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Surrey Archaeological Collections, 84, 1–87, 1997

**The excavation of two medieval pottery kiln
sites and two sections through the
London-Lewes Roman road at Clacket Lane,
near Titsey, 1992**

GRAHAM HAYMAN

With a major contribution on the pottery by
P JONES

3 The main excavations

3.2.1 The geophysical anomalies

At the positions marked A and B on fig 2 sizeable iron objects (a large bolt and a horseshoe respectively) were discovered, and these were most probably the cause of the magnetic variation which was observed. Nothing was found to explain the anomalies which were identified within the southern excavation area, but, as no features were found at these locations, it is possible that iron objects in the topsoil were again responsible for then variations observed.

3.2.3 The pond

The excavation of a section through this feature quickly revealed that the vegetation present had a less firm hold than had been thought. It was clear that, rather than containing a sequence of layers and water-logged deposits as might have been expected if the feature had been of medieval date, the pond was still largely water-filled beneath a colonizing but not yet fully consolidated layer of vegetation. Further, it was discovered that the pond, certainly around the edges and probably throughout, had a lining of large blocks of stone, which indicated that it had not been used as a clay pit.

The excavation of this section was watched by the author and by Patricia Wiltshire the Environmental Co-ordinator for English Heritage. Both parties are in agreement that this pond is probably a relatively recent feature and may well have been used simply as a watering hole for livestock.

3.3 ENVIRONMENTAL SAMPLING

In the early stages of excavation the site was visited by Patricia Wiltshire of English Heritage who discussed the environmental potential of the site with the author. After due consideration of the nature of the site and the various environmental options available it was decided that, as the pond (discussed above) had been found to be of relatively recent date, the only area where environmental input might prove useful was the study of burnt remains. To discuss the possibilities for this technique the site was visited by Matthew Canti of English Heritage whose opinion was that the most likely sources of useful burnt remains would be the kilns. The various methods available for sampling these, or any other feature which might prove suitable, were considered and the option chosen would depend on the nature of the feature encountered.

During the excavation only the kilns were found to be suitable for environmental study and bulk samples were taken from the layers which appeared to have the greatest potential. When these samples were processed it was found that most of the burnt material from the vicinity of the northern kiln was poorly preserved and largely disintegrated during flotation. Better preserved remains were recovered from four contexts within the southern kiln and these were sent to Mark Robinson of the University Museum, for analysis. The report on his findings is printed below (Appendix 2).

3.4 THE NORTHERN EXCAVATION

3.4.3 *The post-medieval features*

Ditches 226, 285 and 286

Ditch 226 ran in an east-westerly direction across the central-northern part of the site and was cut by drain 280; it had a fill of dark grey-brown loam. At its western end the feature ran beneath the stones of feature 227 and was not seen beyond this. The feature was not excavated at this stage but had been sampled with a machine-cut section during trial trenching and had been found to contain pieces of post medieval brick. A line of trees was present along the southern side of the ditch (one Lay within the excavation area and can be seen on fig 5), and these clearly follow the line of a field boundary which appears on the Ordnance Survey map of the area (fig 1). Ditches 285 and 286 were also unexcavated but were observed to have similar fills to 226 which indicated that they were relatively modern features - 285 also coincides with a field boundary which appears on the Ordnance Survey map.

The stony areas 227, 283 and 284 (fig 5)

One small and two larger areas of densely packed rubble were found within the excavation area. This rubble consisted mainly of fist-sized lumps of flint but included some pieces of chalk and 20th century brick fragments. In addition to the brick, 227 and 284 were found to contain other finds of 20th century date which included two batteries and a headlamp from an early motor car; 227 was also found to contain quite frequent pieces of well preserved animal bone (probably from cattle).

A small corner of 227 (253) was removed to reveal the extent of kiln context 257, but otherwise these contexts were not excavated. Discussion with an individual who used to farm the field indicated that 227 and 284 may have been associated with a former entrance to the field from Clacket Lane prior to the construction of the M25 Clacket Lane bridge.

Drain 280 (fig 5)

Drain 280 ran in an east-westerly direction across the central-northern part of the site. This feature had been observed in the same evaluation trial trench as ditch 226 and was known to contain a concrete section drain pipe in a gravel filled trench - it was clearly of late 20th century date. The course of this feature through the far eastern part of the site was not clarified.

Field Drains 281 and 282 (fig 5)

281 and 282 were narrow steep-sided flat-bottomed machine-cut gullies which had been backfilled by large pea-sized pellets made from some unknown material; these were clearly late 20th century field drains.

3.5 THE SOUTHERN EXCAVATION

3.5.4 Features of medieval or later date (fig 9)

The majority of features included in this section are postholes which formed a line running in an east-west direction across the entire width of the northern part of the site. A small number of other postholes or small pits (521, 523, 524, 536, 537, 538, 539, 540) which may or may not be associated with this line are also discussed here.

The spacing of the main line of postholes was reasonably even (roughly 2-2.5m between each post) though neither this nor the alignment of the postholes was entirely regular. A larger gap of approximately 6m was present between the paired postholes 533 and 534 and posthole 535, and this may indicate the location of an entrance. The majority of features in this line still contained the base of the wooden posts which had filled them. Some of the smaller holes were almost entirely filled by the post slump and these features may have contained driven posts rather than posts set in dug holes. This line was sampled by the excavation of postholes 511-517, 520 and 522, (and possibly 537 - see below) the remainder were not examined. These features were found to be between 0.20m (516) and 0.30m (512) deep. 512 was a double posthole containing the remains of two posts. 511 and 515 also contained the remains of wooden posts though that in 515 was dragged out and lost during machining. Traces of a post pipe (indicated by the presence of less compact fill) was observed on the western side of 516, and single large fist-sized stones found on the eastern side of 516 and the western side of 517 may have been used as packers. All of these features had a fill of grubby grey clay. Two sherds of medieval pottery were recovered from posthole 517, two similar sherds were recovered from 520, and one sherd was recovered from 521.

521 and 523 were small postholes set roughly 1.5m apart with one lying each side of the line described above. 521 still contained part of a wooden post but was not excavated. 523 was dug and found to be 0.12m deep with a fill of grubby grey clay. 524 was a highly dubious stake hole which lay 0.15m to the south of 523 and was a maximum of 0.06m deep. Feature 536 was a small pit with a fill of orangy-grey clay which contained four very small sherds of medieval pottery. The feature was located in the north-western corner of the site and was a maximum of 0.26m deep. The sherds recovered from this feature may be representative of its date, but considering the primary function of this site, there is an equal chance that such a small number of finds could be present as contamination in a feature of later date.

537 and 535 were small postholes lying close to the unexcavated porthole 527. It is not certain which of these three features belongs to the main line of postholes though either 527 or 538 would seem most likely. 537 and 538 both had fills of grubby grey clay and were 0.14m and 0.18m deep respectively. Six sherds of medieval pottery were recovered from 537.

519 and 540 were both either small pits or postholes which had fills of orangy-grey clay. These features were 0.22m and 0.25m deep respectively and both were found on the northern side of the line of postholes described above. Four sherds of medieval pottery were recovered from 539 but no finds were recovered from 540.

The obvious interpretation of the majority of these postholes is that they were part of a fence line boundary, and it seems most likely that 521 and 523, and 527 and 537 indicate the position of stiles. Whether 536, 539 and 540 were ever associated with this boundary is uncertain. The problem with these features is that they are difficult to date securely with the evidence available. Postholes are often found to contain few finds because such features are usually backfilled soon after they are dug and have little opportunity to accumulate surface material. Sherds of medieval pottery were recovered from some of the features excavated and these would normally be sufficient to indicate the date of those features and the others by association. However, the nature of this site was exceptional because its use for pottery production in the medieval period would have created an immense litter of waster sherds which has subsequently been spread over an even larger area. The potential for contamination of later features is very great and it is impossible to be certain that these finds are not present residually. The presence of surviving timbers in many of the postholes is curious and those features which did not contain preserved wood could indicate either that preservation conditions were variable, or (as seems more likely) that the posts were removed (offering a further chance for contamination) when the boundary was no longer required. Some posts were presumably extracted intact, others probably broke off in the ground. It seems unlikely that the ground conditions so close to the present surface would have been favourable for the long-

term preservation of fresh wood and, as no fresh organic remains were found in any of the other features excavated on site (in particular the securely dated medieval postholes) this suggests that the postholes discussed here must be of later date. No available cartographic sources of 19th or 20th century date indicate a field boundary in this position, but the fence may have been insubstantial or quite short lived so this need not necessarily be an indication that the feature is of earlier date. Several of the preserved posts were retained so that the most suitable could be sent for radiocarbon dating; however, overall consideration of the evidence suggests that these features (with the possible exception of 536, 539 and 540) are very unlikely to be of medieval date so this option has not been chosen.

5 The other finds and building materials by Suzanne Huson

5.3 CONSERVATION REPORT, by Adrian Tribe

5.3.2 Examination and X-Radiography

Visual examination confirmed that all the finds were in a stable condition, with no mineral-preserved organic matter present. The metallic ring was found to have an unusual smooth, finely-cracked, grey-black 'patina' present in some areas, with a slightly rough grey-black surface where this 'patina' was absent. X-radiography of all the finds (UCL X-Ray Nos EH0041, EH0042) revealed little that was not already visible to the naked eye, and showed that mineralisation was extensive on some of the iron items and apparently complete on the 2 copper alloy coins.

5.3.3 Assessment and Selection

The main finds research objective was to establish the identify of any artefacts that could assist in the interpretation of the kiln sites, particularly with regard to dating and the presence of any associated workshops. Due to the poor nature of the finds assemblage, only the silver coin fragment was selected to undergo conservation treatment, so that surface detail could be revealed, enabling the coin's identify to be confirmed.

A subsidiary objective was to determine the composition of the metallic ring and to put forward an explanation for its unusual surface appearance.

5.3.4 Treatment and Analysis

The silver coin fragment

This item was mechanically cleaned and given two coats of an acrylic lacquer solution to help prevent subsequent tarnishing. The coin was found to be a Long Cross halfpenny of Henry III, dating from 1248-1250, thus providing a possible indication of the date of the medieval layer around the northern kiln from which it was recovered.

The metallic ring

The ring (average external diameter 43mm) was analysed using x-ray fluorescence (XRF) analysis and the energy dispersive x-ray analysis feature of a scanning electron microscope (SEM). This work was carried out by Cath Mortimer, English Heritage A.M.Lab. (XRF), and Dr John Merkel, Institute of Archaeology (SEM). These analyses showed that the ring was made of copper, with tin, lead, zinc and arsenic present as other minor metallic constituents.

One possible interpretation of the results of visual and analytical examination is that the ring was at some time accidentally heated in the northern kiln (which was a reducing kiln) and then cleared out of the kiln along with other debris and dumped in the kiln area. The corrosion products that would be expected on copper alloy that has been heated in a reducing atmosphere would be the black copper (II) oxide, tenorite, and possibly sulphides, which are also grey or black. The cracked appearance of the 'patina' may have been caused by volume changes that would have occurred during the formation of the corrosion products.

Further analysis would need to be carried out to confirm the identity of the corrosion products present on the ring. X-ray diffraction (XRD) analysis would be a suitable method to use for this work, but was not available to the conservator during the project's analysis phase.

5.3.5 Packaging and Storage

All the finds were packaged in desiccated conditions (in an air-tight polyethylene box containing silica gel) to help reduce future deterioration to a minimum, although rigorous curation will be required if these conditions are to be maintained.

5.4 NORTHERN SITE CATALOGUE OF FINDS (fig 31)

Abbreviations

D.	Diameter	Th.	Thickness
L.	Length	g.	grammes
W.	Width	M/PM	Medieval/Post Medieval

Worked Flint

Context	Flakes	Blades	Tools	TOTAL
107			1	1
117		1		1
205	4			4
225	1			1
228		1		1
240		1		1
261	1			1
TOTAL	6	3	1	10

None of the 10 pieces of worked flint came from primary contexts and only one is of note, the single tool, which is an end scraper worked on a cortexed blade (context 107). Most of the flint is brown-black in colour, but two blades (contexts 228 and 240) are of mottled grey flint.

Silver

- 1 Coin Halfpenny of Henry III
 Long Cross halfpenny, Class 3b, 1248-50
 Minted in Ilchester, moneyer Randulf
obverse: [HEN]RICUS REX ...
reverse: ... JFOV IVE ...
 Three pellets in each quarter
 D. 18mm.

(235/255)

Copper Alloy

- 1 Coin. Possibly a post-17th century halfpenny.
 Details very worn.

- D.c20mm. (110)
- 2 Coin. Possibly 17th century.
Details very worn.
D. 26mm. (235)
- 3 Ring of round section.
D.44mm.
For further details see conservation report. (201)

Iron

- 1 Claw hammer
The head is trumpet shaped and the arms and the vertical lugs are all broken. The central rectangular socket hole still has part of an iron nail in situ, presumably used to hold the head onto the shaft.
L.78mni, W.24mm, Th.24mm (max).
(cf Goodall 1980, 513 no 54 for a similar example dated 1150-1550 AD) (240)

- 2 Knife
The back and the edge of the blade taper towards the tip.
Sloping shoulder and whittle tang of rectangular section.
Broken at both ends.
L.125mm, W.16mm, Th.8mm.
(cf Cowgill et al 1987, 78 no 2 dated late 12th century) (235)

- 3 Knife
Small fragment of blade with a straight back and tapering edge.
Probably medieval.
L.38rnm, W.9mm, Th.4mm. (240)

- 4 Hinge fragment
Strip of rectangular section with two round rivet holes centrally placed.
L.47mm, W.24rnm. Th.6mm. (120)

5 Horseshoe

Fragment of arm with two rectangular-headed nails *in situ*.

13th century or later.

L.92mm, W.30mm, Th.4mm.

(cf Goodall 1981, 61)

(200)

6 Horseshoe

Fragment of arm with pieces of two nails in situ.

13th century or later.

L.90mm, W.30mm. Th.4mm.

(cf Goodall 1981, 61)

(200)

7 Horseshoe

Fragment of arm with two rectangular nail holes.

13th century or later.

L.95mm, W.22mm, Th.5mm.

(cf Goodall 1981, 61)

(256)

8 Length of wire, possibly a brooch pin.

Round section.

L.38mm, D.3mm.

(110)

9 Length of wire, possibly a brooch pin.

Round section and traces of tinning.

L.24mm, D.3mm.

(250)

10 Length of wire.

L.155mm, D.4mm.

(235)

11 Rod fragment.

L.58mm, D.7mm.

(235)

In addition 10 nails were recovered from the following eight context: 120, 200, 205 (x 2), 224

(x 2), 235, 256, 257 and 275. Four of these are headless shank fragments, the others have been classified according to Goodall's nail typology (Goodall 1973, 173-4). Three are of Type 1 and the other three of Type 6, although as all are broken it has not been possible to measure the complete shank length.

Iron slag

- 12 Hearthbase (complete).
L.75rnm, W.70mm, Th.40mm.
220g. (200)

Stone

Lower Greensand

- 1 Quernstone fragment.
Upper stone. Lower surface smoothed, upper surface roughly tooled.
L.95rnm, W.30mm, Th.45mm. (200)

2 Quernstone fragment.
Upper stone. The lower surface has been tooled and is worn in a concentric manner. The upper surface and edge are roughly tooled. There are traces of burning on the lower surface.
D. central hole 55mm.
Radius 230mm.
Surviving L.290rnm, W.190mm.
Th.60mm at centre, 30mm at edge. (205)

3 Quernstone fragment.
Upper stone. Lower surface roughly tooled and worn, upper surface and edge roughly tooled.
L.230mrn. W.135mm, Th.56mm. (240W)

Wealden-type Sandstone

- 4 Flat slab with possible use wear.
L. 170mm, W.160mm, Th.30mm. (240)
- 5 Flat slab.
Two edges have been cut to form a right angle, the others are broken. One surface is smoothed with possible use wear.
L.220rnm, W.215mm, Th.25mm. (240)

Building Materials

(figures given are weights in grammes)

Context	Tile			Daub	TOTAL
	Roman	M/ PM	M/PM Brick		
101	405	30		435	
102	80				80
200	50			135	185
201				25	25
205		25			25
217				109	109
224				11	11
225		191	148	19	358
235	260	20		15	295
253		240			240
255				143	143
256		41		10	51
257		24		65	89
258				70	79
260				190	190
261				100	100
271				52	52
299		61			61
TOTAL	795	632	148	944	2519

The four fragments of Roman tile are all probably from floor tiles, being far too thick for roofing purposes. However, there are no diagnostic features on any of the pieces. The Roman material is all residual, generally being surface finds from the machining of the site, only context 235 is stratified, being a layer of hand removed topsoil from the vicinity of the kiln. There is no actual evidence of Roman occupation at the site although the London-Lewes Roman road passed nearby and the Titsey Roman temple is located to the north-west. The occurrence of ubiquitous Roman tile is therefore unsurprising at this site, and significantly no tile of this sort was recovered from the southern site, which is much further away from the temple.

The medieval material is all peg-hole roof tile, in the common orange-red sand tempered fabrics, it is quite distinct to the tile of pottery-type fabrics. The daub is fragmentary, pieces being generally very rolled and in only three instances were wattle impressions still discernible. The medieval tile, brick and daub from contexts around the kiln could indicate that structures had been present in the vicinity, for example possible work areas associated with the kiln.

5.5 SOUTHERN SITE CATALOGUE OF FINDS (fig 31)

Worked Flint

Context	Flakes	Blades	Tools	TOTAL
500	1	2		3
501	1			1
502B	2			2
503	2			2
504	2			2
508	1	1		1
508B	2			1
541	2	1		3
548			1	1
562	1			1
593A	2			2
TOTAL	15	3	1	19

All the worked flints were residual with the possible exception of those from 593A, a pre kiln feature which could be prehistoric. Two pieces are of note, the only tool (context 548), an awl worked on a short blade of blue mottled flint (Fig 31, FL I) and a long blade (context 500) (Fig 31, FL 2) which has some slight retouch and is probably early Neolithic (David Underwood pers comm). The awl and one other blade (context 541) (Fig 31, FL 3) are of blue mottled flint, the rest of the pieces including the other blade (context 500) (Fig 31, FL 14) being of brown-black flint. The assemblage is Neolithic/Early Bronze Age in character (Phil Jones pers comm).

Iron

13 Knife.

The back and the edge of the blade taper towards the point.

Sloping shoulder with the whittle tang centrally placed.

Broken at both ends.

L.123mm, W.23mm, Th.6mm.

(cf Cowgill *et al* 1987, 82 no 27, dated late 13th century)

(504)

- 14 D-shaped frame, possibly part of a hasp. The arms are of rectangular section. One junction appears to be cast all in one, the other appears either hinged or riveted. Broken along straight section.
 L.72mm, W.23rnm, Th. of arm 7mm.
 (cf Goodall 1980, 510 no 17 dated 1165-1550 AD) (504)
- 15 Hinge fragment
 Strip of rectangular section, with two rivets *in situ*.
 L.72mm, W.30mm, Th.3rnrm. (500)
- 16 Horseshoe
 Fragment of arm with rectangular nail holes.
 L.83mm, W.20mm, Th.7mm. (502)
- 17 Bar of rectangular section, tapering slightly to one end.
 L.85mrn, W.13mm, Th.10mm. (500)
- 18 Bar of square section, broken at both ends.
 L.37mrn, W.16mm² (500)
- 19 Bar of rectangular section.
 L.66mm. W.12mm, Th.7mm. (501)
- 20 Rod
 L.50mm, D.9mm. (500)
- 21 Strip fragment of rectangular section.
 L.18mm, W.6mm, Th.3mm. (500)
- 22 Strip fragment of rectangular section.
 L.24mm, W.8mm, Th.4mm. (500)

In addition eight nails were recovered from the following seven contexts: 500 (x 2), 501, 502, 504, 541, 554 and 563. They were classified according to Goodall's nail typology (Goodall 1973,

17304). Five are of Type 1 and one of Type 6. There is also a single piece of headless shank and one horseshoe nail of Type C.

Iron Slag

23 Hearthbase (complete)

L.105mm, W.100mm. Th.45min.

400g

(500)

Stone

Sandstone

6 Quernstone fragments.

One surface is very smooth, hut it is too fragmentary to identify it as an upper or lower stone.

L.68mm, W.53mm, Th.28mm.

(508)

Building Materials

(figures given are weights in grammes)

Context	M/PM Tile	M/PM Brick	Daub	TOTAL
219			15	15
500	161	564	247	972
501	31		168	199
502	64	54		118
502B	19	18	18	55
503	9			9
504			13	13
508	53	70	7	130
508B	38			38
541			26	26
548			7	7
530			13	13
560			13	13
617			21	21
TOTAL	375	706	548	1629

The tile is all peg-hole roof tile and the daub is very rolled with no surviving wattle impressions. Just over half, 972g of the material, is from context 500, a machining layer, the rest is from features and layers around the site and could be associated with structures around the kiln area.