.*

- 135. Squared foot-ring. Red fabric with cream slip. Grey in break. From K2.
- 136. Flat base with small kick. Buff-brown, reddish in break. From Pit E.
- 137-140. *From jars or beakers.*
- 137. Pedestal-derived base with high everted foot-ring, carefully worked with rounded end. Hard reddish ware with traces of slip and potters' clay adhering. From Pit E.
- 138. Pedestal base of narrow vessel. Overfired to dirty mauve-grey. From Pit E.
- 139. Small pedestal base. Red ware with brown slip. From bottom of Pit D.
- 140. Bevelled foot-ring. Thin red fabric with cream slip. From K2S.
- 141-143. *From dishes or bowls.*
- 141. Small foot-ring finely tooled. Orange-red with mica sheen. From Pit E.
- 142. Beautifully rounded foot-ring. Surface deep red, fine polish with mica sheen. This piece is very near to samian ware. From Pit E.
- 143. Flat base with squared edge. Deep mauve-red surface. Ware again approaching samian. From K2S.

Ornamented Vessels and Miscellaneous Fragments. 144-161.

144. Decorated bowl in fine orange-red fabric; illustrated here to represent the characteristic rouletting found on many of these vessels (see nos. 19 to 23, 32 and 35). Rouletting blurred by light burnishing after application. From Pit D.
145. Bowl with flanged rim decorated with frilling, possibly a tazza. Red with cream slip. From Pit D.
146. Tazza. Blackened with soot internally. Matt surface. Orange-red. From bottom of Ditch U.
147. Unevenly burnished beaker, with deep burnished lines on girth. Finely shaped base. Thin fabric. Grey, turning reddish towards shoulder. From edge of K2.
148. Vessel with combed diagonal decoration. Coarse sandy fabric with calcite inclusions. Light red-brown. Fabric and decoration have affinities with pre-Belgic Iron Age ware. From Pit E.
149. Body sherd with groups of incised vertical lines in bands around girth. Probably a butt beaker. cf. *Cam.* 116A and 119B. Reddish brown. Burnished in horizontal grooves. From K1S.
150. Body sherd with deeply incised opposed diagonal lines forming chevron pattern. Execution rough, potters' clay adhering. Grey to red, badly fired. From Pit E.
151. Sherd with rustication of raised 'stars' in rows. Grey fabric. Ten other sherds with rustication were found on the site, but there is no positive evidence that they were made here. cf. *Gillam* form 97. From K2.
152. Sherd with stabbed decoration in vertical lines, double groove underneath. Thick pale grey ware, finely burnished band below grooves. cf. *Cam.* 108. From P.
153. Sherd with barbotine 'hairpin' decoration. Finely burnished grooves above. Slate grey. cf. *Crypt.* fig. 5, no. 4. From DS.
154. Bowl with moulded cornice rim. Decorated with row of applied elongated studs. Medium grey, matt surface. From DS.
155. Sherd decorated with large elongated studs roughly placed in alternate rows. Light red fabric. For more delicate versions cf. *Ver.* fig. 20, no. 2. From K2S.
156. Sherd with bosses pressed out from inside with a finger. Four other examples, all orange-red ware with mica sheen. Probably from ovoid beakers. cf. *Cam.* form 95. From Pit E.
157. Jar with two-ribbed handle springing from upright rim of 5 in. diameter. This unusual form may have had two or more handles for suspension. Hard paste, grey and red. From P.
158. Clay holder for a wooden handle. Shape of vessel not known. Red fabric. From L.
159. Bowl with foot-ring at base of wall and inturned rim. Unusual shape. Brown turning to grey. Well burnished. From K2S.
160. Sherd with graffito, probably reading JENT[. Part of cover? From QPR.
161. This clay object of unknown use was cut from a cylinder in the 'leather hard' state. Marks of the knife show on the edges. It has horizontal rilling internally. Three holes down one long side and one on the other were punched through before firing. The holes are 2 mm in diameter, possibly for a thin wire. It is bevelled off at one end. There is no sign of burning or other evidence that it had been used. The fabric is orange-red with some mica. There are a few splashes of cream slip on the inside. It was found within a few feet of K2 and could possibly have been used in connection with the kiln cover or furniture. It was found broken into three pieces.

ROMAN POTTERY KILNS AT GLOUCESTER

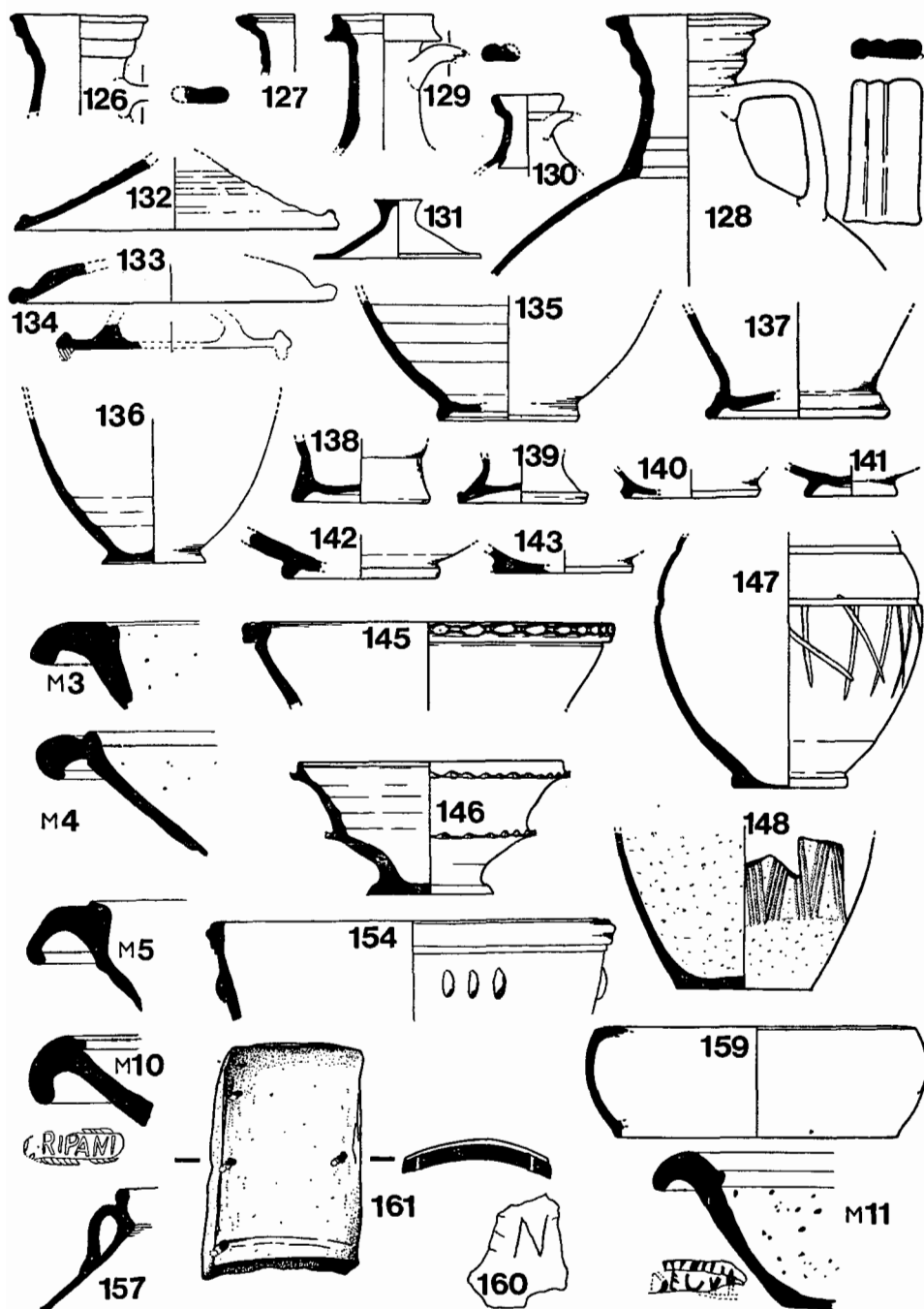


Fig. 8. Pottery from C. of A. Site, Gloucester. ($\frac{1}{2}$)

Most of the mortaria and samian ware vessels were not connected with the kilns as such, their presence being due to the proximity of the fortress and colonia. However, attention is drawn to M10 below, which has certain features in common with the flanged bowl No. 50 above and which may be of local manufacture.

Mortaria by Mrs K. Hartley

M1. Probably from two different vessels. Fine-textured, yellowish cream fabric
M2. with flint grit for trituration, and combined with concentric grooving on top of the flange.

M3. Fine-texture brownish cream fabric; white and grey opaque, and pinkish crystalline trituration grit. *Illustrated.*

Nos. M1-M3 are from mortaria of Bushe-Fox forms 14/18 (*Wroxeter* 1, 1912, fig. 19). Nos M1 and M2 are likely to have been made in the Kent area; M3 is of denser fabric as well as differing in colour and treatment of the top of the flange, and includes a type of grit not normally found in mortaria of this form. It may well be from a different source.

These forms were common in the Flavian period, and there is no evidence to suggest production earlier or later. The gritting and scoring of nos. M1 and M2 is a fairly common feature of Romano-British mortaria of this period.

M4. The fabric and grit are similar to nos. M1 and M2, and this vessel may have been made in the same area. The form is derived from Bushe-Fox forms 26/30, and belongs to the Flavian/Trajanic period. A similar example from Richborough was dated A.D. 90-125 (*Rich.* iv, Pl. xcv, no. 500). *Illustrated.*

M5. The fabric is not essentially dissimilar from nos. M1, M2 and M4, but it is heavily gritted throughout with white, red-brown and crystalline grit, and it contains iron pyrites, which they never contain. Similar mortaria have been found at Lezoux in Central Gaul, and the possibility of this being an import should be kept in mind. It is probably Flavian-Trajanic in date. *Illustrated.*

M6. Fragments from two mortaria in coarse, sandy fabric: no. M6, cream with a pink core, varying in thickness; no. M7 in pinkish fabric. Both have slip varying between cream, buff and orange, due to fluctuations in the firing conditions. The fabric is typical of mortaria made in the Verulamium region. No. M6 is from Bushe-Fox form 34 or 38, both of which were among the most common made in the Flavian period in Britain. The form of no. M7 is not absolutely clear, but it almost certainly falls within the Flavian-Trajanic range.

M8. A rim fragment with incomplete flange. In orange-red fabric with cream slip, and red-brown trituration grit. Made in the South-West or just possibly in the West Midlands. Undatable.

M9. Orange-brown fabric with cream slip. The stamp is fragmentary and too poorly impressed to be identified. The South-West is again the most probable area of manufacture. Flavian or second century in date.

M10. Hard brick-red fabric with grey core and cream slip; the inside is worn smooth and no trituration grit survives. On the flange and elsewhere there are distinct traces of a matt red-brown slip underlying the cream slip—though the purpose of this is completely obscure. The diagonal stamp reads RIPANI and is one of a pair (the other would appear in the corresponding position on the other side of the spout), together giving A.TERE/RIPANI, i.e. the genitive of A. Terentius Ripanus. Mortarium potters with *tria nomina* are rare. Stamps from the three dies so far certain for him are known from Alcester; Caerleon; Castleford,

ROMAN POTTERY KILNS AT GLOUCESTER

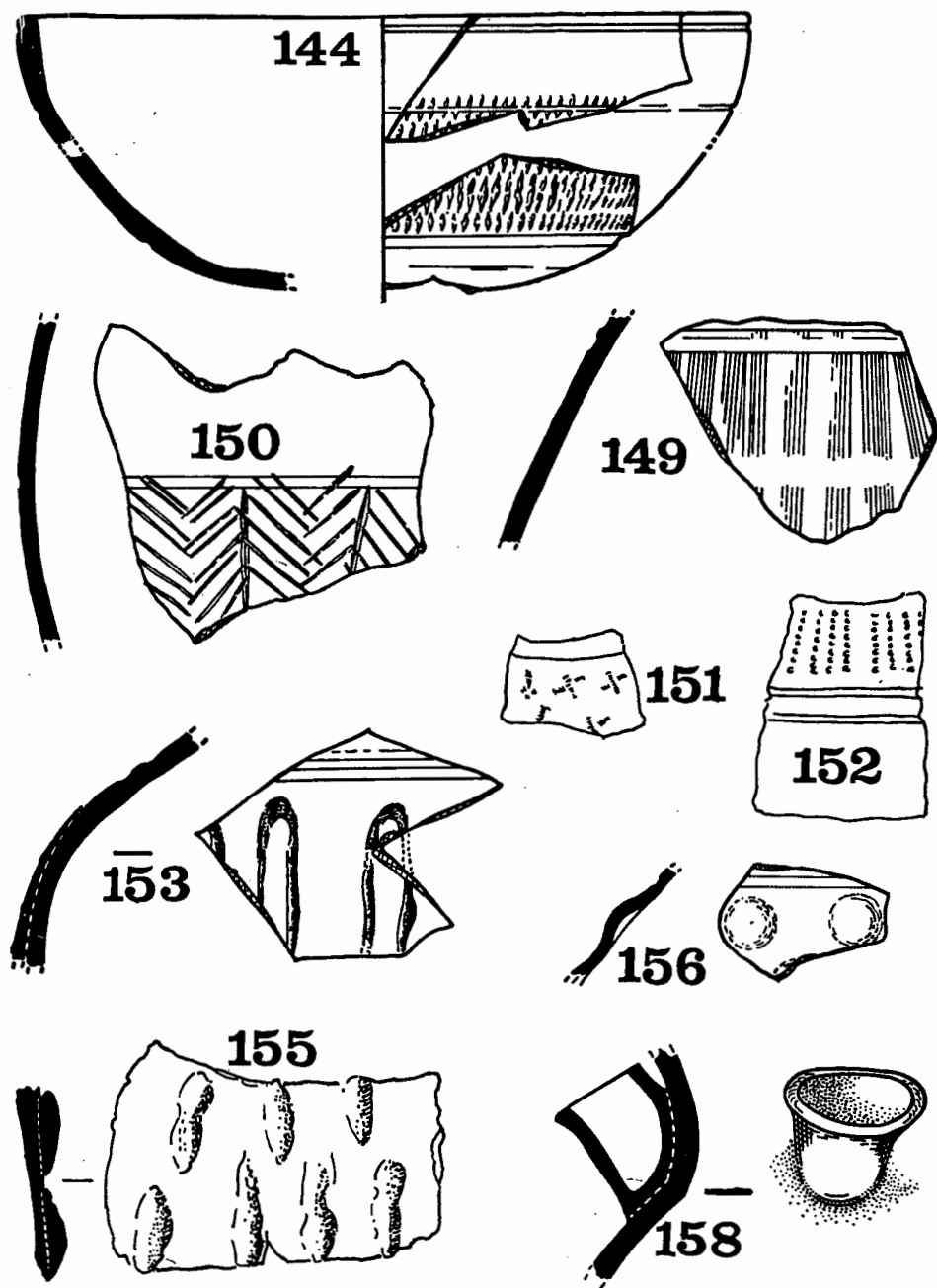


Fig. 9. Decorated Sherds. ($\frac{1}{2}$)

Yorks.; Gloucester (3); London (3); and Wroxeter. Manufacture in the West of England seems highly probable on account of the fabric—the predominant one in the west—and increasingly because of the distribution. The evidence points increasingly to the Gloucester area itself as the likeliest source—the relatively large number of stamps in such small totals (both for Ripanus and for Gloucester), is suspicious, and it is precisely here, with the background of a legionary fortress, that one might expect to find a potter with Roman citizenship—perhaps a veteran.

The rim-forms used are entirely Flavian and pre-Flavian and the stamps from Caerleon and Castleford show that Ripanus was active in the Flavian period. The forms also occur unstamped at Gloucester, and have been noted in the north by J. P. Gillam in his *Types of Roman Coarse Pottery Vessels in North Britain*, where they are dated c. A.D. 60–90. A similar date would fit A. Terentius Ripanus very well. *Illustrated*.

- MI. Hard, creamy buff fabric with thick pink core, and buff slip. The fabric is tempered with added grit and there is red-brown, white and grey trituration grit. There is a partial impression of a stamp of DECANIUS from Die C of his six dies. Die C was never fully impressed, and this example is only slightly below average.

Decanius can be attributed to the vicinity of Wroxeter, where thirty of his stamps have been found. Twenty stamps have been noted from other sites, almost all of them in the West Midlands and Wales. He was one of several potters making mortaria in the Wroxeter area, and, though dating evidence is meagre, it points consistently to the period A.D. 110–160. *Illustrated*.

The reports on the mortaria and samian are published in full for general reference. The find spots of the mortaria are not related to the pottery working and are therefore omitted. The same applies to much of the samian; the following, however, have significance for the early dating of features:—

- From Ditch U: S2, S12, S14, S15, S16, S33, S35, S39, S54.
- From near K2: S7, S9, S11, S40, S45, S55, S56.
- From near K1: S36.
- From probe LL: S37.
- From Pit D: S57, S58, S59.

Samian by B. R. Hartley

Potters' Stamps (S1 to S10, S55 and S72)

- S1. Form 15/17 or 18 with stamp OFBA[SSI] (Bassus of La Graufesenque). As usual with this die, the O is not fully impressed. The distribution and forms are consistent with Neronian date, and a recent example from Colchester came from a building burnt in the Boudiccan rebellion (*Archaeological Journal* CXXIII, 60), suggesting c. A.D. 55–65 for the die. From Y.
- S2. Form 18 with stamp [C]OS·RVF. One of the rarer dies of Cosius Rufinus of La Graufesenque, only otherwise recorded from Richborough, Verulamium and York, always on form 18. c. A.D. 70–90. From Ditch U. *Illustrated*.

ROMAN POTTERY KILNS AT GLOUCESTER

- S3. Form 27 stamped]PIVSF. Duppius of Lezoux. One of three similar dies with the same reading, this is known on form 27 in an early Antonine pit at Alcester, but also appears on form 80 at Leicester and Corbridge. Its likely date is c. A.D. 140-160 here, though it might be slightly later on form 80. *Illustrated*.
- S4. Form 27 with a very fragmentary stamp reading OF-[, probably from a die of Flavius Germanus of La Graufesenque which reads OF-[FAGER in full. If so, then c. A.D. 75-100.
- S5. Form 31R stamped PEPP[O FECIT] on a remarkably thin base. This die occurs at Rheinzabern on form 32, and the site-evidence requires a date c. A.D. 160-200 for Peppo's work as a whole.
- S6. Form 31 stamped [R]EGVLIM. Regulus of Lezoux. If only one potter is involved, he worked under both Hadrian and the Antonines. This particular die is probably mid- to late-Antonine, since it appears on form 31R and on form 80. *Illustrated*.
- S7. Form 29 stamped CO[S]RFN i.e. COS[I]RVFIN (see nos. S2 and S11). This is a die we have not previously recorded, though a very similar, but slightly larger, one of the same reading is known on plates. Cosius Rufinus was a Flavian potter, as the site-evidence shows, and this stamp, being on form 29, must have been in use before A.D. 85. c. 70-85. From QP. *Illustrated*.
- S8. Form 18/31R with a fragmentary stamp reading IAA)Y or A(yyl. This has not been identified and may possibly be an illiterate stamp. The fabric and form of the dish suggest manufacture at Les Martres-de-Veyre in the early second century.
- S9. Form 27 (or just possibly 24), South Gaulish. The fragmentary stamp does not have even the surviving letters properly impressed, and the reading is very dubious. —]RN is not impossible, however, and if so this is most likely to be a stamp of Murranus. Despite this uncertainty, a Neronian or very early Flavian date (c. A.D. 55-75) is almost inevitable in view of the fabric and high glaze. From QP.
- S10. Form 27, South Gaulish, with an illiterate potter's mark IVIII or the like. Probably Flavian.

Decorated Ware

- S11. Form 29 with a lower zone of straight gadroons. This joins the base stamped by Cosius Rufinus (no. S7 above). From QP.
- S12. A weathered fragment of a South Gaulish form 29. This could either be pre-Flavian or, less probably, early-Flavian. From Ditch U.
- S13. Form 29(?), South Gaulish. Probably Vespasianic.
- S14. Form 37, slightly burnt South Gaulish ware. The zonal decoration incorporating a hunting scene is typical of the period c. A.D. 85-110. The gadroons and the tassels hanging from the top border may be matched in the work of Mercato (cf. May, *The Pottery Found at Silchester*, Pl. xxv, nos. 5 and 7). From Ditch U. *Illustrated*.
- S15. Fragments of two South Gaulish bowls, form 37, both with similar gadroons
- S16. to no. S14. The same dating applies. From Ditch U.
- S17. Form 37, South Gaulish. The ovolo with trident tongue and the straight wreath suggests a date c. A.D. 80-100.
- S18-
- S20. Small fragments from three South Gaulish bowls of form 37. All Flavian.
- S21. Form 37, South Gaulish. The ovolo and zonal decoration suggest the period c. A.D. 80-100.

- S22. Form 37 in one of the characteristic fabrics of Les Martres-de-Veyre, where fine beads of the kind used here were common with a worker who sold moulds to Ioenalis and Donnaucus or was otherwise associated with them. *c. A.D. 100-120*. From L. In the brown soil above the ash layer where the coin was found.
- S23. Two joining fragments of form 37 with an ovolo used both at Les Martres and Lezoux by Attianus in his early work, sometimes with a wavy line above the ovolo, as here. This piece matches in both fabric and glaze with sherds from a pit of *c. A.D. 125-130* at Lezoux. *c. A.D. 120-135* is probable. *Illustrated*.
- S24. A small fragment, perhaps form 30 rather than 37, with an ovolo only noted by us once or twice before and not known on any stamped bowls. The parallels suggest origin at Lezoux in the Hadrianic period. *Illustrated*.
- S25. Form 30, Central Gaulish, probably from Lezoux. The ovolo is assigned to the Avitus-Vegetus group by Stanfield and Simpson (*C.G.P.*, pl. 62), but recent work at Lezoux shows that Birrantus used it too in his middle period (*c. A.D. 125-135?*). Hadrianic. *Illustrated*.
- S26. A small scrap of a Central Gaulish form 37 with only a lioness (Déch. 805). Probably Hadrianic.
- S27. Form 37 with an ovolo used at Lezoux by Cerialis, Anunus and, in his early work by Cinnamus. In recent stratified groups at Lezoux this seems to appear *c. A.D. 140-5*. A general date *c. A.D. 140-170* will probably apply.
- S28. Form 37, Lezoux. Panel decoration with part of a figure (Déch. 523) and a striated spindle used in this manner as a 'corner-filler' by Cinnamus, who most probably made this *c. A.D. 150-180*.
- S29. Form 37 with an ovolo known only on the bowls of Cettus of Les Martres-de-Veyre (the Small -S Potter). In recent years the date suggested by Miss Simpson—*A.D. 160-195* (*C.G.P.*, p. 247)—has been widely accepted by students of samian, including the writers. But it seems to depend entirely on the presence of a complete (?) bowl smashed into tiny fragments in the Corbridge destruction commonly assigned to *A.D. 197* (*loc. cit.*). In fact various distinct lines of argument converge to bring doubt, and it now seems to us that an earlier date is more likely, the Corbridge bowl being either a survival or a residual piece broken further when deposited in the clearing of the site. The argument cannot be presented in full here, but we believe that a strong case may be made for a date *c. A.D. 140-170*.
- S30. Form 37 in the style of Doeccus of Lezoux. A faint impression of the so-called **DD** monogram used by him is in one of the panel corners. The figure is intermediate between Déch. 400 and 400 *bis*. *c. A.D. 160-190*. *Illustrated*.
- S31. Form 37 with the T-tongued ovolo used by Paternus, Laxtvcissa and associates. The large scroll could be by either of the potters named (*C.G.P.* pl. 97, 12 and 107, 26). *c. A.D. 160-190*. *Illustrated*.
- S32. A small fragment of an over-fired form 37 (hence the dense fabric) with a sphinx (Déch. 496) used by Bannus and Doeccus. This bowl matches the former's untidy work and his fabric well. Probably *c. A.D. 160-190*.
- S33. Form 29, South Gaulish. Little can be made of the large scroll in the lower zone, but the upper zone is more diagnostic. It has alternating panels with horizontal chevrons in a double series and with what Hermet called a *rinseau sécanté* (Hermet, *La Graufesenque I*, p. 50 and II, pl. 42, 1). Hermet ascribes this type of scroll to Germanus (Knorr 1919, taf.37K), so Hermet was probably right. As for the date, a similar scroll at Templeborough (May, *The Roman Fort at*

ROMAN POTTERY KILNS AT GLOUCESTER

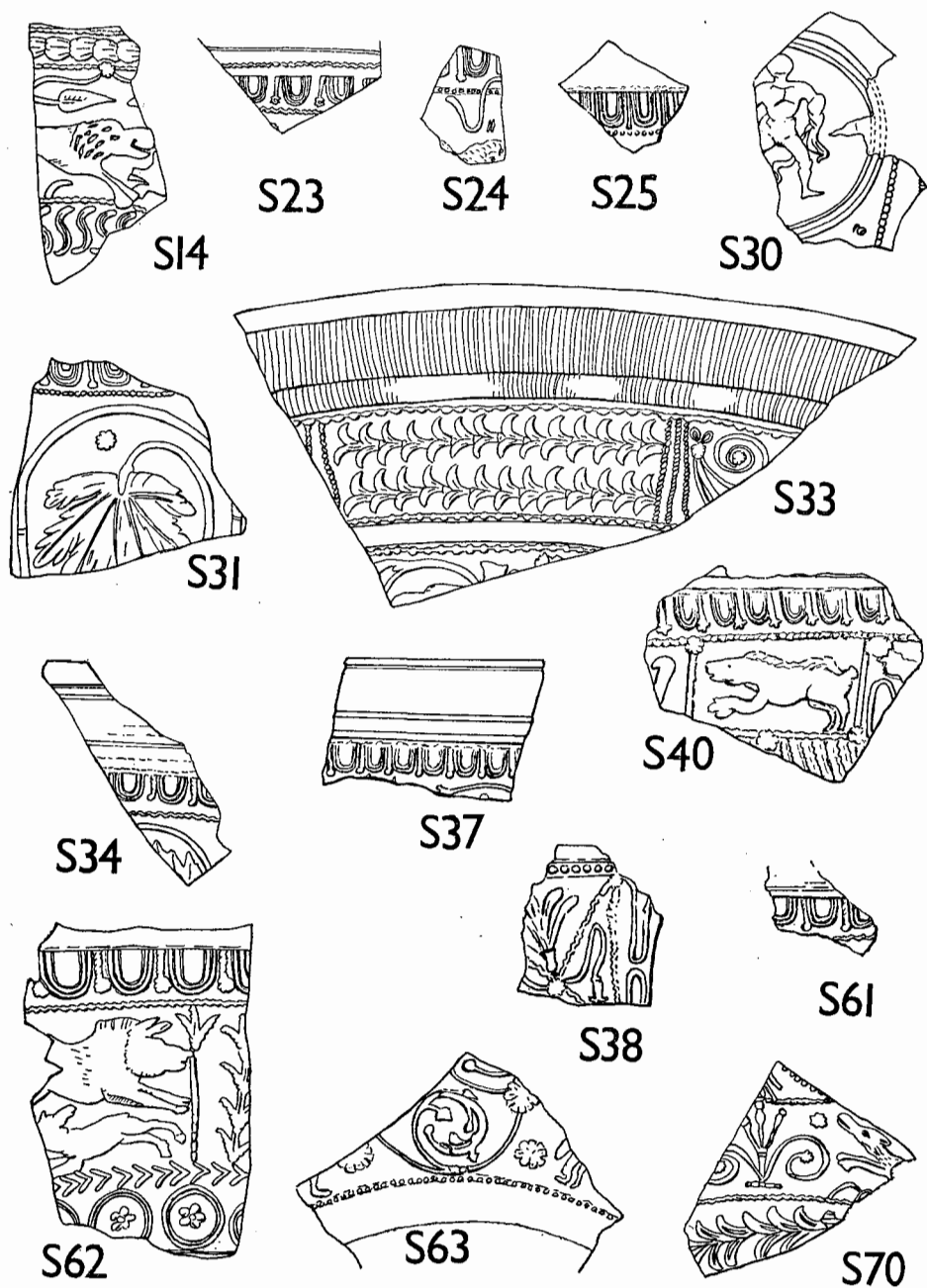


Fig. 10. Decorated Samian. ($\frac{1}{2}$)

Templeborough, pl. xxii, 7 and 8) is on a bowl which should belong to the pre-Flavian fort, and production in Germanus' early period c. A.D. 60-75 seems virtually certain. From Ditch U. *Illustrated*.

- S34. Form 37, Central Gaulish. The ovolo (commonly) and the large scroll (occasionally) appear on bowls ascribed to Ranto of Les Martres and his associates (e.g. *G.C.P.*, pl. 32). However, both the ovolo and scroll were certainly used at Lezoux, where bowls with them appear in groups of c. A.D. 125-140. This seems to be in Lezoux fabric, and Hadrianic date is, therefore, certain. *Illustrated*.
- S35. Form 29, South Gaulish. Both the fabric and the tiny fragment of surviving decoration suggest Neronian or early Flavian date. From Ditch U.
- S36. Form 29. The remarks under no. 35 apply. From K1S.
- S37. Form 30 with one of the Neronian or early Flavian ovolos commonly used on this (almost always unsigned) form. c. A.D. 60-80. From LL. *Illustrated*.
- S38. Form 29, South Gaulish. Lower zone with panelled decoration. The plant in the saltire was used by Cotto, Iucundus and Meddillus in this manner (Knorr 1919, s.v.). This, and the general style suggest manufacture c. A.D. 75-80. *Illustrated*.
- S39. Form 37, South Gaulish. The decoration is not unlike that on no. S 38, but the bowl is probably slightly later. From Ditch U.
- S40. Form 37, South Gaulish. These late bowls are rarely stamped or signed, and have many common elements. This could be by Mercato (*cf.* May, *The Roman Pottery Found at Silchester*, pl. xxv, nos. 6, 7 and 9), but one cannot be certain. At least the dating evidence for these bowls is firm: certainly c. A.D. 85-110, and probably c. A.D. 90-110. From K2A4. *Illustrated*.
- S41- These are all small fragments of form 37, all South Gaulish. Flavian and
- S44. Flavian-Trajanic.
- S45. Form 67, South Gaulish, burnt. This form is usually Neronian or later. Close dating is always difficult as they are almost never stamped, and the decoration tends to be idiosyncratic. From QP.
- S46. Two fragments, probably from the same form 37 in the fabric of Les Martres.
- S47. The figures are the seated Apollo (D.83 and not the broken poinçon Déch. 52) and Vulcan (Déch. 39). Probably Hadrianic.
- S48. Form 37, Lezoux, with one of the ovolos of Stanfield's X 6 (*C.G.P.*, fig. 18, 2). c. A.D. 125-145.
- S49. Form 37 with ovolo of Cettus (see no. S29).
- S50. Form 37. Probably Central Gaulish and an Antonine bowl with large winding scroll.
- S51. Form 37 rim and part of the ovolo. East Gaulish, probably Rheinzarben ware of the late Antonine period.
- S52. Form 37, Rheinzarben ware, but too little remains to identify the potter. Late Antonine or early third century.
- S53. Form 35/36, South Gaulish and probably from Montans. Different clay from the body has been used for the barbotined leaves. Late first or early second century.
- S54. Curle II flange. South Gaulish and probably Vespasianic, from Ditch U.
- In addition to those described in Mr Hartley's report the following noteworthy sherds were found:—
- S55. Form 18 with stamp **FL·AVSFE**. South Gaulish. Neronian to Flavian. Found with X scratched on base. From K2C. *Illustrated*.
- S56. Form 37 base. Flavian. From K2A4.

ROMAN POTTERY KILNS AT GLOUCESTER

- S57. Form 18. Rim and base of flat dish. Claudian. From Pit D.
- S59. Ritterling Type 12. Flanged rim. First century. From Pit D.
- S59. Ritterling Type 12. Flanged with spout. Claudian. From Pit D.

Three sherds of Form 37 and two sherds of Form 29. All Flavian. From Pit D.

The following is a selection from the second batch of samian reported on by Mr Hartley. The decorated sherds are:—

- S60. Form 29. c. A.D. 55–75.
- S61. Form 37. Ovolo used by the Ranto Group at Les Martres, and at Lezoux in the Hadrianic period. This looks more like Lezoux fabric. A.D. 115–135. *Illustrated.*
- S62. Form 37. Style of Stanfield's X 6 potter. A.D. 125–150. *Illustrated.*
- S63. Form 37. Style of Austrus of Lezoux. c. A.D. 125–145. *Illustrated.*
- S64. Form 37. Rim and part of rather blurred ovolo. The traces suggest the small ovolo used by Stanfield's X 4 (Igocatus). As the fabric is consistent with origin at Les Martres, this identification may be accepted provisionally. If so, the piece is Trajanic. i.e. A.D. 100–120. From K2A4.
- S65. Form 29. Neronian. From K2C.
- S66. Form 29. c. A.D. 70–85. From Ditch U.
- S67. Form 30. South Gaulish and probably Flavian. From Ditch U.
- S68. Form 29. Probably Neronian. From Ditch U.
- S69. Two joining fragments of a form 37, with borders of small and medium-sized beads. Stanfield tended to assign bowls in this style to Donnaucus, or to a Donnaucus-Sacer Group. Unfortunately their moulds were rarely stamped or signed, and we do not really know what potters were involved. However, this style occurs both at Les Martres-de-Veyre and at Lezoux, where many bowls of this kind are associated with one pit (dated to c. A.D. 125–135) with the signed pieces by Sacer, Attianus and Drusus. They also occur in the burnt deposit of the second fire of London at Regis House (*Ant. J.* xxv, 69–73). A general date c. A.D. 115–135 therefore seems clear. From Pit E.

There is one other sherd form 37 dated to the early second century from Pit E. Otherwise the rest of the decorated ware in the pit is all South Gaulish and includes scraps of several form 37 bowls of the Flavian period as well as a fragment of form 29 of pre-Flavian date.

- S70. Form 37. The dog (Oswald 2015) was used by Germanus and others. Flavian. *Illustrated.*

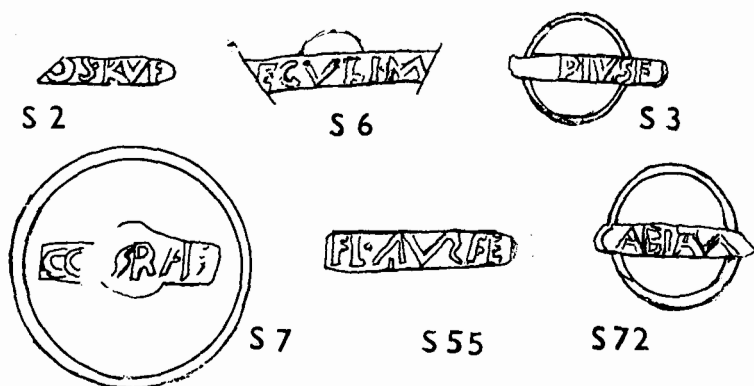
The following *plain sherds* are worthy of note:—

- S71. Form 27. Very shiny gloss. Stamp [OF. . . . Neronian or early Flavian. c. A.D. 60–75. From Pit E.
- S72. Form 27. Stamp of Cabiatus. Often on Form 29 or 18, but occasionally on cups as here. York, Nijmegen (fortresses in the early Flavian Group) and two examples from Ulpia Nov. all point to the seventies. General date 60–70. The only doubt is in reading; CABIANI, CABITANI, CABIATVSF or CABIATVSF. cf. *Latomus*, *L'Antiquité Classique* xviii. From Ditch U. *Illustrated.*
- S73. Ritterling 12. Probably pre-Flavian.
- S74. Form 81. Central Gaulish. Small early variant of this form. Possibly Hadrianic.
- S75. Not samian. A high quality copy of samian form 38. Pinkish-brown fabric with smooth (burnished?) brown slip. This does not match the common red colour-coated copies from the Thames Valley kilns and might perhaps be a contemporary copy of the samian form. (Though of a lighter colour, the finish of this sherd is similar to nos. 142 and 143).

TRANSACTIONS FOR THE YEAR 1972

The following list of plain samian confirms the probability of pre-Flavian activity on or near the site. They are all South Gaulish.

<i>Form</i>	<i>Date</i>	<i>From</i>
15/17. High gloss. Ritterling 12.	c. A.D. 55-75 c. A.D. 40-60.	P. Q, just above natural sand
27. Flat lip of early type.	c. A.D. 50-65.	L.
27.	Pre-Flavian.	R.
18. Brilliant gloss.	c. A.D. 55-75.	K1S.
35.	First century.	K2A4.
27.	Neronian-Vespasianic.	K2A4.
18R.	Neronian-Flavian.	K2C.
27.	Neronian-Vespasianic.	K2S.
27.	Neronian-Early Flavian.	QPR2.
18R.	Neronian-Early Flavian	QPR2.
27 or 35.	Neronian-Early Flavian.	QPR2.
18.	Neronian.	QPR2.
15/17.	Vespasianic	QPR2.
Ritterling 1.	c. A.D. 40-55.	Ditch U.
15/17.	Neronian.	Ditch U.
27.	Neronian or Early Flavian.	Ditch U.
18.	Flavian.	Ditch U.
15/17.	Neronian-Vespasianic.	Pit D.



C. of A. Site Gloucester
Fig. 11. Samian Stamps, actual size

THE BROOCHES *By* D. F. MACKRETH

1. *Fig. 12.* Bronze sprung brooch. Very heavily corroded; the bow is in three parts, of which only the head is illustrated. The spring is missing and the wings incomplete. The wings show traces of at least one bead-row on each side of the head of the bow. The plain bow is slight and has a marked angle before the junction with the wings. As the wings are in such a poor state, it is not clear whether the spring was held to the body by a hook alone over the chord or by the Polden Hill method (see brooch 3).

This brooch is in such poor condition that there is little point in quoting parallels. It is a derivative from the Colchester type and its floruit was probably in the third quarter of the first century.

2. *Fig. 12.* Bronze brooch. Only the lower part of the bow survives. The plain bow ends in a foot knob above which there is a lateral groove. The catch-plate has ornamental piercings suggesting a voided circle lying across a triangle, and there is a pin-groove in the catch. The brooch was cast, and mould joint 'flash' was not cleaned out of the catch-plate piercings thus obscuring the design.

The distinctive feature on this brooch is the catch-plate ornament. Plain piercings, circles or triangles, are not uncommon but the more decorative ones are. In some cases the designs are clearly in the pre-Roman Iron Age tradition: Polnaise, near Stirling,¹ and Llanferres, Flintshire.² These two examples show that such designs are not confined to one variety of brooch, or even those which descend from one type. Closer parallels for the present specimen are to be found on a distinctive brooch typified by one from Verulamium.³ The best parallels are to be found on two larger brooches closely related to the last which came from Colchester⁴ and Richborough.⁵ It is possible that the larger size has the complete scheme of decoration and the type represented by the one from Verulamium has a modified version to suit its smaller catch-plate. However, the form of the foot in the present example shows that the complete brooch was not of the types quoted and, just as the finer designs occur on brooches of different traditions, so this form of decoration is to be expected on many varieties of brooch and these types may only have their floruit in common. In which case, as this brooch would seem to be a Colchester derivative, its date is probably the latter part of the first century.

3. *Not illustrated.* Spring from a Polden Hill brooch. Sixteen coils of the spring survive with the axial bar through the coils. The term 'Polden Hill' refers to the method by which the spring was fastened to the bow on Colchester derivatives: the wings carry end-plates which are pierced to hold a bar which passes through the coils of the spring, the chord of which is held by a rearward facing hook. The alternative widespread method of holding the spring to the bow is to have a plate projecting behind the head of the brooch on the axis of the bow and in the same plane. This plate is pierced by two holes, one above the other. The lower hole is for the bar which passes through the coil of the spring, and the upper one which is for the chord of the spring. Only in the Polden Hill type could the spring survive in one piece, as in the present specimen, when detached from the body of the brooch. For want of other evidence, it may be taken that the sprung Colchester derivative had been replaced by hinged versions by the end of the first century, and the large number

¹ *P.S.A.S.*, LXVI (1931-2), p. 336, fig. 36, nos. 2 and 3.

² *Ant. J.*, XLIII (1963), p. 290, fig. 2.

³ *Arch.*, xc (1944), p. 91, fig. 4, no. 3.

⁴ *Cam.* p. 311, pl. xci, no. 41.

⁵ *Rich.* III, p. 77, pl. ix, no. 10.

of coils on the present example suggest a date in the third quarter of that century.
The three brooches were found under Kiln 1 furnace.

THE SMALL FINDS *By* J. F. RHODES

Fig. 12.

3. Bronze ear-scoop with terminal loop. The tip is missing. cf. *Maiden Castle* (1943), p. 281, no. 7. From Z.

4. Blade of iron scraper, expanded and curved. cf. *Camerton* (1958), p. 272, no. 15. From Pit E.

5. Bronze knife-handle with cylindrical terminal and rectangular aperture containing flat iron tang. cf. *Newstead* (1911), p. 282 and pl. LX no. 9. From Ditch U.

6. Bronze dress-fastener with rectangular loop and transverse bar. cf. *Richborough I* (1926), p. 47 no. 28. From Ditch U.

7. Spatula-probe of bronze. cf. *London in Roman Times* (1930), p. 81, no. 1 (identical specimen). From L.

8. Bronze terminal, reel-shaped, with rectangular shank. cf. *Richborough I* (1926), p. 46, no. 19. From Ditch U.

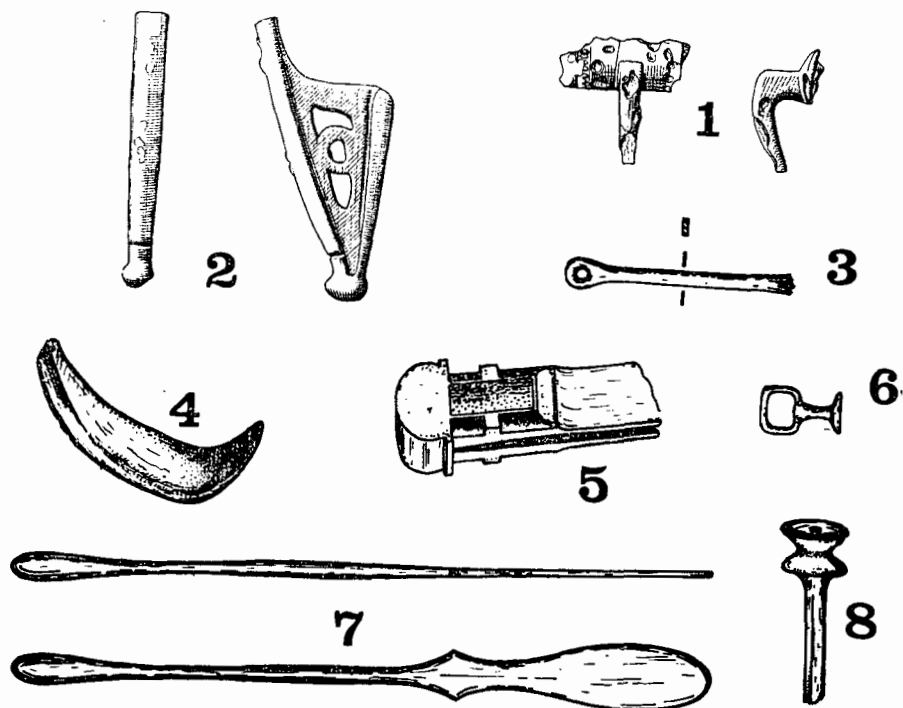


Fig. 12. SMALL FINDS

Nos. 1 and 2 are drawn actual size. The others are half size.

ROMAN POTTERY KILNS AT GLOUCESTER

Not illustrated

9. Bronze ring, plain, and fragments of two others, possibly box-fittings. cf. *Richborough II* (1928), p. 30, nos. 4-7. From L.

10. Bronze needle. The head is missing. cf. *J.W.p.* 262, no. 19. From X.

11. Bronze pin with flat rectangular head. cf. *Newstead* (1911), p. 337 and pl. xcii no. 19. From Y.

12. Bronze toggle with spherical terminal and central hole. Only half survives. cf. *Newstead* (1911), p. 150 and pl. lxxvii nos. 2 and 3. From N.

13. Iron blade, crescent-shaped, possibly from a strigil. cf. *Hod Hill I* (1962), p. 18 no. K11. From K2A4.

THE COIN *By* D. BURGE

Obv. [IMP. CAES] VESPASIAN AUG.

COS III

Radiate head.

Rev. No legend. Victory advancing r. holding buckler inscribed S.P.Q.R. S.C. in field.

Dupondius A.D. 71-72.

The coin was found in an ash and charcoal deposit 1 inch thick, running near the top of the potters' working level which continued downwards for 8 inches before the natural sand was reached. Area L on the plan. The ash layer extends to Kiln 2, 11 feet away (see section A-B).

The coin is corroded but the lettering stands out boldly and it appears to have been unworn when dropped.

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