The Ceramic Building Material from Castle Howard (CASH02)

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Introduction

The ceramic building material and other fired clay from the Time Team excavations at Castle Howard (CASH02) was examined following the recognition of late medieval pottery production waste on the site with the primary aim of establishing whether any of the material collected was associated with pottery production. Only two small fragments of pottery production waste were found. However, the remaining material is itself of some interest since some, at least, is clearly of local origin.

Description

The fired clay, brick and tile was divided into fabric groups, each of which was given a site-specific code, starting with CBM1 (Table 1). Where possible the form was identified (Table 2) and for each fabric/form group a description of the manufacturing methods employed was recorded.

Table 1 Fragment count of ceramic building material by fabric and trench

Cname:	1	2	3	4	5	6	US	Grand Total
CBM1					2			2
CBM2					3			3
CBM3		3	1	7	12	12	4	2	41
CBM4		5	14		3	5		4	31
CBM5					1			1
CBM6						1		1	2
CBM7		3		2	1	6		2	14
CBM8			3					3
Grand Total		11	18	9	22	24	4	9	97

Table 2 Fragment count of ceramic building material by form

Form:	1	2	3	4	5	6	US	Grand Total
AIRBRICK			1					1
BRICK		6	4	9	11	18	4	4	56
DAUB?					3			3
FLAT?					1			1
KILNF					3			3
PANT		5	13		4	6		5	33
Grand Total		11	18	9	22	24	4	9	97

CBM1

A poorly mixed, hard-fired fabric consisting mainly of inclusionless white-firing clay, which includes many clay relicts, with minor quantities of a red-firing clay containing abundant well-sorted subangular quartz up to 0.3mm across.

Only two examples of this fabric were present, from (403) and (412). Both are thin slabs of clay, neigther of which preserves an original edge. The slabs have abundant straw impressions on their surfaces. These seem to indicate that the slabs were laid on beds of straw to dry as there is no evidence for straw inclusions within the body of the slab. Both of the slabs have been fired at a high temperature and have a thin coating of glaze. This may be lead glaze or, more likely, ash glaze created as a result of the fluxing of the clay surface with alkaline-rich ash in the kiln.

The function of the slabs is uncertain. There is no evidence for their use as spacers to separate vessels and they seem to be rather thin to have formed a raised kiln floor. Nevertheless, it is highly likely that they were in some way associated with the evidence for pottery production found on the site, especially since they were recovered from the same trench as the majority of the pottery waste.

CBM2

A poorly mixed, low-fired fabric consisting of lenses of red-firing and light-firing clays. Some of the red-firing clay has a very high iron content forming discrete iron-rich pellets up to 2.0mm across. Both clays contain abundant quartz silt and moderate quantities of muscovite up to 0.2mm across. Rare organic inclusions (roots or straw) were present.

Three fragments of this fabric were recovered, one from (414) and two from (424). One of the pieces from (424) has a flat, soot-blackened surface and there are no signs of daub impressions.

The fragments may be from daub structures, either domestic or associated with pottery production. There is, however, no sign of glaze on any of the fragments and all are fired at a low temperature.

CBM3

An extremely poorly mixed, high fired fabric consisting of wedges of inclusionless white-firing clay mixed with white-firing and red-firing clay containing abundant fine quartz sand. Muscovite is present in this fabric but is much less noticeable than in CBM2. This, however, is probably due to firing temperature.

All of the fragments in this fabric come from bricks. The bricks were formed in a sanded mould or former and their top surfaces were scraped longitudinally before removal from the mould. The sides and top surface were often subsequently roughly trimmed to remove excess clay or repair blemishes. The moulding sand was mixed with red-firing clay and consists of subangular quartz grains up to 0.5mm across.

Six bricks had measurable thicknesses, ranging from 44mm to 54mm, and three bricks had measurable breadths, ranging from 99mm to 114mm.

CBM4

This is a similar fabric to CBM3 except that it is better mixed and that the inclusionless white-firing clay is less common and in its place are lenses and streaks of inclusionless red-firing clay. The overall impression of the fabric is that of a red-fired object with a few streaks of white-firing, sandy clay. The moulding sand on the bricks or tiles made in this fabric is identical to that in CBM3.

The majority of the objects found in CBM4 are pantiles. One of these has a black glaze on its upper surface. The boundary of the glaze suggests that it was applied in a liquid state. An air brick from (201) is probably made in this fabric.

CBM5

This fabric has the same characteristics as CBM2 except that it was high fired.

The only example is a small lump of clay from (412) which has straw/grass impressions on two opposing faces and two sides. A dark red ash glaze indicates that two of the rough sides are original and that this piece may form the corner of a slab similar to those in CBM1.

CBM6

This fabric is similar to CBM4 except that the quantity of quartz sand is lower.

The only objects found in CBM6 are pantiles.

CBM7

This fabric is poorly mixed but contains few large inclusions. The groundmass is a fine-textured, red-firing calcareous clay (sometimes with a dark grey core). The moulding sand is mixed with red-firing clay and consists of subangular quartz grains up to 0.5mm across. The surfaces of the bricks are ‘salt-surfaced, sometimes giving the erroneous impression of a thin white slip.

Bricks are the only objects noted in this fabric. Only three had measurable dimensions, with thicknesses ranging from 54mm to 63mm and a single measurable breadth of 109mm.

CBM8

This fabric is off-white in colour and contains no large inclusions, The groundmass contains abundant quartz silt with no signs of muscovite. It is possible that the colour is due to a high carbonate content. No moulding sand survives.

Only one object in this fabric was recovered, a frogged brick from (201). The sides of the brick show vertical marks which either indicate the use of a machine to trim the brick or the use of a metal mould. The frogging is also very even and probably made using a machine rather than hand stamping. Frogging appears to be an early 19th-century innovation but the use of press-moulding is probably later, perhaps the second half of the 19th century.

CBM9

A soft fabric with a fine-textured, micaceous groundmass and sparse rounded quartz sand inclusions. The same sand occurs on the base. The sand grains include numerous examples of 'Greensand quartz' water-polished grains which occur in lower Cretaceous deposits.

Assessment

Three fragments of fired clay appear to be associated with pottery production (Fabrics CBM1 and CBM5). They are thin slabs of clay with grass/straw impressions on the faces. They should be studied alongside the pottery waste recovered during the excavations.

The remainder includes three of scraps which might be daub associated with the medieval settlement (CBM2). These are too small and featureless for further study, although it is likely that they were made using immediately available raw materials and, as such, their analysis could provide a useful comparison with that of the pottery.

Finally, the bulk of the collection consists of bricks and roof tiles which are probably contemporary with the construction and continued development of Castle Howard. These occur in several distinct fabrics and it is likely that a wider survey of the brick and tile employed in the standing architecture of the house, its outbuildings and gardens would allow the changing character of the building material used to dated more precisely. It is also likely that the Castle Howard archives contain information on the employment of ceramic building material.

Without such a survey it is not possible to use this material to correlate the archaeological and architectural histories of the site. It may be significant that very few of the CBM3 bricks show any sign of mortar or other evidence that they were ever incorporated into a building whereas a higher proportion of the CBM7 bricks did so. It is possible therefore that some of the CBM3 bricks were discarded at the time of construction whereas the CBM7 bricks come from one or more demolished structures.

It seems from this initial assessment that the bricks in fabric CBM3 are the earliest in the sequence, followed by the pantiles and air brick in fabrics CBM4 and CBM6. The two fabrics with calcareous matrices, CBM7 and CBM8 are unlikely to have be locally made and compare well visually with bricks from Hull. There is, however, a wide trade in yellow bricks and by the 19th century (the date of the frogged brick).

Ceramic building material forms one of the most common finds on post-medieval and later archaeological sites and the Castle Howard excavations provide a rare opportunity to further the study of 18th-century and later settlement in the Howardian Hills. A first stage in this study would be to confirm this visual classification using scientific characterisation techniques (thin-section and Inductively-coupled plasma spectroscopy) and then to compare the fabrics of these building materials with those of the late medieval locally-produced pottery made on or close to the site.

Costing

None of the material requires illustration or further recording.

Thin-section analysis and ICPS are recommended for each of the eight fabrics. At 2002 rates each analysis costs £21 plus VAT, making a total of £336 plus VAT, or £394.80 inclusive. This includes the cost of report preparation.

Appendix One

Context:	Trench:	Cname:	Form:	Nosh:	NoV:	Weight:	SUBFABRIC:	Breadth:	Thickness:	Glaze:	Ridge Dec:	Side Dec:	Record date:	Identified by:	Description:
102	1	CBM3	BRICK	1	1	285							12-Nov-02	AGV	
102	1	CBM7	BRICK	1	1	103	R Q MOULDING SAND >1.0MM						12-Nov-02	AGV	
104	1	CBM3	BRICK	2	2	7							12-Nov-02	AGV	
104	1	CBM4	PANT	2	1	19	LIGHT BODIED		16				12-Nov-02	AGV	
104	1	CBM4	PANT	3	3	43							12-Nov-02	AGV	BLACK GLAZED UPPER SURFACE
104	1	CBM7	BRICK	2	2	22							12-Nov-02	AGV	
201	2	CBM4	AIRBRICK	1	1	246							12-Nov-02	AGV	
201	2	CBM8	BRICK	3	1	672							12-Nov-02	AGV	FROGGED
203	2	CBM3	BRICK	1	1	28							12-Nov-02	AGV	
203	2	CBM4	PANT	13	1	851			18				12-Nov-02	AGV	
302	3	CBM3	BRICK	7	7	169							12-Nov-02	AGV	
302	3	CBM7	BRICK	2	2	74							12-Nov-02	AGV	
402	4	CBM3	BRICK	1	1	46							12-Nov-02	AGV	
403	4	CBM1	KILNF	1	1	14							12-Nov-02	AGV	
403	4	CBM3	BRICK	1	1	1277		99	54				12-Nov-	AGV	DELIBERATE? THUMB IMPRESSION ON

										02		TOP SURFACE
403	4	CBM3	BRICK	1	1	271			45	12-Nov-02	AGV	
403	4	CBM3	PANT	1	1	14				12-Nov-02	AGV	
403	4	CBM3	BRICK	6	6	192				12-Nov-02	AGV	
403	4	CBM7	FLAT?	1	1	548	SALT-SURFACED AND POSSIBLY CALC BODY			12-Nov-02	AGV	MORTAR ON BOTTOM SURFACE
412	4	CBM1	KILNF	1	1	27				12-Nov-02	AGV	
412	4	CBM4	PANT	2	1	807			19	12-Nov-02	AGV	
412	4	CBM4	PANT	1	1	4				12-Nov-02	AGV	
412	4	CBM5	KILNF	1	1	10				12-Nov-02	AGV	
414	4	CBM2	DAUB?	1	1	5				12-Nov-02	AGV	
416	4	CBM3	BRICK	1	1	111				12-Nov-02	AGV	
424	4	CBM2	DAUB?	2	2	22				12-Nov-02	AGV	
430	4	CBM3	BRICK	1	1	7				12-Nov-02	AGV	
501	5	CBM3	BRICK	1	1	694		114	49	12-Nov-02	AGV	
501	5	CBM3	BRICK	5	5	241				12-Nov-02	AGV	
501	5	CBM3	BRICK	1	1	233				12-Nov-02	AGV	VITRIFIED REDDISH UPPER SURFACE
501	5	CBM7	BRICK	1	1	428			54	12-Nov-02	AGV	MORTAR ON TOP AND BOTTOM

501	5	CBM7	BRICK	1	1	41	VITRIFIED CORE				12-Nov-02	AGV	MORTAR ON ?TOP SURFACE
502	5	CBM3	BRICK	1	1	4					12-Nov-02	AGV	
502	5	CBM4	PANT	3	3	118			16		12-Nov-02	AGV	
502	5	CBM4	PANT	1	1	154			14		12-Nov-02	AGV	BLACK GLAZE ON UPPER SURFACE
502	5	CBM4	BRICK	1	1	7					12-Nov-02	AGV	
502	5	CBM6	PANT	1	1	334			15		12-Nov-02	AGV	
502	5	CBM7	BRICK	1	1	144			61		12-Nov-02	AGV	
503	5	CBM7	BRICK	1	1	928		109	63		12-Nov-02	AGV	
504	5	CBM7	PANT	1	1	109			17		12-Nov-02	AGV	CUT-OUT IN CORNER
504	5	CBM7	BRICK	1	1	30					12-Nov-02	AGV	
508	5	CBM3	BRICK	1	1	190			55		12-Nov-02	AGV	MORTAR?
514	5	CBM3	BRICK	3	2	298					12-Nov-02	AGV	
603	6	CBM3	BRICK	2	2	66					12-Nov-02	AGV	
605	6	CBM3	BRICK	1	1	583		113	44		12-Nov-02	AGV	
605	6	CBM3	BRICK	1	1	309			44		12-Nov-02	AGV	
US	US	CBM3	BRICK	2	2	123					12-Nov-02	AGV	MORTAR
US	US	CBM4	PANT	4	4	134					12-Nov-	AGV	

							02		
US	US	CBM6	PANT	1	1	217	12-Nov-02	AGV	
US	US	CBM7	BRICK	1	1	53	12-Nov-02	AGV	
US	US	CBM7	BRICK	1	1	65	12-Nov-02	AGV	MORTAR