A CISTERCIAN WARE WORKSHOP AT BRILL, BUCKINGHAMSHIRE

PAUL BLINKHORN AND DAVID GILBERT

with contributions by Gwilym Williams and Andrew Peachy

Two phases of pottery production are noted at this site. The first includes a workshop shed and pits containing kiln waste, including saggars with affixed Cistercian Ware wasters, dating from the late 15th century to 16th century. Also present was building material associated with the demolition of a kiln. These remains were sealed by a layer of soil indicating period of inactivity before further 17th-18th century pits were excavated, also containing kiln waste and associated with the manufactory at Prosser's Yard.

Introduction

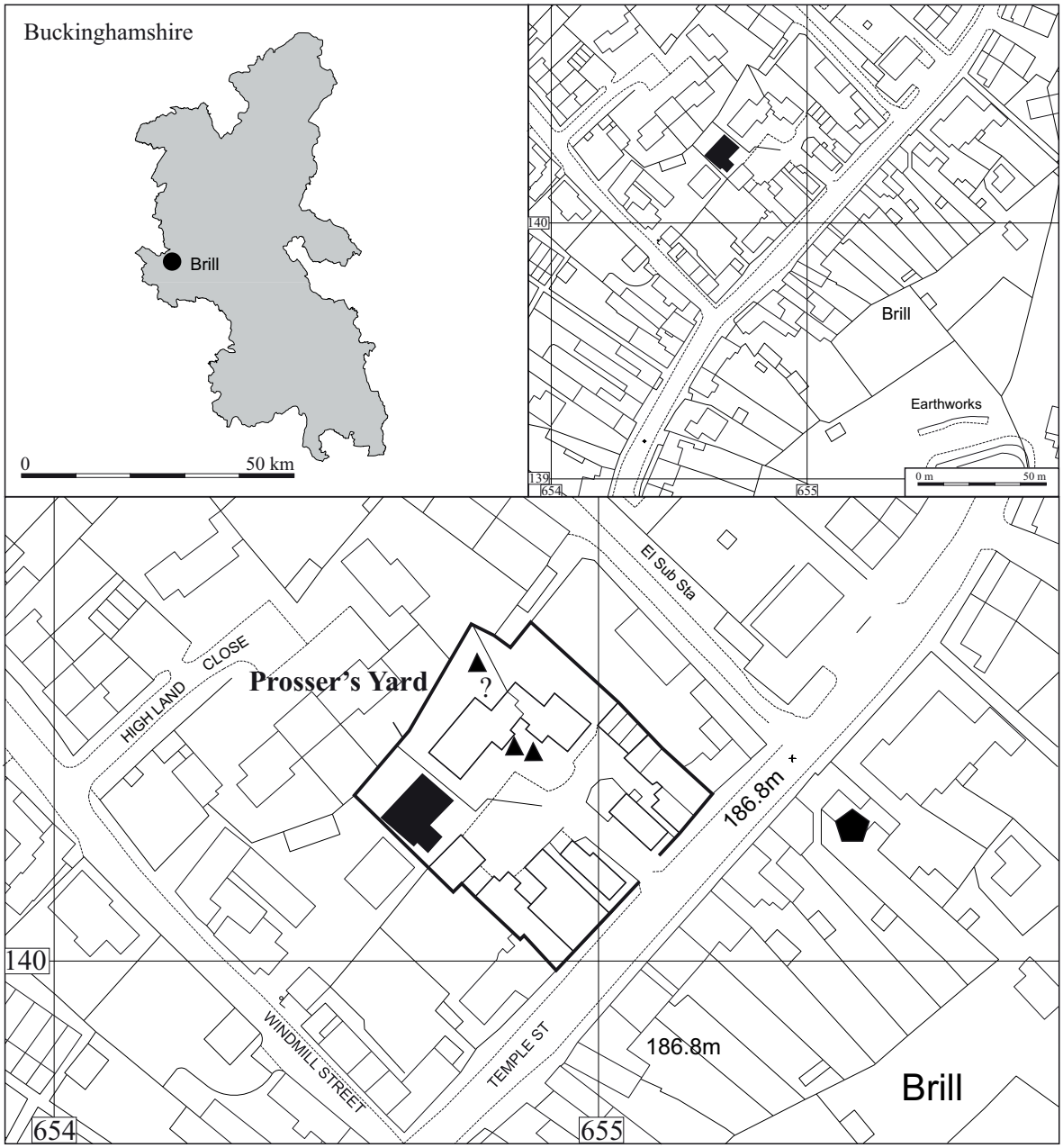
Brill is located on an outcrop of Kimmeridge Clay, overlain by Portlandian limestone deposits and Whitchurch Sand (BGS 1994 Sheet 227). The village takes its name from a conflation of the British *breg* and Old English *hyll*, both of which mean 'hill' (Ekwall 1960), and was located within the former royal forest of Bernwood.

A condition of planning consent for the erection of a new dwelling within a parcel of land *c.*104 square metres in area to the rear of 7 & 9 Temple Street, Brill (NGR SP 65465 14030) required a programme of archaeological research. John Moore Heritage Services conducted an evaluation in March 2009, which was followed by an excavation in August 2010. This site is located within Prosser's Yard, with its previously excavated kilns (Cocroft 1985).

The medieval and late pottery industry centred in and around Brill and the nearby villages of Boarstall and Ludgershall is one of the most important in the south midlands. The products of these manufactories have a wide distribution, from the Thames Valley to Gloucestershire in the west and to south Lincolnshire, Northamptonshire and Cambridgeshire in the east. The first of several known medieval kilns at Brill, dated to the 13th and 14th centuries, were excavated over 50 years ago (Jope 1954), and others since (e.g. Ivens 1982); field survey has also identified kilns at Boarstall (Farley 1982). Despite this, the manufactories of the late medieval (*i.e.* 15th-16th century) industry proved somewhat elusive until a fairly large group of kiln waste of late medieval date was excavated at Ludgershall (Blinkhorn & Saunders 2003).

There was no evidence of a kiln at the site, and saggars, which are numerous at this site, were entirely absent, although fine 'Tudor Green'-style mugs and cups comprised a sizeable portion of the assemblage. Cistercian ware, which was made at the 7 & 9 Temple Street site, was not noted in any quantity amongst the Ludgershall material. The lack of saggars and Cistercian ware at Ludgershall seems likely to be related to chronology; saggars only appear to have been first used in the manufacture of Cistercian ware (McCarthy & Brooks 1988, 45), so it seems likely that the Ludgershall material, dated to the mid-late 15th century (Blinkhorn & Saunders 2003, 133–4) is slightly earlier than the manufacturing waste from this site.

Previous excavations at Temple Street in 1983 (Yeoman 1988) produced both saggars and Cistercian ware cups (Hurman 1988), and it seems very likely that the pottery manufacturing waste from this site is contemporary with that from the 1983 excavation. A documentary reference dated to 1580 refers to a potter working in Temple Street (McCarthy & Brooks 1988, 435), but this assemblage and that from the 1983 excavations appears earlier. The material from the 1983 excavations was dated to the early 16th century, which appears perfectly reasonable given the range of vessels noted, and a similar date would fit this group.



Excavation Area

▲ Location of 1977 kiln-excavations

⬟ Location of 1988 kiln-excavation

FIGURE 1 Site location

The Excavation
by David Gilbert

The site was machine stripped to the surface of the archaeological horizon. The lowest deposit recorded was a yellow to brown-yellow sandy silt (context 3) related to the natural geology of the area, namely the Whitchurch Sand Formation.

Late 15th to 16th century

To the centre and southeast of the site was a natural hollow filled with a red-brown soil (50) up to 0.4m

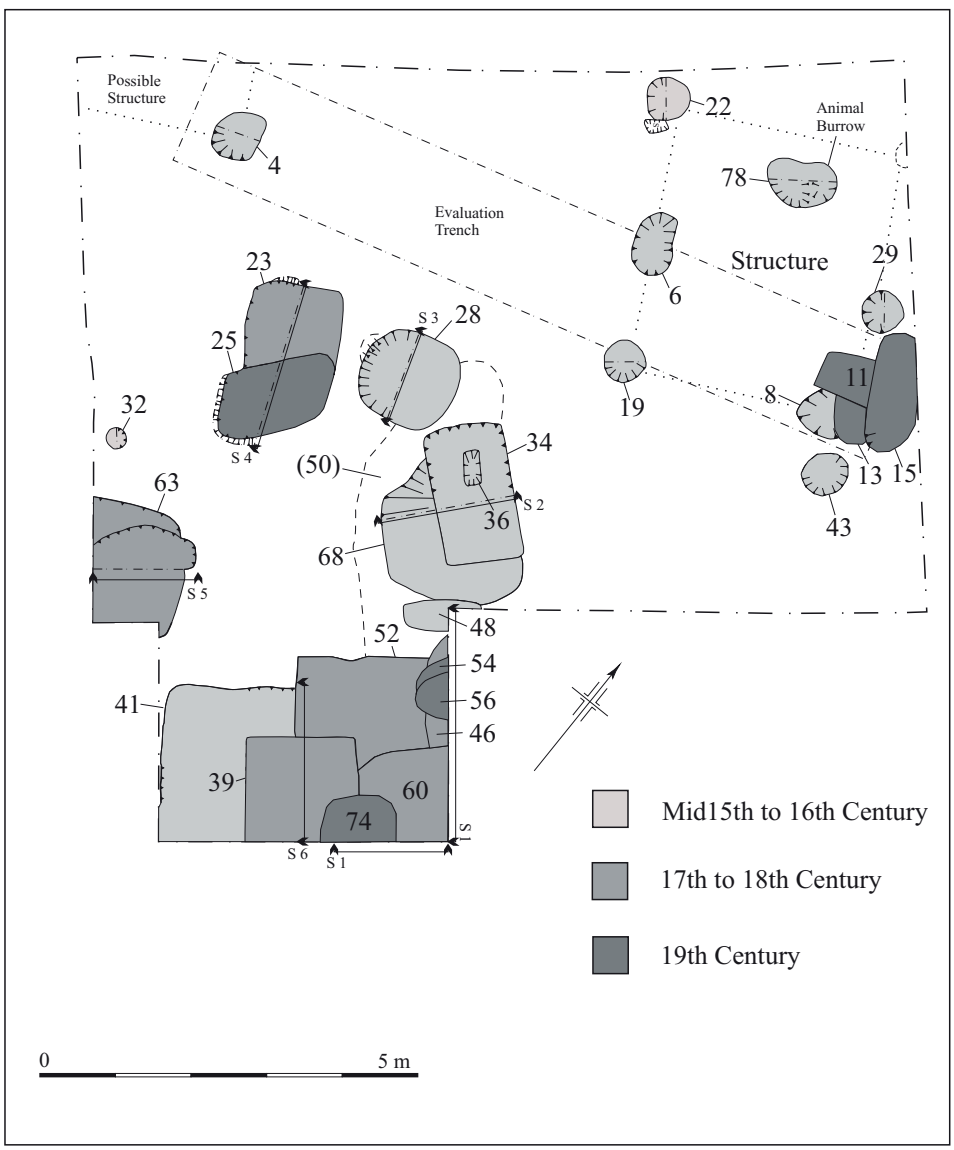


Figure 2 Overall site plan

thick that also contained a few sherds of Brill/Boarstall ware. Cut through this deposit were three pits: 34, 48 and 68.

Sub-circular pit 68 was poorly defined, measuring *c*.2m by 1.8m and 0.42m deep: its fill (69) contained a mix of Brill/Boarstall ware types including 'Tudor Green'. It was cut by the later rectangular straight-sided pit 34 (Fig. 3), measuring 1.8 x 1.0m across and over one metre deep, with a flat base. Cut into the base on the northwest side was a rectangular socket 0.45 x 0.20m and 0.22m deep, filled with firm black silty sand (37) and sealed by the main fill of 34, which comprised a sequence of deliberate dumps of sand, many of which showed signs of scorching and burning. Some were charcoal-rich; others were mortar-rich. Clay lumps, kiln brick and pottery sherds were recovered from the blackened and reddened sand. These deposits appear to be associated with kiln rake-out and refurbishment as well as general discard, yielding 154 sherds of pottery weighing over 7kg.

A similar albeit small pit, 48, was located close by. This contained saggars, burnt clay, lumps of unburnt clay and 60 sherds of pottery weighing over 6kg, including 3 large sherds of 'Tudor Green' weighing 0.5kg (49), again representing the clearance of a kiln area following firing.

Pit 41, at the south end of the site, was square cut, measuring 2.5m by at least 2m, and 1.1m deep. The fill comprised a deliberately tipped compact layer (67) of pale grey mortar up to 0.67m thick, with brick fragments and charcoal flecking, and some occasional small stones. This material may be associated with kiln demolition.

On the northeast side of the site a post-built rectangular structure was identified. This was formed by six postholes (6, 8, 19, 22, 29 and 80), the last of which was inferred as it lay on the edge of the excavated area. Several of these postholes had later disturbance, possibly due to animal burrowing. Small fragments of brick were seen within the fills of these postholes, as was sherds of Brill/Boarstall ware. Inside the structure, towards its northern end, was a central posthole 78 that had been disturbed by a later animal-burrow. This posthole is thought to represent the location of the central shaft of the potter's wheel or a setting to hold it, although no direct evidence of this was recorded. No internal floor surface was present, and it must be assumed that this would have been bare earth. The structure measured 4.8 x 3.5m in plan, and may have extended beyond the edges of excavation.

Located by the southeast corner of the structure, posthole 43 perhaps represents an external setting for a millstone, used during the processing of temper and glaze ingredients. Such settings next to the entrance opposite the wheel are known from ethnographic studies (*cf* Rakhimov 1961). Although these studies are based well to the east in Southern Russia and Central Asia, pottery trade and the movement of ideas between these areas and the West are documented (*cf* Orton 2006): alternatively, its location could be simply practical. Similar, previously unidentified, external settings appear to be present at other excavated pottery workshops such as Olney Hyde, Buckinghamshire (Mynard 1984) and Lyveden, Northamptonshire (Bryant & Steane 1971).

To the west of the structure was feature 4. This shallow pit accommodated a flat stone post-pad and seemed to be part of a large structure, the extent of which lay outside the boundaries of the excavation. The fill of this pit also included a single small sherd of Brill/Boarstall ware. The different construction method of this structure may indicate a different date or function for it. A single posthole, 32, was present on the west side of the site, but did not appear to be associated with any other feature.

All features were sealed by layer (47): its depth and the presence of material thought to be kiln demolition material from pit 41 suggests that pottery production in the immediate vicinity ceased for some time.

17th century

Four pits, 23 & 63 square in plan and 28 & 85 sub-circular, located in the centre and southwest side of the site, contained sequences of deliberate dumps of sand showing signs of scorching and burning with inclusions of brick fragments from kiln walling and floors. These deposits appeared to represent the cleaning or refurbishment of a kiln, or general industrial debris associated with the pottery industry. All the pits contained sherds of lead-glazed red earthenware.

Two brick fragments from pit 23 displayed glaze splashing associated with a kiln floor or internal support. Other glaze-splashed brick fragments were recovered from pit 63, along with fragments of glaze-splashed tile thought to have been used as

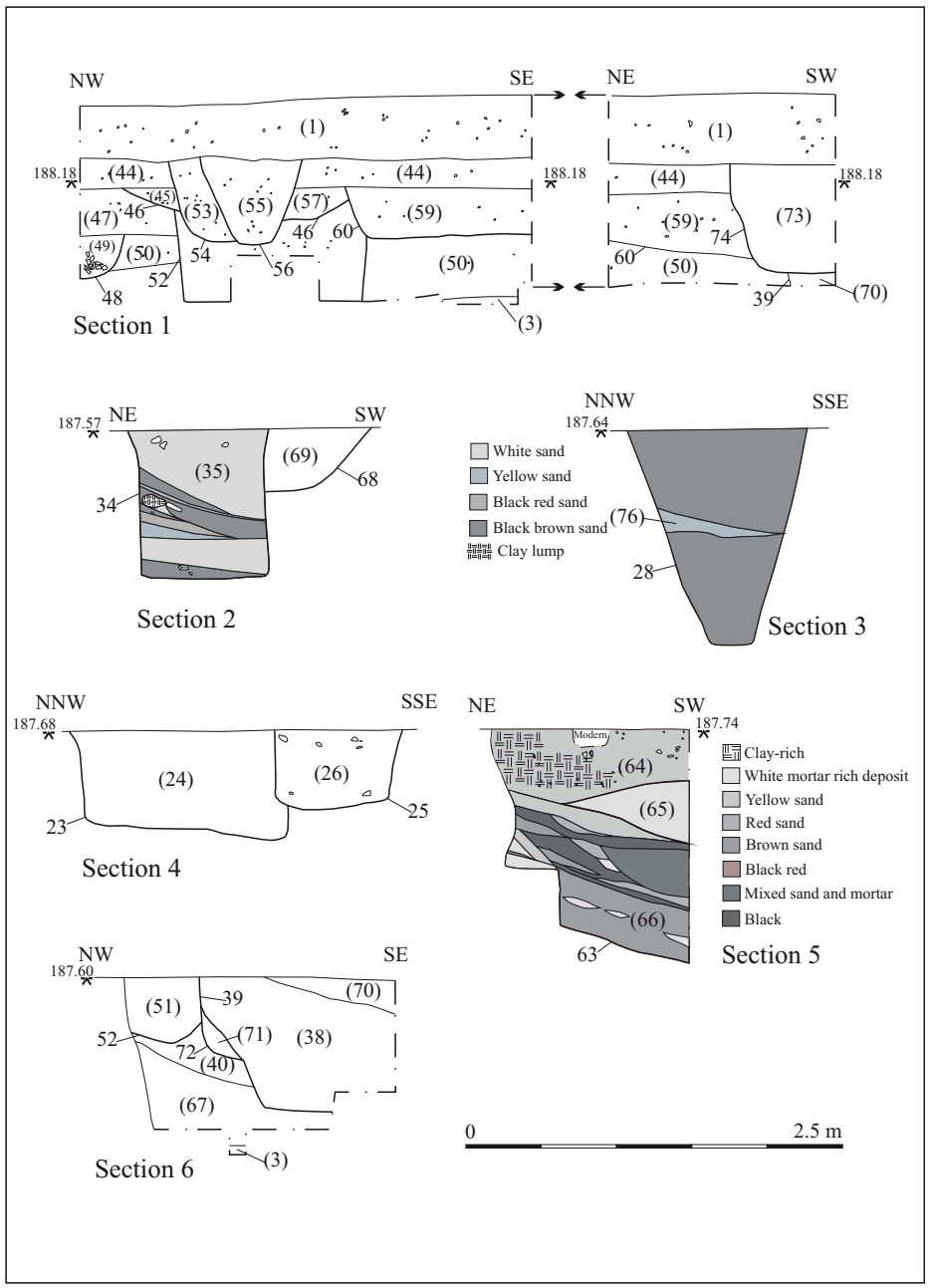


FIGURE 3 Sections 1-6

supports within a kiln.

On the southern edge of the site was a cluster of intercutting pits, associated with 16th-century or later glazed red earthenware sherds. These, in stratigraphic order, 52, 46, 60, 72 and 39, all cut the early pit 41. Most were filled with a sterile sand deposit, except 39, which contained a very compact dirty white chalk and mortar deposit with noticeable tip lines in it, and moderate inclusions of charcoal and lumps of raw clay.

Late 18th century

Sealing these earlier features was a 0.15-0.20m thick layer of bioturbated garden soil (2)/(44) from which 19th-century pottery was recovered. Cut through this soil were a number of features, mostly pits 11, 13, 15, 17, 25, 54, 56 and 74. Many of these contained residual pottery and kiln furniture. The modern garden soil (1) formed the uppermost layer.

The Pottery Assemblage

By Paul Blinkhorn

The pottery assemblage comprised 617 sherds with a total weight of 20,828g. The estimated vessel equivalent (EVE) by summation of surviving rim sherd circumference was 5.86. It consisted mainly of a group of manufacturing waste of probable late 15th-16th century date, a large proportion of the assemblage comprising fragments of saggars that appear to have been used in the firing of Cistercian ware and 'Tudor Green'-style cups or drinking jugs. A single, near-complete post-medieval bowl made up a significant part of the evaluation assemblage by weight.

The Fabrics

The assemblage was recorded using the coding system of the Milton Keynes Archaeology Unit type-series (e.g. Mynard & Zeepvat 1992; Zeepvat *et al* 1994), as follows:

MC1 (OXBK): Shelly Coarseware. 1100–1400. 3 sherds, 32g.

MS6: Potterspury Ware. 1250–1600. 1 sherd, 22g, EVE = 0.07.

MS9: Brill/Boarstall Ware. 1200–?1600. 469 sherds, 15,505g, EVE = 5.00.

MSC1: Sandy and Shelly ware, late 11th-mid 13th century. 2 sherds, 82g.

MSC 3: Banbury ware, late 11th-late 14th century. 4 sherds, 48g.

TLMS17: Brill/Boarstall Tudor Green type. 15th-early 17th century. 62 sherds, 836g, EVE = 1.39.

PM5: Trailed slip-ware 17th century. 3 sherds, 108g

PM8: Red Earthenware 16th-19th century. 47 sherds, 3786g.

PM15: Cistercian ware, 1470–1550. 4 sherds, 11g.

PM25: White Earthenware. Late 18th-20th century. 3 sherds, 150g.

PM28: English Stoneware. Late 17th C+. 1 sherd, 19g.

In addition, the following wares, not included in the Milton Keynes type-series, were noted:

OXY: Oxford ware: Late 11th-14th century. (Mellor 1994). Abundant sub-angular quartz with some rounded clay pellets and occasional polycrystalline quartz. Glazed tripod pitchers common. 10 sherds, 123g, EVE = 0.09.

OXAW: Early Brill/Boarstall ware, *c.*1180-1250 (Mellor 1994). 7 sherds, 98g, EVE = 0.05.

The pottery occurrence by number and weight of sherds per context by fabric type is shown in Table 1. Each date should be regarded as a *terminus post quem*. Where necessary, the context-specific dating has been adjusted with reference to the stratigraphic matrix.

The bulk of the assemblage consists of manufacturing waste, particularly saggar fragments, from a late 15th-16th century pottery. Earlier medieval pottery, probably of late 11th-13th century date, is present in small quantities, but all of it appears redeposited, and certainly most of the sherds of that date are somewhat abraded, which fits with such a scenario.

The Saggars

A large proportion of the manufacturing waste from this site comprises saggars, simple vessels used in the kiln to contain fragile pots such as cups during the firing process. In the past, groups of saggars have been noted at Brill, particularly during the excavation of kilns at Windmill Street and Tram Hill (Farley 1979, figs 9, 12 & 15). These were originally dated to the 17th century, but it can be argued that a date of the early 16th century is probably more appropriate (*see Discussion*),

TABLE 1 Pottery occurrence by number and weight (g) of sherds per context by fabric type.

	RB		MC1		OX234		OXY		OXAW		MSC1		MS6		MS9		TLMS17		PM15		PM8		PM5		PM28		PM25		Date
Ctx	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	
0															5	381					1	77							U/S
2					1	18			1	12			1	22	8	74					6	2802	1	31			1	143	19thC
3			1	22					2	40					4	32													L15thC
5															1	1													13thC??
7			2	10	3	30									15	101	1	1											L15thC
9									1	5																			
10	1	7							2	24					1	4													
20							2	11							12	93	6	18			2	6							M16thC
24															23	324	4	11			5	60							M16thC
26															5	39	2	16			6	208	2	77	1	19	2	7	19thC
27															10	75													M16thC
30															10	363	1	32			1	15							L15thC
31							2	45							12	114	1	14			6	172							M16thC
33															2	19													L15thC?
35															144	6891	10	136											L15thC
38															6	46	2	11			7	62							M16thC
40															124	692	26	67	4	11									M16thC
42															5	83													L15thC
49															57	5749	3	494											L15thC
50							3	40							7	80													L15thC?
64															3	55					8	143							M16thC
65															1	98													L15thC
66															2	36	2	5											L15thC
67															8	79					5	241							M16thC
69							3	27	1	17	2	82			4	76	2	26											L15thC
Total	1	7	3	32	4	48	10	123	7	98	2	82	1	22	469	15505	60	831	4	11	47	3786	3	108	1	19	3	150	

and thus they are broadly contemporary with the material from this site. They will be regarded as such in this report.

There are two main groups of saggars, from pits 34 and 48, and while they are likely to be contemporary, there do appear to be differences in terms of size and style. The saggars from pit 34 have a mean rim diameter of 204.4mm; those from 48 have a mean diameter of 175.0mm. The rim diameter occurrence shows a very difference size distribution pattern: those from pit 34 favour the larger size, whereas those from 48 favour the smaller examples, with vessels with rim diameters greater than 180mm entirely absent (Figs 4 & 5). In both cases, this is very different to the size distribution of the saggars from the Windmill Street kiln, which saw two favoured size ranges, the primary peak being around 120-140mm, and a secondary one around 180-200mm (Farley 1979, fig. 9). However, when the data is combined for all the saggars from this site, a broadly similar pattern to that from Windmill Street emerges (Fig. 6). Only one saggar could be constructed to a full profile (Fig. 7: 3), although this and the fragments of other vessels suggest that one type was relatively squat and other fairly tall. Both had cut-outs to allow the kiln gases to flow freely. Those on the squat examples had rounded cut-outs, while on the taller vessels they were long and squared (e.g. Fig. 7: 4 & 5). Some of the rims from what appear to be the squat saggars have shallow cut-aways on the rim (e.g. Fig 7: 6).

The bases also seem to reflect this pattern, and so it seems likely that the two dumps of waste represent either two different kilns, or two different production phases. Given that the saggars are likely to have been used to fire the Cistercian ware vessels, which are relatively squat, it may be that one sort was used for these, and the taller, narrower saggars for drinking jugs. A single small rim sherd from a Brill 'Tudor Green' drinking jug was noted in context (20), and handles from three vessels of this type were present in pits 34 and 48, along with a number of bodysherds which also appear likely to be from such forms (Fig. 8: 10 & 11). One saggar base has a complete Cistercian ware cup base attached (Fig. 7: 1) and another (Fig. 7: 2) has a stacking scar with bright green glaze on it, and is from a 'Tudor Green'-type vessel, also probably a cup.

In all cases, the outside of the 'base' of each saggar was thickly covered in glaze (Fig. 7: 1, 2, 4 & 5), many with scars where pots had stuck during firing, showing that they were used open-side down, and placed over the pots rather than the pots being placed within them, as covers rather than containers. Many of the rims also had similar 'sticking-marks'.

Catalogue (Fig. 7)

Fig. TS1: Context 49. Saggar base with base of a Cistercian ware cup adhering to the outside. Saggar: Buff-orange fabric with uniform dark grey surfaces, thick layer of green-and vitrified glaze adhering t the outside of the base pad. Cistercian ware cup: dark purplish-red fabric with black glaze on both surfaces.

Fig. TS2: Context 49. Saggar base. Dark grey fabric with a red core. The outside of the base-pad has a thick layer of vitrified glaze, and stacking scars from at least two vessels. The smaller scar has a bright green glaze attached, and appears likely to be from a 'Tudor Green' vessel.

Fig. TS3: Context 49. Full profile of heat-distorted saggar. Orange pink-fabric with grey surfaces, some vitrified glaze adhering to the rim where the vessel had been inverted during firing.

Fig. TS4: Context 49. Lower part of saggar. Brick-red fabric with dark grey surfaces. Ring of thick, partially vitrified green glaze on the outside of the base. Runs of very dark green glaze on the outer surface of the body.

Fig. TS5: Context 49. Lower part of saggar. Brick-red fabric with dark grey surfaces. Thick, partially vitrified green glaze on the outside of the base which sagged inwards and broken during firing, as the glaze has run over the fracture. Runs of very dark green glaze on the outer surface of the body.

Fig. TS6. Context 49. Saggar rim with shallow cut-aways. Buff fabric with light grey surfaces. Small 'sticking scar' on the rim.

The Pottery

The pottery assemblage comprised a mixture of late medieval Brill-type earthenwares and 'Tudor Green' type vessels, along with a small quantity of earlier medieval material, all of which dated to the late 11th-13th centuries, and was residual. This is similar to the pattern observed in the material from the evaluation, and suggests that the site was lightly occupied from not long after the Norman Conquest until the 13th century, and then abandoned until it became utilized for potting in the 15th century.

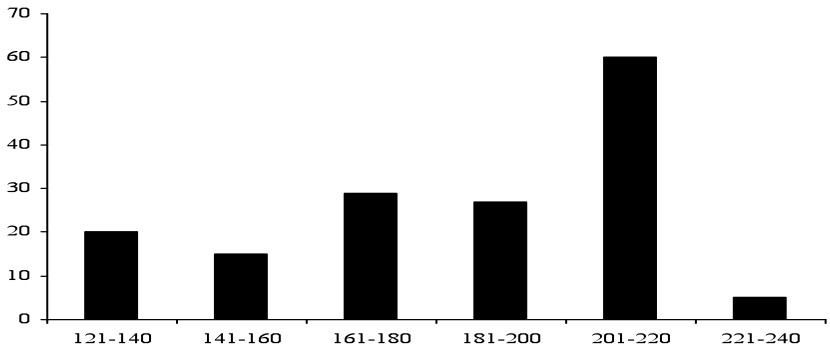


FIGURE 4 Saggar rim diameter, in EVE, per 20mm diameter class, context 35

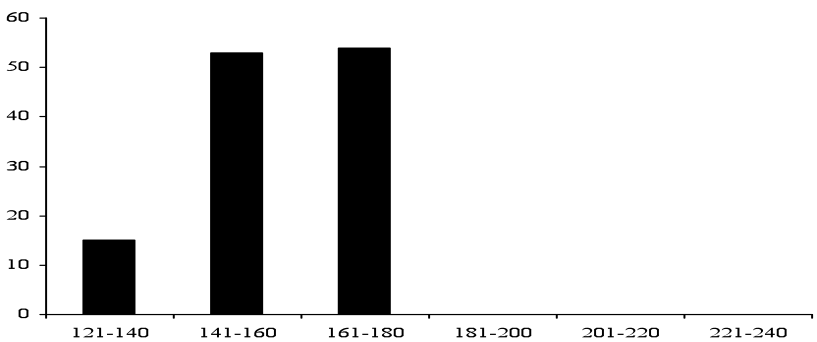


FIGURE 5 Saggar rim diameter, in EVE, per 20mm diameter class, context 49

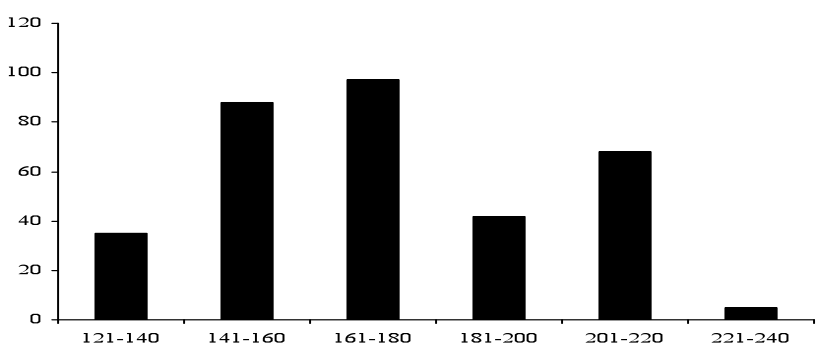


FIGURE 6 Saggar rim diameter, in EVE, per 20mm diameter class, all contexts

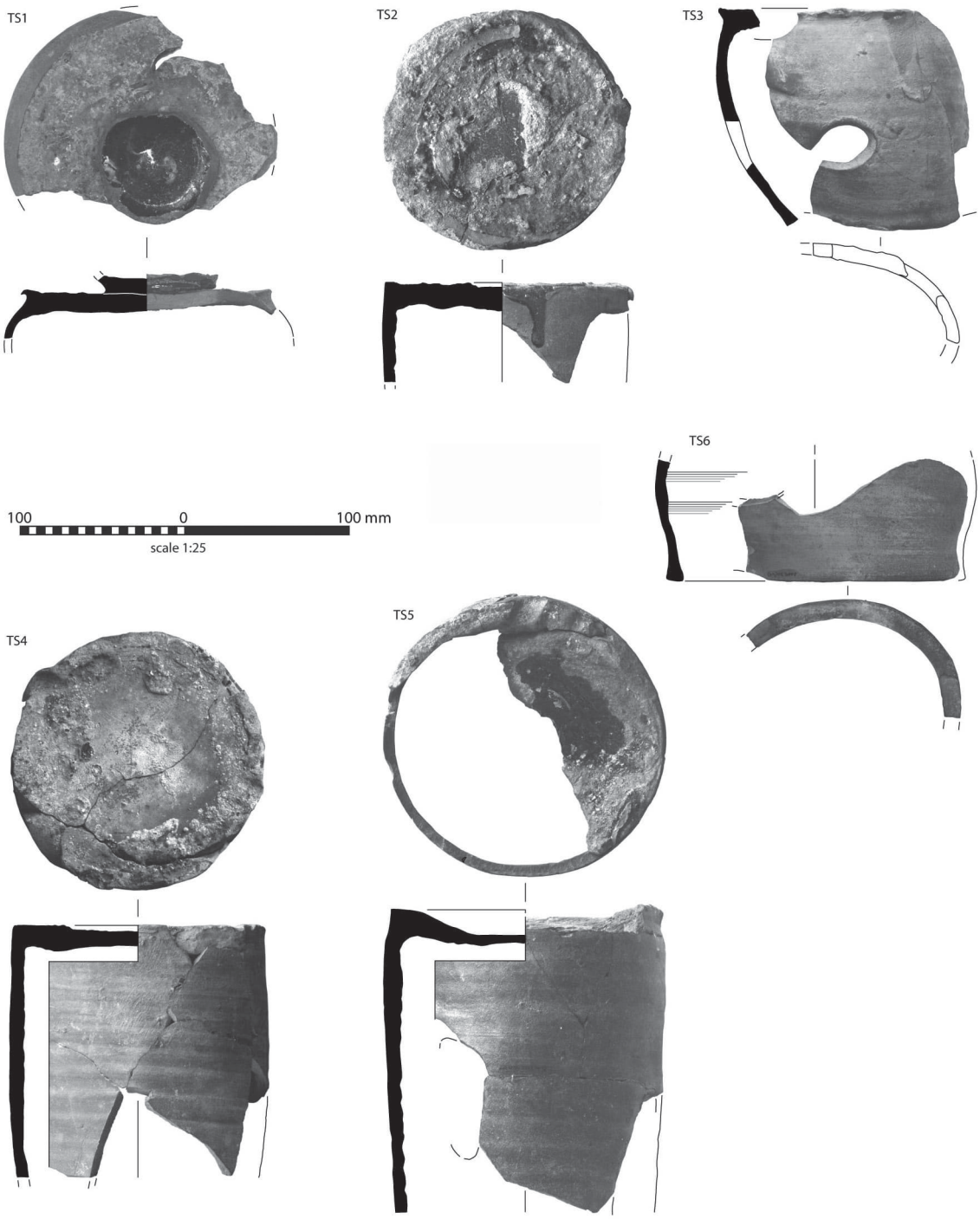


FIGURE 7 The saggars, TS1 – TS6

The kiln waste, saggars aside, shows that the production at 7 & 9 Temple Street comprised a mixture of jars (Fig. 8: 7), large bowls or pancheons Fig. 8: 8 & 9) and 'Tudor Green' drinking jugs and cups (Fig. 8: 10 & 11). It is possible that some of the jar rims are from cisterns, but bungholes were entirely absent from the assemblage from here, despite being present at the Windmill Street, Ludgershall and the 1983 Temple Street kiln. Another typical late medieval form, which was not noted amongst this assemblage, was the bifid-rim jar. These were present at Ludgershall and the 1983 Temple Street kiln. Such rims occur in Oxford from the late 14th century onwards (Mellor 1994, fig. 52: 31–3).

Brill Vessel Rims (by EVE):
Jars = 0.60 (30.5% of the rim assemblage)
Pancheons = 0.98 (49.7%)

Brill 'Tudor Green' Rims:
Jugs = 0.16 (8.1%)
Cups = 0.23 (11.7%)

The assemblage here is considerably smaller than that from Ludgershall, and so detailed comparative analysis is not possible, but some general trends are worthy of note. The proportions of Brill vessel types show some differences to those observed at Ludgershall (Blinkhorn & Saunders 2003, table 1). Jugs are far less common here; such vessels comprised around 50% of the Brill-type vessel assemblage at Ludgershall. Jars/cisterns are present in roughly the same proportion, as are cups. Pancheons are much more common here, but made up only around 20% of the rim assemblage from Ludgershall. At the 1974 Windmill Street kiln, bowls and jars/cisterns each comprised around one-third of the identifiable vessel types, with jugs making up around 15%.

Both the jugs and the large bowls from this site have a very similar size-range to that from Ludgershall, with the bowl rims clustering around the 300-320mm diameter range, and the jugs around 120mm (Blinkhorn & Saunders 2003, figs 6 and 7).

Catalogue *(Fig. 8)*

Fig. TS7: Context 35: Jar rim. Uniform pale buff-orange fabric with a few spots of pale green glaze on the rim.

Fig. TS8: Context 35: Full profile of large bowl or pancheon. Pale pink-buff fabric with grey surfaces. Some spalling on inner surface.

Fig. TS9: Context 49: Rim from large bowl or pancheon. Buff fabric with grey surfaces. Heavily vitrified glaze on the inner surface.

Fig. TS10: Context 35. Handle from 'Tudor Green' drinking jug. Reddish-pink fabric with glossy, copper-speckled glazed on the both surfaces.

Fig. TS11: Context 49. Handle and bodysherd from a 'Tudor Green' drinking jug. Pale buff-pink fabric with glossy yellow glaze on both surfaces.

Petrographic Analysis
by David Gilbert

A single sample of a saggar base sherd was taken for petrogrographic analysis. A thin section was prepared, mounted on a glass slide, ground to the standard thickness of 30 microns and a cover slip mounted to preserve the sample.

The sample appears to have been subjected to the effects of high temperatures, perhaps due to use in multiple firings before being discarded. The fabric has an almost stoneware appearance, making a detailed examination of the clay matrix difficult. The isotropic clay matrix contained frequent well-sorted sub-rounded quartz grains *c*.0.50mm in size.

This sample differs from the description of the single sherd from the 1974 kiln that was studied in thin section. This was described as "showing a fine micaceous anisotropic matrix containing a scatter of ill-sorted subangular quartz grains in the range 0.05-0.40 mm, also present were frequent grains or iron-rich argillaceous matter, probably ironstone" (Farley 1979, 137). The 1974 sample appears to have more in common with the Brill/Boarstall ware sherd published by Vince (1984) as the quartz rich fabric OXAW2, rather than his later OXAM fabric that lacked the heavy admixture of quartz and was also provenanced from Brill. Although these classifications may well over-simplify the situation, as Mynard (1991, 272) notes nine different fine sand-tempered fabrics constituting the MS9 Brill/Boarstall wares and the CM15 Cistercian Ware classification, based more on stylistic grounds than petrology.

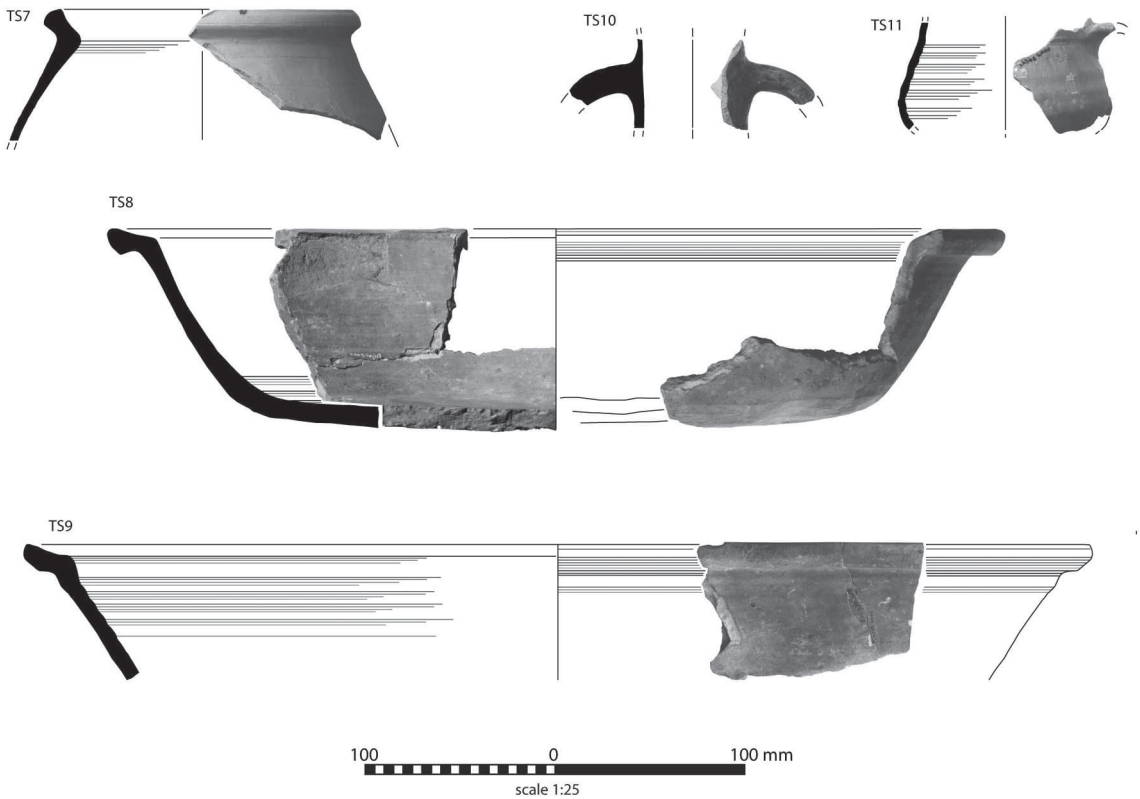


FIGURE 8 The pottery, TS7 – TS11

Saggars were still being used in the Stoke-on-Trent potteries well into the 20th century, made of "Saggar Marl", a clay base mixed with aplastic material or "grog", often comprising pieces of brick, old saggar fragments and sand. The proportion of this grog to clay varied according to clay type used, but could be as high as three parts grog to two parts clay. It was produced in two distinct compositions: "side marl" which was used for the walls of the saggar, and "bottom marl", used for the bases. Bottom marl had more grog mixed into it and the grog was of larger size than for the side marl (Nicholson 2011), resulting in an uneven distribution of temper in different parts of the saggar body.

This description of later saggar production may in some way explain the abundance of quartz as a temper within the sample; a deliberate choice of clay and temper based on the intended purpose.

THE CERAMIC BUILDING MATERIAL
by Andrew Peachey

Excavation recovered a total of 306 fragments (52.5kg) of CBM. It had been almost entirely deposited in late 15th to mid 16th century pits, with a notable concentration in pit 34, from layer (35), which accounts for 51.1% of the assemblage by weight. It is in a fragmented but only slightly abraded condition and almost certainly represents material discarded from a nearby kiln either as waster material or after being used as kiln furniture.

The Fabric

A single fabric defined all the assemblage, although the degree of coarseness was noted to vary in some examples according to form, and is comparable to the variants previously identified for late 15th to 16th century tiles from Brill (Yeoman 1988, 144).

Fabric 1: The intended product appears as

oxidised red (2.5YR 5/4-5/8) throughout with the core fractionally darker than the surfaces, although un-fired fragments may be a pale brown and over-fired fragments a dark red, sometimes with a reduced core. Inclusions comprise common sub-angular/rounded quartz (generally <0.2mm, occasionally to 0.5mm), sparse red and white clay pellets/grog (0.5-5mm), sparse haematite (0.25-1mm, occasionally larger) and sparse to occasional streaks of white clay.

Peg Tile

The dimensions of the peg tile match the late 15th to 16th century examples produced in the kiln on Temple Street (Yeoman 1988, 145), where it was noted the measurements conformed to a 1477 statute to standardise tile production (Salzman 1952, 233). Similar peg tile was also recorded in the mid 17th century kilns at Prosser's Yard (Cocroft 1985, 79). None of the peg tile in the assemblage appears to have been used for roofing, and appears to represent CBM discarded after being used in the structure of a nearby kiln, or waster material that broke during the firing of a nearby kiln. In the kilns at Temple Street and Prosser's Yard it was noted that the peg tile was used as spacers and to rest pottery upon (while remaining as a product itself). The peg tile in this assemblage, notably in pit 34, layer (35), displays several traits that suggest this was the case, including numerous fragments with splashes or drips of lead glaze from deliberately glazed vessels, under and over-fired fragments, partially oxidised surfaces due to stacking, and a single fragment with a partial circular impression where a pottery vessel or saggar may have been stacked on the un-fired tile.

Brick

A total of 37 fragments (6762g) of brick were present in the assemblage, the bulk contained in pit 34, layer (35). Surviving dimensions include a width of 115m and a thickness of 50mm. Other characteristics include a flat base, slightly rounded arises and often faint pressure marks or sunken margins where the brick was pressed into a mould. These characteristics are typical of bricks manufactured between the 15th and early 17th centuries ('Tudor Place Bricks'). 'Rectangular' brick, probably similar to these examples, was used in the kilns at Prosser's Lane as part of the kiln structure and as kiln furniture (Cocroft 1985, 79).

Discussion

by Paul Blinkhorn, Gwilym Williams and David Gilbert

The excavation results indicate that the main phase of activity on the site was in the late 15th and mid 16th centuries. After this the site appears to have been left as possible garden space until the 17th century, when a second phase of pottery production took place.

The group of postholes forming the late 15th-16th century workshop located in the northeast corner of the site lacked any associated floor surface. Any such floor may have been wood, as depicted in contemporary illustrations of potter's workshops (*cf* Jenner 1985), or perhaps a beaten or worn earth surface. It is also more than likely that such a timber structure would have been clad with weatherboards, rather than being infilled with brick (see McCarthy & Brooks 1988, fig. 11: 4).

No 15th-16th century kilns are known in the immediate area. However, a kiln and corresponding manufacturing waste was excavated at 40 Windmill Street in Brill in 1974, and another at Tram Hill in 1975 (Farley 1979). These produced a range of vessel types, including fairly large quantities of saggars, but only the 1974 kiln produced any evidence of Cistercian ware production, and then very little, (*ibid*, 142), despite the fact that these were the only vessels found which would have been small enough to fit into the saggars. A similar picture is seen here: only one sherd of Cistercian ware was recovered from the site, but it was a complete base, fused to the roof of a saggar, leaving no doubt that such pottery was fired using these vessels. One can only conclude that the lack of Cistercian ware is due to very low wastage rates brought about by the protection the saggars offered in the kiln.

Farley tentatively dated the 1974 kiln and its products to the early 17th century on the basis of a piece of clay pipe-stem which was found in the stoking area, although he did not rule out that it may have been intrusive. Certainly, with the benefit of 35 years' hindsight and a lot more evidence from more recent excavations, it appears that a date of the late 15th-early 16th century may be more appropriate, and that the clay pipe was indeed intrusive. The kiln was built of bricks of similar size and date to those noted here, *i.e.* 15th-early 17th century (Peachy, this report): the saggars are of a similar

form to those from an early 16th century Cistercian ware kiln at Potterton in Yorkshire (Farley 1979, 134), and the main vessel forms (pancheons, jars/cisterns, and small jugs) are generally similar to those from this site. A few other vessel forms were noted, particularly two fragments of chafing dishes, which were not present here. Such vessels are generally post-medieval in date, but fragments of Brill examples have been noted in Oxford in contexts as early as the late 15th century (e.g. Mellor 1994, fig. 54 no. 15). Another extremely rare Brill vessel type, a costrel, was also noted amongst the waste from the 1974 kiln. Very few parallels for this exist, but a fragment of such a vessel occurred in Oxford, in a 15th-century context (Mellor 1994, fig. 55: 11), and another occurred in the city in a deposit dated to the late 15th century (*ibid*, fig. 67, no. 8). Lugs from a probable costrel were also present amongst the kiln waste from Ludgershall (Blinkhorn & Saunders 2003, fig. 4: 22). Thus, the clay pipe aside, there seems little to suggest that the 1974 kiln and its products date to any later than the early-mid 16th century, and could comfortably be as a early as the late 15th century.

The dating of the 1975 kiln and its products at Tram Hill could perhaps also benefit from reconsideration. Farley (1979, 134) noted that the range of products appears later than those of the 1974 manufactory, and this observation certainly appears true. However, his date of late 17th century for the 1975 kiln appears a little late, primarily on the grounds there was a complete lack of slipware from the site. If the re-dating of the 1974 kiln is accepted, the 1975 kiln, which produced some evidence for Blackware production, a number of saggars and some fairly typical early post-medieval vessels such as large bowls and handled jars ('chamber pots'), could comfortably be dated to the late 16th-early 17th century, if not even a few decades earlier.

The two 17th century kilns excavated by Peter Lock (Cocroft 1985, 92) are located less than 20m away: the precise location of those excavated in 1983 is not recorded, and a further unlocated kiln is noted in the area. The dating of kiln 1 was based on a James I coin of 1612 found in the backfill, though waster material within kiln 2 dates from 1722.

The potential life-span of kilns could be up to 60 years (Stopford 1993, 100), in which case an earlier date is very possible, and may well be broadly contemporary with the later material from 7 & 9 Temple Street. It is possible that Cocroft's unlocated kiln 3, if not kiln 1, was associated with the late 15th-16th century kiln debris reported here.

It is not easy to demonstrate that the structures recorded by Cocroft are associated with the pits reported here, as the brick dimensions do not readily correspond. Cocroft (1985, 72) gives dimensions of 57 x 110 x 205mm, whereas those examples, albeit incomplete, recorded from 7 & 9 Temple Street measure 50 x 115mm: their length is unknown.

It is apparent that the pits found in the excavation were used for dumping material following firings. Pit 34 in particular evidences saggars, brick and tile, unfired clay, reddened and blackened sands as well as the cleaning away of mortared kiln floors. Yeoman (1988, 129) observed moreover where the brick floor was not mortared the bricks were splashed with glaze (*cf* Moore 2005). The glaze-splashed flooring bricks recovered from 7 & 9 Temple Street indicate that the backfilling of the pits can be associated with kiln refurbishment.

Similar pits were recorded during evaluation of land adjacent to The Pheasant, Windmill Street (Moore 2005), also filled with sandy deposits and mixed assemblages of tile and brick dating from the late 15th or early 16th centuries. Some of these tile and brick fragments were seen to be over-fired and splashed with glazed (Moore 2005, 10), it may well be that rather than these being products of a brick and tile works they represent instead another example of the yard of a workshop, with material associated with maintenance of a kiln being dumped in pits formerly used for clay processing, as at 7 & 9 Temple Street. Furthermore, unfired clay was also recovered from the pit fills. The pits might have been associated with quarrying for sand by the local potter: although these pits are not deep, large amounts of sand for tempering would not be required.

The results from Yeoman's 1983 excavation at Temple Street accord well with the material from 7 & 9 Temple Street, though the excavations are *c.*200m distant from one another. A direct relationship between the kiln site (Yeoman 1988) and excavated workshop area is unlikely, although they were clearly operating within a similar time-frame, and later map evidence suggests that there may well have been several yards between the two.

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