Assessment of Ceramic Building Material, Stone, Medieval and Later Pottery and Other Finds from the Boxted to Friars Wash Water Main (BFW 36)

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Archaeological investigations on the line of the Boxted to Friars Wash water main were undertaken by Network Archaeology Ltd. Several of the finds types recovered during this work were submitted to the authors for identification and assessment.

Description

Ceramic Building Material

The ceramic building material was examined by eye and nine fabrics were identified, each of which was then examined under x20 magnification using a binocular microscope (Table 1). There is a clear difference in texture of the clay used for the main Roman CBM (Fabric 3) and that used for the majority of the medieval and later material (Fabrics 1, 2 and 9), which is noticeably coarser. However, Fabric 5 appears to be Roman but has the silty groundmass of the later CBM so that fabric is not a perfect guide to date. Furthermore, some of the 19th-century or later frogged bricks were made in the same silty fabric as the medieval peg tiles, although they were consistently higher fired, giving them a darker red colour.

Several features of the fabrics suggest that they were made from clays and sands which originated in the lower Cretaceous (the silty clay is similar to that found in the Gault whilst the polished quartz grains occur in several lower Cretaceous deposits, such as the Woburn Sands). Where flint is present it is either calcined or clearly derived from well-rounded pebbles of Tertiary age. The light-coloured clays might be of Lower Cretaceous or Tertiary age.

The light-coloured clay pellets and lenses in several fabrics suggest the presence of a fossil deltaic soil. The most likely source for this clay i is the Whitchurch sand, which consists in its lower levels of sandy ironstone masses within unconsolidated quartz sands together with lenses of clay showing seatearth characteristics (Sumbler 1996, 65). It is likely that this is the ultimate source of both the quartz and ironstone sand and the clay matrix. However, the Boxted to Friars Wash area lies within the Thames basin whilst the nearest outcrop of the Whitchurch sand is probably 5 to 10 miles to the northwest. However boulder clay outcrops in the Chilterns and is the more likely immediate source of all of the fabrics.

Table 1

Fabric	Principal inclusions	Other distinguishing features	Comment
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1	None visible by eye. Abundant quartz silt seen at x20 magnification.	Angular white flint and rounded quartz moulding sand	Medieval
2	Sparse muscovite laths up to 0.3mm across. Abundant quartz silt seen at x20 magnification	No added moulding sand, possibly wood grain impressions	Medieval
3	Rounded polished quartz up to 0.5mm across; rounded flint pebbles and cracked flint pebbles up to 10mm across. Micaceous, silty groundmass finer in texture that Fabrics 1 or 2	Almost all examples are soft and powdery but some hard-fired examples, with a reduced core, occur	Roman
4	Similar to Fabrics 1 and 2 but with subangular and rounded silty light-coloured clay pellets up to 5.0mm across	No obvious moulding sand, possible wood grain impressions similar to Fabric 2	Medieval or later
5	Light-coloured clay pellets; rounded quartz, rounded and cracked rounded flint pebbles. Silty groundmass similar to Fabrics 1, 2 and 4 seen at x20 magnification	Soft. Variegated with lenses and laminae of lighter-coloured clay	Roman
6	Light-coloured clay pellets; rounded polished quartz (in lenses) rounded and cracked rounded flint pebbles. Silty groundmass similar	Soft. Variegated with lighter- coloured clays predominating	Roman

	in texture to Fabric 3		
7	Sparse rounded, polished quartz up to 0.5mm across; sparse iron-rich compounds up to 0.5mm acrss; sparse white subangular flint up to 5.0mm across. Groundmass is similar to Fabrics 3 and 6 with some black areas	Soft.	Medieval or post- medieval
8	Light-coloured silty clay pellets up to 5.0mm across; iron-rich compounds; sparse angular flint. Abundant quartz silt seen at x20 magnification	Hard. Variegated (very poorly mixed) with calcined flint moulding sand. Light-coloured clays to red-firing clays approx 50:50	Medieval
9	Sparse black iron-rich compounds c.0.5mm across. Abundant subangular quartz silt seen at x20 magnification	Dark red groundmass	Modern

Roman

The majority of the tile consists of brick and tegula fragments of Roman character (Table 2). Imbrex tiles were rare, suggesting that perhaps the Roman tile had been selected for reused. Two box tiles, decorated with combing, were identified. There is no clear correlation of fabric and form, although the majority of the tile consists of Fabric 3 with only small quantities of Fabrics 5 and 6.

Table 2

trench	Data	вох	BRICK	BRICK/TEG	IMBREX	RTIL	TEG	TEG/BRICK	Grand Total
PL 12	Nosh			1					1
	Weight			62					62
PL 17	Nosh		1				1		2
	Weight		63				91		154

PL 18	Nosh	2	53	52	2	140	28	21	298
	Weight	184	8611	1888	94	1281	4467	1323	17848
PL 21	Nosh		1						1
	Weight		38						38
PL 31	Nosh		1						1
	Weight		188						188

Medieval and/or post-medieval

A scatter of medieval and/or post-medieval peg tile was recovered (Table 3), including several examples with round peg holes. There is no obvious difference in thickness or peg hole dimensions between the various fabrics.

Table 3

trench	Data	subfabric	BRICK	FLAT	Grand Total
PL 12	Nosh	FAB 2		2	2
	Weight	FAB 2		65	65
PL 16	Nosh	FAB 1		1	1
		FAB 2		1	1
	Weight	FAB 1		21	21
		FAB 2		42	42
PL 17	Nosh	FAB 2		2	2
	Weight	FAB 2		46	46
PL 18	Nosh	FAB 1		2	2
		FAB 2		6	6
		FAB 4		1	1
		FAB 7	1		1
	Weight	FAB 1		51	51
		FAB 2		85	85
		FAB 4		31	31
		FAB 7	123		123
PL 2	Nosh	FAB 2		2	2
	Weight	FAB 2		40	40
PL 21	Nosh	FAB 1		2	2
	Weight	FAB 1		34	34
PL 28	Nosh	FAB 1		1	1
		FAB 2		1	1
	Weight	FAB 1		31	31
		FAB 2		15	15
PL 31	Nosh	FAB 2		2	2
	Weight	FAB 2		42	42
PL 38	Nosh	FAB 1		2	2
		FAB 7	1		1
	Weight	FAB 1		63	63
		FAB 7	9		9
PL 4	Nosh	FAB 8		1	1
	Weight	FAB 8		47	47
PL 5	Nosh	FAB 2		4	4
		FAB 8		2	2
	Weight	FAB 2		96	96

		FAB 8	33	33
PL 6	Nosh	FAB 2	1	1
	Weight	FAB 2	26	26

Modern

A small quantity of moulded frogged bricks was present and their fabric (Fabric 9) was used to identify other fragments of ceramic building material as being of modern date (Table 4).

Table 4

trench	Data	BRICK	Grand Total
PL 17	Nosh	3	3
	Weight	37	37
PL 21	Nosh	1	1
	Weight	6	6
PL 4	Nosh	1	1
	Weight	30	30

Copper Alloy

Three copper alloy objects were recorded (Appendix 1). These consist of two buttons with traces of a loop attachment soldered to the back and one farthing of Queen Victoria (issued between 1860 and 1895). One of the buttons appears from its colour to have been gunmetal and the other has traces of gilding. Both are of late 18th-century or later date.

Fired Clay

A small quantity of fired clay was recovered. All has a similar appearance in the hand, being similar to the Roman ceramic building material Fabric 3. No examples show any sign of their original use.

Iron

Thirty-three iron objects were recovered. All but two came from Plot 18. The exceptions were from Plots 31 (a horseshoe) and 38 (a fragment of unidentified agricultural machinery).

All were x-rayed (marked BFW 36 Plates 1 to 5 in the site archive) and the x-ray plates were examined together with the objects to try and identify the objects. All but seven objects were identified (Table 5). Most of these were either clearly of recent date to judge by the lack of corrosion, the regularity of the form and other features ("agric machinery") or were undatable (bar, horseshoe, irregular strip, nail, plough share?, rod, sheet, staple, strip). Many of these have been identified as cast iron (Appendix 2). This leaves two fiddle key nails and a horseshoe with a wavy outline, all of which should date to the earlier part of the medieval

period (11th to 13th centuries). These come from contexts 7000 (items 10015 and 10016) and 7001 (item 10001).

Table 5

Form	PL 18	PL 31	PL 38	Grand Total
AGRIC MACHINERY	4		1	5
BAR	1			1
FIDDLE KEY NAIL	2			2
HORSESHOE	1	1		2
IRREGULAR STRIP	1			1
NAIL	5			5
ROD	2			2
SHEET	1			1
STAPLE	3			3
STRIP	1			1
TOOL	1			1
WAVY HORSESHOE	1			1
-	7			7
PLOUGH SHARE?	1			1
Grand Total	31	1	1	33

Pottery

Post-medieval

A small quantity of glazed red earthenware (GRE) was recovered (Table 5), with one example of a black-glazed ware tankard rim (PMBL). All of the GRE sherds came from internally-glazed bowls and probably date to the 17th or 18th centuries.

Table 6

trench	Data	cname	BOWL	CUP	JAR	Grand Total
PL 12	Nosh	GRE	1			1
	Weight	GRE	18			18
PL 13	Nosh	GRE			1	1
	Weight	GRE			6	6
PL 17	Nosh	GRE	1			1
	Weight	GRE	7			7
PL 18	Nosh	GRE	1			1
	Weight	GRE	34			34
PL 25	Nosh	GRE			1	1
	Weight	GRE			2	2
PL 30	Nosh	GRE	1			1
	Weight	GRE	18			18
PL 38	Nosh	GRE	4			4
		PMBL		1		1

	Weight	GRE	27		27
		PMBL		3	3
PL 5	Nosh	GRE	2		2
	Weight	GRE	19		19

Stone

A small collection of burnt flint pebbles was recovered. These have a grey surface, as opposed to the original stained brown surface found on Tertiary flint pebbles in south-east England. However, only one of the pebbles is fire-cracked, suggesting that the flints may have been burnt but were not used in cooking/steam generation in which case they would have been more heavily fire-cracked.

Three fragments of Hertfordshire Puddingstone were present. All probably came from beehive querns, a type present in the pre-Roman Iron Age and in the earlier part of the Roman period.

A single fragment of lava rotary quern was present. Such querns were imported from the Rhineland during the Roman period and later.

Table 7

trench	Data	subfabric	cname	PEBBLES	QUERN	Grand Total
PL 18	Nosh		PEBBLES	4		4
		Hertfordshire Puddingstone	STONE		3	3
		LAVA	STONE		1	1
	Weight		PEBBLES	205		205
		Hertfordshire Puddingstone	STONE		4866	4866
		LAVA	STONE		37	37

Assessment

Roman

Most of the submitted finds are probably of Roman date. They mostly come from Plot 18 but unstratified examples of probable Roman CBM were identified at Plots 12, 17, 21 and 31.

At Plot 18, the majority of the CBM comes from the fills of archaeological features (Table 7), only two of which produced post-Roman CBM.

Table 8

context group	Context	Data	FCLAY	GRE	M/PMTIL	MTIL	PEBBLES	RTIL	STONE	Grand Total
Backfill of ditch	7070	Nosh						2		2

Backfill of ditch	7116	Weight Nosh				11 5		11 5
7115		Weight				21		21
Backfill of ditch 7139	7142	Nosh			4			4
		Weight			205			205
Backfill of post/stakehole, 7009	7010	Nosh	63					63
		Weight	251					251
Backfill of post/stakehole, 7013	7014	Nosh	2					2
		Weight	10					10
Backfill of posthole 7011	7012	Nosh	3					3
		Weight	3					3
Backfill of posthole 7044	7045	Nosh	1					1
		Weight	24					24
Colluvium	7001	Nosh					3	3
		Weight					4866	4866
Either primary fill of ditch or packed rubble foun	7052	Nosh	1					1
		Weight	25					25
Fill of ditch 7065	7066	Nosh	3			12		15
		Weight	33			38		71
Fill of gully (backfill?) 7067	7068	Nosh	1					1
		Weight	11					11
Final silting of ditch, possible colluvial inwash	7054	Nosh				13		13
		Weight				392		392
Fire residue dump in pit 7120	7121	Nosh		1				1
		Weight		123				123
Fire residue dumped in ditch 7124	7125	Nosh				2		2
		Weight				77		77
Fire residue in pit 7090	7146	Nosh	18					18
		Weight	105					105
Layer overlying surface 7089, poss. = 7001	7134	Nosh	1			29		30
•		Weight	42			1812		1854
Midden backfill of recut	7154	Nosh				9		9

enclosure ditch 7162		Weight					144		144
Mixed silting and midden deposit in ditch. Closur	1806	Nosh					2		2
Natural derived primary fill of ditch. Poss. back	7141	Weight Nosh					365 1		365 1
Recut of enclosure ditch, poss. = 7132	7140	Weight Nosh					228 10		228 10
Secondary silting of ditch, possible eroded track	7051	Weight Nosh					1160 6		1160 6
Silting and midden deposition in ditch 7088	7092	Weight Nosh					509 3		509 3
Silting deposit in ditch 7057	7055	Weight Nosh					153 2		153 2
Slump of side material from N side of ditch 1803	1804	Weight Nosh	13				70		70 13
Stone surface sealing natural hollow and several f	7089	Weight Nosh	29			1	146		29 147
Top fill of ditch, cut by 7106 7149	7149	Weight Nosh			:	27	9631 2		9658 2
Topsoil derived backfill of ditch with midden depo	7110	Weight Nosh					93 21		93 21
Topsoil/subsoil	1800	Weight Nosh Weight		1 34			1742		1742 1 34
	1801	Nosh Weight	1 13		1.	8 40	25 1214	1 37	35 1404
Track surface	7049	Nosh Weight					8 188		8 188

The fragments of Hertfordshire puddingstone quern are probably of early Roman date whilst a similar, or slightly later, date is likely for the lava quern fragment.

There is little doubt that the majority of the CBM from the project is also of Roman date. However, it is in abraded condition and may have been redeposited some time after manufacture and original use. This is particularly true of the main assemblage, which was recovered from a deposit interpreted as a hard standing around a pond. A single fragment of tile from this assemblage appears to be of medieval or later date whilst the majority is very low-fired and contains mostly Roman brick and tegula fragments, which very few possible imbrex fragments. This suggests that the tile may not have come from a collapsed Roman tile roof but from walling, where the tegula fragments were used alongside bricks in decorative levelling courses (the other option, that they came from a hypocaust, would mean that two broken tegula fragments each with an L-shaped profile, would have to be used to produce a level surface for the next tile). Alternatively, the flat bricks and tegula tiles might have been preferentially selected for reuse for some reason.

Although the peg tile may well include pieces of medieval date, the lack of both medieval pottery and pantile fragments suggests that the Boxted to Friars Wash area may have been one in which peg tiles continued to be produced and used into the post-medieval and early modern periods. A few handmade brick fragments might be of medieval, post-medieval or early modern date whilst the frogged bricks are clearly of mid 19th century or later date.

Further Work

If the quern fragments are usefully stratified then they should be included in any publication of the associated finds and, if so, a full catalogue entry and illustration of each piece would be required.

None of the CBM requires illustration.

Retention

The pottery should be retained for possible closer identification in the future whilst a sample of the CBM, to include an example of each fabric and any featured pieces (peg holes or tegula flanges) should be retained. The quern fragments should be retained for any future study of the typology or manufacture of these objects.

Bibliography

Sumbler, M. G. (1996) London and the Thames Valley, HMSO, London

Appendix 1 Catalogue of Copper Alloy objects

Context	REFNO	trench	class	cname	Object	Nosh	NoV	Weight	Part	Action	Description	diameter
5141		PL 18	COPP	COPP	BUTTON	1	1	4	DISC	X-RAY PLATE 5	GUN METAL; LOST ATTACHMENT	29
5162		PL 18	COPP	COPP	BUTTON	1	1	2	DISC	X-RAY PLATE 4	GILT SURFACING; LOST ATTACHMENT	22
2200	6001	PL 22	COPP	COPP	COIN	1	1	2	WHOLE	X-RAY PLATE 4	FARTHING 1860-95	19

Appendix 2 Catalogue of iron objects

Context	REFNO	trench	class	cname	Object	Nosh	NoV	Weight	Part	Action	
1804	6000	PL 18	IRON	IRON	NAIL	1	1	7	WHOLE	X-RAY PLATE 5	
5040		PL 31	IRON	IRON	HORSESHOE	1	1	109	PART	X-RAY PLATE 3	
5101		PL 38	IRON	IRON	AGRIC MACHINERY	1	1	14	PART	X-RAY PLATE 4	CAST IRON
5321		PL 18	IRON	IRON		1	1	104	PART	X-RAY PLATE 3	
7000	10000	PL 18	IRON	IRON		1	1	31	PART	X-RAY PLATE 3	CAST IRON FRAG
7000	10008	PL 18	IRON	IRON		2	2	2	BS	X-RAY PLATE 5	FRAGS
7000	10009	PL 18	IRON	IRON	ROD	1	1	20	PART	X-RAY PLATE	

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7000	10010	PL 18	IRON	IRON	IRREGULAR STRIP	1	1	3	PART	X-RAY PLATE 5	
7000	10011	PL 18	IRON	IRON	STAPLE	1	1	11	PART	X-RAY PLATE 3	
7000	10012	PL 18	IRON	IRON	STAPLE	1	1	8	PART	X-RAY PLATE 4	
7000	10013	PL 18	IRON	IRON	NAIL	1	1	21	BS	X-RAY PLATE 5	
7000	10014	PL 18	IRON	IRON	NAIL	1	1	4	BS	X-RAY PLATE 5	
7000	10015	PL 18	IRON	IRON	FIDDLE KEY NAIL	1	1	2	BS	X-RAY PLATE 5	
7000	10016	PL 18	IRON	IRON	FIDDLE KEY NAIL	1	1	2	BS	X-RAY PLATE 5	
7000	10017	PL 18	IRON	IRON		1	1	39	BS	X-RAY PLATE 4	CAST IRON FRAG
7000	10018	PL 18	IRON	IRON	PLOUGH SHARE?	1	1	127	BS	X-RAY PLATE 3	CAST IRON FRAG FROM PL
7000	10019	PL 18	IRON	IRON	AGRIC MACHINERY	1	1	43	BS	X-RAY PLATE 4	CAST IRON FRAG FROM AC
7000	10020	PL 18	IRON	IRON	AGRIC MACHINERY	1	1	178	BS	X-RAY PLATE 4	CAST IRON FRAG FROM AC
7000	10021	PL 18	IRON	IRON	SHEET	1	1	31	PART	X-RAY PLATE 4	CAST IRON FRAG
7000	10022	PL 18	IRON	IRON		1	1	121	PART	X-RAY PLATE 4	CAST IRON FRAG
7000	10023	PL 18	IRON	IRON	STRIP	1	1	35	PART	X-RAY PLATE	CAST IRON FRAG

										3	
7000	10024	PL 18	IRON	IRON	STAPLE	1	1	4	PART	X-RAY PLATE 4	
7000	10025	PL 18	IRON	IRON	ROD	1	1	12	PART	X-RAY PLATE 1	
7000	10026	PL 18	IRON	IRON	AGRIC MACHINERY	1	1	23	PART	X-RAY PLATE 5	IRON ROD WITH HOLE IN H HEAD
7001	10001	PL 18	IRON	IRON	WAVY HORSESHOE	1	1	118	PART	X-RAY PLATE 2	
7001	10002	PL 18	IRON	IRON	BAR	1	1	82	PART	X-RAY PLATE 1	
7001	10003	PL 18	IRON	IRON	NAIL	1	1	12	WHOLE	X-RAY PLATE 5	
7001	10004	PL 18	IRON	IRON	TOOL	1	1	209	PART	X-RAY PLATE 2	TROWEL? BROAD FLAT BL
7001	10005	PL 18	IRON	IRON	AGRIC MACHINERY	1	1	89	PART	X-RAY PLATE 2	CAST IRON FRAG FROM AC
7001	10006	PL 18	IRON	IRON		1	1	123	PART	X-RAY PLATE 4	CAST IRON FRAG
7049	8501	PL 18	IRON	IRON	NAIL	1	1	10	PART	X-RAY PLATE 5	SHANK ONLY
7103	8503	PL 18	IRON	IRON	HORSESHOE	1	1	300	WHOLE	X-RAY PLATE 1	