# Assessment of the Heat Affected Clay, Mortar and Ceramic Building Material from the Pannal to Nether Kellet Pipeline (PNK06)

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A moderate-sized collection of heat-affected clay and ceramic building material was recovered during archaeological fieldwork on the line of the Pannal to Nether Kellet pipeline, undertaken by Network Archaeology Ltd. Sites ranging in date from the prehistoric period to the late 18<sup>th</sup> century were investigated and unstratified material extended the range into the 19<sup>th</sup> and 20<sup>th</sup> centuries. Heat-affected clay from Roman deposits was recovered from Plot 21-18 and includes probable daub fragments. A second small assemblage comes from a medieval iron-working site at Plot 6-7. The other heat-affected clay is unstratified and undatable. No ceramic building material of medieval date was present, consistent with the use of stone, an abundant local resource, for both walling and roofing.

A brick-making site was investigated at Plot 6-7 and visual examination of the fabric confirms the use of local boulder clay. The material was dated on site by comparison with bricks from the post-medieval settlement at Scales, Askwith (Plot 7-18) but this material, which is all of one fabric and comes from an internal wall probably of mid/late 18<sup>th</sup> century date, has a different fabric and may not be locally-produced.

A wide range of 19<sup>th</sup> and 20<sup>th</sup> century bricks and field drain fragments was present and several of these are also made in fabrics which do not appear to be local.

Table 1

<b>-</b> .	СВМ				Heat-affe	cted Clay		
Trench	Nosh	Nov	Wt	ASW	Nosh	Nov	Wt	ASW
03-5	1	1	2	2				
06-7	31	31	15,564	596				
07-18	61	60	6,473	268	1	1	5	5
08-5					26	3	63	3
13-19	1	1	8	8	1	1	1	1
15-1	10	10	248	16	5	5	2	0
15-16					6	6	1	0
16-2					6	6	16	5
16-3	10	10	256	37				
16-5	1	1	1	1				
19-5	1	1	1	1				
19-7	2	1	1	1				
21-18	8	5	130	24	37	37	122	2
26-16	2	2	34	17				
28-1	2	2	60	30				
54-1	3	3	112	34				
Grand Total	133	128	22,890	290	82	59	210	2

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## Description

The material was identified using an internal fabric series and standard form names. It was quantified by fragment count, the number of objects represented and the weight in grams. The condition and traces of use of the material was also recorded.

The fabric of all of the material was examined in the hand and selected fragments were selected as a fabric series (Table 2).

Table 2

Fabric	Colour	Firing	Inclusions	Source
1	Variegated with streaks of pink (5YR 7/3) and red (2.5YR 5/8)	Oxidized	Black clay/iron pellets; red clay/iron pellets; subangular quartz up to 1.0mm (from Millstone Grit); fine quartz and muscovite sand throughout.	Probably Millstone Grit or Coal Measures.
2	Strong brown (7.5YR 5/6)	Oxidized but extremely low temperature/duration	Fragments of medium- grained white sandstone (grain size c.0.2mm); organic voids; black clay/iron pellets.	Local boulder clay
3	Red (2.5YR 4/6)	Oxidized	Angular and rounded fragments of white sandstone up to 30mm long; rounded pellets of white sandy clay; organic voids	Local boulder clay
4	Light yellowish brown (10YR 6/4) with streaks of lighter clay (very pale brown, 10YR 7/3)	Variable	Red clay/iron pellets; rounded red mudstone pellets; subangular quartz grains	Local boulder clay
5	Red (2.5YR 5/6)	Oxidized	Angular red mudstone; angular red siltstone; angular white sandstone;	Local boulder clay

			subangular quartz.	
6	Pink (7.5YR 7/4)	Oxidized	Abundant rounded pink mudstone/clay pellets up to 4.0mm across; some with dark cores.	Coal Measures Seatearth
7	Very Pale Brown (10YR 7/3)	Oxidized	Moderate angular pink/red/black marl pellets up to 4.0mm. Fine sandy calcareous groundmass	Permo- triassic marl?
8	Variegated pink (5YR 7/4) and reddish yellow (5YR 6/6)	Oxidized	Moderate angular clay pellets and organic voids in a fine groundmass	Coal Measures Seatearth
9	Red (2.5YR 4/4)	Oxidized	Red angular clay/iron pellets; red mudstone/clay pellets; rare white sandstone	Local Boulder clay?
10	Strong brown (7.5YR 5/6	Oxidized	Abundant subangular quartz up to 3.0mm; organics.	Local boulder clay
11	Reddish yellow (7.5YR 7/6)	Oxidized	Abundant organic voids, some rootlet sized others larger, each with a red halo	Coal Measures Seatearth
12	Reddish yellow (5YR 5/6)	Oxidized	Few large inclusions (subangular quartz) in a silty micaceous groundmass	Either levigated local boulder clay or lacustrine clay.
13	Variegated but mainly Pink (5YR 7/4)	Oxidized	Red clay/iron pellets; angular red mudstone fragments in a fine groundmass	Coal Measures seatearth

14	Variegated but mainly Light Red (2.5YR 6/6)	Oxidized	Red clay/iron pellets; white sandstone; subangular quartz	?local boulder clay
15	Variegated but mainly Reddish Brown (2.5YR 5/4)	Oxidized	Red clay/iron pellets; white sandstone; subangular quartz	?local boulder clay
16	Reddish brown (5YR 5/4)	Oxidized	Abundant subangular quartz mainly up to 0.3mm; abundant burnt out calcareous inclusions. Subangular quartz and sparse feldspar moulding sand	Non-local? but probably Yorkshire
17	Light grey (10YR 7/2) with black core	Reduced	Organic voids (rootlets?), some with brown lining/filling	Coal Measures Seatearth?

Most of the fabrics contain similar inclusions to those seen in the two fabrics found at Site 5-8, the post-medieval brickyard, and are therefore could have been produced locally. This is also true of fine fabrics such as Fabric 12, which might owe its fine texture either to the use of levigation (mixing the clay to a slurry and allowing the coarse fraction to settle out before running off the clay to dry in settling tanks) or to the use of a lake sediment, from one of the many post-glacial lakes which formed on the boulder clay in the immediately post-glacial period. Lenses of white, sandy clay are likely to be due to the inclusion of podzolised soil formed on the boulder clay in the post-glacial period, which about in the Pennines.

However, some of the fabrics contain much finer white-firing clays (Fabrics 6, 8, 11, 13 and 17) and these probably indicate the use of seatearths, white-firing clays found at the base of coal seams. Such clays are found in the latest strata of the Millstone Grit series ({Edwards & Trotter 1954 #45663}) which outcrop towards the mouth of Wharfedale but are much more common in the succeeding Coal Measures. The Coal Measures do not occur in the Wharfe's catchment area, nor are they likely to have been brought into the valley by ice flowing to the east down the valley; the nearest outcrops are at Baildon, 10 miles to the south of Otley. Therefore it is suggested that all the objects made from these fabrics are imported to the valley.

Two fabrics have calcareous groundmasses; Fabric 7 was made from a calcareous marl and whilst in the case of Fabric 16 it is not clear whether the calcareous inclusions were present in the clay fraction or are detrital (some Millstone Grit sandstones have a calcareous cement,

for example). In either case, the lack of calcareous inclusions in the remaining fabrics suggests that these two fabrics were also made outside Wharfedale.

## **Ceramic Building Material**

## **Fabrics**

Ceramic building materials were made from each of the identified fabrics apart from Fabric 4 and Fabric 17 (Table 3). In most cases, the fabrics were only identified in a single object but fabrics 1, 2 and 3 and 10 were more common, although this is undoubtedly a skewed result, as a result of the inclusion of material from Plots 7-18 and 6-7. Without these two sites, the most common fabrics are 10, 12 and 7.

Table 3

Subfabric	Nosh	Nov	Wt	ASW
FAB1	64	62	4,349	147
FAB2	17	17	5,070	298
FAB3	15	15	10,513	1,044
FAB10	11	11	254	21
FAB12	5	5	151	25
FAB7	5	2	53	21
FAB14	4	4	37	9
FAB5	3	3	33	11
FAB6	2	2	145	73
FAB11	1	1	10	10
FAB13	1	1	1	1
FAB15	1	1	13	13
FAB16	1	1	22	22
FAB8	1	1	3	3
FAB9	1	1	108	108
FAB1 WITH ROCKS	1	1	2,128	2,128
Grand Total	133	128	22,890	290

## **Forms**

Table 4 lists the various forms identified in the ceramic building material. Within "air brick" we include bricks used for standard walling purposes which have a network of cylindrical holes running vertically down the centre of the brick to lessen the weight as well as those in which the holes run horizontally through the brick to allow circulation of air. Two types of field drain were noted: cylindrical examples with longitudinal scratches down both inside and out indicating the use of a machine in their manufacture and U-shaped drains which appear to have been produced in a mould. Most of the fragments, however, come from bricks and,

given the size of most of the fragments it is not possible to identify any distinctive characteristics, either in terms of dimensions or manufacturing features. Two complete bricks were recovered: a fabric 1 brick from Plot 7-18 (204x102x56mm) and a Fabric 3 brick from plot 6-7 (250x117x60mm). Twelve bricks with measureable breadths were present: four are Fabric 1 bricks from Plot 7-18 (112-113mm); one is a fabric 1 brick with large rock inclusions from Plot 7-18 (102mm) and seven are fabric 3 bricks from Plot 6-7 (104-117mm). Four fabric 1 bricks from Plot 7-18 have measureable thicknesses (54-56mm) and 18 bricks from Plot 6-7 (45-58mm). Straw was used as mould lining on three of the Plot 6-7 bricks and grooves running longitudinally down the brick, 43-45mm from the edge were noted on a brick from Plot 6-7 and a brick from Plot 7-18. A single frogged brick was present and there are traces of either a mark or lettering in the base of the frog.

Table 4

Form	Nosh	Nov	Wt	ASW
AIRBRICK	2	2	26	13
AIRBRICK?	1	1	3	3
BRICK	114	113	22,649	349
BRICK?	4	3	4	1
FIELD DRAIN	6	6	154	20
FIELD DRAIN?	1	1	1	1
U FIELD				
DRAIN	5	2	53	21
Grand Total	133	128	22,890	290

## Date

The Fabric 1 bricks from Plot 7-18 appear to all come from a single internal wall which was secondary to the construction of the Phase 2 structure. Since that structure was probably built in the late 17<sup>th</sup> century or later and was demolished by c.1800 a mid 18th century date is likely. This would place the wall into a similar phase to the addition of an outbuilding/wing in Phase 3, which is clearly dated by pottery to the 1740s or later.

The Fabric 2 and 3 bricks from Plot 6-7 cannot be closely dated, but are quite likely to be of 18<sup>th</sup> or 19<sup>th</sup> century date. If the latter, one might expect to have found other dating evidence on the site, but this is an argument from absence and the method of manufacture used, employing straw-lined moulds, can be found as early as the late medieval period and continued in some places through the 19<sup>th</sup> century.

Field drains were not generally used in England until the mid 19<sup>th</sup> century and these examples could be of any date from this point onwards. Finally, the airbricks are probably of 20<sup>th</sup> century date.

## **Heat-Affected Clay**

Fabric

Only two fabrics were noted in the heat-affected clay collection: Fabric 4 and Fabric 17. The former is the most common and detailed examination at x20 magnification suggests that the fabric was produced from local boulder clay. Fabric 17, however, is unusual since it appears to have been made from a fine-textured white-firing clay, whose black core suggests was originally organic. It is possible that this clay was produced from a podzol, perhaps formed on fine-textured organic clay but if not then the clay was probably imported to the site. This would not have been done unless the clay was being used for a special purpose. White-firing clays tend to have high melting points and were, and are, therefore used in metallurgy. There is no evidence that this is the case and the survival of the black core indicates that a fairly short firing at a low temperature is all that these fragments endured.

## **Forms**

Two of the fragments show signs of curved impressions which might be due to their use with wattles. However, even these are not definite wattle impressions and all of the other fragments are featureless.

#### Date

Nine collections (37 fragments) came from Plot 21-18, where they were associated with Roman activity.

Three collections come from Plot 8-5, the site of a medieval iron-working settlement.

One fragment came from the fill of a quarry pit on Plot 13-19 but was not associated with any datable artefacts apart from a worked flint.

All the other fragments were unstratified and cannot be dated.

#### Mortar

Ten collections of mortar were recovered (Table 5). At x20 magnification, it can be seen that some were pure mortar, either used as plaster or skim or waste, some were tempered with a fine-textured quartz sand and others with a coarse quartzose sand (including fragments of sandstone). The sand is probably local and includes one instance of a black vesicular slag. Sparse fragments of coal and burnt shale are accidental contamination with the fuel used to produce the mortar rather than deliberate mixture (which is a known post-medieval technique).

No skimmed surfaces were present but one of the fragments from site 13-19 is a wedge probably from the use of mortar in a roof at the wall/roof angle (which is about 30 degrees).

Table 5

context group	phase	trench	Context	subfabric	Description	Nosh	NoV	Weight	ASW
topsoil topsoil		13-19 13-19	5001 5001	FINE SAQ NO INCLUSIONS	IRREGULAR LUMP POSSIBLE ROUGH	1	1	103 91	103 91
topsoil		13-19	5001	SPARSE COAL;A	SURFACE POSSIBLE ROUGH	1	1	89	89

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topsoil		13-19	5001	FINE SAQ A FINE SAQ	SURFACE WEDGE OF MORTAR WITH TWO ROUGH SURFACES AT C.30 DEGREES	1	1	93	93
topsoil		13-19	5001	NO INCLUSIONS	IRREGULAR LUMP	1	1	2	2
unstrat	unstrat	7-18	13111	COAL;SHALE;SAQ		1	1	24	24
unstrat	unstrat	7-18	13111	NO INCLUSIONS		1	1	10	10
Rubble spread	Phase 2/3 destr	7-18	13007	SST;SLAG;SAQ		1	1	7	7
Rubble dump	Phase 2/3 destr	7-18	13010	NO INCLUSIONS		1	1	15	15
Rubble dump	Phase 2/3 destr	7-18	13010	SAQ		5	1	24	4.8

## Assessment

## **Stratigraphy and Chronology**

The date of the finds is given in Table 6 by fragment count. Those finds dated to the Roman or Medieval periods are dated by their context rather than intrinsic characteristics and some of the material assigned here to the post-medieval period could be of early modern date (i.e. late 18<sup>th</sup> century or later). Stratified material is described further below.

Table 6

Plot	Roman	Medieval	Post-med	Modern	ND	Grand Total
03-5				1		1
06-7			31			31
07-18			62			62
08-5		26				26
13-19				1	1	2
15-1			5	5	5	15
15-16					6	6
16-2					6	6
16-3			9	1		10
16-5			1			1
19-5				1		1
19-7				2		2
21-18	37			8		45
26-16				2		2
28-1				2		2
54-1				3		3
Grand Total	37	26	108	26	18	215

Plot 3-5

A possible fragment of brick came from a deposit of natural clay 7044

## Plot 6-7

30 fragments of brick were sampled from Plot 6-7, the site of three brick clamps. All those from the northern clamp were under-fired and classed as Fabric 2. The southern clamp

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produced fragments of both Fabrics 2 and 3 and gulley 12007 produced bricks of Fabric 3. There is no difference in dimensions between the different groups but this is because all the bricks with measureable breadths come from gulley 12007.

## Plot 7-18

50 fragments of brick were recovered from the excavations at Plot 7-18. All are of Fabric 1 bricks. Two are from a buried ground surface pre-dating the construction of the Phase 2 structure, one comes from the surface of the cross-passage in the phase 2 structure, two come from the backfill of drain 13035 and the remainder are from contexts associated with the demolition of the structure. A single brick wall footing, 13030, was found in the Phase 2 structure, where it was a secondary feature, and a spread of brick rubble concentrated in the same area, suggesting that this wall was the main, if not the only, brick structure on the site. The single brick recovered from 13030 is overfired, bloated and contains rock fragments similar to those found in the Plot 6-7 bricks. Two fragments of brick were found in a feature interpreted as a fireplace 13080 but are slim evidence to suggest that a brick chimney stack might have been present.

A small collection of mortar was present, all from demolition deposits from the Phase 2/3 structure. The fragments were of different fabrics but no clear evidence for the precise function of the mortar was present. One brick fragment has a fragment of mortar attached, but the whole brick from 13030 has no sign of mortar.

#### **Plot 8-5**

Fourteen featureless fragments of fired clay were recovered from Plot 8-5. There is no sign that they were associated with iron-working (e.g. tuyere fragments) and were not fired at a high temperature. Two come from the spread of burnt material 11015 associated with the iron-working activity and the remainder come from the fill of gulley 11022, interpreted as a hedge line.

## Plot 13-19

A fragment of heat-affected clay came from quarry pit 5015 and a fragment of modern CBM and a collection of mortar fragments came from topsoil. The mortar includes a piece probably from a roof.

#### Plot 15-1

Three fragments of brick were recovered from a kiln or flue, 8010.

## Plot 21-18

Fired clay fragments of Fabrics 4 and 17 were recovered from the fills of Roman features (Table 7). In addition, a fragment of airbrick and a field drain were recovered from the primary

fill of ditch 10026, also dated to the Roman period but perhaps on this evidence of modern date. Fragments of brick and U-shaped field drain were recovered from the topsoil.

Table 7

context group	Context	FAB17	FAB4	Grand Total
Colluvial hillwash	10115		2	2
Ditch 10158	10158		1	1
Ditch 10302	10303		1	1
Ditch 10319	10317	6		6
	10318		4	4
Natural silting 10324	10320	12		12
	10321	1		1
Shallow broad ditch 10405	10404		1	1
topsoil	10000		9	9

#### Retention

The fabric series should be retained but remaining unstratified material could be discarded. The stratified material should be retained for possible re-examination.

#### **Further Work**

Several aspects of the heat-affected clay and ceramic building material collection have potential for further analysis.

Firstly, it is important, in order to understand the settlement history of Wharfedale, to establish which materials were supplied from local resources and which were imported. In order to do this, samples of the bricks produced at Plot 6-7 should be characterised using thin section and chemical analysis (Table 8. Task 1).

Secondly, the white-firing clay found in Roman contexts at Plot 21-18 is either of local origin, in which case the source of the clay should be determined, since it has implications for the characterisation of other ceramics in the area, or it is non-local, in which case the clay was probably used for a specialist purpose. In either case, the clay should be characterised (Table 8 Task 2).

Thirdly, the bricks used at Plot 7-18 would be expected to be of local origin, especially considering the proximity of Plot 6-7, but these too are made from a variegated clay which may indicate a non-local source. Characterisation of their fabric would establish their similarity to the Plot 6-7 bricks and to medieval pottery from Inganthorpe Manor, Wetherby, and from Knaresborough both of which are thought to have been made from upper Millstone Grit series mudstones (Table 8 Task 3). If a non-local source is indeed confirmed this might be evidence for the use of river transport to transport bricks (a canal was in operation at Burley in Wharfedale by 1790).

Fourthly, the remaining fabrics in the fabric series should be characterised (Table 8 Task 4).

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# Table 8

Task	Description	Cost
1	Characterisation of Fabric 17 (Roman white-firing clay) and comparison with Fabric 4 (postulated local fired clay)	£336.00 plus VAT
2	Characterisation of bricks from Plot 6-7 (Fabrics 2 and 3)	£336.00 plus VAT
3	Characterisation of bricks from Plot 7-18 (Fabric 1)	£168.00 plus VAT
4	Characterisation of remaining fabric collection (one sample of each fabric)	£576.00 plus VAT
Total		£1416.00
VAT		£274.80
Grand Total		£1663.80

# Appendix 1

class	period code	trench	Context	Action	TSNO	cname	subfabric	Form	pot catalogues.Description	Part	Nosh	NoV	Weight
CBM	modern	26-16	4088	FS;TS;ICPS	TS;ICPS	MOD	FAB14	AIRBRICK	odiaio 3 d o o i . p i o i .	BS	1	1	21
CBM	modern	26-16	4088	FS;TS;ICPS	TS;ICPS	MOD	FAB15	BRICK		BS	1	1	13
CBM	modern	13-19	5001			MOD	FAB14	BRICK		BS	1	1	8
FCLAY	nd	13-19	5026			FCLAY	FAB4	FCLAY		BS	1	1	1
CBM	modern	3-5	7044			MOD	FAB1	BRICK?		BS	1	1	2
CBM	post- med	15-1	8022			PMTIL	FAB10	BRICK		BS	3	3	185 6
СВМ	post- med	15-1	8044			PMTIL	FAB10	BRICK		BS	2	2	25
CBM	modern	21-18	10000			MOD	FAB6	BRICK		BS	1	1	71
СВМ	modern	21-18	10000			MOD	FAB7	U FIELD DRAIN		BS	4	1	15
FCLAY	roman	21-18	10000	ICPS		<b>FCLAY</b>	FAB4	FCLAY		BS	9	9	80 8
CBM	modern	21-18	10027			MOD	FAB14	AIRBRICK		BS	1	1	5
СВМ	modern	21-18	10027			MOD	FAB12	FIELD DRAIN		BS	1	1	1
FCLAY	roman	21-18	10115			<b>FCLAY</b>	FAB4	FCLAY		BS	2	2	2
FCLAY	roman	21-18	10158			FCLAY	FAB4	DAUB?	CURVED SURFACE EXT	BS	1	1	1
FCLAY	roman	21-18	10303			<b>FCLAY</b>	FAB4	FCLAY		BS	1	1	1
FCLAY	roman	21-18	10317	ICPS		<b>FCLAY</b>	FAB17	FCLAY		BS	6	6	4 0
FCLAY	roman	21-18	10318	ICPS		<b>FCLAY</b>	FAB4	FCLAY		BS	4	4	4
FCLAY	roman	21-18	10320	ICPS		<b>FCLAY</b>	FAB17	FCLAY		BS	12	12	26 2
FCLAY	roman	21-18	10321	FS;TS;ICPS	TS;ICPS	<b>FCLAY</b>	FAB17	FCLAY		BS	1	1	3
FCLAY	roman	21-18	10404			FCLAY	FAB4	DAUB?	CURVED SURFACE INT. WATTLE?	BS	1	1	1
CBM	modern	21-18	10424	FS;TS;ICPS	TS;ICPS	MOD	FAB7	U FIELD DRAIN		BS	1	1	38

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class	period code	trench	Context	Action	TSNO	cname	subfabric	Form	pot catalogues.Description	Part	Nosh	NoV	Weight
FCLAY	medieval	8-5	11015	FS;TS;ICPS	TS;ICPS	FCLAY	FAB4	FCLAY		BS	2	1	9
FCLAY	medieval	8-5	11030			FCLAY	FAB4	FCLAY		BS	12	1	27
FCLAY	medieval	8-5	11030	ICPS		FCLAY	FAB4	FCLAY		BS	12	1	27
СВМ	post- med	6-7	12002			PMTIL	FAB2	BRICK	FRAG	BS	1	1	67
CBM	post- med	6-7	12002			PMTIL	FAB2	BRICK	FRAG	BS	1	1	68
СВМ	post- med	6-7	12002			PMTIL	FAB2	BRICK		BS	1	1	74
СВМ	post- med	6-7	12002			PMTIL	FAB2	BRICK		BS	1	1	80
СВМ	post- med	6-7	12002			PMTIL	FAB2	BRICK		BS	1	1	152
CBM	post- med	6-7	12002			PMTIL	FAB2	BRICK		BS	1	1	199
CBM	post- med	6-7	12002			PMTIL	FAB2	BRICK		BS	1	1	221
CBM	post- med	6-7	12002			PMTIL	FAB2	BRICK		BS	1	1	319
СВМ	post- med	6-7	12002			PMTIL	FAB2	BRICK		BS	1	1	320
СВМ	post- med	6-7	12002	ICPS		PMTIL	FAB2	BRICK		BS	1	1	327
СВМ	post- med	6-7	12002	ICPS		PMTIL	FAB2	BRICK		BS	1	1	408
CBM	post- med	6-7	12002	ICPS		PMTIL	FAB2	BRICK		BS	1	1	454
CBM	post- med	6-7	12007	FS;TS;ICPS	TS;ICPS	PMTIL	FAB3	BRICK		BS	1	1	428
СВМ	post- med	6-7	12007			PMTIL	FAB3	BRICK	GROOVE 45 FROM EDGE RUNNING	BS	1	1	758
CBM	post-	6-7	12007			PMTIL	FAB3	BRICK	DOWN BRICK STRAW MARKS ON	BS	1	1	766

class	period code med	trench	Context	Action	TSNO	cname	subfabric	Form	pot catalogues.Description BASE	Part	Nosh	NoV	Weight
CBM	post- med	6-7	12007			PMTIL	FAB3	BRICK	BAGE	BS	1	1	1177
СВМ	post- med	6-7	12007	ICPS		PMTIL	FAB3	BRICK		BS	1	1	1360
СВМ	post- med	6-7	12007	ICPS		PMTIL	FAB3	BRICK		BS	1	1	1604
СВМ	post- med	6-7	12007	ICPS		PMTIL	FAB3	BRICK	STRAW MARKS ON BASE AND SIDE	BS	1	1	1889
СВМ	post- med	6-7	12010	ICPS		PMTIL	FAB3	BRICK	FRAGS	BS	6	6	87
СВМ	post- med	6-7	12014			PMTIL	FAB2	BRICK		BS	1	1	386
СВМ	post- med	6-7	12014	FS;TS;ICPS	TS;ICPS	PMTIL	FAB2	BRICK		BS	1	1	418
СВМ	post- med	6-7	12014			PMTIL	FAB2	BRICK		BS	1	1	420
СВМ	post- med	6-7	12014	ICPS		PMTIL	FAB2	BRICK		BS	1	1	578
СВМ	post- med	6-7	12014	ICPS		PMTIL	FAB2	BRICK		BS	1	1	579
СВМ	post- med	6-7	12020	ICPS		PMTIL	FAB3	BRICK	STRAW MARKS ON BASE	BS	1	1	2425
СВМ	post- med	7-18	13001			PMTIL	FAB1	BRICK	BAGE	BS	1	1	33
СВМ	post- med	7-18	13001			PMTIL	FAB1	BRICK		BS	6	6	112 1
СВМ	post- med	7-18	13002	ICPS		PMTIL	FAB1	BRICK		BS	7	7	178 2
CBM	post- med	7-18	13007			PMTIL	FAB1	BRICK		BS	1	1	26

class	period code	trench	Context	Action	TSNO	cname	subfabric	Form	pot catalogues.Description	Part	Nosh	NoV	Weight
СВМ	post- med	7-18	13007			PMTIL	FAB1	BRICK	catalogues.Description	BS	18	18	287 1
CBM	post- med	7-18	13007	ICPS		PMTIL	FAB1	BRICK	GROOVE 43 FROM EDGE RUNNING DOWN BRICK	BS	2	1	347
CBM	post- med	7-18	13010	FS;TS;ICPS		PMTIL	FAB1	BRICK	20111 Ernore	BS	1	1	8
CBM	post- med	7-18	13011			PMTIL	FAB1	BRICK		BS	3	3	24
CBM	post- med	7-18	13014			PMTIL	FAB1	BRICK		BS	1	1	6
CBM	post- med	7-18	13014			PMTIL	FAB1	BRICK		FRAGS	2	2	8
CBM	post- med	7-18	13030	TS;ICPS		PMTIL	FAB1 WITH ROCKS	BRICK		COMPLETE	1	1	2128
СВМ	post- med	7-18	13033			PMTIL	FAB1	BRICK		BS	2	2	4
СВМ	post- med	7-18	13043	ICPS		PMTIL	FAB1	BRICK		BS	1	1	28
СВМ	post- med	7-18	13081	ICPS		PMTIL	FAB1	BRICK		BS	2	2	27
MORTAR	post- med	7-18	13087			MORTAR		MORTAR		BS	1	1	5
CBM	post- med	7-18	13096			PMTIL	FAB1	BRICK		BS	2	2	21
CBM	post- med	7-18	13111			PMTIL	FAB1	BRICK		BS	1	1	237
СВМ	post- med	7-18	13111			PMTIL	FAB1	BRICK		BS	1	1	289

class	period	trench	Context	Action	TSNO	cname	subfabric	Form	pot	Part	Nosh	NoV	Weight	
СВМ	code post- med	7-18	13111			PMTIL	FAB1	BRICK	catalogues.Description	BS	7	7	432	6
CBM	post- med	7-18	13111			PMTIL	FAB1	BRICK		BS	1	1	579	
СВМ	post- med	7-18	13111	ICPS		PMTIL	FAB1	BRICK		BS	1	1	1699	
СВМ	modern	54-1	15011			MOD	FAB12	FIELD DRAIN		BS	2	2	90	
CBM	modern	54-1	15011	FS;TS;ICPS	TS;ICPS	MOD	FAB16	BRICK		BS	1	1	22	ı
CBM	modern	15-1	15029	FS;TS;ICPS	TS;ICPS	MOD	FAB5	BRICK		BS	1	1	30	ı
CBM	modern	15-1	15029			MOD	FAB10	BRICK		BS	1	1	1	
СВМ	modern	15-1	15043	FS;TS;ICPS	TS;ICPS	MOD	FAB8	FIELD DRAIN		BS	1	1	3	
СВМ	modern	15-1	15043	FS;TS;ICPS	TS;ICPS	MOD	FAB13	FIELD DRAIN?		BS	1	1	1	
CBM	modern	15-1	15043			MOD	FAB14	AIRBRICK?		BS	1	1	3	
FCLAY	nd	15-1	15050			<b>FCLAY</b>	FAB4	FCLAY		BS	5	5	2	
FCLAY	nd	15-16	15065			<b>FCLAY</b>	FAB4	FCLAY		BS	6	6	1	0
СВМ	modern	28-1	15076	FS;TS;ICPS	TS;ICPS	MOD	FAB12	FIELD DRAIN		BS	2	2	60	
CBM	modern	19-5	15521			MOD	FAB1	BRICK?		BS	1	1	1	
CBM	modern	19-7	15539			MOD	FAB1	BRICK?		BS	2	1	1	
FCLAY	nd	16-2	15570	ICPS		FCLAY	FAB4	FCLAY		BS	5	5	8	
FCLAY	nd	16-2	15574	ICPS		FCLAY	FAB4	FCLAY		BS	1	1	8	ı
СВМ	post- med	16-3	15581			PMTIL	FAB3	BRICK		BS	1	1	19	
CBM	modern	16-3	15581	FS;TS;ICPS	TS;ICPS	MOD	FAB9	BRICK	FROGGED	BS	1	1	108	
СВМ	post- med	16-3	15581			PMTIL	FAB5	BRICK		BS	1	1	2	
СВМ	post- med	16-3	15582	FS;TS;ICPS	TS;ICPS	PMTIL	FAB6	BRICK		BS	1	1	74	
CBM	post-	16-3	15582	FS;TS;ICPS	TS;ICPS	PMTIL	FAB10	BRICK		BS	5	5	43	

class	period code med	trench	Context	Action	TSNO	cname	subfabric	Form	pot catalogues.Description	Part	Nosh	NoV	Weight
CBM	post- med	16-3	15582	FS;TS;ICPS	TS;ICPS	PMTIL	FAB11	BRICK		BS	1	1	10
CBM	post- med	16-5	15585			PMTIL	FAB5	BRICK		BS	1	1	1

Key: the date field is subjective, based on fabric, stratification, form, firing and technology