

Two Early Roman Kilns at Tuckwell's Pit, Hanborough, Oxon.

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SUMMARY

Two early Roman kilns were salvaged in 1959 during gravel extraction. Both kilns, similar in type to 1st-century kilns in the Nene Valley and Essex, produced a mixture of types current in the area before the Roman conquest, and copies of Gallo-Belgic forms.

I. THE SITE (FIG. 1)¹

DURING systematic fieldwalking of gravel pits in 1959, two kilns were discovered close together in Tuckwell's Pit, c. 600 m. south of Long Hanborough village (SP 418135).² The site lay on the western edge of the Hanborough gravel terrace overlooking a small tributary of the Evenlode. Neither aerial photography, regular observation during gravel extraction, or a geophysical survey carried out by the Oxford University Research Laboratory for Archaeology and the History of Art revealed any other features in an area of c. 10,000 sq. m. around the kilns.

Like others in the Oxford region, the kilns were on well-drained soil close to outcrops of clay, the raw material needed for pottery. The clay lands could also have provided the large quantities of timber needed for firing kilns.³ These two kilns lie in an area apparently devoid of settlement which is close to the known dense settlement around Cassington to the south⁴ and on the cornbrash to the north.⁵ It might be argued that this siting has implications in terms of land use and the progress of land clearance for agriculture in the late Iron Age and early Roman periods, since the necessary supplies of wood and clay would have been most easily available in areas of uncleared land where competition from other forms of land-use would have been minimal. It may be, therefore, that the kilns were situated in an area not yet fully utilized, as close to their markets to north and south as competing land uses would allow.

II. THE EXCAVATION⁶ (FIG. 2)

The two kilns were salvaged very rapidly in advance of destruction, with the help of a few volunteers. The conditions under which the work was done must be borne in mind when the implications of the site are considered below.

¹ The site was excavated by D.S. The text was written by C.J.Y. in consultation with D.S.

² *Oxoniensia*, xxv (1960), 133.

³ C. J. Young, *The Roman Pottery Industry of the Oxford Region*, forthcoming.

⁴ H. Case, N. Bayne, S. Steele, G. Avery, H. Sutermeister, 'Excavations at City Farm, Hanborough, Oxon.', *Oxoniensia*, xxix/xxx (1964/5), 33, 39, 55.

⁵ D. W. Harding, *The Iron Age in the Upper Thames Basin* (1973), 56-60.

⁶ We are grateful to the management of Tuckwell's Pit for permission to carry out the work here described.

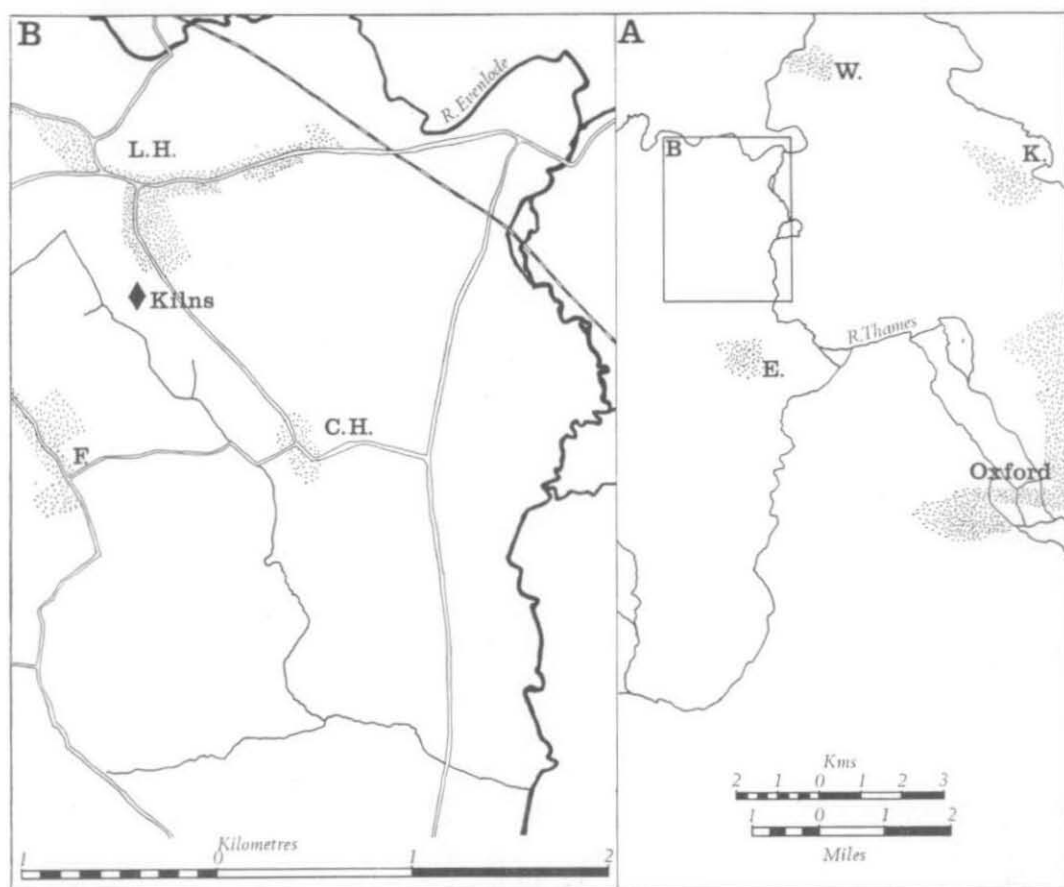


FIG. 1

Tuckwell's Pit, Hanborough : location maps. C.H. = Church Hanborough, E = Eynsham, F = Freeland, K = Kidlington, L.H. = Long Hanborough, W = Woodstock.

Kiln I

An oval pit *c.* 1.83 m. long and 1.22 m. wide survived in the natural gravel to a depth of 0.2 m. Allowing for a further 0.15–0.25 m. of topsoil the depth of the kiln below the Roman ground surface could originally have been as much as 0.45 m. The furnace chamber, 1.22 m. × 1.0 m., filled two-thirds of the pit. It had a lining of fired clay and the gap between this and the side of the pit had been filled with soil.

The centre of the furnace chamber was filled with a mound of clay 0.8 m. by 0.6 m. with a maximum height of 0.18 m. The outer skin was fired red but the interior was still plastic clay. At the end furthest from the stokehole a narrow slot 0.12 m. long had been cut into the side of the mound and in its centre was a depression. Several large stones had been placed against the side of the mound. Numerous fragments of clay firebars and 'dome-plates' were found in the furnace. The remaining third of the pit had been used as a stokehole.

The central mound would have functioned as a central pedestal on which part of

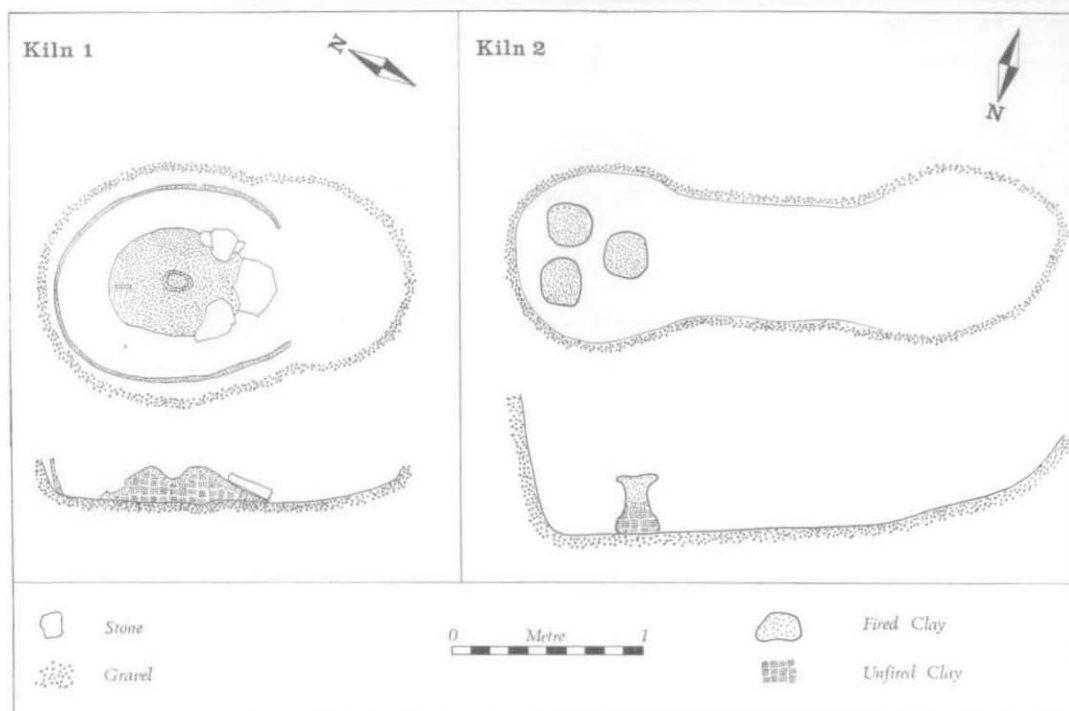


FIG. 2

Tuckwell's Pit, Hanborough : kiln plans.

the load could have been placed. It would also have supported the ends of firebars radiating out over the rest of the furnace. The stones laid against the mound would have been props for the firebars and would have prevented damage to the mound during stoking or raking out. This is the evidence that there was a pottery chamber above the furnace to enable the kiln to function as an updraught type. The precise structure of this pottery chamber is unknown although the presence of fragments of 'dome-plate' indicates the use of a temporary roof.

The kiln is however a variant of the normal updraught type with a unique method of construction. Whereas its size and shallowness and use of firebars are paralleled in a group of 1st-century kilns in the upper Nene Valley,⁷ the design of the central support is unknown there or elsewhere, the closest parallel being the central mound of Kiln B at Overdale, Boar's Hill, Oxford. At Overdale, however, there was no floor of firebars and the pottery rested directly on the mound.⁸

Kiln II

The kiln had been constructed in an elongated pit with a slight constriction at its centre. The overall length was 2.4 m., the greatest width 0.8 m. The pit had been

⁷ P. J. Woods, 'Types of Late Belgic and Early Romano-British Pottery Kilns in the Nene Valley', *Britannia*, v (1974), 262-81.

⁸ E. Harris, C. J. Young, 'The Overdale Kiln Site at Boar's Hill, near Oxford', *Oxoniensia*, xxxix (1974), 15-16.

dug into a slight slope, the shallower and smaller west end being used as the stokehole. The east end was joined to the stokehole by a flue 0.9 m. \times 0.6 m. wide. Both flue and furnace had vertical sides. At the eastern end the furnace had been dug 0.75 m. into the natural gravel; allowing an additional 0.15–0.25 m. of topsoil its original depth would have been c. 1.00 m. The west end of the stokehole was some 0.3 m. shallower. Traces of a fired clay lining survived in the furnace chamber.

In the centre of the furnace were three clay pedestals shaped like dumb-bells (FIG. 3). The upper parts of these were fired hard but the lower parts were still plastic, having presumably been insulated by ash collecting in the base of the furnace. The surviving parts of these pedestals have sub-rectangular heads with square shafts. The unfired ends were similar. The original length of the pedestals can be estimated as c. 0.2–0.3 m. long. A number of firebars, four of which were still complete, were also found. All were square in section and of uniform thickness throughout their length, the shortest being 0.335 m., the longest 0.466 m. long (FIG. 3).

The floor of the pottery chamber was presumably constructed from the three pedestals and the firebars though no lodgement for the firebars had survived at the side of the kiln, at the level of the top of the pedestals. A recent reconstruction cannot therefore be correct.⁹ At present the question of the form of the pottery chamber floor is insoluble, unless additional props or pedestals were used at the edge of the kiln. It has recently been suggested that firebars might have been used as part of the roofing structure on these early kilns,¹⁰ but this cannot be the case here as the bars would have been too short. The height of the pedestals shows that the furnace proper occupied only the bottom third of the eastern pit so that at least part of the pottery chamber was below ground. How far it rose above ground level cannot be discovered. The presence of 'dome-plates' in the kiln debris indicates that temporary roofing was used.

The closest parallel to this plan lies in Woods' type IIIc 'dumb-bell' kiln in the Nene Valley,¹¹ but the Hanborough example is unusually deep. The use of partially unfired pedestals is also extremely unusual.

III. THE FINDS

A. The Kiln Furniture

Considerable quantities of kiln debris were found in both kilns. All fragments were of clay, heavily grass-tempered and fired grey. The following types were found:

1. *Pedestals* (FIG. 3D): The fired parts of the three pedestals described above survive.

Pedestals with large flat terminals at either end have been found at three first-century kiln sites in the Nene Valley.¹² Similar pedestals are also known from late Iron Age salt-working sites.¹³ All other examples, however, were completely fired and could have been used several times in different kilns.

⁹ Harding, *op. cit.* note 5, Fig. 9.

¹⁰ M. U. Jones, W. T. Jones, 'The Mucking Excavations: 1972', *Panorama*, xvi (1973), 34–5.

¹¹ Woods, *op. cit.* note 7, 272, Fig. 2.

¹² *Idem*, 276.

¹³ 'Report of the Red Hills Committee, 1906–7', *Proc. Soc. Antiq.* (2nd Series), xxii (1907–9), 165–207, Fig. 14; K. de Brissay, 'Preliminary Report on the Exploration of the Red Hill at Osea Road, Maldon, Essex', *Bull. Colchester Archaeol. Group* xv, (1972) 42.

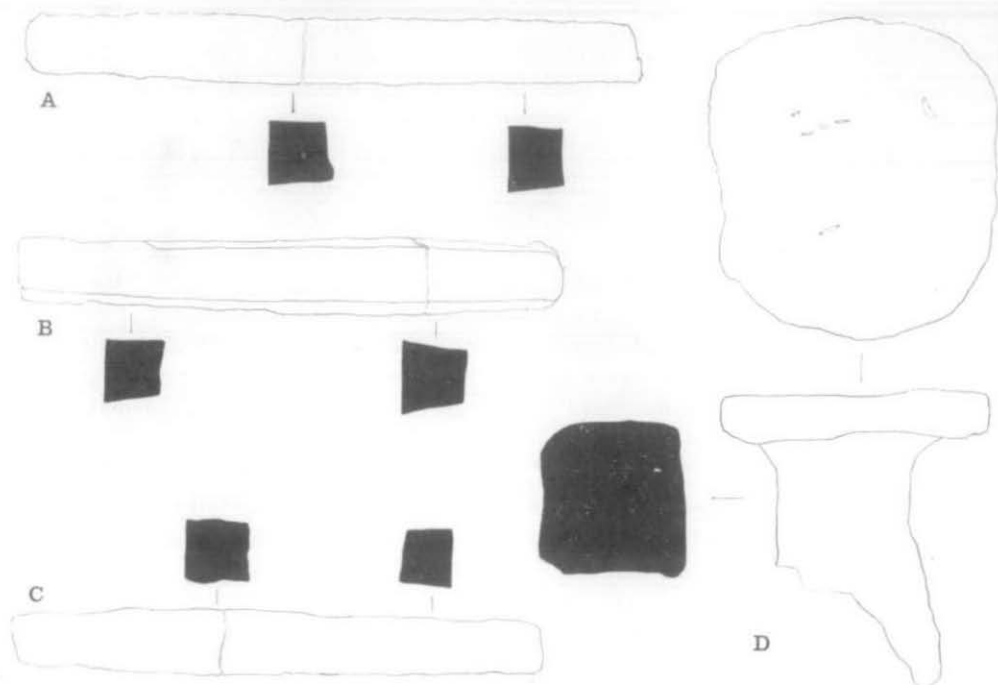


FIG. 3

Tuckwell's Pit, Hanborough : kiln furniture from Kiln 2 ; A-C kiln bars, D pedestal ($\frac{1}{4}$).

2. *Firebars* (FIG. 3 A-C) : Thirteen fragments were found in Kiln I, and there were three complete examples and eight large fragments in Kiln II. All are of the same form, being roughly square in section, and have no significant taper at either end. In this respect they are unlike the cigar-shaped firebars found on 1st-century kiln sites in the Nene Valley. It should be noted, however, that fragments of larger non-tapered firebars have been found, but these were rectangular in section and so not exactly comparable to our examples.¹⁴

3. *Dome Plates* : Numerous fragments were found in both kilns of thin, oval or circular plates, more heavily grass-tempered than the other kiln furniture. They are normally assumed to have been used in the temporary roofs of kilns.¹⁵

B. *The Pottery* (FIG. 4)

Fabric 1 : Sandy, fairly soft, heavily tempered with grog and white inclusions. The colour varies from buff to grey and there are sometimes reddish patches. This heavily tempered ware was used throughout the late Iron Age and the Roman period for the manufacture of storage jars.

Fabric 2 : Sandy, micaceous, with small white inclusions. This ware is fairly fine. It normally has black surfaces and cross-section though both can vary to buffish pink. This fabric is typical of the immediate pre-Roman period.

Fabric 3 : Like Fabric 2, but with red surfaces. This difference may only be accidental.

¹⁴ Woods, *op. cit.* note 7, 267, 275-6.

¹⁵ P. Corder, 'The Structure of Romano-British Kilns', *Archaeol. J.*, xciv (1957), 14, 27. See also G. F. Bryant, 'Experimental Roman-British Kiln Firings' in A. P. Detsicas (ed). *Current Research in Roman-British Coarse Pottery* (1973).

Fabric 4 : Slightly corky in texture, with black, white and some red inclusions. Often the surface is lumpy and the ware is normally black or grey in colour, the cross-section frequently being slightly lighter than the surface.

Fabric 5 : Like Fabric 4, but somewhat harder. Fabric 4 was found only in Kiln I, Fabric 5 only in Kiln II, and they are probably the same ware. This ware is found on various late Iron Age sites in the Oxford area (*e.g.* at Dorchester-on-Thames) and was used principally for cooking-pots.

Fabric 6 : Hard, sandy, micaceous with small black and white inclusions. It is normally grey or black but can sometimes be buff. It is harder than the other fabrics from the site and is typical of the numerous grey wares used for coarse pottery throughout the Roman period.

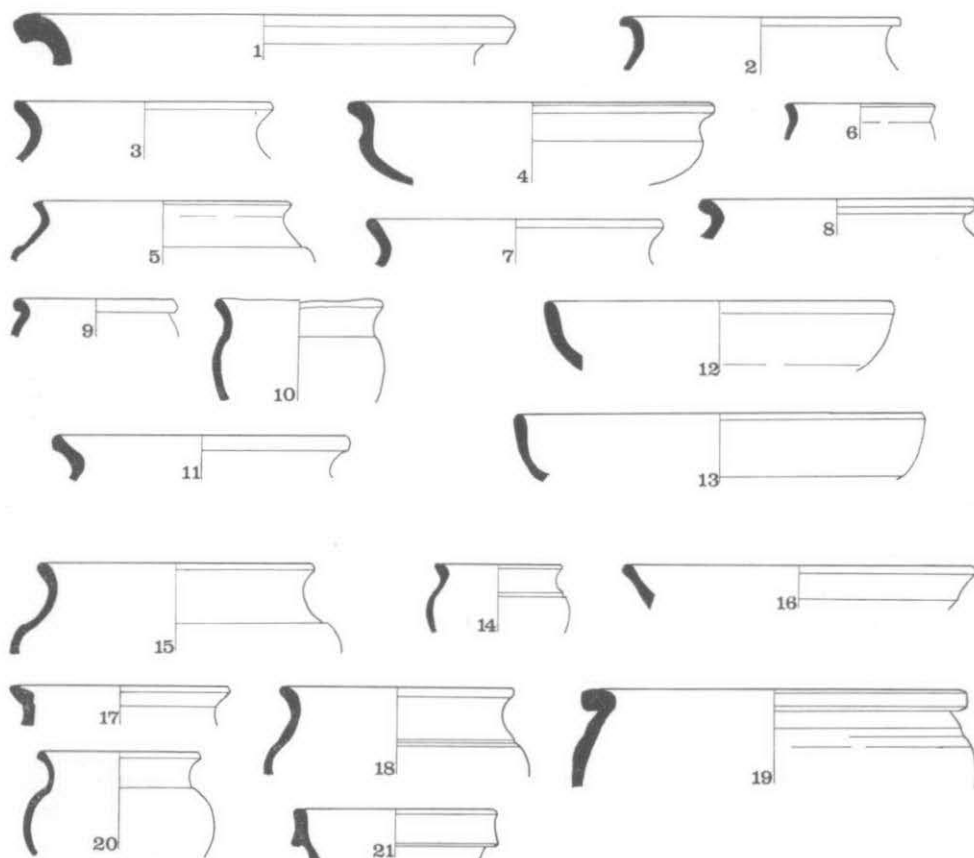


FIG. 4

Tuckwell's Pit, Hanborough : coarse pottery, 1-13 from Kiln 1, 14-21 from Kiln 2 ($\frac{1}{4}$).

Kiln I

- 1 Storage jar rim. Fabric 1. 5 body sherds of storage jars also in Fabric 1.
- 2 Necked jar with slightly everted rim. Fabric 2.
- 3 As last with slightly everted dished rim. Fabric 2.
- 4 Shallow necked bowl or colander. Fabric 2. Colanders of this form have been found in the 1st-century contents of Smiths Pit II, Cassington.¹⁶ Also in Fabric 2 : 12 rim sherds

¹⁶ Unpublished ; material in Ashmolean Museum.

similar to Nos. 2 and 3, 19 body sherds of necked jars, 213 body sherds of jars, 7 jar bases with out-turned edges, 1 jar body sherd decorated with barbotine dots, 3 body sherds of bowls or colanders as No. 4, 1 platter as No. 12 below.

5 Necked jar with angular shoulder and slightly everted rim. Fabric 3. Also in Fabric 3 : 4 rim sherds and 2 body sherds of jars, 1 platter as No. 13 below.

6 Small jar with slightly everted rim. Fabric 4.

7 Rim of necked jar. Fabric 4.

8 Necked jar with out-turned slightly beaded rim. Fabric 4.

9 Small jar with out-turned beaded rim. Fabric 4. Also in Fabric 4 : 1 rim sherd as No. 6, 2 body sherds of necked jars, 31 body sherds of jars, 2 base sherds of jars.

10 Necked jar. Fabric 6.

11 Necked jar with everted slightly dished rim. Fabric 6.

12 Platter. Fabric 6.

13 Platter. Fabric 6. Also in Fabric 6 : 2 jar rims as No. 10, 21 body sherds and 2 base sherds of jars, 1 body sherd of colander.

Kiln II

Fabric 1 : 7 body sherds.

14 Necked jar, grooved at base of neck. Fabric 2.

15 As last. Fabric 2.

16 Shallow bowl. Fabric 2. Also in Fabric 2 : 1 sherd as No. 16.

17 Rim of butt-beaker. Fabric 5.

18 Necked jar, grooved at base of neck. Fabric 5.

19 Large jar or bowl with out-turned flat-topped rim. Fabric 5. Also in Fabric 5 : 1 rim as No. 18, 15 jar body sherds, 4 jar bases.

20 Necked jar. Fabric 6. Also in Fabric 6 : 14 rims as No. 20, 3 body sherds of necked jars, 1 body sherd of narrow-mouthed jar,¹⁷ 88 jar body sherds, 6 bases with out-turned edges, and 16 other bases.

21 Flagon ; sandy fabric with white and black inclusions, in colour pink-grey with buff surfaces and interior white slip. This does not conform to any of the fabric groups identified above and it is presumably not a product of these kilns.

The range of pottery types from both deposits is similar and can be divided into two groups :

i. *Native Belgic Types* : The basic pre-Roman form in the Oxford region was the necked jar¹⁸ and this is well represented in both kilns (FIG. 4, 2-3, 5, 7-8, 10-11, 14-15, 18, 20). It is of little use for dating as the general type continued in one form or another throughout the Roman period. The other common local late Iron Age type was the cooking-pot with little or no neck and a flattened or rounded bead rim.¹⁹ This is represented by one example in each deposit (FIG. 4, 9, 19). This type too continued into the Roman period.

ii. *Gallo-Belgic Types* : Genuine Gallo-Belgic types only began to enter the Oxford region shortly before the conquest, the earliest being the Watlington cremation group²⁰ and the Tiberio-Claudian material from Dorchester.²¹ Kiln I contained platters derived from *terra nigra* form Camulodunum 16 (FIG. 4, 12, 13) which there occurred almost entirely in post-Conquest contents.²² Elsewhere this form is found in consistently Roman contexts.²³ Kiln II contained one butt-beaker in fabric 6, and a flagon probably not made

¹⁷ Harding, *op. cit.* note 5, Fig. 9.

¹⁸ *Idem*, 118-22.

¹⁹ S. S. Frere, 'Excavations at Dorchester-on-Thames, 1962', *Archaeol. J.*, xix (1964), Fig. 12, 19, 21-3.

²⁰ H. J. Case, 'A late Belgic burial at Watlington, Oxon.', *Oxoniensia*, xxiii (1958), 139-41.

²¹ Frere, *op. cit.* note 19, 129-9.

²² C. F. C. Hawkes and M. R. Hull, *Camulodunum* (1947), 220, Pl. xlix.

²³ V. Rigby, 'Potters' Stamps on Terra Nigra and Terra Rubra found in Britain', in A. P. Detsicas (ed.) *op. cit.* note 15, 20-1.

at the site (FIG. 4, 17 and 21). Butt-beakers continued well into the Roman period while the flagon form occurs at both Verulamium and Camulodunum in levels dated c. A.D. 40-60.²⁴

The pottery indicates a date after the conquest and this is perhaps confirmed by the stray sherd decorated with barbotine dots in Kiln I, as this type of decoration does not occur on coarse pottery before the mid-1st century. The total absence of common late 1st- or early 2nd-century types, such as necked jars with burnished or incised decoration on the shoulder, suggests that the group falls into the third quarter of the 1st century.

TABLE I
Fabric quantities present in Kilns I and II

FABRIC:	I	2	3	4	5	6
Kiln I	1.7%	75.6%	2.3%	11.7%	—	8.7%
Kiln II	4.3%	2.5%	—	—	14.1%	79.1%

IV. DISCUSSION

Hanborough is one of three kiln sites of the immediate post-conquest period in Oxfordshire, the other two being at Cassington²⁵ and the Churchill Hospital, Headington, on the outskirts of Oxford.²⁶ As already mentioned, these kilns are similar to others of the same date now being found in large numbers in the Nene Valley²⁷ and in Essex.²⁸ The features of similarity are the smallness of the kilns, their construction on the surface or only slightly sunk into the ground, and the frequent use of portable kiln furniture.

These kilns are the earliest known in Britain and, despite claims to the contrary regarding the Hanborough kilns,²⁹ all date to after the conquest. The origin of the kilns is still uncertain although it seems that they spread through Britain in the wake of the Roman advance. The diversity of plan and design within the general similarity and, in most cases, the continued production of old vessel forms by the new techniques, suggest that the spread was one of an idea rather than of actual potters, with some exceptions such as the site at Rushden, Northants, where immigrants were certainly present.³⁰

At Hanborough there is no evidence for immigrant potters. The execution of the new theories of firing technique were individual and there is some evidence that their full implications had not been fully realized. For example much of the portable kiln furniture was not portable because it was not fully fired. The pottery produced was largely based on that already current in the region so it seems that the Hanborough potters were local craftsmen who adopted the new techniques. Of particular interest is the evidence provided by the pottery for a rapid improvement in

²⁴ Hawkes, Hull, *op. cit.* note 22, Pl. lx, 136B; S. S. Frere, *Verulamium Excavations*, I (1972), Fig. 101, 57.

²⁵ Young, *op. cit.* note 3.

²⁶ C. J. Young, 'Excavations at the Churchill Hospital, 1973: Interim Report', *Oxoniensia*, xxxix (1974), 8-11.

²⁷ Woods, *op. cit.* note 7.

²⁸ M. U. Jones, W. J. Rodwell, 'Romano-British Pottery Kilns at Mucking, Essex', *Essex Journal*, v (1975), 13-47.

²⁹ D. W. Harding, *The Iron Age in Lowland Britain* (1974), 92-3.

³⁰ *Current Archaeology*, III (1971-2), 204-5.

technique. The principal advantage of the new kilns must have been greatly improved control of firing conditions. The ability to maintain a constant temperature enabled potters to use finer, less heavily tempered wares rather than the coarse wares necessary to withstand rapid and violent fluctuations in temperature during firing. The replacement of heavily tempered fabrics by the typical Roman sandy grey wares must have resulted in part from the introduction of the proper kiln.

Of the fabrics found in the kilns, 1 to 5 all belong to the heavily tempered pre-Roman tradition. 6 is a typical Roman sandy grey ware. TABLE I shows both groups of wares in large quantities which is indicative of a transitional period during which potters accustomed to the old method of potting were adapting to new techniques.³¹

The Department of the Environment is thanked for a publication grant for this paper.

³¹ See Young, *op. cit.* note 3.