

## The Roman Ceramic Building Material from Partney

*Alan Vince and Kate Steane*

Twenty two fragments from the Partney excavations were identified as Roman brick and tile (Table 1). Most come from Site 1, with a small quantity from Site 8 and one fragment from Site 4.

*Table 1*

Site	FAB05	FAB08	FAB09	FAB10	FAB11	FAB12	FAB14	Grand Total
4	1							1
8			1			1		2
1		1	2	2	2	11		18
7							1	
Grand Total	1	1	3	2	2	12	1	22

### Fabrics

The fragments were examined at x20 magnification and assigned to six fabric groups (Table 2). It is fairly clear, however, that most of these fabric differences are simply due to differences in the quantities of the same basic inclusion types: mudstones and quartz sand, and that the groundmass is itself derived from the weathering of those mudstones.

Mudstones and clays with a low iron content occur in the Grantham Formation, which outcrops on the western scarp of the Jurassic ridge and the Upper Estuarine Beds, which outcrop on the dip slope. Both deposits are relatively thin but outcrop in patches throughout Lincolnshire. It is possible that the fabrics identified by eye reflect different production sites and as a test of this samples of the two main fabrics, 9 and 12, were taken for chemical analysis. The purpose of this analysis is both to test whether the Roman tile comes from a single source and to test the identification of the fabrics as being made from middle Jurassic clays. The results (see below) indicate that whilst Fabric 9 is probably of Middle Jurassic origin and quite likely to be from the Lincoln area, Fabric 12 is more similar to the major medieval tile fabric group (fabrics 1 to 3) and might therefore be locally made.

Fabric 8, which is probably made from a boulder clay composed mainly of lower Cretaceous material, was certainly not made in the Lincoln area. However, it is by no means certain that the one example of this fabric identified here as being of Roman date is indeed Roman and it may be that it is a medieval brick or tile. If so, then the entire assemblage is unlikely to have been made locally and the closest source would be in the Lincoln area. A tiliary producing similar fabrics was excavated at Washingborough (Darling and Wood 1976) and waste tile has been found at Fiskerton. Both sites are situated close to the Witham and it is likely that the river was used to distribute their products.

The Alan Vince Archaeology Consultancy, 25 West Parade, Lincoln, LN1 1NW

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<http://www.avac.uklinux.net/potcat/pdfs/avac2006007.pdf>

*Table 2*

Fabric	Principal Inclusions	Groundmass	Source?
5	Moderate subangular quartz up to 0.5mm. Rare angular mudstone.	Soft. No visible silt-sized inclusions. Rare lenses of light-firing clay. Reddish yellow (5YR 6/8)	Deltaic Middle Jurassic clays with cover sand temper
8	Abundant rounded quartz, including red-coated and polished grains	Poorly mixed, silty. Red (2.5YR 5/6)	Boulder clay derived from Lower Cretaceous deposits (e.g. the Belmont Till, Kent 1980, 120)
9	Angular mudstone fragments, ranging from offwhite to red, up to 6.0mm across, moderate subangular quartz up to 0.3mm across	No visible silt-sized inclusions, some lenses of light-firing clay but mainly reddish yellow (7.5YR 6/6).	Deltaic Middle Jurassic clays with cover sand temper
10	Angular mudstone fragments, ranging from offwhite to red, up to 6.0mm across, moderate subangular quartz up to 0.3mm across	No visible silt-sized inclusions, some lenses of light-firing clay but mainly dark red (2.5YR 3/6).	Deltaic Middle Jurassic clays with cover sand temper
11	Abundant subangular and rounded quartz up to 0.5mm.	No visible silt-sized inclusions, some lenses of light firing clay and some red lenses of clay/iron.	Deltaic Middle Jurassic clays with cover sand temper
12	Abundant subangular quartz up to 0.5mm	No visible silt-sized inclusions. Sparse lenses of light-firing clay and moderate lenses of dark red-firing clay,	Deltaic Middle Jurassic clays with cover sand temper.

		reddish yellow (5YR 5/6)	
14	Moderate subangular and rounded quartz up to 0.5mm across. Sparse mudstone fragments, some light-firing	No visible silt-sized inclusions. Lenses and streaks of light-firing clay. Yellowish red (5YR 4/6)	Probably a secondarily burnt Roman tile. Deltaic Middle Jurassic clays with cover sand temper

### Characterisation Study

*Table 3*

TSNO	Sitecode	Context	Form	Action	subfabric
V3485	PTNI03	438	TEG	TS;ICPS	FAB12
V3486	PTNI03	348	TEG?	ICPS	FAB12
V3488	PTNI03	317	TEG	TS; ICPS	FAB9
V3489	PTNI03	344	TEG?	ICPS	FAB9
V3521	PTNI03	559	TEG	ICPS	FAB12

Two thin sections were prepared, one each of Fabrics 9 and 12 (Table 3).

Fabric 9 (V3488) is poorly mixed and contains lenses of rounded and subangular quartz sand, including grains of Triassic origin. Light-coloured lenses of clay are common as are mudstone fragments of similar colour, as well as red-firing examples. The groundmass contains few visible quartz inclusions but fragments of red- and light-firing clay are common.

Fabric 12 (V3485) contains abundant quartzose sand, including numerous grains of probable Triassic origin, and does not contain either the fine subangular quartz sand or lower Cretaceous quartz grains noted in the medieval ceramic building material (fabrics 1 to 3). Sparse fragments of red-firing mudstone are present and both these and the groundmass contain only sparse visible inclusions.

The light-firing clay in Fabric 9 is derived from the Middle Jurassic, either to the west of the Jurassic Scarp, or on the dip slope, or even redeposited in boulder clay. Neither fabric contains any definite inclusions of lower Cretaceous origin and whilst this does not completely discount a source in the Wolds (boulder clays composed of redeposited Jurassic material occur in the central clay vale) it does make it unlikely.

Five samples of Roman tile were selected for chemical analysis, including the two thin-sectioned examples. They consist of two of Fabric 9 and three of Fabric 12. They were compared with samples of medieval pottery waste from Toynton, samples of post-medieval ceramic building material from North Hykeham, in the Trent valley, which share the light-coloured mudstone fragments and clay lenses found in Fabric 9, and the medieval tile

samples from Partney. Factor analysis of this data revealed four significant factors and a plot of the first against the second factor (Fig 1) indicates that the two Fabric 9 samples are closer in composition to the North Hykeham samples than then are to the Partney medieval tile or Toynton pot samples whereas the three Fabric 12 samples fall within the Partney and Toynton cluster. The third factor separates the Partney and Toynton samples and the F3 scores of the fabric 12 samples place them with the Toynton samples rather than the Partney ones (Fig 2, where F3 is plotted against F1).

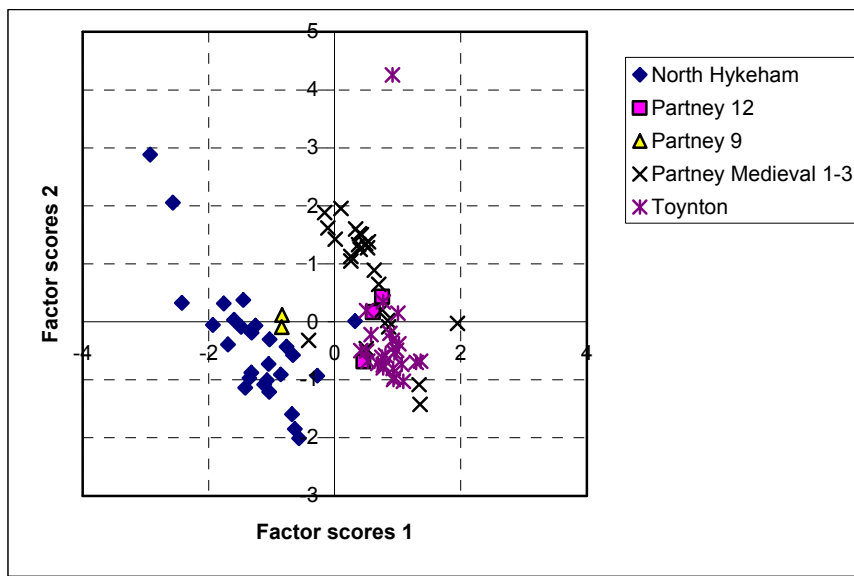


Figure 1

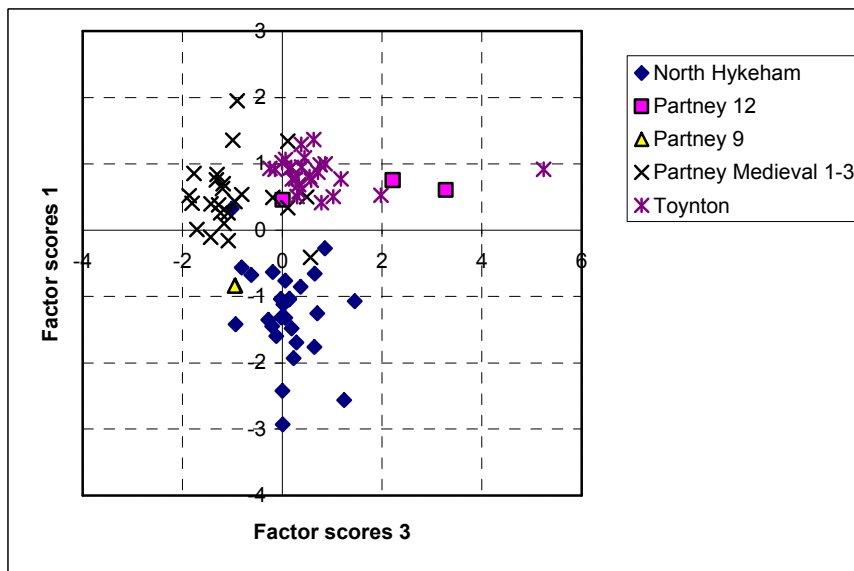


Figure 2

There are insufficient samples of either type for a conclusive result but this data does suggest that whilst some, probably the majority, of the Partney tiles are probably Lincoln area products, there are also some tiles which may have been produced closer to Partney.

## Forms

Fragments of tegula, imbrex and box flue tiles were definitely present in the collection (Table 3). Twelve fragments could not be positively identified.

*Table 4*

Site	? BOX	BRICK/TEG?	IMBEX	TEG	TEG?	Grand Total
Site 4				1		1
Site 7	1					1
Site 8	1		1			2
Site 1	3	2		1	9	4
Grand Total	5	2	1	1	10	4

## Discussion

### Site 1

The fragments of tegula and imbrex from sites 1 indicate that a Romanised structure with a tile roof existed nearby whilst the present of box flue tile fragments (joining pieces from one tile) indicate the presence of a hypocaust heating system. The tile includes pieces stratified in 3<sup>rd</sup>- and 4<sup>th</sup>-century deposits.

### Site 4

The single piece from Site 4 comes from a medieval context.

### Site 7

The single piece from Site 7 is unstratified and was found 100m east of a Roman site.

### Site 8

The lack of positively-identified tile types from Site 8 casts some doubt on their identification. Furthermore, these fragments were found 900m west and 800m east of the nearest known Roman sites.

## Conclusions

Initial study of the tile suggests that it was produced in the vicinity of Lincoln. If so, then it the most direct route is not actually by river but overland, using the Roman road to Horncastle (21 miles) and thence on to Partney (10 miles). It might have been possible to transport the tiles down river to the junction with the Bain and then up the Bain to Horncastle. It is possible

that some further clues as to the means of distribution will emerge from the study of the fabric of Roman tile from other sites in this part of Lincolnshire.

### Bibliography

Darling, M. and Wood, K. ( 1976) "Washingborough Roman Tile Kiln." *Lincoln*

*Archaeological Trust 1975-1976, Annu Rep Lincoln Archaeol Trust 4 Lincoln*

Archaeol Trust, Lincoln, 22-3.

### Appendix 1

Site	trench	Context	Description	Form	subfabric	Nosh	NoV	Action	TSNO	Weight
1		454		TEG?	FAB08	2	2			77
1		344		TEG?	FAB09	1	1	ICPS	V3489	47
1		317		TEG	FAB09	1	1	TS; ICPS	V3488	373
1		482		IMBEX	FAB10	1	1			20
1		454		TEG	FAB10	1	1			181
1		465	SHL=348	BOX	FAB11	1	1		V3493	95
1		348	SHL=465	BOX	FAB11	1	1			97
1		285		?	FAB12	1	1			16
1		348		TEG?	FAB12	1	1	ICPS	V3486	129
1		348		?	FAB12	2	2			193
1		559		TEG	FAB12	6	1			295
1		438		TEG	FAB12	1	1	TS;ICPS	V3485	439
4		157		TEG	FAB05	1	1			187
8	CHB	00		?	FAB09	1	1			17
8	CH	1650		BRICK/TEG?	FAB12	1	1			60

### Appendix 1

TSNO	Al2O3	Fe2O3	MgO	CaO	Na2O	K2O	TiO2	P2O5	MnO
V3485	17.65	5.99	1.32	0.54	0.31	3.04	0.71	0.16	0.024
V3486	15.93	5.95	1.23	0.59	0.4	2.69	0.67	0.53	0.053
V3488	24.85	8.71	1.59	0.81	0.3	3.36	1.03	0.53	0.043
V3489	24.58	8.35	1.59	0.83	0.31	3.09	1.04	0.43	0.045
V3521	14.72	5.63	1.38	0.36	0.32	2.66	0.61	0.24	0.036

### Appendix 2

TSNO	Ba	Cr	Cu	Li	Ni	Sc	Sr	V	Y	Zr*	La	Ce	Nd	Sm	Eu	Dy	Yb	Pb	Zn	Co
V3485	352	126	22	79	54	15	108	150	13	63	36	74	36	6	1	2	2	35	91	17
V3486	449	95	15	64	44	12	106	72	16	49	40	72	41	7	1	3	2	49	75	19

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V3488	398	153	25	151	96	22	150	130	33	86	56	100	58	11	2	6	4	29	153	28
V3489	391	150	32	164	95	22	158	126	30	77	54	101	56	11	2	6	3	32	145	27
V3521	436	83	26	74	33	12	83	82	13	51	32	59	33	5	1	3	2	40	76	17