

Assessment of the Ceramic Building Material from Blakeney, Norfolk

Kate Steane and Alan Vince

Excavations at the site of the “Blakeney Chapel”, Blakeney, Norfolk, by Lindsey Archaeological Services revealed that the site, shown as a single rectangular structure on a map of the 1580s and as ruins on maps from the early 19th century onwards, represent a medieval and post-medieval complex, in which in its latest phase iron-working was practiced.

Perhaps because of the isolated nature of the site, which is situated on low-lying coastal marshland, well to the north of the village of Blakeney, the site seems not to have been substantially quarried or disturbed since its abandonment and consequently a large quantity of ceramic building material, derived in the main from the walls and roof of the final structures on the site, were present.

Because such deposits are rare, a decision was taken to develop a site-specific sampling and recording and retention policy in collaboration with Dave Gurney of Norfolk County Council. This policy involved the establishment of a fabric series for the brick and tile and the collection of metrical and non-metrical data for the various forms present.

Description

Ten thousand and sixty-two fragments of ceramic building material were recorded in detail. In addition, a large quantity of brick fragments with no diagnostic typological features were discarded with no record. In total, the recorded material weighed 1393.457 Kg,

Fabrics

Initially, separate fabric series were started for the brick (prefixed B), floor (prefixed F) and roof tile (prefixed T). However, there were a few cases where bricks occurred in roof tile fabrics and roof tiles occurred in brick fabrics (Table 1). For the roof tiles, it was decided after the recording of about 370 tiles that the distinction between fabrics T1 and T2 was not worth the effort to record (each tile had to be examined on a freshly-broken edge) and consequently all the remaining tiles of this type were recorded as being fabric T1/T2.

Table 1

FABRIC	BRICK	FLANGED PANT	FLAT	FLOOR	PANT	Grand Total
	3					3
B1	143					143
B2	1221	1			5	1227

B3	100				100
B4	1				1
B5	166				166
B6	10				10
B7	27				27
F1			1		1
F2			3		3
F3			1		1
T1		1			146
T1/T2	2				7994
T2		2			222
T3			1		1
T4			15		15
Grand Total	1673	4	16	5	8367
					10065

Most of the bricks were evenly fired to a red colour. Ten, all of fabric B1, were overfired. These came from two contexts, 1318 and 1393. Twenty-five bricks were reduced, in whole or part. All were of fabric B2 and the majority came from two contexts, 1388 and 1463. A single brick, of fabric B3, was underfired.

Fabric Descriptions

B1

A poorly-mixed fabric consisting of a pink calcareous groundmass with abundant quartz sand containing streaks of finer yellow calcareous clay. The moulding sand consists of subangular quartz grains up to 1.0mm across.

Such “yellow bricks” are common in eastern England in the later medieval period. Two sources are probable: Jurassic marls which outcrop within the Oxford and Kimmeridge clays of the east midlands and, apparently, Flanders. In either case, it is clear that the bricks were imported to the site from some distance.

B2

A poorly-mixed fabric containing sparse large angular flint nodules, up to 30mm across, in a groundmass of abundant subangular quartz sand and light brown micaceous silty clay.

This fabric is similar in appearance to samples of boulder clay from eastern England.

B3

A well-mixed fabric containing few large inclusions and a groundmass of abundant subangular quartz sand and red-firing micaceous silty clay.

This fabric is possibly a variant of B2 but is similar to a sample of clay from the natural deposits cut through by the ?medieval ditch on the Blakeney site.

B4

This fabric should probably be amalgamated with B1. It was separated because of its soft, friable nature.

B5

Similar to B2 but darker red-brown groundmass.

This is probably also a boulder clay fabric (possibly just a variation of B2).

B6

A poorly-mixed fabric with few large inclusions and a groundmass of calcareous clay. The calcareous content takes the form of off-white specks in a red silty, micaceous clay matrix.

This fabric has a similar appearance to that of bricks and tiles produced near the coast in the Lincolnshire Fens. It is likely that similar calcareous marine silts occur along the Norfolk coast.

B7

A poorly-mixed fabric with rounded and angular inclusions of chalk and dark red-brown clay/iron in a calcareous silty, micaceous groundmass.

This fabric has a similar appearance to samples of chalky boulder clay from various sites in eastern England.

F1

A well-mixed light brown calcareous (?) clay containing abundant ill-sorted subangular quartz up to 0.5mm across.

F2

A well-sorted red calcareous fabric containing abundant ill-sorted subangular quartz sand up to 0.5mm across.

There is little difference in fabric between F1 and F2, the main different probably being in firing temperature.

F3

This is probably merely a variant of F1.

T1

This is a poorly-mixed calcareous fabric containing few large inclusions and a groundmass of red-firing silty, micaceous clay. It contains streaks and lenses of red-firing and lighter-firing clay which differ in silt and calcareous content. The moulding sand is a well-sorted subangular quartz sand with grains up to 0.5mm across.

The fabric is similar to that of fabric B6 but with a higher calcareous content.

T2

This is a poorly-mixed non-calcareous fabric containing few large inclusions and a groundmass of red-firing silty, micaceous clay. It differs from fabric T1 in the lack of calcareous clay lenses but is similarly composed of streaks and lenses differing in texture and colour. The moulding sand is identical to that of fabric T1.

T3

This is a poorly-mixed calcareous fabric, similar in its calcareous content to Fabric B1 but with less quartz sand. The moulding sand was calcareous and survives only as voids on the surface of the tiles.

As with fabric B1, two potential sources for this fabric are possible: an eastern Midlands Jurassic marl and Flanders.

T4

This is a well-sorted fabric containing abundant subangular quartz sand in a light-coloured, possibly calcareous groundmass.

The fabric is very similar to that of fabric B1 but is better mixed. It might therefore have been obtained from the same source as B1.

Source

Although it is clear that several distinct clay sources were used for the production of the Blakeney ceramic building material, it is not clear where those sources were located. The calcareous clay fabrics: B1, B4, F1, F2, F3 and T3 could be Flemish imports, but might be of East Midlands origin. The Flemish origin is more likely, given that most of the brick and tile produced in these fabrics have late medieval or early post-medieval typological traits, but

scientific analysis would be required to reliably provenance this material (and also to determine whether all six fabrics utilized the same clays and sands).

The second group consists of non-calcareous boulder clay. This includes fabrics B2, B5 and T4. Deposits of similar clay, containing angular flint nodules, are extensive in Eastern England and a local origin for these bricks and tiles is likely. Fabric B3 might be of similar origin, but is better sorted and does not contain the larger flint inclusions. Fabric B7 is a calcareous version of a similar clay.

The third group consists of fabrics B6, T1 and T2, all of which are probably made from marine or estuarine clays with a moderate calcareous content and variable amounts of silt, composed of quartz and muscovite. Such clays occur extensively around the North Sea, on both the British Isles and continental shores. It is very likely that T1 and T2 were obtained from the same source and differ in the presence of calcareous bands in the parent clay whereas fabric B6 is probably from a separate source. Here too, however, one would have to have scientific analysis of the clays to test this.

Forms

There were relatively few forms represented at Blakeney Chapel (Table 2). The most common was the pantile, followed by bricks. Other forms were rare and consisted of flat roof tiles (only 16 examples), floor tiles (5 examples), and four fragments interpreted as flanged pantiles.

Table 2

Form	B1	B2	B3	B4	B5	B6	B7	F1	F2	F3	T1	T1/2	T1/T2	T2	T3	T4	Grand Total
BRICK	143	1221	100	1	166	10	27						2				1670
FLAT															1	15	16
FLOOR								1	3	1							5
PANT		6									147	1	7993	224			8368
Grand Total	143	1227	100	1	166	10	27	1	3	1	147	1	7995	224	1	15	10062

Bricks

After an initial pilot study, to establish the range of fabrics and forms present, only bricks with two or more measureable dimensions were recorded.

Brick length

Only 48 bricks had complete lengths. These were of fabrics B1, B2, B3, B6 and B7. A plot of length against width for these bricks shows that with one exception there is relatively little

variation in length, from 220mm to 255mm but that fabric B2, B3 and B7 bricks are on average longer than those of fabrics B1 and B6 (Table 3), which have a higher variability in length. The statistics for fabric B1 bricks are affected by a single very short example, only 150mm long.

Table 3

subfabric	Mean Length	SDev	N
B1	229.36	27.63	11
B6	237.00	10.37	5
B3	245.00	7.07	2
B7	246.67	2.89	3
B2	246.78	5.06	27
Grand Total	241.69	15.56	48

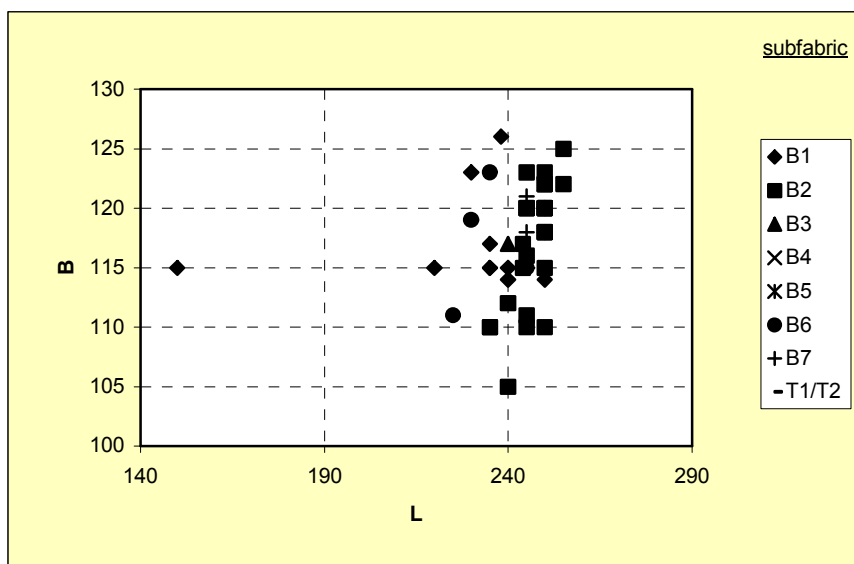


Figure 1

Brick width

Four hundred and sixteen brick fragments had measureable widths. These range from 88mm to 230mm (Table 4, Fig 2 and Fig 3). As with the lengths, there is some correlation of widths and fabrics. Furthermore, there is some evidence that more than one width mode was present in a single fabric (even allowing for the subconscious rounding up or down of measurements to the nearest 5mm).

Table 4

B	B1	B2	B3	B4	B5	B6	B7	Grand Total
---	----	----	----	----	----	----	----	-------------

AVAC Report 2005/24

88		1						1.00
100		1						1.00
102		2						2.00
104		2		1				3.00
105		7						7.00
106		2			1			3.00
107		7	1					8.00
108	6	14	3			1		24.00
109		3						3.00
110	11	36	7	1		5		60.00
111	2	8				1		11.00
112	7	14	2		1			24.00
113	3	7	4			1		15.00
114	5	9	2					16.00
115	26	18	1		1	3		49.00
116	6	8	1		1	2		18.00
117	13	8		1	1	3		26.00
118	10	8			1			19.00
119	3	2						5.00
120	11	30	4			7		52.00
121		1			1	1		3.00
122	1	14	3			2		20.00
123	1	7	4	1	2			15.00
124	2	1	4					7.00
125		3	5					8.00
126	1	2	1		1			5.00
127		1	1	1		1		4.00
128		1	1					2.00
129			1	1				2.00
130			1	1				2.00
230		1						1.00
Grand Total	108	218	46	1	6	10	27	416.00

class CBM Form BRICK

Sum of Nosh

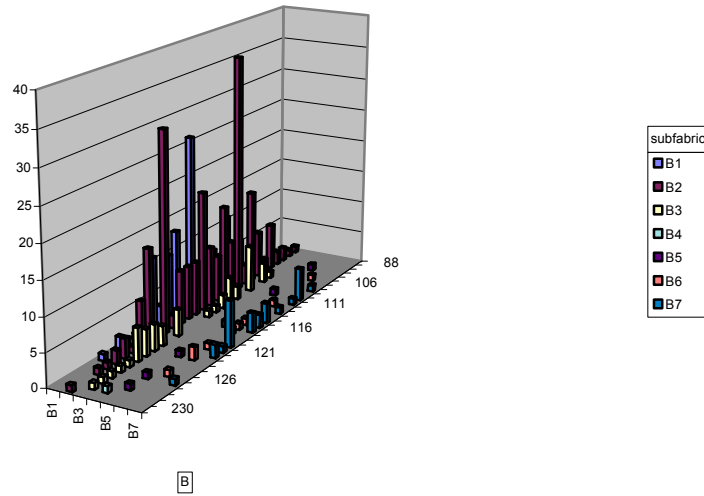


Figure 2

class CBM Form BRICK

Sum of Nosh

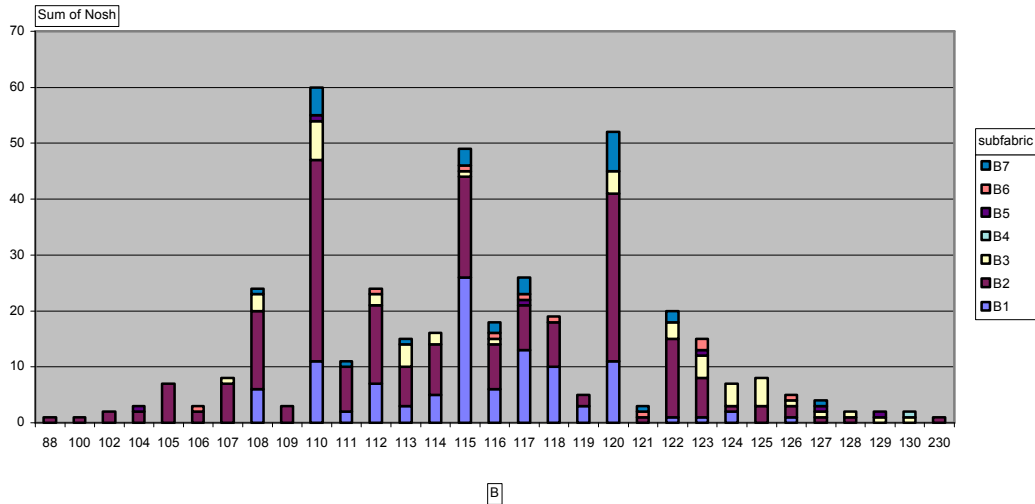


Figure 3

Table 5 shows the mean width by fabric, indicating little difference between the fabrics (the high value for B4 is due to there being only one measurable brick).

Table 5

Fabric	Mean	SDev	N
B1	115.33	NA	1
B2	114.72	9.87	6
B3	118.15	6.91	46

B4	130.00	5.93	10
B5	118.33	4.84	27
B6	117.70	3.79	108
B7	116.37	9.85	218
Grand Total	115.53	8.05	416

Brick thickness

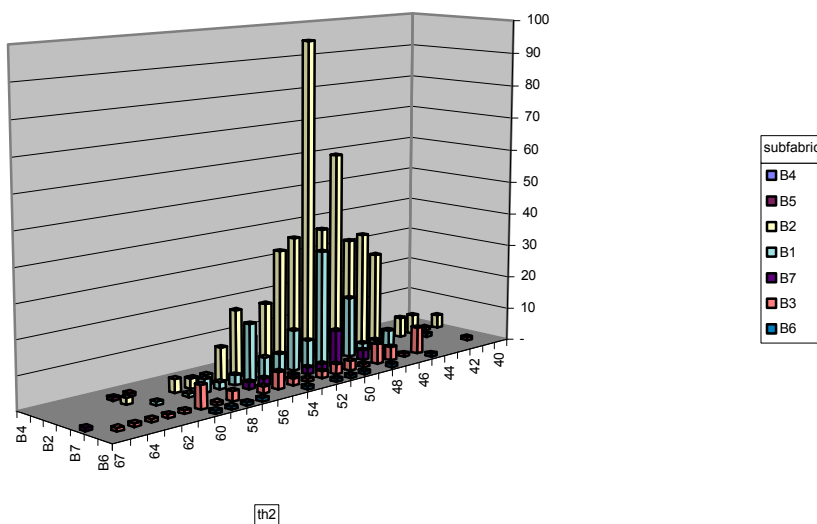
Seven hundred and eighteen brick thicknesses were measured. They ranged from 40mm to 67mm and although there is some apparent variation in thickness between the different fabrics, the mean values are similar (ranging from 49mm for B5 to 53mm for B3 and B6).

Table 6

Fabric	Mean	SDev	N
B4	40	NA	1
B5	49	4	38
B2	50	3	459
B1	51	3	126
B7	52	4	27
B3	53	6	55
B6	53	5	10
Grand Total	50	4	716

class CBM Form BRICK

Count of th2



Ash-glazed bricks

One hundred and fifty two fragments of brick, all of fabric B2, had an ash glaze on at least one face. This glaze is the result of vitrification of the clay fabric under the influence of heat

and a flux, usually wood ash, present in the kiln atmosphere. Such a glaze could also occur after firing through the use of the brick in a hearth or furnace. Although usually accidental, in the late medieval and Tudor periods ash-glazed bricks were deliberately produced and used in conjunction with unglazed bricks to produce decorative patterns, such as crosses and chequer patterns. However, it is unlikely that the glaze in these cases is deliberate, since the bricks are concentrated rather than found alongside unglazed bricks.

Moulded bricks

Thirty-one fragments of brick were produced in a mould in which one corner was bevelled. The resulting bricks were designed to be used as the ornamental edge to a door, window or fireplace. All of these moulded bricks were in fabric B1 apart from two (neither definite) in fabric B2. The moulded bricks could be divided by shape into two groups, A and B, of which type A was the most common (23 examples) with two examples of type B. The type A bricks have one end formed into a triangle, whose apex is closer to one edge than the other. This form was probably used for a window although there is no sign of a setting for a glass or horn window.

Flat roof tiles

Sixteen fragments of flat roof tile were recorded. Apart from a single example in fabric T3 they were all in fabric T4. They ranged from 13mm to 19mm in thickness and had no other measurable dimensions. The fabric T3 fragment was thicker than the remainder (19mm) and the fabric T4 tiles had a mean thickness of 14.06mm (SD 0.79 mm). None of the tiles retained evidence for their suspension method (nib or peg hole). Most came from a single deposit, silty sandy layer 1329.

Floor tiles

Five fragments of floor tile were recorded. These were of two or three different fabrics. The fabric F1 and F3 tiles were unglazed and 32-33mm thick. The three remaining tiles were of fabric F2 and had a clear glaze. Two of these tiles had measureable thicknesses, both 40mm.

The dimensions and fabric of the F2 tiles suggests that they are of late medieval/transitional date and of Flemish origin. However, this would require scientific analysis to confirm. Plain tiles, sometimes with a white underglaze slip, were imported to eastern England from Flanders in large quantities in the 15th and 16th centuries, following the decline of local English floor tile industry. The unglazed tiles, probably intended for use as hearth tiles, have a similar fabric, differing mainly in firing, and these too may be Flemish.

Pantiles

Pantiles are roof tiles with an S-shaped lateral profile, designed so that each tile interlocks with its neighbour. Because of this lateral overlap, fewer pantiles are required to roof a structure than flat tiles, with a consequent saving in both the number of tiles used and the weight of the roof.

They were first used in the Low Countries and introduced from there into eastern England during the post-medieval period, apparently from the 16th-century onwards. In London, their introduction in any quantity is associated with the rebuilding of the city in the 1670s and 1680s following the Great Fire of 1666. However, Terence Smith has shown from documentary sources that this is not their first English use and on a site such as Blakeney Chapel, with excellent North Sea access, one might expect an earlier introduction. The earlier the date of the Blakeney pantiles, however, the more likely they are to have been imported from the Low Countries.

Pantiles were probably produced in a flat sanded mould, similar to that used for flat roof tiles, but it seems that the nib of the tile was moulded as part of this process, rather than being added later or worked-up from the tile body as sometimes happened with flat roof tiles. Consequently, the shape and dimensions of the nib on a pantile ought to be more closely controlled. For this reason, the width and length of complete nibs was measured. Several nibs also had a central groove, perhaps added by hand rather than being part of the mould. The width of this central groove was also measured. The pantile surface was produced by drawing a bow (a metal or gut wire held taut by a wooden bow) across the tile surface. The tile was then given its S-shape, presumably by draping over a wooden former.

No complete pantile lengths or widths were measureable. A sample of 259 pantile thicknesses were measured (104 of fabric T1 and 155 of fabric T2). The mean thickness in both cases was very similar (T1: 14.86mm +/- 1.5mm, T2: 14.88mm +/- 1.62mm) and it is likely that the wooden moulds used for each fabric were the same thickness.

Two hundred and thirty-five pantile nib widths could be measured. They ranged from 19mm to 38mm (Table 7). There were more surviving nibs on fabric T2 tiles than on Fabric T1 tiles but the range of widths is similar for both fabrics. Furthermore, there is clear evidence for the existence of two sizes of nib, with one peak between 26 and 28mm and the other between 31mm and 35mm.

Table 7

nib width	T1	T1/T2	T2	Grand Total
19			1	1
20			1	1
21			1	1
22	1	3	2	6

23	4	1	7	12
24	6	3	15	24
25	12	1	17	30
26	15	3	22	40
27	9	2	15	26
28	16	3	20	39
29	8	3	10	21
30			5	5
31	2		3	5
32	1		10	11
33	1		3	4
34	1		2	3
35	2			2
36	1		1	2
37			1	1
38			1	1
	79	19	137	235

Nib lengths vary from 26mm to 63mm and here too there is little difference in size between the two fabric groups (Table 8). Here too, there is evidence for the existence of two modes in the data, a smaller group with lengths mainly between 48mm and 52mm and a larger group with lengths mainly between 52mm and 59mm.

Table 8

nib length	T1	T1/T2	T2	Grand Total
26			1	1
39	1			1
45	1			1
46	1		1	2
47			2	2
48	2		5	7
49	6		5	11
50	8		15	23
51	7		13	20
52	2		13	15
53	3		8	11
54	6		3	9
55	6	1	10	17
56	7	1	9	17

57	6		9	15
58	7		6	13
59	1		5	6
63			1	1
Grand Total	64	2	106	172

A plot of nib width against nib length suggests that the overall shape of the nibs varies as well as their size (Table 9) so that in addition to large and small versions of the same shape there are long, narrow nibs, which are in fact the most common form.

Table 9

Pantiles	large length	small length	Grand Total
large width	20	4	24
small width	84	59	143
Grand Total	104	63	167

The central groove was present on 35 examples, about a fifth of the measurable examples. it varies from 6mm to 12mm wide with a mean width of 8 +/- 1 mm.

Four fragments have a rather different form from the remainder, involving a sharply flanged edge at the upper edge. This appears to have been intended to allow the tiles to recess into the next layer up/down the roof. Given the lack of examples of this form, it was probably only ever used on site as a repair to an earlier pantile roof.

Site context

Most of the ceramic building material was recovered from contexts which could be associated with one or other of the two structures on the site, S1 or S2.

Structure 1

Structure 1 appears to have been built in the medieval period, although all of the ceramic building material comes from later alterations.

A total of 1086 bricks were recovered from contexts associated with S1, mostly from its collapse. B2 and B5 bricks were the most common, followed by B1 (of which 15 examples had moulded chamfers), B3, B7 and B6. The distribution of these brick fabrics throughout the contexts associated with S1 is not even. The majority of the B1 and B7 bricks come from context 1318, a mixed collapse deposit whereas the majority of the B2 bricks come from context 1329. The B3 bricks tend to be associated with the B2 bricks whereas the B3 bricks come mainly from context 1388, a cluster of brick fragments external to the structure. Five of

the 6 B5 bricks come from context 1844 and 14 of the 15 B7 bricks come from context 1318 (i.e. associated with the B2 bricks).

One hundred and forty-five recorded bricks had ash glaze. Most of these (131) came from context 1329. Other examples came from contexts 1463 (4 frags); 1410 (4 frags); 1401 and 1441 (2 frags each).

A small number of bricks (8 in total) were overfired. These came from contexts 1317 and 1318, both collapse layers.

A number of bricks (114 in total) were reduced, either completely or in their cores. Most come from context 1388 with other examples from contexts 1462 (15); 1329 (11) and 1330.

This uneven distribution of brick types and features is presumably due to the fact that the bricks come from features (wall patching, fireplaces, windows, doors and so on) which were added at different times to the main structure. The fact that the bricks seem to fall into two stratigraphic associations: B1/B7 and B2/B3 and B5 may be significant.

Fourteen fragments of flat roof tile came from Structure 1, all from context 1329, the silty, sandy layer which produced most of the B2 bricks.

Three of the floor tiles were associated with S1. Two are of fabric F2 and come from contexts 1610 (a mortar surface) and 1746 (a gravel surface) with one of fabric F3 (from context 1410, a mortar/tile collapse deposit).

Two of the flanged pantiles were associated with S1. Both came from context 1317, a collapse of roof tile (fabrics T1 and T2).

Four thousand, six hundred and fifty-nine fragments of pantile were recovered from contexts associated with S1. Most of these come from the various deposits of roof collapse (mainly context 1317). There is no apparent variation in the distribution of the two main fabrics, nor of the various nib sizes, which again suggests that these tiles all come from the same collapsed roof. Six of these pantile fragments were ash-glazed.

Structure 2

Structure 2 was probably constructed in the post-medieval period and is certainly later than Structure 1.

Three hundred and forty-six bricks were recorded. Most of these were of fabric B2 and most of those came from contexts 1391, 1392, and 1397 all deposits of roof collapse. The fireplace, context 1439, also produced mainly B2 bricks, but also produced the highest quantity of B1 bricks from the structure. Other fabrics were present in small quantities (B5

and B7 – 8 fragments each; B4 and B6 – one example each). No moulded chamfered bricks were present. Six reduced bricks were recorded (contexts 1439, 1392 and 1308).

Two fragments of floor tile were recorded. One, unglazed fabric F1, came from context 1391, and one, glazed fabric F2, came from context 1308. Both of these finds come from collapse layers.

Two thousand, four hundred and fourteen fragments of pantile were recovered from the structure, almost all from collapse layers. Seventy were divided into their fabric groups with approximately equal quantities of each of fabrics T1 and T2.

Structures S1 and S2

Contexts 1387 and 1393 were associated with both structures. They produced 78 brick fragments (fabrics B1, B2 – including 3 ash-glazed fragments, B3, B5 and B7) and 10 pantiles (of which only two were assigned to a fabric group, T2).

Structure S1 reuse

Part of Structure 1 was reused alongside Structure 2. Three contexts were associated with the collapse of the walls of this structure (contexts 1419, 1420 and 1421). These produced 66 fragments of brick, mostly of fabric B2 – including one ash-glazed fragment, and three fragments of pantile.

Late Deposits

The site was in part overlain by topsoil. The only other late deposit on the site consisted of a midden, context 1325, which was either contemporary with the later use of S2 or post-dated its abandonment.

Most of the ceramic building material from these deposits was identical in character to that from the earlier deposits and is presumably derived from them. Most consisted of pantile fragments (1281 in total). The deposits also produced the fragment of “flanged pantile” in fabric T2; flat roof tiles in fabrics T3 and T4 and a flanged pantile in fabric B2.

Discussion and interpretation

Roofing

The fact that there is little difference in fabric within the large assemblage of pantiles recovered from the site suggests that they all came from a single source, probably at a single point in time. Since some are found in collapse deposits associated with Structure 1 which pre-date the construction of Structure 2, this implies that the Structure 2 roof was reused from Structure 1. Although it may well be earlier than the usual later 17th-century

inception date for pantiles in eastern England, it is very unlikely to be considerably earlier (i.e. 13th, 14th or 15th century). Therefore, if Structure 1 was indeed first built in this period then its roof has mainly disappeared without trace.

The only exception to this is the small quantity of flat roof tile, almost all of which comes from context 1329. Possibly, therefore, these tiles are the only remains of the first roof of Structure 1. Alternatively, they might come from a minor repair or even have been used in the walling or on edge as hearths (although in both cases one would expect this use to leave evidence on the tiles).

The flanged pantiles occur in roof collapse from Structure 1, implying that they were used as repairs to that roof.

Flooring

The few fragments of floor tile from the site might indicate the former existence of a glazed tile floor, probably of Flemish origin. If so, however, then the majority of these tiles were salvaged from the site for reuse elsewhere. In addition, the two fragments of unglazed tile might have been used in hearths although neither show evidence for such use. These too, from a preliminary examination of their fabric, appear to be Flemish imports.

Walling

There is clear evidence for the use of several different types of brick on the site. These vary in fabric and dimensions, and in a minority of cases in their shape.

The earliest of these brick groups must be the moulded, chamfered bricks. All but two of these bricks are in fabric B1, which therefore has a claim to be the earliest brick fabric utilized on the site. The discrete distribution of these bricks on the site (mainly in contexts 1318 and 1393) suggests that they were used in one or two discrete features, such as windows, doorways or fireplaces, in Structure 1. A preliminary study of the fabric suggests that these bricks are imported from Flanders, although an East Midlands source should also be considered.

The distribution of the plain B1 bricks is similar to that of the moulded examples and suggests that these bricks are contemporary with the moulded ones. The small quantity found associated with Structure 2 suggests that there was some reuse of materials from Structure 1. The small number of bricks of fabric B7 are also concentrated in context 1318 and are probably also part of this early group. A preliminary study of the fabric of these bricks suggests that they were produced in Eastern England, perhaps locally, and are therefore likely to be the earliest English bricks from the site.

Fabric B5 bricks are mainly found associated with Structure 1 but not specifically with B1/B7 bricks. They probably therefore form a second group. Most come from context 1388, which is a cluster of bricks external to the structure. These are therefore probably the first of the bricks made from non-calcareous boulder clay, probably obtained locally, to be used on the site.

Fabric B2 and B3 bricks (also made from non-calcareous boulder clay) have a similar site distribution and probably form a single third group. Most of the recorded examples come from Structure 1 but they are the most common type found in association with Structure 2. This might be due to the fact that they were utilised in parts of Structure 1 demolished during the construction of Structure 2 or that this brick type was still current at the time of construction of Structure 2 and that new bricks were brought onto the site at that time. The ash-glazed B2 bricks, however, are scarce in Structure 2 and later deposits, but they are mostly present in context 1329, also the findspot of the flat roof tiles. This suggests an early, pre-pantile, date for these bricks. The reduced B2 bricks also form a discrete group, with few examples in Structure 2 and most from contexts 1329, 1388 and 1463. Their presence in context 1388 might suggest a similar date to those in fabric B5 whilst their presence in context 1329 also suggests a middling date within the history of Structure 1.

It is interesting to note that there are no ceramic building material types which occur only in Structure 2, suggesting that this structure was constructed in the main out of materials salvaged from Structure 1.

Retention

Most of the ceramic building material was discarded once recorded. A small collection was retained using the following criteria:

- a) Examples of each fabric type, including extremes and typical pieces
- b) All floor tiles
- c) A selection of complete bricks, chosen to reflect the fabric and size range of the collection
- d) Unusual forms (the flanged pantile fragments)

Further Work

Scientific analysis

Samples of each fabric should be analysed using thin section and chemical analysis to try and establish the source of each fabric. Table 10 shows the number of samples recorded of

each fabric type. The number of samples allows for 6 samples of each fabric to be analysed using ICPS and a single thin section. Where fewer samples are present the number is reduced. Each analysis is costed at £23.00 excluding VAT and this includes petrological analysis of the thin section and multivariate statistical analysis of the chemical data.

Table 10

subfabric	Total	samples	cost
B1	143	7	£161.00
B2	1227	7	£161.00
B3	100	7	£161.00
B4	1	2	£46.00
B5	166	7	£161.00
B6	10	7	£161.00
B7	27	7	£161.00
F1	2	3	£69.00
F2	3	4	£92.00
F3	1	2	£46.00
T1	147	7	£161.00
T2	224	7	£161.00
T3	1	2	£46.00
T4	16	7	£161.00
Grand Total	15615	76	£1,748.00

Illustration

The only ceramic building material worthy of illustration or photography are the moulded bricks and the flanged pantile fragments.

Data

The archive record consists of a table listing the context, fabric, form, number of fragments, weight, dimensions and non-metrical traits for each of the recorded tile or brick fragments. A digital copy of this record is present in the site research archive.