

# ROMAN TILEWORKS AT ITCHINGFIELD

By T. K. GREEN

## SUMMARY OF RESULTS

A Roman tileworks operated here, perhaps during the 2nd century A.D., serving the needs of the settlement and posting station at Alfoldean on Stanestreet,  $2\frac{1}{2}$  miles away. It was possible to examine the tilemakers' workshop and integral drying area, which was built some time after tilemaking had begun. Evidence suggests that, at this site, two combs were in simultaneous use for marking the keying grooves on flue-tiles. Features detected by proton gradiometer survey turned out to be dumps of tile debris.

## LOCATION OF THE SITE (PLATE 1A)

The site lies  $1\frac{3}{4}$  miles WSW. of Horsham, in the NW. segment of an ox-bow valley cut by the River Arun which now flows northward across the eastern ends. The building is located at TQ14092979 and the clamp-plus-tile-dump at TQ 14062975. The local rock is Weald Clay, mottled bluish-grey and yellow when unweathered, in which beds of fine-grained sandstone occur sporadically. The areas excavated lie on the tail of the northern side, whose slope is markedly steep for a clay feature, and there may have been some subsidence into clay pits or workings since Roman times.

## CIRCUMSTANCES OF EXCAVATION (1964)

In 1964, Horsham Rural District Council began preparing a refuse tip on land which was previously part of Baystone Farm, Itchingfield. An embankment was built across the northern arm of the ox-bow valley at approx. TQ14152980 and the valley floor westwards scraped clear of topsoil. To divert the natural drainage eastwards along the flat valley bottom towards the Arun, and the water from the spring at TQ14032970, it was necessary to prepare a special ditch round the northern edge of the tipping zone. The mechanical excavator encountered stones and tiles in the process and the discovery was reported to members of the (now defunct) Mid-Sussex Archaeological Society. Permission was readily given for an excavation to be made in the area N. and W. of the ditch, outside the tipping zone and, early in August, the present writer was asked to direct for the M-S.A.S.

When the site was first examined, the uphill bank of the ditch had begun to crumble: cracks 1ft. wide ran diagonally up the slope while blocks of clay, 5yds. and more in area, were slipping into the ditch. The whole hillside looked distinctly unstable, so the best hope of preserving both our sections and our personal safety seemed to lie in employing fairly narrow trenches running into the hillside: thus keeping the tallest sections as narrow as

possible. Later on, when we understood the nature of the structure with which we were dealing, less inhibited methods were adopted.

To understand the significance of those parts of the structure which had fallen or were falling forward out of the side of the ditch, a section was prepared along the existing face immediately, roughly 3ft. back from the edge. This revealed enough of the plan to relate the tumbled masonry, in general, back to its original position before the stream distorted it beyond recognition. Having done this, we were free to concentrate upon the uphill parts of the building.

#### *Acknowledgements*

First and foremost, I must record thanks to Mr. E. St. J. Nicholson, Surveyor and Engineer to Horsham Rural District Council, for permission for the excavation to take place, and to Mr. A. Leybourne, Deputy Surveyor, for his good offices and assistance; also to Mrs. Gilmartin, of Baystone Farm, for permission to undertake work in 1965 on land in her tenancy.

Next I must thank all those who worked in the excavation, particularly Mrs. Smith, Mrs. Standing, Mrs. Bright, Mrs. Gurney-Stedman, Miss Pyer, Miss Kimm, Messrs. Taylor, Standing and Moffat, Julian Hutchings, Michael Hunter, Nicholas Standing and Michael Freeman. I owe an especial debt to Mrs. P. Taylor for handling the clerical and administrative work so well and for dealing with such small finds as came our way. Thanks are also due to the team of Miss K. Fisher, Miss K. J. Evans, Mr. and Mrs. C. J. Ainsworth, Messrs. J. Frier, S. Jepson and S. Rose who, late on a Sunday evening, performed the magnetometer survey over 500 square yards.

I am grateful to Mr. N. E. S. Norris for examining the pottery and for letting me study the Alfoldean materials at Barbican House, and to the Viscountess Hanworth for permission to refer to her report on Rapsley at the galley-proof stage. Through the good offices of Mr. H. P. Knowles, I received permission from the Directors of Redland Bricks Ltd. to visit their Beare Green Works, where I was given a very informative tour by the manager, Mr. T. Hughes, to see how handmade bricks are produced. I have also to thank Mr. M. R. Hull for answering queries about the Colchester tiler.

#### *Results of Excavations—1964*

##### SITE 1 (Figs. 1 and 2)

Here was a series of unmortared wall footings, in a roughly rectangular arrangement, embedded in a raft of tightly packed stone built from the laminated sandstone which occurs locally in beds and lenses throughout the Weald Clay. The building which stood here is interpreted as having been a tilemakers' workshop.



PLATE IA. Baystone Farm Tip, Itchingfield, with Sites 1 and 2 beside ditch: looking SSW.

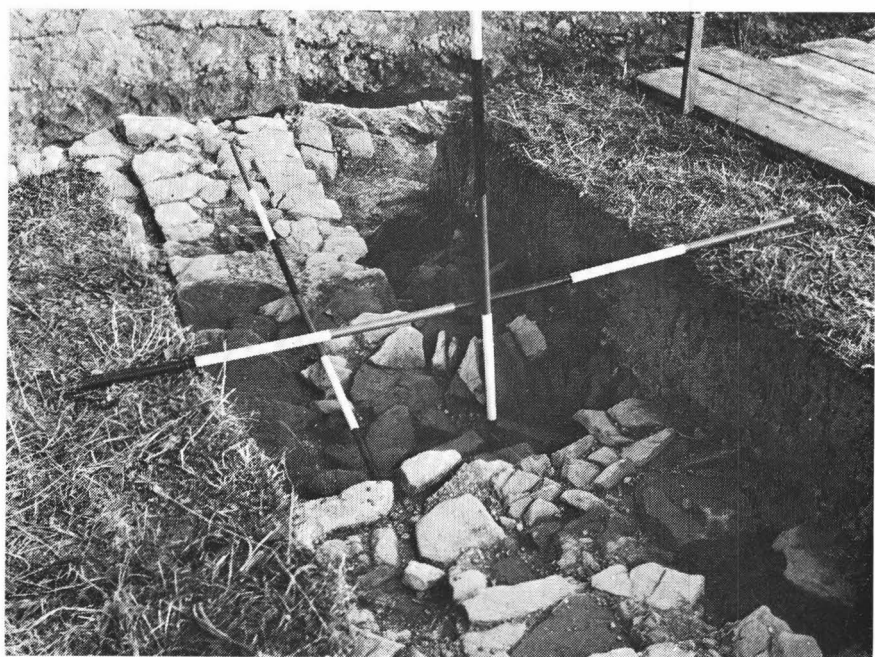


PLATE IB. Walls 1 and 2, with rows of stones seen behind ranging poles.



PLATE IIA. Pedestal on Wall 3.



PLATE IIB. Drain packing below tile debris in Cutting 2.



PLATE IIIA. Wall 5, etc., fallen into ditch. Wall 4 at left, Wall 1 at centre and paving beyond.



PLATE IIIB. Junction of Walls 2 and 4, after hard clay had been removed.



PLATE IVA. Tile debris in cutting 4, site 2, 1965.



PLATE IVB. Comb patterns on box flue-tiles.

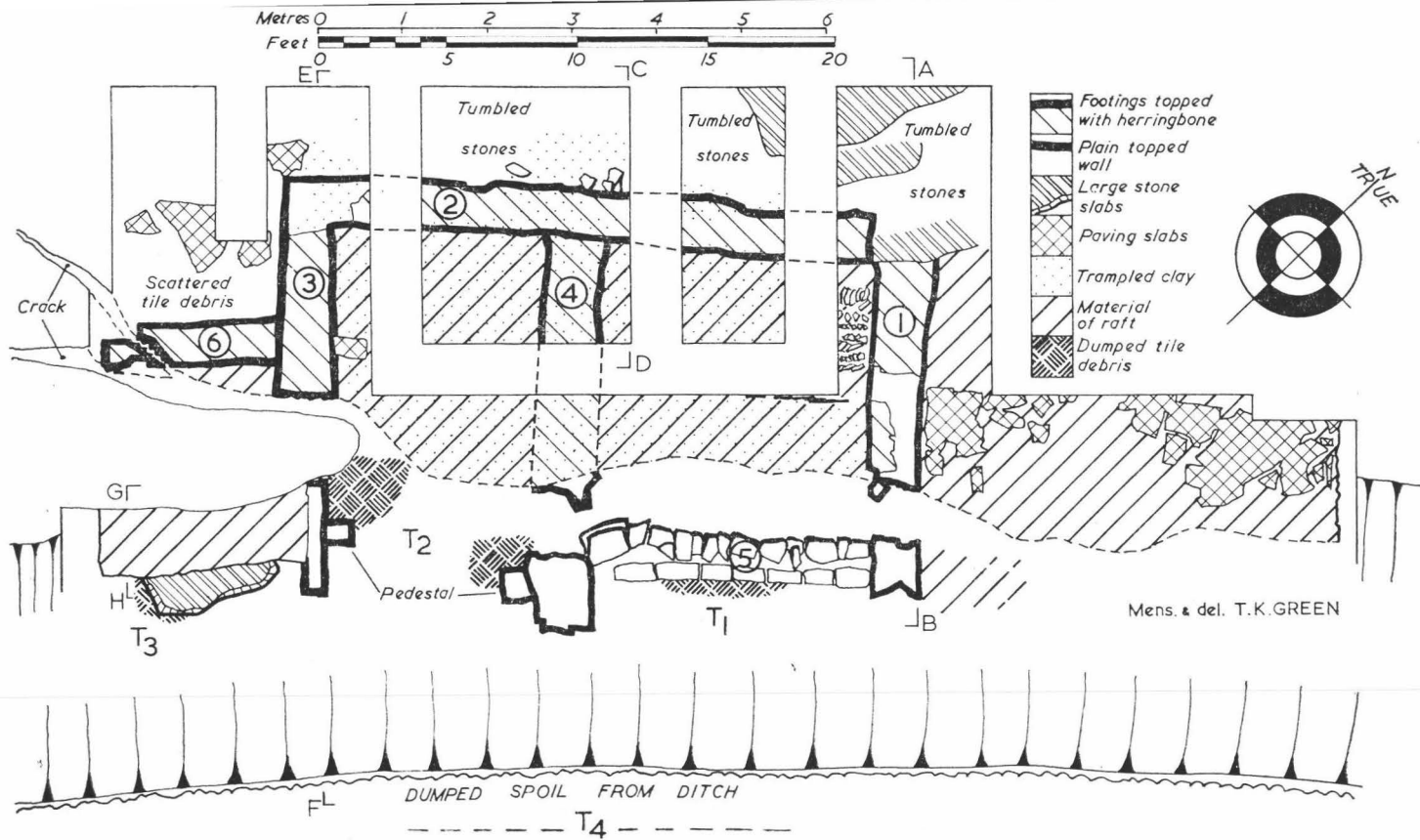


FIG. 1. Plan of Site 1

The footings usually had two rows of slabs, laid horizontally to form a clean vertical face each side, with small pieces of stone filling any gaps in the middle. On top of the footings were one or more courses of herringbone masonry: at one point on Wall 2 there were three, the top one opposed in direction to the other two. These pitched courses were of smaller and thinner slabs than the footings below, but constructed likewise with rows along the edges of the walls and small rubble down the middle; they covered the full width of the wall.

The sections showed pale brown clay under the turf, changing to orange-brown about 5in. down. Inside the building there was a darker brown, hard-packed clay layer, between 2in. and 1ft. thick and including some stone and tile rubble, above the stones of the raft. In places this hard-packed layer extended over and beyond the walls. There was no evidence of a destruction deposit or decomposed timber along the walls, nor any sign that the tilemakers had tiles on their own roof.

The mass of the raft was composed of irregular slabs, mostly between 4 and 9in. long: generally they lay fairly flat but many were wedged on edge. The surface of the raft's top was thus very uneven and removing the hard clay was very awkward. Since tiles found bear impressions of hobnailed shoes and the stones only showed traces of wear when we started to walk on them with light shoes, it seems clear that a deliberate floor of clay was laid at the start. With time, it grew thicker and the scraps of tile became embedded in it.

In the N. corner of the building were several parallel rows of small stones perpendicular to Wall 1 (Plate Ib). These had the stones laid alternately end-to-end or face-to-face. The SE. edge of the whole arrangement was formed by an end-to-end row which appears to mark the side of a gangway.

There were two apparent thresholds marked by gaps in the herringbone masonry: a rather tenuous one at the W. corner, where the hard clay ran over the top of the footings and out beyond Wall 2, and a clear one in Wall 1 opposite the 'gangway.' Outside this entrance, the surface of the raft was paved with slabs up to 2ft. wide and 2-3in. thick. Although petering out after a few feet, where there seems to have been robbing or a subsidence towards the area now occupied by the ditch, they reappeared 10ft. from the door and ran to the edge of the raft: they were up to four layers deep.

The NE. edge of the raft was a vertical herringbone face bonded into the main body of material; the stones tilted downwards into the hillside. Against them was packed the same orange-brown clay which overlay the raft elsewhere and which clearly superseded the occupation. Apparently the raft had stood proud of the ground, at least for its SE. part. From this same clay, 2in. above the



paving, came a single fragment of grey fumed ware: this scrap was the only piece of pottery found at Site 1.

The S. corner of the raft was also faced in herringbone work, with a vertical wall on the SW. face; the SE. one, having a considerable batter, was based partly on a massive slab of sandstone and elsewhere on a vertical wall of rectangular blocks. From beneath the front of the massive slab came a deposit of tile debris, principally fragments of tegulae.

Jutting out from the side of the ditch were the severed ends of Walls 3 and 4, with a recess between them. Wall 3 was made of very well dressed masonry but was only one row thick, that being on the face towards Wall 4. Into these walls were bonded a pair of opposing pedestals, each about one foot square (Plate IIA). That on Wall 3 had definitely stopped two courses short of the top of the wall: slippage and the damage of the mechanical excavator prevented corroboration on Wall 4. In the recess, against the walls behind the pedestals, were dumped pieces of tegula and box flue-tile. The back of the recess was distorted by one of the cracks in the hillside: a row of vertical slabs seems to have fringed the top of the back face but there was no sign of a herringbone facing. How far Walls 3 and 4 once extended beyond the pedestals is uncertain, but none of the structures reached the other side of the ditch.

Wall 5 had collapsed into the ditch when we arrived and the action of the water rapidly undermined it further (Plate IIA). It had joined Wall 1 with a straight joint and had probably done the same with Wall 4, where the remains were more distorted. It showed a clear contrast between the two faces, for, while the SE. face was made of dressed rectangular blocks, the opposite one was decidedly rough. Over the three courses visible above water level, the dressed masonry appeared to have a batter of about an inch per course. Against this face was a dump of tile debris including pieces with each of the flue-tile comb impressions. Yet, despite this apparent evidence that Wall 5 marks the S.E. edge of the building, Walls 1 and 4 projected beyond their junctions with it: but perhaps only as piers. There was no indication of a wall beyond Wall 1 to correspond with Wall 5; since the base of the raft extended further out than the front of Wall 5, one may suggest that it had a battered, herringbone facing, with the edge of the paved area coinciding with the SE. side of the building above Wall 5.

Behind Wall 5 the raft showed a deposit of tile debris and red, dust-filled clay at its base, the section showing unweathered bluish-grey clay beneath. There was steady water seepage out from this local water table, making work very messy, but pieces of tegula and of flue-tiles bearing each of the combs were obtained. At the other point sectioned, below the paved area, the raft was uniformly of stones and again lay upon bluish-grey clay.

The top of Wall 2 stood above those of Walls 1 and 4 at their respective junctions with it; the differences being 5 and 9in. respectively. Although Wall 4 had a proper capping of herringbone, this was flush with the surface of the raft and scarcely recognizable (Plate IIIB): furthermore, it was buried under the uninterrupted, hard clay floor to a depth of up to 11in. At this very point there were three herringbone courses on Wall 2 and some local reconstruction may have taken place to raise the sleeper beam, for the top course was still overridden by stones which appeared to have been pushed down the slope towards the workshop to accumulate against it. This might have led to damage to an earlier sleeper beam at a lower level: in the reconstruction, the internal wall above Wall 4 may have been taken down. The stone debris included some massive slabs, one of which was used to make the footing for the N. corner.

Outside the W. corner the ground surface was a sticky orange-brown clay scattered with stones and worn tile fragments: here again, both flue-tile combs were present. As already noted, the surface near the actual corner was trampled and there appears to have been an entrance, with the floor of the building flush with—or a little lower than—the ground outside.

#### SITE 2

Sixty yards along the ditch, upstream from Site 1, a layer of burnt clay and tile debris, 30ft. long, was visible in the uphill bank. This was investigated by a cutting 20ft. long by 10ft. wide, laid as close to the edge as possible. The topsoil layer yielded part of a flagon neck, two pieces of grey fumed ware and two of tobacco pipe bowl. Beneath was a layer of tile fragments and 'wasters'—one partial imbrex resembled a farmhouse loaf—with five sherds of grey fumed ware mixed among them; surrounding the debris was a loose, dark brown soil. Underneath, the sterile orange clay was burnt red over large areas with ashes on its surface. This must mark the site of a fired clamp: at the time, however, this sequence was interpreted as the rubbish and ashes thrown out from a tile-kiln further up the hillside. By good fortune, it was possible to make a magnetic survey at that point, using Birmingham University's Elzac proton gradiometer. This showed an area of very high anomaly just to the NE. of the cutting, in the direction from which the debris seemed to tail. With this as a pointer for future work, the 1964 activities were brought to a close.

#### *Work in 1965*

Fig. 3 shows the relationship of the magnetic contour lines, obtained by the proton gradiometer, to the cuttings opened in 1965 and their contents. Due to the results in Cuttings 1 and 2, Cutting 4 was repositioned and Cutting 3, level with the 1964

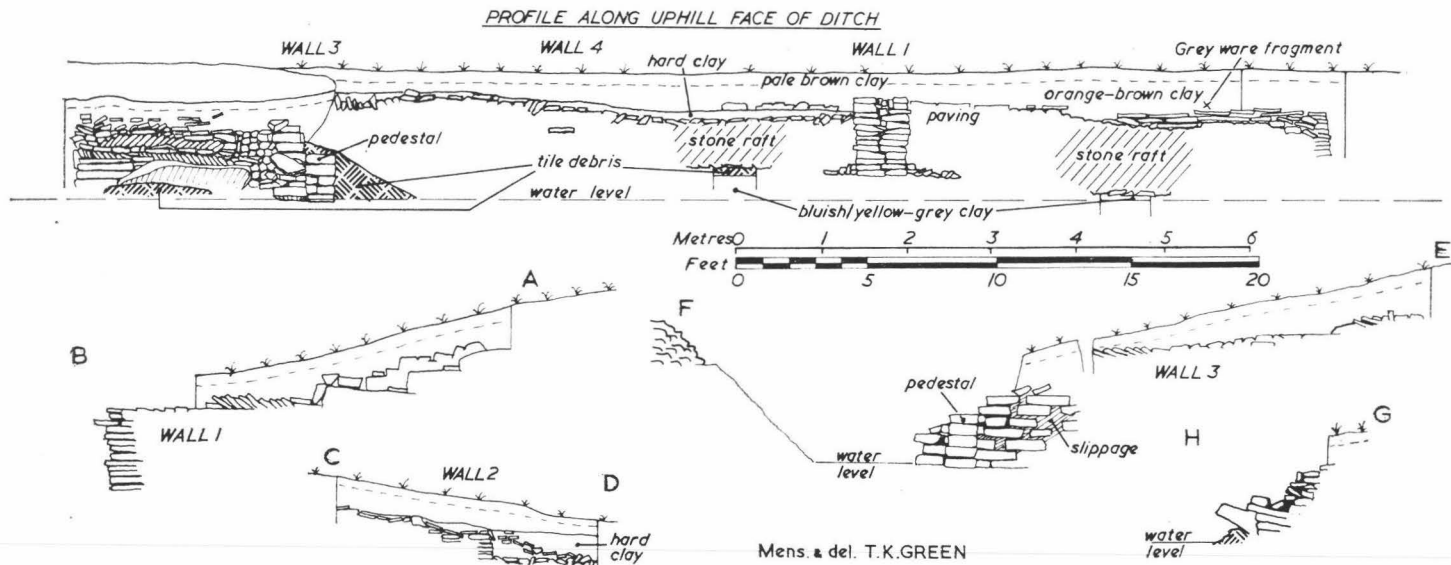


FIG. 2. Sections at Site 1

cutting, was not opened. The results were disappointing, because it became clear that the anomaly had been caused by a dump of tile 'wasters' and debris in a lens up to 2½ft. deep. Nothing could be seen in the way of changes in composition in the debris, save a concentration in Cutting 4 of large pieces of imbrex whose ancient breaks could be articulated (Plate IVA).

A sounding was made at the SW. end of Cutting 2 to establish the stratigraphy well into the clay under the tile debris. This revealed a short length of stone packing, set on edge in a V-shaped slot, at the top of the bluish-grey clay (Plate IIB). It protruded through the baulk just into the NW. section of Cutting 1, having been cropped off at both ends at some time in the past. No trace of it could be found nearer the ditch. It looked like the packing of a drain: cf. the stokehole drain at Wykehurst tiler<sup>1</sup>. Since the drain was sealed by the tile debris, it must have been functioning earlier than the time when it was decided to fill up the hollow—possibly an old clay pit. Such could well have needed a made drain, since standing water would make a clay pit as awkward to work in as it would a stokehole.

The NE. face of the sounding was made to coincide with the points of maximum anomaly. Although the maximum anomaly lies to the S. of the source, when the latter approximates to a short bar magnet, the discrepancy becomes of little significance when the source is an extended one<sup>2</sup>. Here the tile debris 'source' was at least 20ft. long by 9ft. wide and 2¾ft. deep; quite sufficient to have caused the anomaly detected.

#### FINDS

The vast majority of the finds were fragments of baked tiles which came almost entirely from the three dumps along the SE. face of the raft (T1-T3), the material dumped on the opposite bank of the ditch by the mechanical excavator (T4) or the thick deposits of debris at Site 2. Only a small number of worn pieces came from within the building or on the ground surface beyond the walls. The following points were among those noted.

#### *Box Flue-tiles*

All the fragments appear to have come from the 6in. cube type and none showed apertures in the sides. There were various patterns for the keying grooves (Plate IVB): the saltire was most common, usually with supporting strokes down the sides, but there were also 'fancy' patterns—either wild wiggings or elaborate convolutions. The main point to be noticed is that only two keying combs were used throughout. Comb A had seven teeth but,

<sup>1</sup> R. G. Goodchild, 'The Roman Brickworks at Wykehurst farm in the parish of Cranleigh,' in *Surrey Arch. Colls.*, vol. 45 (1937), p. 81.

<sup>2</sup> M. J. Aitken, *Physics and Archaeology* (1961), p. 21.

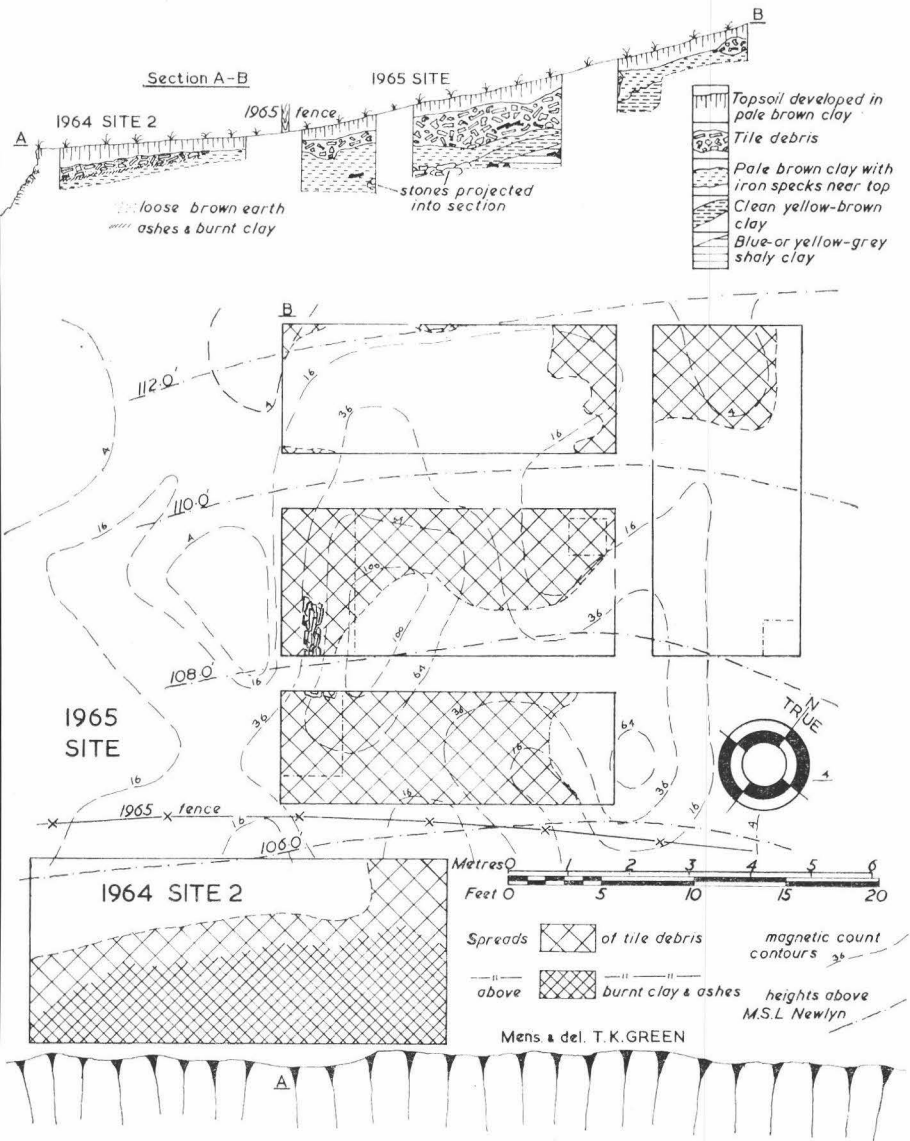


FIG. 3. Plan and Section of Site 2

because the centre one was split in the middle, it left eight grooves when used lightly. Comb B had four well-spaced teeth, each shaped like a screwdriver—as shown by the stabbings on the top left-hand piece in Plate VIII. The profiles of these combs are shown in Fig. 4. It is noticeable that the wilder squiggings were made with Comb A; the user of Comb B only made alternating straight and wavy bands, or carried the side band across the top of the saltire and down the other side (Plate IVB, centre of top and bottom rows). Examples of Combs A and B were always found in association: they do not seem to have a chronological significance.

By means of these distinctive combs, it has been possible to prove that the Roman posting station and settlement at Alfoldean was the destination of a lot of Itchingfield tiles; I am grateful to Messrs. A. H. Baldwin and T. Marley, of Slinfold, for allowing me to examine their collections of material from Roman Gate (=Alfoldean) and establish this.

There was also a single corner fragment of a thick, deep-red tile which had been scored with a pointed stick in a lattice pattern.

### *Tegulae*

No specimen was found which gave an accurate measurement of the length of Itchingfield tegulae: I am indebted to Mr. Marley for an example from Roman Gate, made and fired like typical Itchingfield ones, which is 17in. long. Three pieces give 12½in. as a typical width, while the thickness varied between  $\frac{7}{8}$  and 1½in. At best, the flanges were rectangular in section, but often the inside face was rounded off to give an 'S' profile. In the best-made tiles the height of the flange was 2in. outside and the width 1in. Some variety exists in the formation of the cut-outs at the corners: on tiles with square-sectioned flanges the cut-outs were square to the sides and from 1½ to 2½in. below the top edge; whereas a diagonal cut was usual on tiles with slacker sections to the flange.

At the bottom corners, clay could be removed merely with one slanting and one vertical cut of the knife; or an additional slice could be taken from the outside of the flange. In one example, the flange was removed entirely for a distance of 1¼in. giving what appeared to be a 'universal' tile suitable for use in either direction. It certainly did not have the semi-circular scribings which indicate the bottom ends of tegulae—but then only two in three did. Research at Alfoldean must decide the point.

There was one anomalous piece which, by its thickness of 1in., would seem to have come from a tegula: its upper, unsanded surface bore both a light ripple pattern which *may* have been made with Comb B and a straight stroke made with a comb with wider teeth—both in respect of the teeth and their spacing. As only two grooves are left, I do not think it worth publishing the profile at the present time.

Prints of hobnailed shoes and dog's paws were found on fragments: the dog seems to have walked across the tile in one direction, leaving two prints, but returned at a run—making just one! That such tiles were not regarded as unusable, however, is clear from Winbolt's finds at Alfoldean.<sup>1</sup>

### *Imbrices*

Again it is not possible to quote the original length of the Itchingfield products. Apertures at the wider end were typically 7in. Profiles were either semi-circular or ogival. On tiles fired to a grey-brown colour, walls were about  $\frac{3}{4}$ in. thick but nearer  $\frac{1}{2}$ in. in those fired brick red; both types being roughly equally common and apparently contemporary.

### *Pila Tiles*

Two examples of 11in. pila tiles were recovered in pieces, one being  $1\frac{1}{2}$ in. thick, the other  $1-1\frac{1}{4}$ in. No. 8in. pila tiles were recognized.

### *Flat Floor Tiles, etc.*

There is great variability in the thickness of such tiles and so it is dangerous to classify the finds just upon the thickness of perhaps small pieces. However, the following seem clearly distinguishable.

(a) Sub-floor tiles,  $15\frac{3}{4}$ in. wide and  $1\frac{5}{8}$ in. thick. There were also a number of pieces  $1\frac{1}{2}$ in. thick which may be parts of similar tiles: one did measure  $12\frac{3}{4}$ in. across a broken face and they could be part of a batch made thinner than normal, rather than of a wholly different type. One of them bore the strong imprint of a hobnailed shoe.

(b) A small piece  $2\frac{3}{4}$ in. thick is of pale orange-brown ware. The tile which came from the remains of the bridge at Alfoldean,<sup>2</sup> now on display at Barbican House, is of the same ware. It measures  $2\frac{7}{8}$ in. across the outside edge which, allowing for the 'dishing' of tile faces when drying, points to Itchingfield being the likely place of origin.

### *Pottery (Fig. 4)*

1. Fragment of flagon neck in orange surfaced, creamy-grey soft ware, showing apical groove above junction of rising handle. *Richborough*, 3rd report (1932), Form 197, A.D. 75-100. Topsoil, Site 2, 1964.

2. Parts of rim, side and base of dish of hard, grey, sandy-gritted ware. Soot-covered externally. Compare *Winchester Excavations 1949-1960*, Fig. 20, 5 and p. 71. A.D. 270-Mid 4th century. Among tile debris in Cuttings 2 and 5, 1965.

3. Small rim and body sherds of grey fumed ware. From (a) 2in. above paved area at Site 1; (b) in topsoil and among debris at Site 2, 1964 and 1965.

<sup>1</sup> S. E. Winbolt, 'Alfoldean Roman Station,' in *Sussex Archaeological Collections* (abbreviated hereafter to *S.A.C.*), vol. 64 (1923), p. 104.

<sup>2</sup> S. E. Winbolt, 'Remains of the Roman Bridge over the Arun,' *S.A.C.*, vol. 76 (1935), p. 185.

4. Side of a handmade dish of 'tile ware.' Pared with knife. Among tile debris in Cutting 5 at Site 2, 1965. Perhaps compare Winbolt's Alfoldean finds nos. 54 and 55 in *S.A.C.*, vol. 65 (1924), p. 128. I have not been able to trace these latter pieces: they were not at Barbican House in 1969.

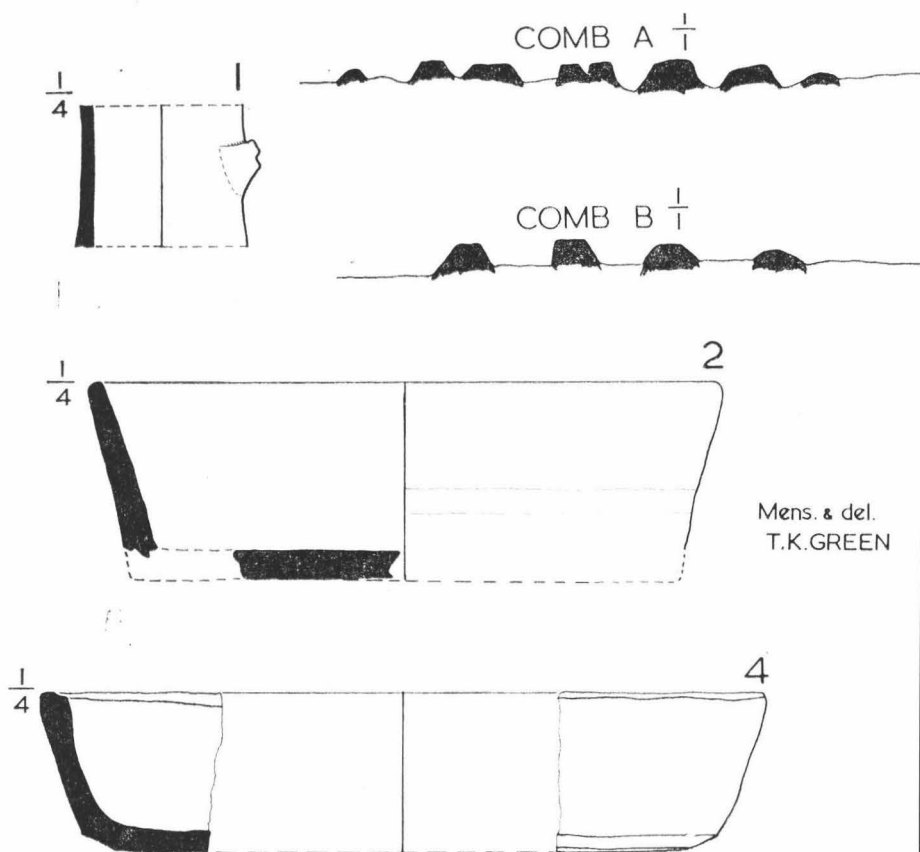


FIG. 4. Combs and Pottery



## DISCUSSION

On the basis of the evidence for a clamp at Site 2, the presence of 'wasters,' the general quantities of tile debris and the strikingly non-domestic character of the building with its integral 'patio,' it appears that Itchingfield was the site of a Roman tiler.

Given that this identification is correct, it is appropriate to discuss it in relation to finds of similar sites. Apart from the elaborate military establishment at Holt, Denbighshire,<sup>1</sup> run by Legio XX for the supply of their depot at Chester, there is little published about the detailed operation of tileries, especially civilian ones. Numerous finds of tile-kilns or clamps have been reported<sup>2</sup> but seldom is there any mention of the tile-making—as opposed to the tile-firing—processes. What evidence there is can be summarised as follows.

Sometime between 1922 and 1946, Miss M. C. Fair excavated a burnt-out hut, with 'a floor of tiles and walls of timber and wattle and daub' associated with kilns at Muncaster in Eskdale.<sup>3</sup> She identified it as either 'a potters' workshop or perhaps the supervisor's house': the finding of 'sherds dried and hardened but not kiln-fired' makes the workshop seem the more likely. Efforts by R. L. Bellhouse to re-examine this interesting site were not successful.<sup>4</sup>

Beside the kiln at Wykehurst, Surrey,<sup>5</sup> the late Prof. Goodchild found a drying yard made chiefly of broken 'wasters.' At Leigh Sinton, Worcs.,<sup>6</sup> there was a short length of 'track,' made of rough stones, running away from the side of the kiln. Since the published plan seems to show it stopping short of a ditch fifty feet away without either having crossed this or been cut by it, the 'track' may really have been part of a drying area. All traces of oven domes or associated buildings at the tilerly at Brampton, Cumberland,<sup>7</sup> were destroyed by a mechanical digger before the nature of the site was recognized. The same may have happened

<sup>1</sup> W. F. Grimes, 'Holt, Denbighshire: The Works-Depot of the Twentieth Legion at Castle Lyons,' in *Y Cymmrodor*, vol. 41 (1930).

<sup>2</sup> The starting point for research on the subject is still Grimes' gazetteer on pp. 62-85 of his 'Holt' report, supplemented by the one in *The Ordnance Survey Map of Roman Britain*, 3rd ed. (1956), pp. 38-9, for the names of more recently-found sites.

<sup>3</sup> Miss M. C. Fair, 'Addenda Antiquaria (f),' in *Trans. Cumb. & Westm. Antiq. & Arch. Soc.*, 2nd series (hereafter abbreviated to *C.W.2*), vol. 48 (1948), p. 219.

<sup>4</sup> R. L. Bellhouse, 'Excavations in Eskdale: the Muncaster Roman kilns,' in *C.W.2*, vol. 60 (1960), pp. 1-12; vol. 61 (1961), pp. 47-56.

<sup>5</sup> R. G. Goodchild, *op. cit.*, pp. 79-80

<sup>6</sup> P. L. Waters, 'A Romano-British Tile Kiln at Upper Sandlin Farm, Leigh Sinton, Worcestershire,' in *Trans. Worcs. Arch. Soc.*, new series, vol. 40 (1963), pp. 1-5.

<sup>7</sup> R. Hogg, 'Excavation of the Roman auxiliary tilerly, Brampton, 1965,' in *C.W.2*, vol. 65 (1965), p. 162.

at Canterbury,<sup>1</sup> where—apart from kilns—Jenkins only found pits filled by tile ‘wasters.’

At Ashtead, Surrey,<sup>2</sup> Hampton has found clay pits with ramps leading up to the firing areas whose clamps were reported by Lowther.<sup>3</sup> The Colchester tilery reported by Hull<sup>4</sup> has not yet been investigated<sup>5</sup> and Quernmore, Lancs.,<sup>6</sup> is unpublished.

Thus it appears that the only parallel to be found to the building at Itchingfield is the Second Workshop at Holt,<sup>7</sup> which had a hypocaust attached to it and stood beside a large double-flue kiln. But even here the floor had been destroyed and its identification as a workshop rests purely (but plausibly) on its proximity to the kilns, away from the domestic area of the site. So the claim that the Itchingfield building was a tilemakers’ workshop must stand almost entirely on its own merits.

It has been stressed above that the construction of the building’s foundations and the raft was on a massive scale, considering that the timber structure was only about 25ft. long and 12ft. wide with a thatched roof. Stone appears to have been available in quite embarrassing quantities: note how it was allowed to pack up against Wall 2 to the extent that it overrode the herringbone courses. Yet the pedestals show how well it could be dressed.

Good building stone was a scarce commodity in SE. England in Roman times.<sup>8</sup> It was not uncommon for such friable materials as chalk to serve as footings<sup>9</sup> and Hull has suggested<sup>10</sup> that the relative abundance of kilns in Essex is because bricks and tiles were essential if Roman-style buildings were to be possible in that area. Why, then, was this valuable by-product of clay-working not sold off?

It is clear that some stone was used at Alfoldean<sup>11</sup> but one cannot be certain as to the extent and time, nor its source. The evidence

<sup>1</sup> Frank Jenkins, ‘A Roman Tilery and Two Pottery Kilns at Durovernum (Canterbury),’ in *Antiquaries Journal*, vol. 36 (1956), p. 43.

<sup>2</sup> *Journal of Roman Studies*, vol. 57 (1967), p. 200.

<sup>3</sup> A. W. G. Lowther, ‘Excavations at Ashtead, Surrey,’ in *Surrey Arch. Coll.*, vol. 38, Part 1 (1929), p. 1-17.

<sup>4</sup> M. R. Hull, ‘The Roman Potters’ Kilns at Colchester’ (1963), Research Report no. 20 of Society of Antiquaries of London, p. 176.

<sup>5</sup> Private communication dated 25 Sept., 1968.

<sup>6</sup> (a) Thos. May, ‘The Ornamented Terra Sigillata (Samian) Pottery found at Lancaster,’ in *Trans. Lancs. & Ches. Arch. Soc.*, vol. 24 (1906), p. 55; (b) Alice Johnson, ‘The Gallo-Roman Potters’ Marks found on Terra Sigillata (Samian) Ware found at Lancaster and Quernmore,’ *ibid.*, p. 54; (c) Alice Johnson, ‘Supplementary List . . .’ in *T.L. & C.A.S.*, vol. 27 (1909), p. 112, 114.

<sup>7</sup> Grimes, *op. cit.*, p. 23.

<sup>8</sup> Sheppard Frere, *Britannia* (1967), pp. 247-8.

<sup>9</sup> N. E. S. Norris and G. P. Burstow, ‘A Prehistoric and Romano-British Site at West Blatchington, Hove,’ in *S.A.C.*, vol. 89 (1950), p. 39.

<sup>10</sup> V.C.H., *Essex*, vol. 3 (1963), p. 17.

<sup>11</sup> S. E. Winbolt, ‘Alfoldean Roman Station,’ in *S.A.C.*, vol. 64 (1923), pp. 89-93; *S.A.C.*, vol. 65 (1924), pp. 112, 114.

from such sites as Bignor<sup>1</sup> and Rapsley<sup>2</sup> suggests that stone was not used for private buildings in this part of the Weald much before the start of the 3rd century. Of course, the impetus for the 1st century stone buildings on the coastal plain of Sussex was of a quite special nature. Although the date of usage of Itchingfield tiles at Alfoldean must be determined by further excavation under modern conditions, it seems reasonable to expect that 2nd century dates might be established.<sup>3</sup> The evidence of the piece of flagon neck would not be inconsistent with such a date, for it seems more likely to have come from some other, domestic, site as part of a vessel in daily use, than as a piece of rubbish a century or more old. And, if an early 2nd century date for the tileworks' main period of activity is accepted, then it is quite reasonable to find that the market for building stone had yet to develop.

It is evident that the building was constructed after tile production had been under way for some time but before either of the two flue-tile combs had been worn out. Thus it is consistent that the need was seen at the start for both a workshop and an associated drying area.

The dumping of tile debris into earlier pits in the 3rd or 4th century can be paralleled at both Wykehurst<sup>4</sup> and Canterbury.<sup>5</sup> If the handmade bowl really was comparable to the handmade vessels that Winbolt found at Alfoldean in 1922 (see p. 34), then it would have been *their* find context—rather than that of the Itchingfield example—which might have provided a date for this material.

With the evidence from Itchingfield that keying combs may serve to trace the commercial links of a tileworks, it is to be hoped that future excavators of buildings will publish the comb profiles on flue tiles. Retrospective work all too often runs up against the admission that such things were not thought worthy of record. The simultaneous use of two combs at Itchingfield seems to point to their being the personal mark of the tilemaker rather than—as implied in captions at Fishbourne—the trademarks of given establishments. Productivity questions may dictate the employment of more than one worker or comb-user in order to charge the kiln in a reasonable time: two combs were employed at Canterbury.<sup>6</sup> But the finding of such inscriptions as PRIMUS FECIT X<sup>7</sup> suggests the setting of more individual targets, in which case

<sup>1</sup> *Journal of Roman Studies*, vol. 53, p. 155.

<sup>2</sup> The Viscountess Hanworth, 'Rapsley, Ewhurst (Parish of Cranleigh),' in *Surrey Arch. Coll.*, vol. 65 (1968), p. 9.

<sup>3</sup> V.C.H., *Sussex*, vol. 3, p. 41.

<sup>4</sup> Goodchild, *op. cit.*, p. 86.

<sup>5</sup> Jenkins, *op. cit.*, p. 43.

<sup>6</sup> *Ibid.*, p. 45.

<sup>7</sup> *Archaeological Journal*, vol. 75, p. 27.

the scribing of non-functional marks with one's comb would indicate clearly whose work was whose, whatever the type of tile.

*Note to Future Workers*

It is perhaps worth while pointing out the sheer bulk of the finds which may be recovered in excavating a tileworks. A complete Itchingfield tegula measuring say  $17 \times 12\frac{1}{2}$  in. will weigh about  $12\frac{1}{2}$  lb. dry and 14 lb. fresh from the ground: this means that the equivalent of eight tiles will weigh one hundredweight. It is obligatory that all specimens saved should be washed but it will be found much easier if they can be left for 48 hours to dry out, for then the worst of the strongly adhering clay crumbles off. In cases where finds can be left to dry safely on site, well and good: but when the location of the site makes this impossible there may be some hundredweights of finds to be removed every evening. Where metrical and statistical analysis is contemplated and samples need to reach perhaps 50 or more before much significance can be expected in differences between sample parameters—given the high inherent variability of a handmade product like a tile—then the logistics of handling one's finds need to be well thought out at the start.