

A Late Saxon pottery industry in Staffordshire: a review

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SUMMARY

This paper is a review of pottery production in Staffordshire during the late 9th- to 11th-century. It is based on a lecture given at the Medieval Pottery Research Group conference in London in May 1998. Within Staffordshire the main type of pottery of the Late Saxon period is Stafford-type ware. Stafford is the only place where evidence for its production has been found — almost a metric tonne of pottery and the remains of four kilns and their associated pits and structures. However, Stafford-type ware was first characterised in Chester, and is known by other names: Chester ware, Chester-type ware, Stafford ware and West Midlands early medieval ware. The variety of names may cause confusion and it has never been confirmed that they all apply to pottery made at the same production source. These issues are not addressed here. Until the industry has been fully researched archaeologists should be wary of applying undue significance to the identification and dating of a Stafford-type/ Chester-type/ West Midlands early medieval sherd.

The pottery produced in Stafford has a sandy, hard-fired fabric. Small jars and bowls with convex bases were the main forms. Large jars, pedestal cups, lamps and bowls with socketed handles also occur. The vessels show a range of techniques of manufacture and finish; some are decorated. Stafford-type ware was well-made, but there are variations in quality and finish.

INTRODUCTION

A brief summary of the Late Saxon pottery used and produced in Staffordshire has been published in a general review of medieval pottery from the county (Ford 1995). This paper expands upon that summary and includes previously unpublished material extracted from excavation archives.¹ It is not the final word on these matters; important, large-scale, well-recorded excavations still await final synthesis and detailed publication (see Fig. 5). However, the information presented here should add to our understanding of pottery production in England during the Late Saxon period.

GEOLOGICAL AND GEOGRAPHICAL CONTEXTS

Staffordshire is a landlocked county on the north-west edge of the English Midlands. This paper considers the county, which was not a distinct entity until the 11th century, as it was prior to the boundary changes of 1974 (Fig. 1).

Low-lying areas predominate across the centre of the county, around the main river valley of the Trent. There are two areas of high ground: one to the south, centred upon Cannock Chase; the other,

to the north, comprising much of North Staffordshire, the highest ground being in the Peak District, to the north-east of the county. The solid geology is clearly defined (Fig. 2). There is an area of millstone grit in the north-east. Coal measures occur in the south and north, mainly corresponding to the areas of higher ground. These are fringed by Triassic sandstone. Small areas of limestone (in the Peak District) and limestone and igneous rock (on Cannock Chase) are also present.

The overlying drift geology presents a range of clays and river gravels. The Mercia Mudstone Group, formerly known as Keuper marl, in part characterised by its gypsum content, is found across the centre of the county. Gypsum and alabaster outcrop to the east of Stafford and in the area of Tutbury respectively. Gypsum and alabaster are both calcium carbonates; in gypsum the calcium carbonate molecule is combined with two molecules of water, and in alabaster it is combined with one water molecule. During the Middle Ages alabaster was quarried near Tutbury for monumental masonry (see Fig. 3).

‘Geologically, most [Staffordshire] markets were situated on the rich clays, sands, gravels and river terraces which are widespread in the centre of the

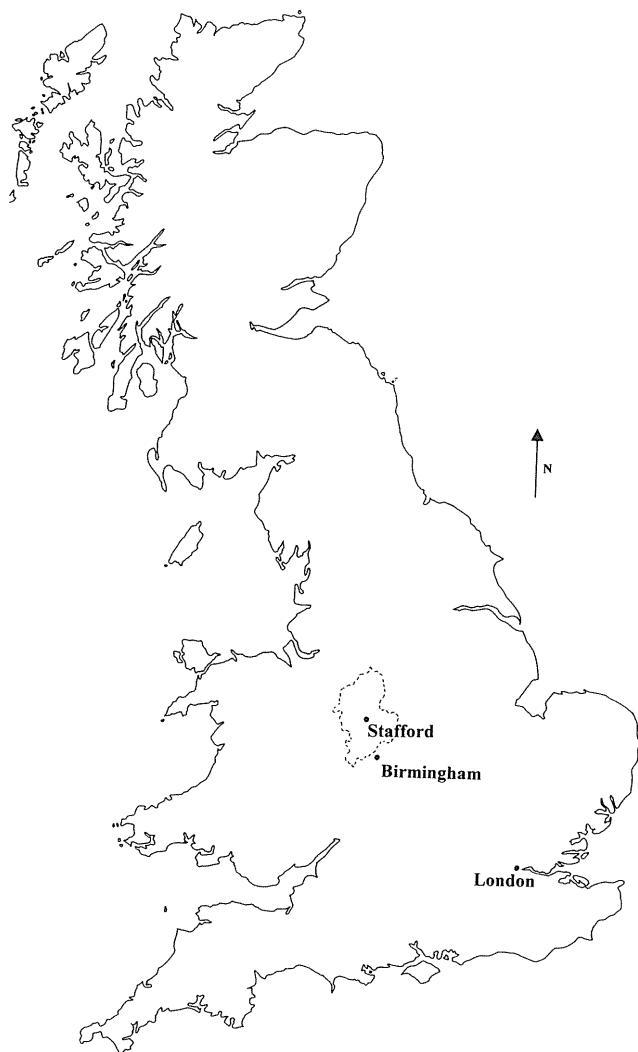


Fig. 1. Staffordshire location map (JG).

county and . . . they were on or near the junction of two or more soils. This was sensible agricultural practice, for it made most markets into centres of exchange between different agricultural regions' (Palliser and Pinnock 1971, 49–62). The siting of pottery production 'would have been influenced by the presence of the raw materials, clay and fuel, and of course by the necessity to produce, perhaps in areas which were also marginal agricultural land, difficult areas from which to gain a livelihood by farming alone' (Ford 1995, 5; see Fig. 3). This may be true, but is all too simplistic taken on its own. There were circumstances where pottery production and its distribution were influenced by factors other than geology and landscape.

HISTORICAL BACKGROUND

Staffordshire lay within the kingdom of Mercia, which was arranged in five regions, none having a shire name, and one being Mercia proper with its

bishopric at Lichfield and its royal city at Tamworth (see Fig. 3; Rahtz and Meeson 1992). A brief history of the period 750–1100 helps us to understand the origin and end of production of Stafford-type ware during the Late Saxon period.

The main developments in the 8th century occurred while Offa was king of Mercia (757–796). 'The re-establishment of Mercian supremacy by Offa is the central fact in English history in the second half of the eighth century' (Stenton 1971, 206). Offa was the first Anglo-Saxon king to be known as 'king of the English' (coin legend: Seaby 1998 74, cat. no. 905), and he was recognised as an equal by the emperor Charlemagne, with whom he drew up a trading treaty in 796. Offa 'was the first English king to play an independent part in continental affairs . . . He understood that it was the duty of a king to encourage foreign trade' (Stenton 1971, 224). Although no later Mercian king matched his effective power or political quality, it may be that trading links and contacts established throughout Mercia under Offa continued in the succeeding centuries.

It was during the 9th century that the first Viking raids occurred, increasing in number and intensity, and preoccupying Mercian and other Saxon kings. During Alfred's reign (871–899), the Saxons had bowed to the inevitable, accepted that the Viking presence in Britain was immovable, and had signed a treaty setting out the boundary between the Vikings and Saxons. The area in the north and east of England, occupied by the Vikings or Danes during the 9th to 11th centuries, is known to us now as the Danelaw. To the south, the Saxon kings held sway. Until recently Watling Street was thought to be the demarcation line in the north-west. Research examining the distribution of Viking sculpture suggests, however, that the line of the Danelaw boundary followed a different route. In Staffordshire this newly proposed boundary runs north of Watling Street (Sidebottom 1996; see Fig. 4).

Edward the Elder acceded to the throne in 900, after the death of his father Alfred. Edward's sister Aethelflaeda (known as 'the Lady of the Mercians') was married to Ethelred, ealdorman of Mercia. She became active in his military campaigns against the Vikings, restoring Chester and establishing a burh there in 907, and continued this activity after her husband's death in 911. She established burhs or fortified settlements in Tamworth and Stafford during 913, effectively blocking the routes along the River Trent and the Roman road, Watling Street (Page 1908, 219).

Under the recently reconstructed Danelaw demarcation, all the Aethelflaedan burhs in Staffordshire and elsewhere lay within the English or Saxon area, as frontier settlements, whereas previously they had looked to be outposts in enemy

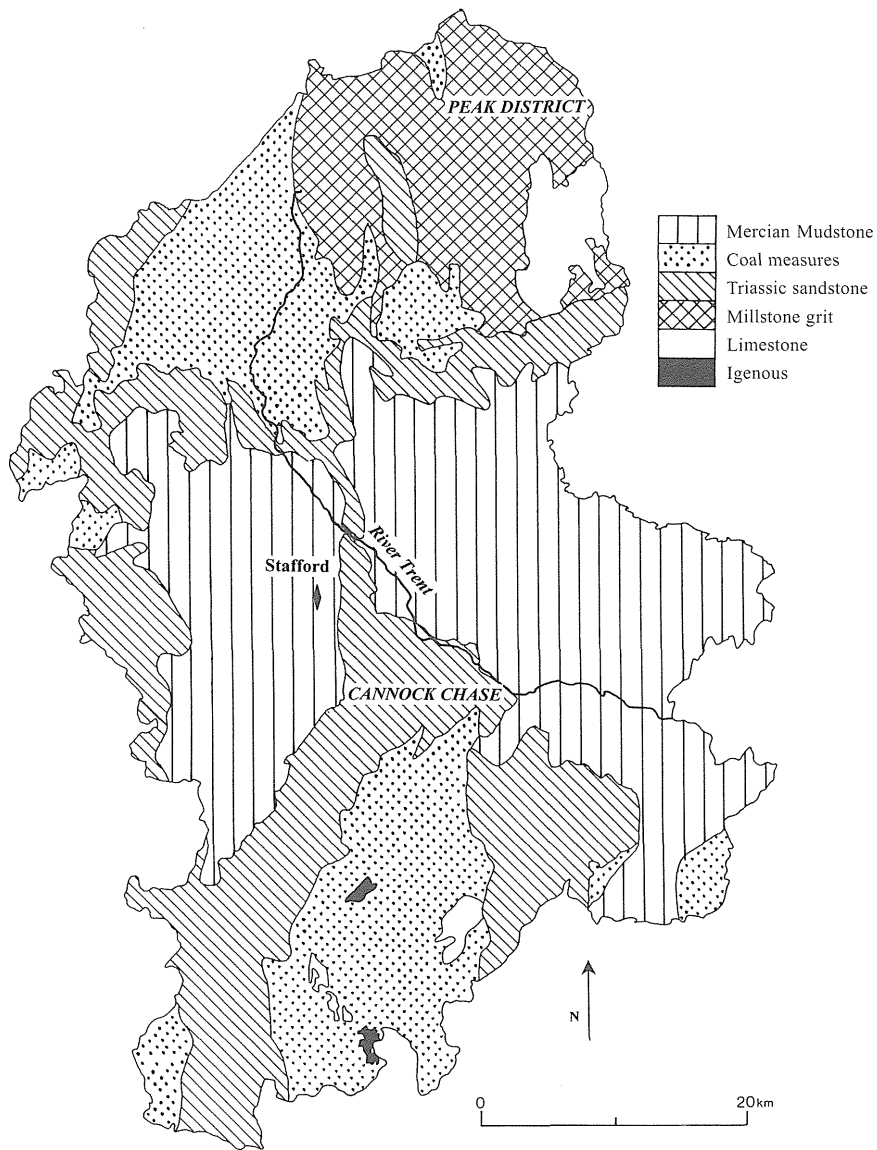


Fig. 2. Staffordshire geology map (NB).

territory (Fig. 4). The new arrangement makes strategic sense.

This area of north-west Mercia enjoyed a period of relative stability from about 925 until 980 (although the Viking king Olaf stormed Tamworth in 943). It was during this time that Stafford's and Tamworth's mints were founded. The mint at Stafford was in existence from 924–1189 (Savage 1982, 119–126). By the 11th century Staffordshire was defined as a shire. Stafford was chosen over Tamworth as the shire town, even though Tamworth had a royal palace, and was favoured by the Mercian kings. The reason may have been because Stafford was more central within the shire's administrative district; Tamworth was at the south-eastern boundary.

The years 980 to 1016 saw renewed Viking activity and civil war. In 1013 Edmund Ironside and Uhtred of Northumbria ravaged Staffordshire, and

in 1016 Edmund and the Danish king Cnut harried, burned and slew in the county. This was the year that Cnut seized the throne.

After the Norman Conquest, the revolt of 1069 and 1070 against William centred for a time on Stafford. William led the counter-attack, and overcame the rebels; as a result, the displacement of the original landowners in the county was very thorough. The insurgence was so severely put down that much of Staffordshire was still waste by 1086, when the commissioners of the Domesday Survey visited the county. Half the area was woodland, and it was thinly inhabited, incapable of ordinary taxation, and badly stocked. Just over 3000 souls were recorded, a figure probably based on heads of households. Over a quarter of the houses in Stafford were recorded as unoccupied (Page 1908, 221–222; Cane 1986, np). Then there was peace in Staffordshire until 1102, when there was an uprising

A LATE SAXON POTTERY INDUSTRY IN STAFFORDSHIRE: A REVIEW

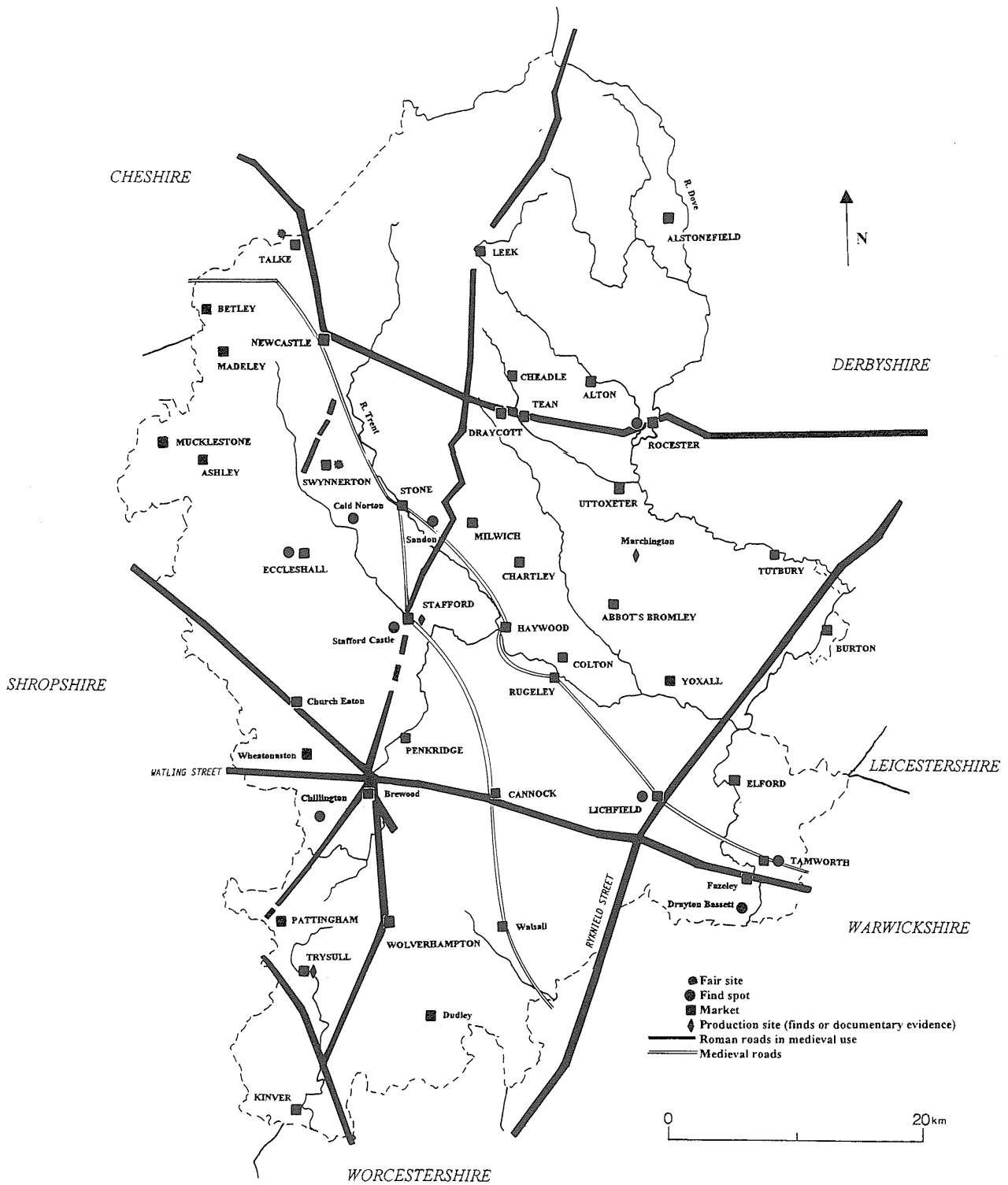


Fig. 3. Pottery findspots, production sites, roads and markets of the Late Saxon period in Staffordshire (JG).

against Henry I. The late 11th-century Stafford Castle (2 km from the town) was at this time garrisoned for the king with 200 men-at-arms.

LATE SAXON POTTERY MANUFACTURE IN STAFFORDSHIRE

In 1086, at Domesday, there were 351 towns, villages and hamlets in Staffordshire (Morris 1976, np, maps). However, very few pottery production sites and findspots of the 9th to 11th centuries have been identified in the county (Fig. 3). Other

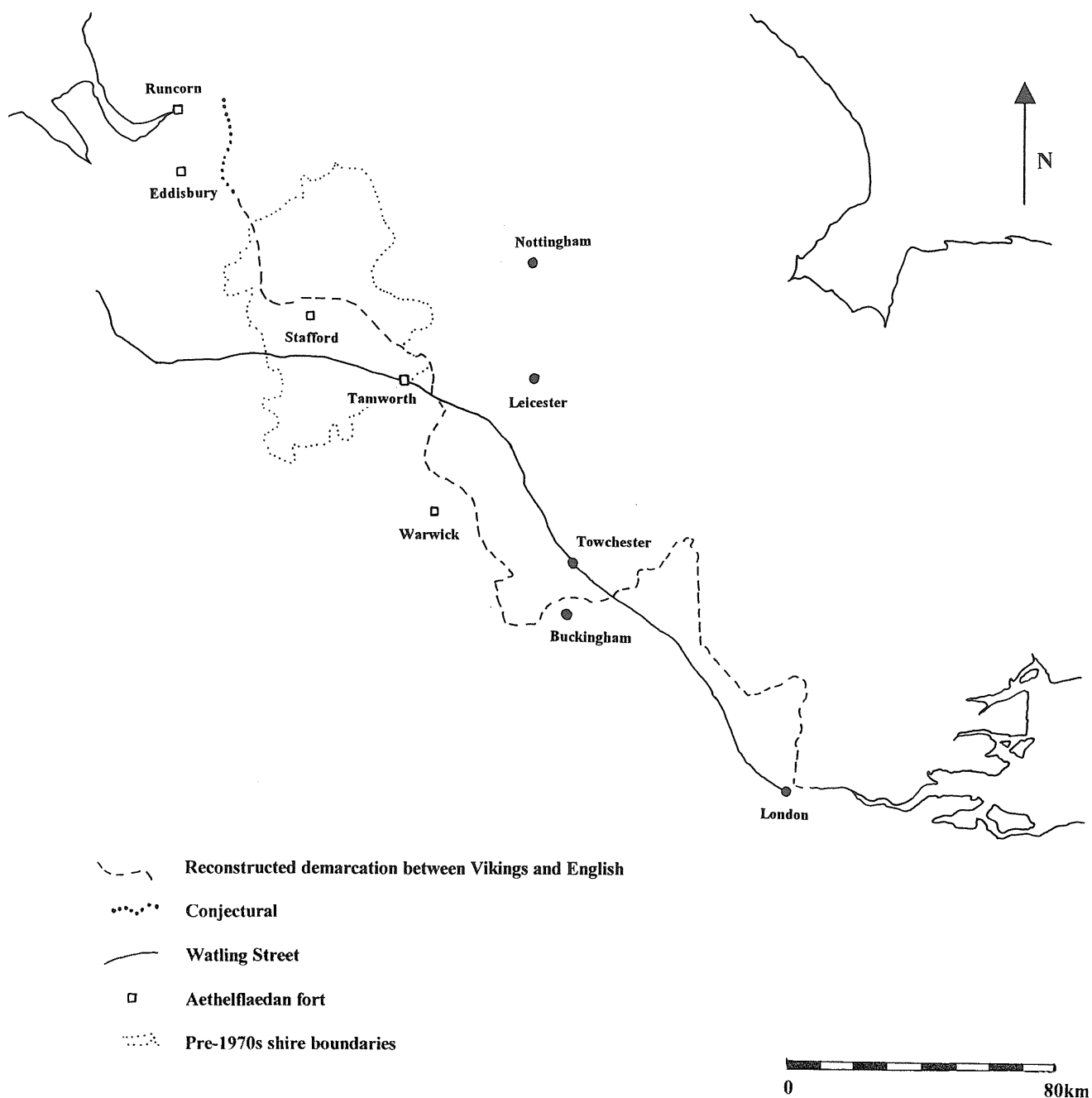


Fig. 4. Map of Danelaw boundary as recently reconstructed (JG, after Sidebottom 1996).

materials (such as metal, horn, leather and wood) must have been used for domestic equipment, and Staffordshire appears either to have lagged behind trends in material culture elsewhere, or the sites have not been found.

Pottery production from the late 9th-century, and prior to the Norman Conquest, is known from three sites in the county, two through documentary sources only. There is a 'potter's clearing' in woodland at Marchington in the Needwood Forest, mentioned in a document of 951 (Hooke

1983, 103–107), and a 'Crockington,' described as waste in 1086 in the Domesday Book (Morris 1976, np, section 1.1, 12, 16). This place no longer survives, but there is a lane of that name between Trysull and Seisdon in south-west Staffordshire (Fig. 3). The only physical evidence in the county for pre-Conquest pottery production comes from Stafford.

STAFFORD-TYPE WARE PRODUCTION

The historic core of Stafford is located upon a low peninsula which was bounded, and protected, on three sides by either water or marshland. Even the placename 'Stafford', which comes from *staeth* (meaning landing place) and 'ford', referring to a crossing point (Ekwall 1960, 435), echoes the importance of the surrounding rivers and marshland to the early character of the settlement. The present-day layout of the town mirrors the medieval street plan. The only physical remains of late 9th- to 12th-century date surviving in the town are seen inside St. Chad's church, with its late 12th-century chancel arch.

There have been 50 major and minor archaeological excavations in Stafford; none have yet revealed the early Norman motte and bailey castle (which was destroyed by rebels before 1070), nor the earth bank and ditch of the 10th-century Aethelflaedan burh. However, the defensive circuit was known at Domesday, in 1086. Travelling clockwise from the north, it ran along North Walls, South Walls, Mill Bank, Tenterbanks and Chell Road (Fig. 5).

Evidence for pottery production has been found on the east side of Stafford. One kiln was excavated at Salter Street in 1994 (site code SST), three kilns were found either side of Tipping Street in 1977 (ST17) and 1982 (ST32), and extensive pottery waster dumping was revealed at Clarke Street in 1974-5 (ST14 & 15) where it helped to extend solid ground out into the marshy area to the east.² This pottery production may have been taking place outside the burh (Cane 1986, np). If the burh was smaller than the 11th-century circuit, then it might just have encompassed the western side of the town where domestic Stafford-type ware assemblages are known, extending just to the east of the main north-south road (Greengate Street). At Lincoln, Northampton and Gloucester pottery production took place inside the early medieval town, while at Thetford, Norwich, Stamford and Chichester the kilns were just outside the defended area (McCarthy and Brooks 1988, 64-5). Clear archaeological evidence for the burh boundaries is needed for Stafford.

The survival of vertical stratigraphic sequences on the large-scale excavations in Stafford is good. The best physical evidence for pottery production is seen at Tipping Street 1982 (ST32). Cane (1986, np) stated that only two kilns, waster pits and a well were identified, but an unfinished phase plan, recently rediscovered in the archive, does show associated contemporary structures (Fig. 6). Tipping Street runs west-east along the southern boundary of ST32. There appears to be a posthole structure at the southern end of the easternmost kiln, F238,

possibly some sort of shelter. There also appear to be arcs of postholes in the south-western corner and in the east-central part of the site, and two or more enigmatic arrangements in the west. These may be remnants of potters' workshops, close to the kilns, with wattle-lined features, perhaps wells or pits and clay-settling tanks later used as waster pits (see Cane *et al.* 1983, 60, fig. 24; this interim paper makes no mention of archaeological evidence for buildings associated with the potting activities). The present-day property boundary on the western edge of the site appears to respect an adjacent north-south line of postholes. The west-east linear feature in the north-west of the site was a shallow gully. The features all seem to respect the line of Tipping Street.

The two kilns on ST32 (F246 and F238) are both aligned north-south, with their stokeholes to the south. Apparently, the kiln recovered in 1977 on site ST17, to the south of Tipping Street, had a similar alignment. This excavation was a one-day salvage operation; there are no plans of the site in the BUFAU Stafford archive. The Salter Street kiln was also aligned similarly, this time north-east/south-west (Fig. 7). All four Stafford-type ware kilns each had a single flue with raised oven floor, which is Musty's Type 1b (Musty 1974, 44-45). Only at Salter Street did the oven floor survive to any extent. The kilns were fired using wood or charcoal. Both of the kilns at Tipping Street (ST32) had lipped edges, that is, a slight shelf to support a firing floor. The larger of the two kilns at Tipping Street, F238, was constructed of clay and sandstone and probably had two firing chambers separated by a longitudinal support for the upper chamber. It was 2.45 m long internally, and 1.45-1.8 m wide. The smaller kiln, F246, had much less of the clay structure surviving. It was 1.95 m long internally, and 1.2-1.3 m wide. Neither kiln substructure showed signs of refurbishment or reconstruction.

Fragments of fired clay kiln superstructure survived on site, mostly not *in situ*, showing lots of finger marks, impressions of stone and wattles, and even incorporating a rim-*sherd* and a possible sleeve impression! Some of this fired clay may have been patching for the superstructure (similar to material seen at the Marefair kiln, Northampton; Paul Blinkhorn pers. comm.). A large group of fired clay came from context 1433, an upper layer of backfill of kiln F238. This context also contained a fragment of clay firebar, formed around wattles of 22 mm diameter (Fig. 8). The wood has not been identified.

The Salter Street kiln was 1.94 m long internally and 1.2 m across. It had part of the firing floor surviving *in situ*. This consisted of one radial clay firebar of circular cross-section (0.6 m long, 0.1 m diameter), and a central pedestal of stones held together and daubed with clay; several other similar

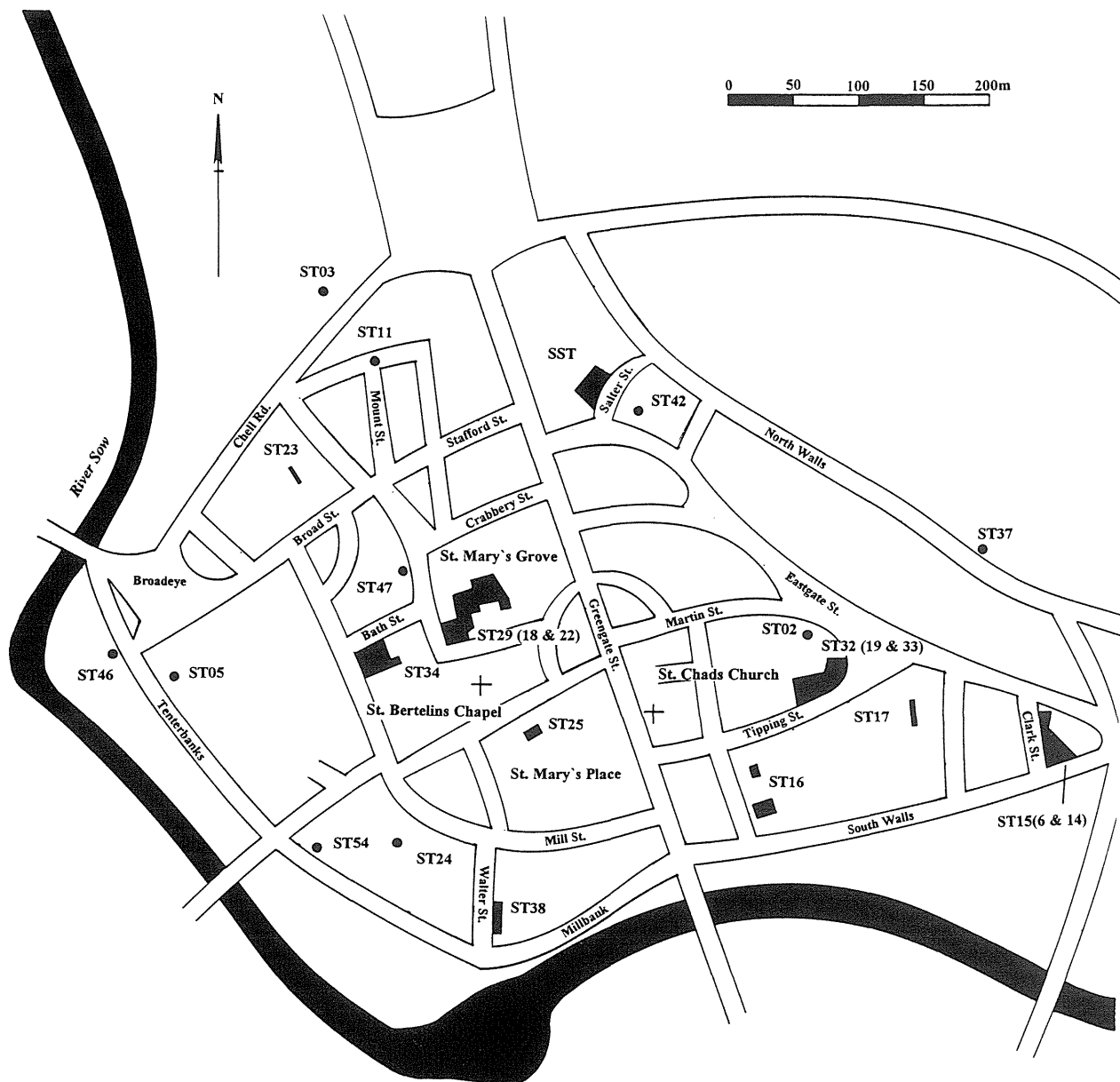


Fig. 5. Map of Saxo-Norman Stafford (JG).

clay firebars were found as collapse in the kiln. They were constructed around wattles, in the same way as the fragment from Tipping Street (ST32) (Dan Garner pers. comm.).

David Dawson and Ollie Kent, in their experimental kiln-firing with simple wood-fired updraught kilns, applied a rule-of-thumb that the internal width of the kiln firing floor usually approximates to the height of the internal space (see Dawson and Kent 1999, 173 and note 48). This would give a 1.2–1.8 m internal height for the Stafford-type ware kilns. Dawson and Kent suggested that a vertical-walled, open-topped structure worked best. During firing, the open top would be covered by tiles or wasted pots, balanced directly on the uppermost of

the pots being fired (*ibid.*, 168). This could well be the case at Stafford — the small amount of fired clay superstructure, and the inconvenience of constantly breaking down a specially constructed clay dome, points away from a traditional reconstruction.

Charlotte and Jon Cane carried out an experimental firing for Stafford-type ware (notes in Stafford Archive). They thought that in a kiln of the size recovered at Stafford, a load of about 40 standard cooking pots plus a few other forms, partly used as an aid to stacking, could be fired to a temperature of around 950°C. Dawson and Kent's kiln-firings have reached 940°C (internal kiln dimension *c.* 0.55 m by 0.55 m, containing 150

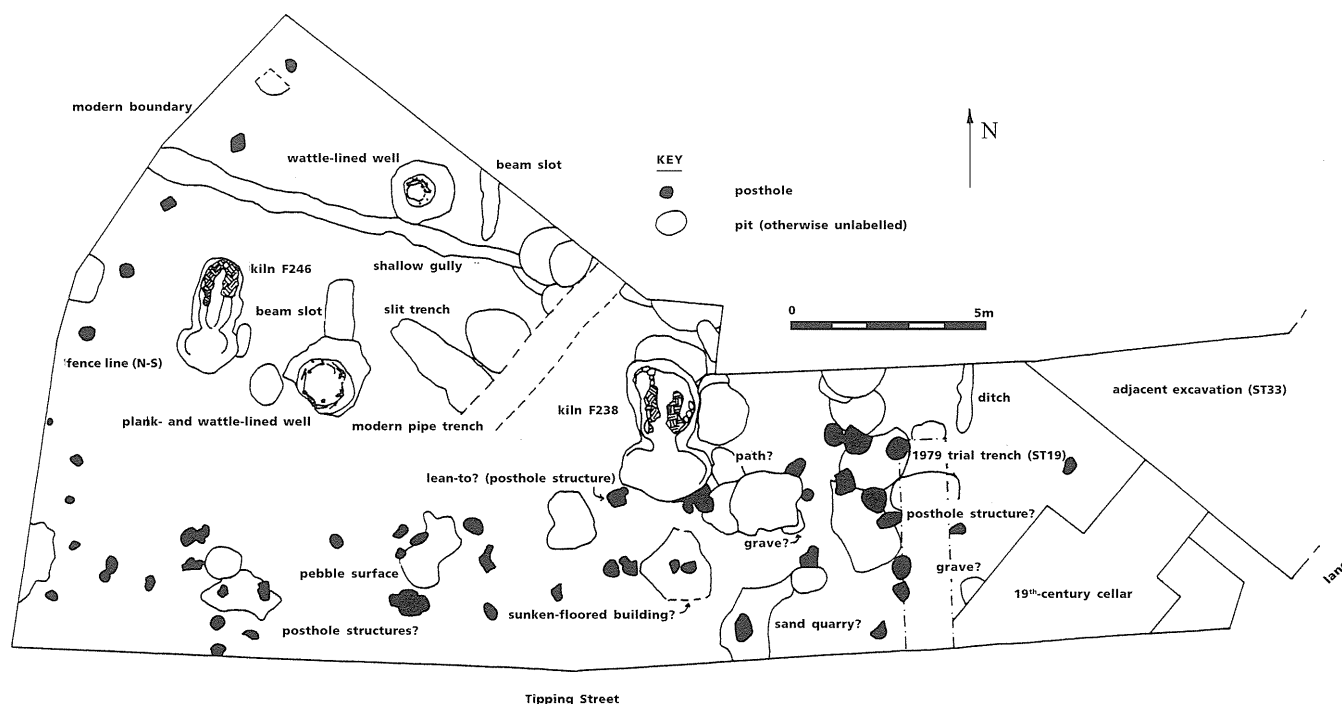


Fig. 6. Late Saxon features at the Tipping Street production site, ST32 (DF).

tightly packed vessels: *ibid.*, 171 and Fig. 1).

Dawson and Kent also found that oxygen content decreases during firing, and carbon dioxide increases. The cross-over between the two gases happens at about 500°C. A heavy reducing atmosphere may arise when carbon monoxide appears. Otherwise there will be an ordinary reducing atmosphere from 600°C during the latter half of the firing. If the top is left off the kiln, re-oxidation occurs. So the sequence observed is: pure oxidation, followed by reduction (possibly heavy), then re-oxidation (possibly just on the surface of the pot). The size of the box or stokehole affects this process. A small stokehole fills up with burning fuel faster, and it is hard to get air through. This may be alleviated by the use of small fuel, such as furze, during the last stages of firing to keep up oxidation (*ibid.*, 165–67). From such experimental firings, and the evidence of the ware itself, it is clear that a skilled potter could maintain close control on firings even in such simple kilns as those seen at Stafford. The Stafford-type ware pottery waste has yet to be closely examined for such firing effects.

DATING EVIDENCE FROM THE PRODUCTION SITES

There are five radiocarbon dates for the three kilns excavated on Tipping Street. The kiln recovered during a one-day salvage operation in 1977 (site ST17) produced a date of 820 ± 90 bc; kiln F238 from ST32 (see above) has two dates: 840 ± 40 bc

and 860 ± 40 bc; kiln F246 from ST32 also has two dates: 830 ± 40 bc and 840 ± 40 bc.³ The Salter Street kiln gave an archaeomagnetic date of 1000–1080 (Will Walker pers. comm.). Although tree-ring analysis on timbers from two Late Saxon wells on ST32 was inconclusive⁴, it is certainly possible that the Stafford-type ware industry flourished throughout the 9th to 11th centuries as suggested by the radiocarbon dates.

There are site matrices for the major sites in Stafford (Clarke Street, ST15; St. Mary's Grove, ST29; Tipping Street 1982, ST32; Bath Street, ST34 and Salter Street, SST). All but ST34 show good stratigraphic sequences and should provide some useful dating evidence once they have been fully analysed.

STAFFORD-TYPE WARE

Descriptions given here refer only to Stafford-type ware from Stafford. The same ware is also known as Chester ware (Rutter 1985, 40–55), Chester-type ware, Stafford ware (Cane 1986, np) and West Midlands early medieval ware (Vince 1985, 62–63). Comparisons are made with pottery from elsewhere in the discussion.

Fabric

Stafford-type ware is a fine earthenware, hard-fired to around 950°C (see above). It is tempered with abundant rounded and subangular quartz (up to

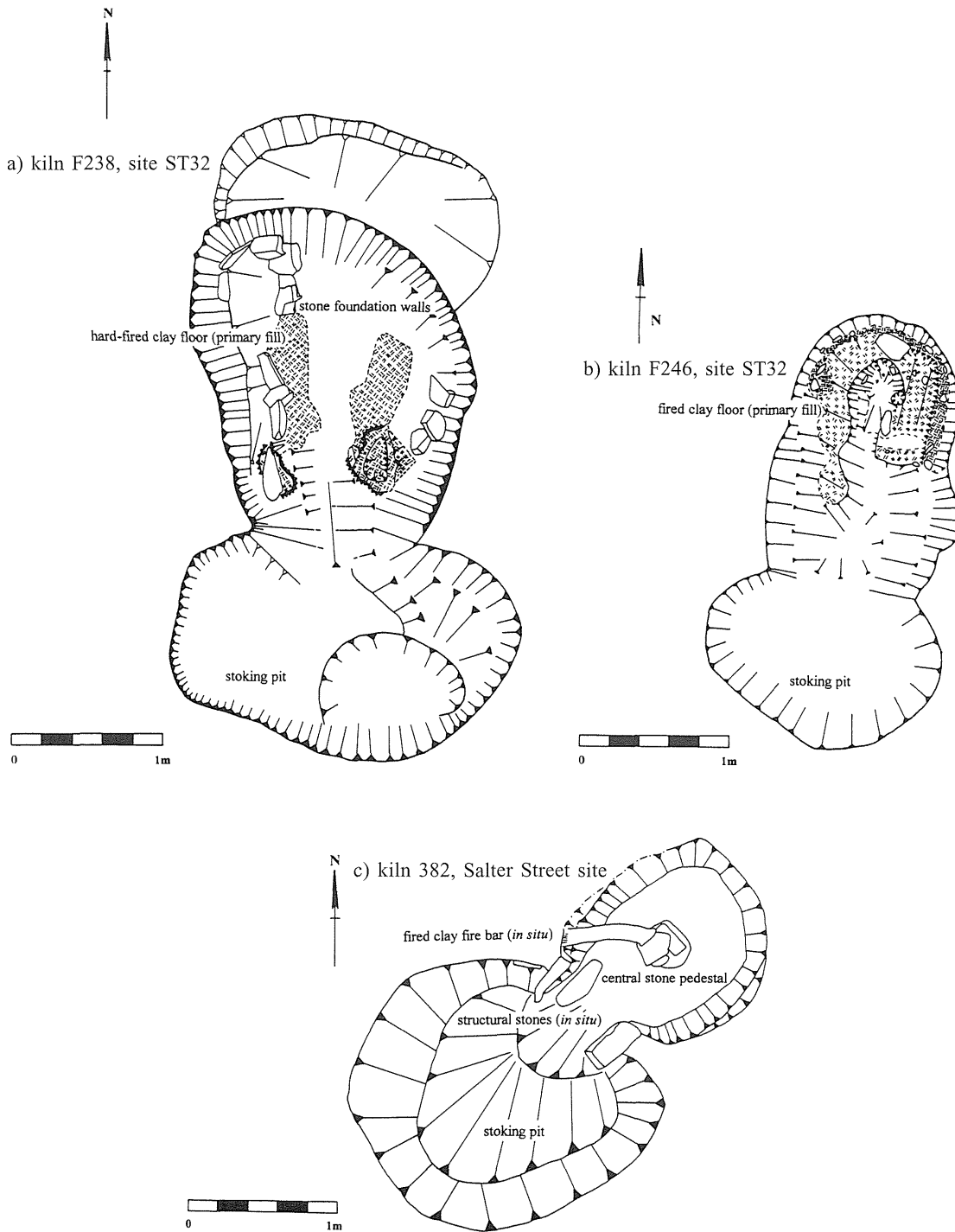


Fig. 7. Plan of Stafford-type ware kilns from Tipping Street ST32 and Salter Street SST: a) kiln F238, ST32 (JG); b) kiln F246, ST32 (DF); c) kiln 382, SST (JG, after WW).

1–2 mm, very occasionally 3–4 mm), with occasional dark red iron ore inclusions (the largest up to 4 mm) and, in some examples, white gypsum fragments (up to 10 mm).⁵ Stafford-type ware is predominantly orange in colour, but reduced (dark grey, grey or occasionally purplish grey), partially reduced and ‘sandwich effect’ vessels, (that is, oxidised vessels with

a reduced core, and reduced vessels with an oxidised core) are also found. Alternately oxidised and reduced, fine, horizontal bands are sometimes seen on the inside of a reduced or partially reduced vessel. These are a great aid to recognition of the ware.

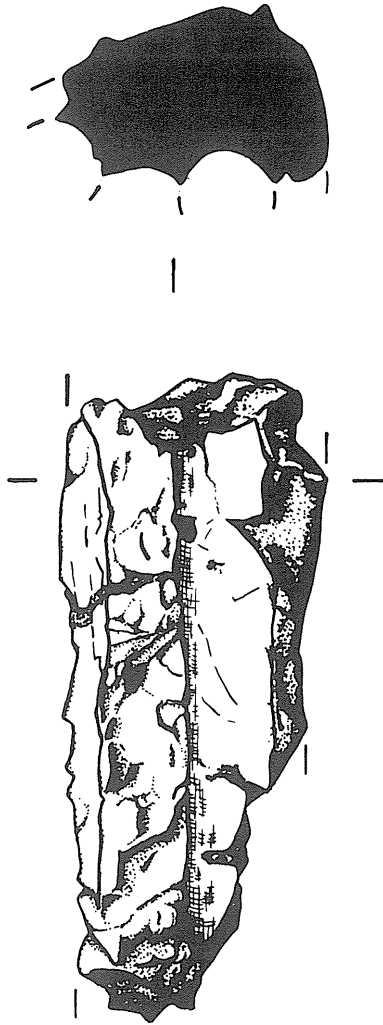


Fig. 8. Pottery kiln firebar fragment from ST32 context 1433 (JG). Scale 1:2.

Manufacturing technique and finish

A range of manufacturing techniques is noticeable in Stafford-type ware. What follows is a sample of these techniques, based on a brief examination of the more complete forms.

Vessels were hand-formed using coils of clay and then wheel-finished with particular attention paid to the rims. Bases and rims were made separately, and then joined onto the body, the rim coils below the shoulder being thinned and overlapped by 20–30 mm. The bases may have been formed from discs or coils. Extensive thumb-marks inside the base-angle may indicate that the base and body were luted together; there does not appear to be any coil overlap here. The inside (and outside) of such a vessel shows corrugations (from the coils, or overlain throwing rings) and fine, shallow, horizontal striations produced when a coarse body is smoothed on the wheel. The profile of a vessel made through a combination of base disc and coils for walls and

rim can be characterised by a thinnish rim, a thicker body wall and a thinner base. These observations were made on near-complete but failed vessels, or where the inside of a pot was not well finished; this is most evident on narrow jars (such as examples from ST17 3: Fig. 9, No. 1, and archive drawing no. 1; ST17 3b archive drawings nos. 6 and 8) and socketed bowls (a good example comes from ST32 1936: Fig. 13, No. 39).

Finishing and surface treatment of a vessel may include knife-trimming of the base- and shoulder-angles, wiping and smoothing of the inside and outside on the wheel and, rarely, burnishing on the exterior. Many Stafford-type ware sherds are so well finished that they look entirely wheel-thrown; this may indeed be the case for some vessels. It is interesting to note here that Chester ware and West Midlands early medieval ware are described as ‘thrown, with some handling on bases where they have been pushed into a concave profile’ (Rutter 1985, 42) and ‘formed on the wheel but with the bases pushed out after throwing’ (Vince 1985, 62). There need be no contradiction between the descriptions of the manufacturing processes for all these wares; the precise method of production is not always obvious (see Vince and Jenner 1991, 25). At Stafford, detailed examination of all the production waste is needed to clarify the full range of manufacturing techniques used. At present, Chester ware, West Midlands early medieval ware and Stafford-type ware should be regarded as the same tradition, which may or may not have been made in the same place.

The large and very large jars from Stafford show manufacturing techniques not seen on other Stafford-type ware pots, namely knife-trimming inside the vessel, and extra clay added to the rim-top after the vertical strap handles have been luted on.

More detail on manufacture is given in individual form descriptions under the separate headings below.

Forms

Around 79% of all Stafford-type ware forms recovered in Stafford are small to medium-sized jars with convex bases; bowls (including socketed bowls) constitute 20% of finds, with only one or two examples each of other forms — large jars, referred to as ‘pitchers’ by McCarthy and Brooks (1988, 205), very large jars, lamps, pedestal cups and a tiny thumb pot. The author has not seen any crucibles or bottles in the assemblages from Stafford (*ibid.*). Most of the rare forms come only from the production sites, some even from backfill in the kilns themselves (see Tables 1 and 2). The form classification used here follows MPRG 1998.

Jars

Jars have been divided by size, expressed here by rim diameter, since there are far too few complete examples for a division based on volume. Small jars have rim diameters up to 110 mm. Medium-sized jars have rims between 110–160 mm in diameter. Large jars have rim diameters larger than 160 mm. Rarely, they may be very large, up to 450 mm or 500 mm.

Small and medium-sized jars (Fig. 9) predominate amongst kiln waste products (Table 1; this excludes the Salter Street kiln) and in all Saxo-Norman domestic assemblages within Stafford. No detailed quantification has yet been attempted. Jar proportions in these size ranges may be wide or narrow (MPRG 1998, 4.1). Rims show a degree of variation, but generally they are simple everted forms, either thinly pinched or with a thicker bead. They may have a flat, rounded or internally bevelled top (Fig. 12). The flat top may carry rouletted decoration; other decoration, principally rouletted squares or lozenges (Plates 1–2), or sometimes two or three incised horizontal lines (Plate 3), may be found in a narrow band on the vessel shoulder. Most jars, however, are plain (see Table 1).

There are obvious differences in quality between vessels. These are likely to be the work of different potters, using a wheel at different speeds, and working at different times, and can best be seen by comparing two near-complete jars, one each from waste deposits from the two production sites either side of Tipping Street — ST17 and ST32; these pots may represent one or two failed kiln loads. The two jars are fairly representative of the more fragmentary material found at both sites: a badly wasted, almost-complete jar from ST32 1753 (Fig. 9, No. 1), weighing 1150 g (say 1250 g when complete), has a rim diameter of 120 mm and a height of 201 mm. A whole jar from ST17 3B (Fig. 9, No. 2) weighs 1838 g, has a rim diameter of 115 mm and stands 209 mm tall. The difference in weight is striking. Material from ST32 is finer, that is, thinner-walled, than pottery recovered from ST17. However, the finish is very much more refined on the jar from ST17 and may be unusual too, as it has not been noted elsewhere. Lots of vertical, narrow (5–8 mm), burnishing marks run in a continuous band round the jar body from shoulder to base angle. Less well-defined burnishing marks are found on the vessel base.

Large and very large jars (Figs. 10, 11) are uncommon. All but one known example come from Tipping Street production waste and kiln backfill layers. Three types, distinguished variously by fabric,

size, decoration and manufacturing techniques, are represented in the handful of sherds:

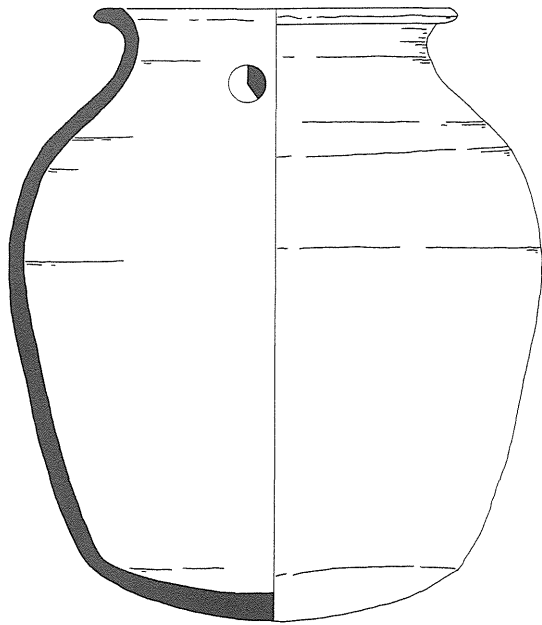
Large jars with short strap handles and applied thumbed strips on body and rim-top (Fig. 10, Nos. 10, 11; Plate 4).

Two vessels represent this type, both with rim diameters of 190 mm, from ST32 1936 (Fig. 10, No. 11) and ST32 1937 (Fig. 10, No. 10), both layers from waster pit F444, north of kiln F238. Both jars have an orange/buff, sandy fabric, and that from 1936 also has gypsum fragments 3–10 mm in size. The upper ends of the short, vertical strap handles are applied directly onto the rim top. Extra strips of clay have then been added along and over both sides of the rim top (sealing the upper handle fixture), and as vertical strips on the vessel body. Thumbing is intermittently spaced along this extra strip on the rim, but the body strips have closely-spaced thumbing, also found at the base of the strap handles. This distinctive technique of manufacture is paralleled closely at Thetford (Dallas 1993, 139–141; figs. 147, 148, 150) and on at least one large jar fragment from Silver Street, Lincoln (Miles *et al.* 1989, 232; fig. 33, no. 42).

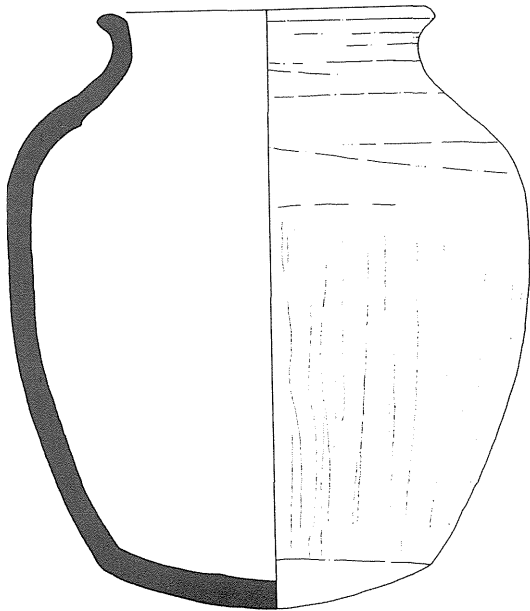
Very large jars with short, stamped strap handles, and applied, thumbed and stamped strips on body (Fig. 10, Nos. 14–16; Fig. 11; Plates 5–7).

This type is represented by three or four vessels, mostly body sherds, from ST32 contexts 1294, 1390, 1508, 1511, 1514, 1515 and 1532. One vessel (rim diameter up to 450–500 mm; Fig. 11; Plates 6, 7), is represented by sixteen body sherds and two strap handles from ST32 1294 (layer), 1390, 1511, 1514 and 1515. The last three contexts are from kiln F246, and F248, which cut the kiln. Context 1390 is a fill of a truncated post-medieval rubbish pit, F10. The sherds are black, with a smooth, soapy feel, not 'typical' of Stafford-type ware. The vessel was hand-built, and wiped and knife-trimmed (mainly vertically) inside. The very short handles appear to have been cut from a wheel-turned piece of clay, then one edge folded in. The thumbed clay strips applied to the body have circular quadranted stamps (Plates 6–7). These are mostly applied criss-crossed in a vertical lozenge pattern, but one larger strip with a triangular cross-section may have been applied horizontally around the pot's girth. This vessel is very like the extra large jar set into the ground at a production site in Thetford, and probably used for water storage (Dallas 1993, 139–141, fig. 149 and cover-photograph). Another very similar vessel (possibly the 'other side' of the vessel just described) is represented by four oxidised orange sherds from ST32 1511.

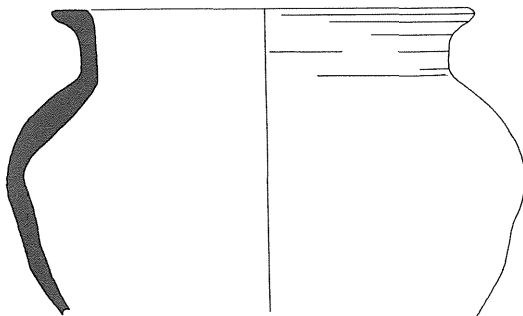
Two other vessels are represented by three sherds: two black, 'soapy', body sherds from ST32 1532



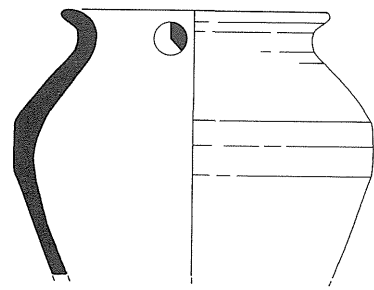
1. ST32 1753 (JG)



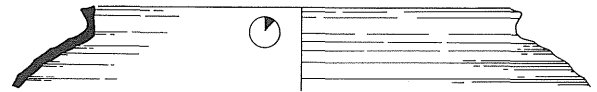
2. ST17 3B/201 (JG)



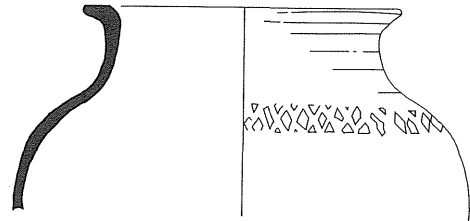
3. ST17 8B/39 (NB/EH)



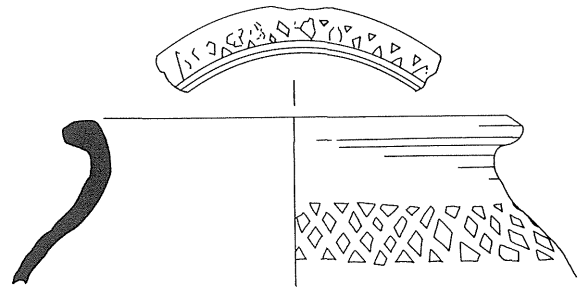
4. ST17 3/22 (JG)



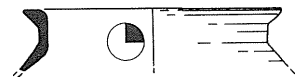
5. ST29 1754 (JG)



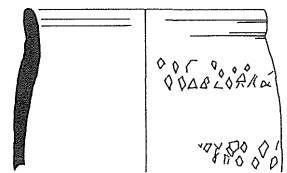
6. ST19 1012/24 (NB/EH)



7. ST15 1221/12 (NB/EH)



8. ST15 1077/8 (JG)



9. ST17 8D/37 (NB/EH)

Fig. 9. Stafford-type ware jar forms, small to medium-sized, including decorated examples. Scale 1:3.

(Fig. 10, No. 16; Plate 5) have applied and thumbed clay strips with plain circular stamps, as does a pale grey/buff body sherd from ST32 1508. Context 1532 is a backfill layer of kiln F246 and 1508 is a fill of a late Saxon posthole, F243.

Large jars with strap handle(s) and bunghole, with notched decoration (Fig. 10, Nos. 12, 13)

Two vessels are represented, though their complete form is not known. All that survives of one vessel is a wide, short strap handle with three vertical rows of notches on raised bands (Fig. 10, No. 12). This comes from dumping layers at Clarke Street (ST15 1235). The notched design is very similar to that on the edge of a bunghole from ST32 1531, a fill of F251. Both vessel fragments have an oxidised, sandy fabric.

Bowls (Fig. 13)

Most Stafford-type ware bowls are coil-built, with rim and base separately formed and then the whole wheel-finished. They are found in medium to large sizes, that is, with rim diameters from 120–160 mm and more than 160 mm respectively. The largest bowl comes from ST32 1936/217 and has a rim diameter of 345 mm (Fig. 13, No. 40). Open vessel rim fragments with diameters smaller than 120 mm, as well as those up to 140 mm, may be cups or goblets (see below).

Bowl rim forms (Fig. 14) show a deal of variety. There are simple upright rims, flat-topped and thickened rims, everted flanged rims, which may be thin and fine (e.g. Fig. 13, No. 37), or sturdier (e.g. Fig. 13, No. 38), inturned rims (e.g. Fig. 13, No. 40) and hammerhead rims (e.g. Fig. 14, No. 57).

Decoration on bowls may appear on the exterior just below the rim, or on the rim top if it is broad and flat enough. One sturdy vessel with everted, flat-topped rim has both (Fig. 13, No. 38); it was recovered from the one-day salvage excavation of a kiln off Tipping Street in 1977 (ST17 u/s archive drawing 32).

Socketed bowls have a limited size-range of 160–180 mm rim diameter. The external diameters of the socketed attachments range from 40–60 mm. They are attached in the following manner: the socket itself is wheel-turned; a small section of the upper wall of the bowl, just below the rim, is cut from the inside of the vessel; the socket is positioned over the edge of the rim and the hole with its ‘flap’ of clay; the flap of clay is pressed up inside the socket and sometimes smoothed down a little; the base of the socket is spread out over the rim top, partly to reinforce it at that weak point, and smoothed down over the rim and external vessel wall. This smoothing is done either by hand, or with the aid of a flat tool,



Plate 1. Stafford-type ware lozenge-shaped rouletted decoration, small to medium jars.

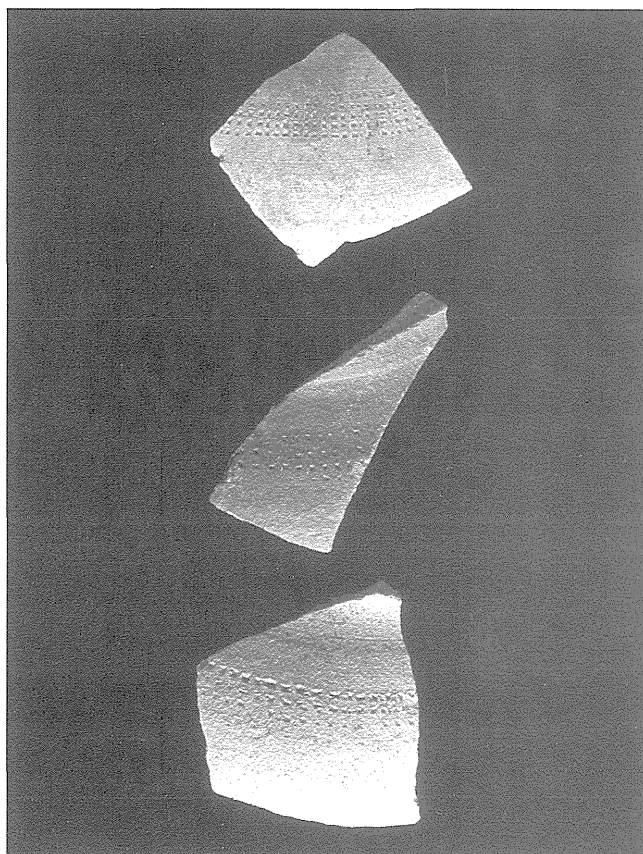


Plate 2. Stafford-type ware square rouletted decoration, small to medium jars.

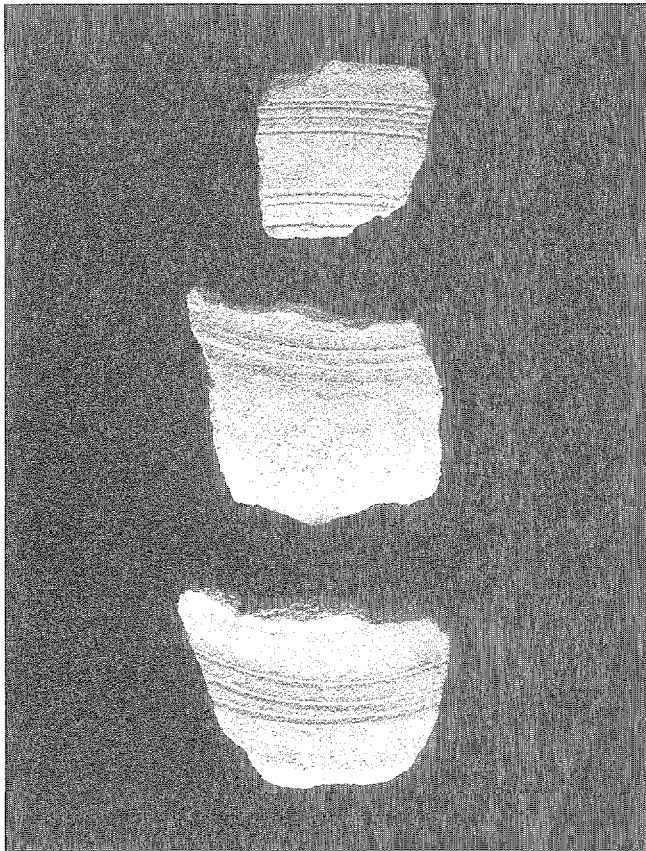


Plate 3. Stafford-type ware incised line decoration, small to medium jars.

which sometimes leaves a 'burnishing' mark 4-5mm wide, or occasionally a deeper groove.

Lamps, cups and goblets (Fig. 15)

A small number of open-mouthed hollow-ware vessels on stems or pedestals in Stafford-type ware could have been designed to be multi-functional. They may have been used as lamps, goblets or small serving dishes. Of the five examples known, four are from production waste at Tipping Street (ST32 and ST33), and one from a domestic assemblage at St. Mary's Grove — ST29 1607 (Fig. 15, No. 63). There are four different types of pedestal vessel represented, all wheel-finished:

Lamps or cups with a wide base and very short stem.

There are two small vessels of this type; one with a complete profile comes from ST32 1343 (Fig. 15, No. 64). A larger, less complete vessel comes from ST33 1158 (not illustrated). Both vessels have a separate disc or cone of clay for the base. In both cases this piece bulges out from the base, and looks as though it has been added after the initial forming of the vessel; but if that is the case, then the vessel would need to have been re-finished on the wheel. There are parallel scrape-marks on the underside of both bases. The smaller vessel, from ST32 1343, has a rim diameter of 85 mm, and base diameter of 70 mm. The larger vessel has a base diameter of 85 mm.

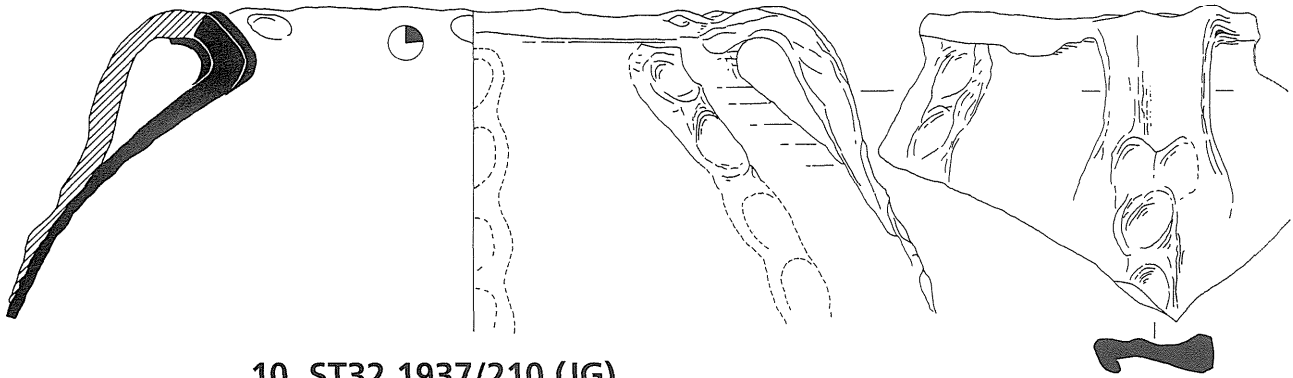
Goblet or serving bowl with broad, flat base and short, baluster stem (Fig. 15, No. 62). There is only one example of this particular form, from ST32 1936. It has a rim diameter of 145 mm, a base diameter of 97 mm and stands 125 mm high. It is elegant and well formed, in an oxidised, orange, fairly smooth fabric. However, the underside of the base has apparently been evened up with odd pieces of clay, pressed in and smoothed, giving an unfinished appearance. It is large enough to suggest that it might have been used as a serving vessel at table. Isolated rim fragments from a vessel such as this may go unrecognised, and be identified as plain bowls.

Cup, goblet or serving bowl with small, hollow base and baluster stem (Fig. 15, No. 65). This form is represented by one vessel fragment from ST32 1937, which survives as base and stem only. The form and size of the upper part of the vessel is unknown. The base diameter is 68 mm. The stem is about 15 mm taller than that of the vessel from ST32 1936 (above). The hollow within the stem and base looks to have been shaped with a smooth implement, not fingers. The outer edge of the base is knife-trimmed.

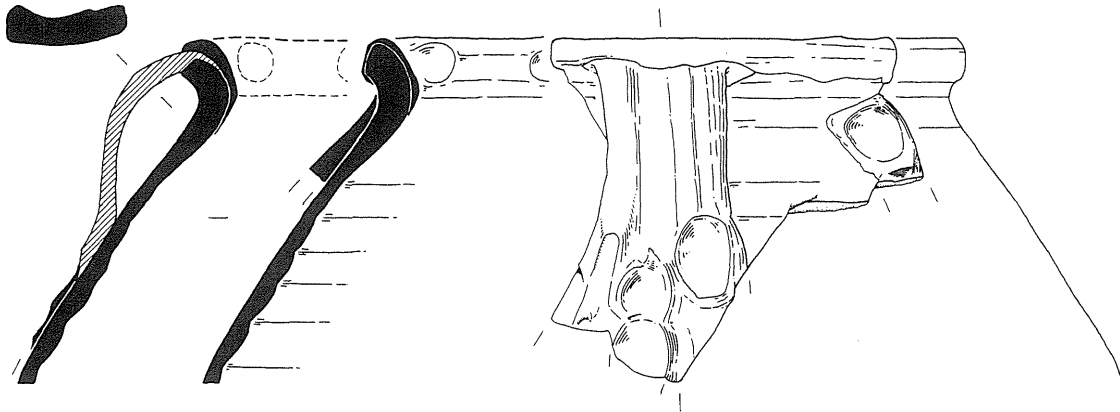
Lamp with tall, solid, cylindrical, pedestal base (Fig. 15, No. 63). There is one example of this form, recovered from domestic site ST29. It is a fairly sandy fabric, unevenly fired orange/buff to dark grey. The base diameter is 63mm, with a pedestal height of 110 mm. Very little of the upper part of the vessel survives. The pedestal is hand-formed and is completely covered in decoration which consists of

Table 1. Contents of Stafford-type ware kilns (quantity, forms and decoration types).

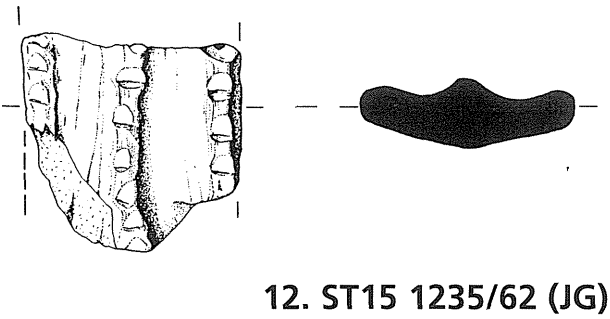
Code	Sherd Count	% dec.	Decoration Types	Form Types
ST17	1,200	4%	lozenge	mainly jars, some bowls, few show lid seating
F238	17,000	2%	70% squares, some lozenge, incised lines, 4 sherds thumbled strips containing punched circles	mainly jars, some bowls, many show possible lid seatings
F246	1,400	2%	99% thumbled strips containing punched circles usually quadranted, 1 sherd incised lines	as F238, although the decorated sherds come from large jars and strap handled pitchers



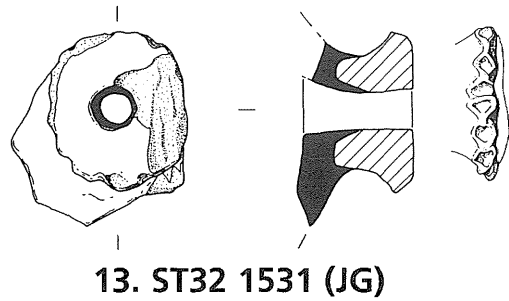
10. ST32 1937/210 (JG)



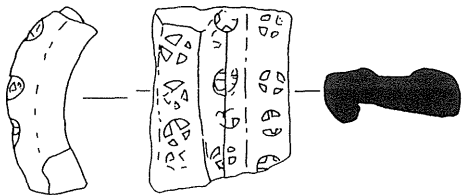
11. ST32 1936 (JG)



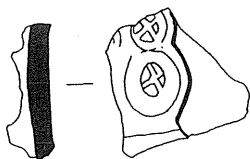
12. ST15 1235/62 (JG)



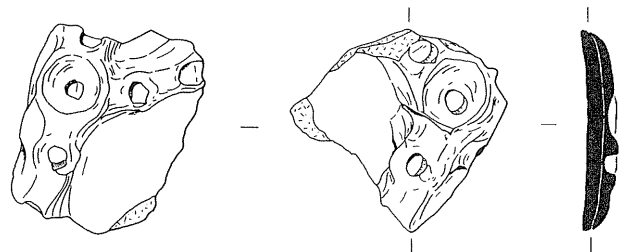
13. ST32 1531 (JG)



14. ST32 1390/233 (NB/EH)



15. ST32 1390/232 (NB/EH)



16. ST32 1532/3&4 (JG)

Fig. 10. Stafford-type ware jar forms, large and very large. Scale 1:3.

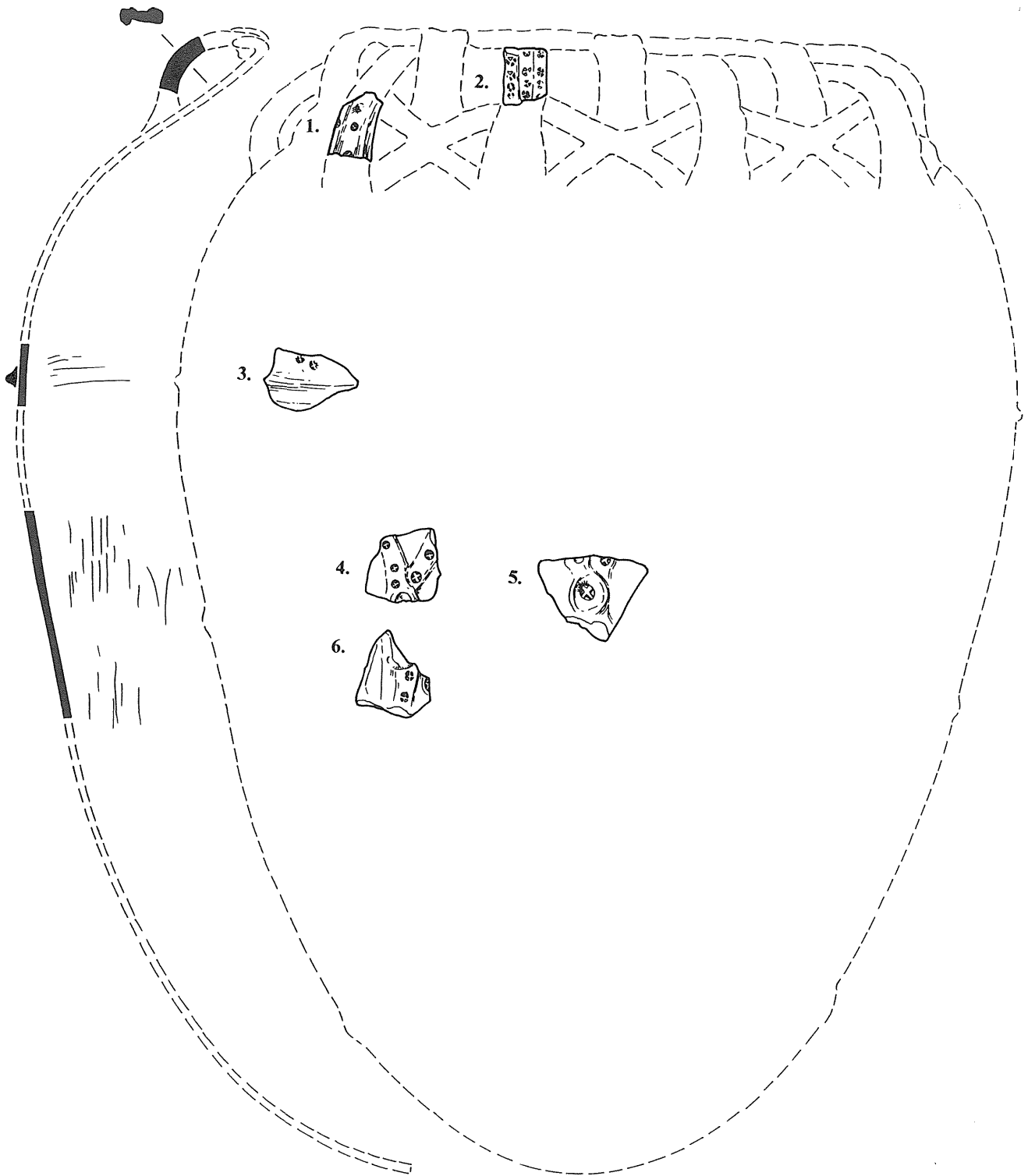


Fig. 11. Reconstruction of very large Stafford-type ware jar (JG). Sherds shown are: 1. ST32 1294/234; 2. ST32 1390/233; 3. ST32 1511/19; 4. ST32 1511/15; 5. ST32 1511/13; 6. ST32 1511/23 (all JG). Scale 1:5.

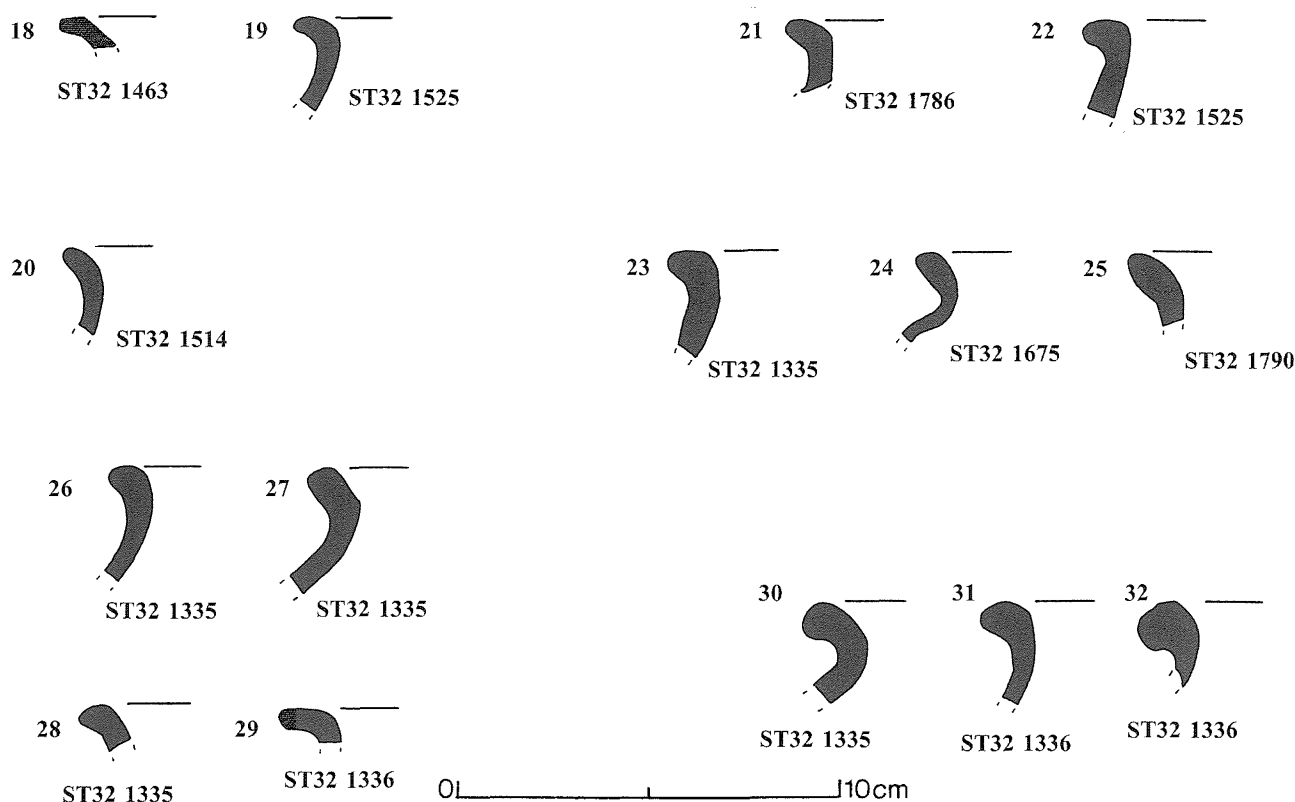


Fig. 12. Stafford-type ware jar rim profiles, small to medium-sized vessels (all JG). Scale 1:2.

four overlapping bands of rouletted lozenge shapes (each one *c.* 23 mm wide). However, the potter moved the piece while it was still quite soft, so in places deep fingerprints cover the decoration.

In addition to these well-made pieces, there is a tiny, hand-formed and crudely finished thumb pot (named a 'thimble cup' by the excavators; Fig. 15, No. 66) from dumping layers on Clarke Street (ST15 1123). It is in an oxidised, orange, fairly sandy fabric, standing 46 mm high, with a rim diameter of 25 mm. A forefinger fits neatly into it, and it appears to be a 'one-off', perhaps made as a plaything, or to idle away a few minutes.

Decoration (Figs. 16–17; Tables 1–2)

It has been estimated that 2% of Stafford-type ware sherds recovered were decorated. It is not known how the estimate was arrived at. Since decoration is usually confined to a small band on the shoulder of the pot, probably representing 10% of the surface area, this might suggest that up to 20% of vessels were originally decorated (Cane 1986, 1–2). As well as on the vessel shoulder, decoration also appears on the rim-top, the neck or, very rarely, right down the body of the pot. No analysis of decoration types has yet been attempted. There are examples of decorated vessels in all of the broad form groups

described above, but no link between particular vessels or even rim types and decoration has yet been sought.

The most common decorative technique is a zone of rouletting in a range of widths; it may take the form of tiny squares, rather larger triangles or lozenges (Fig. 16; Plates 1–2). In some cases it is possible to measure the roulette repeat (Fig. 17). In the illustrated example, the pattern is repeated after 62 mm, giving a roulette wheel diameter of 18–20 mm (allowing for some shrinkage in firing).

Some examples of simple, incised, horizontal lines are seen on the shoulder of small to medium-sized jars. They may be in groups of two or three, and appear as a single set, or grouped with another set (Plate 3).

Less common decoration types are seen on the few examples of large or very large jars, detailed above, namely, plain or stamped, applied, thumbed strips of clay. The stamps take the form of plain or quadranted circles, the latter found on short strap handles from very large jars (Plates 5–7).

Glaze

Stafford-type ware reduced, grey body sherds with small patches of glaze were found at Tipping Street

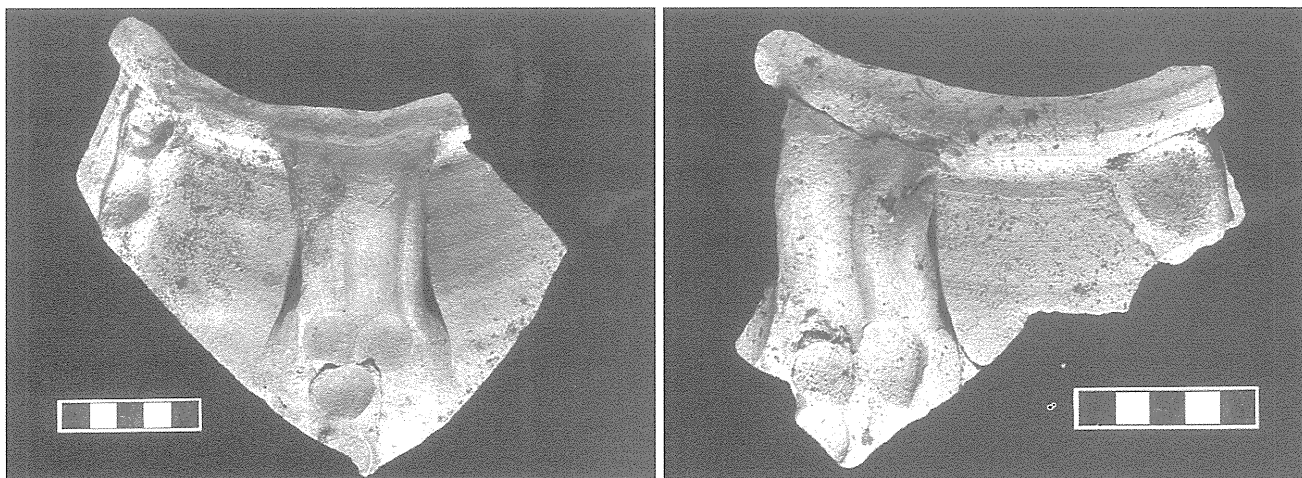


Plate 4. Stafford-type ware oxidised large storage jars with applied thumbbed strips.

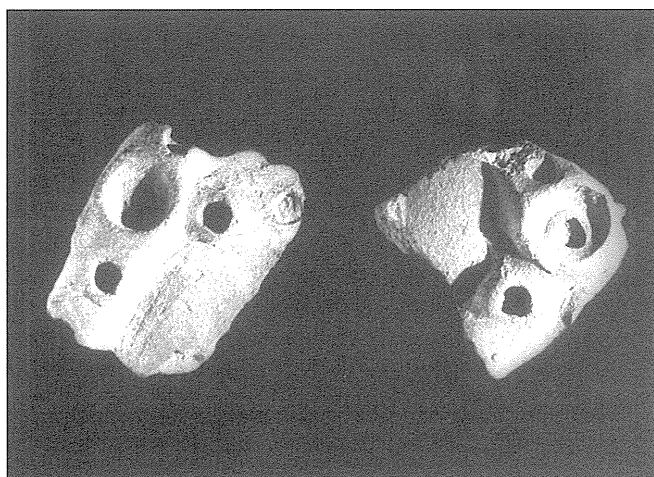


Plate 5. Stafford-type ware reduced very large storage jars with applied stamped strips — plain circular stamps.

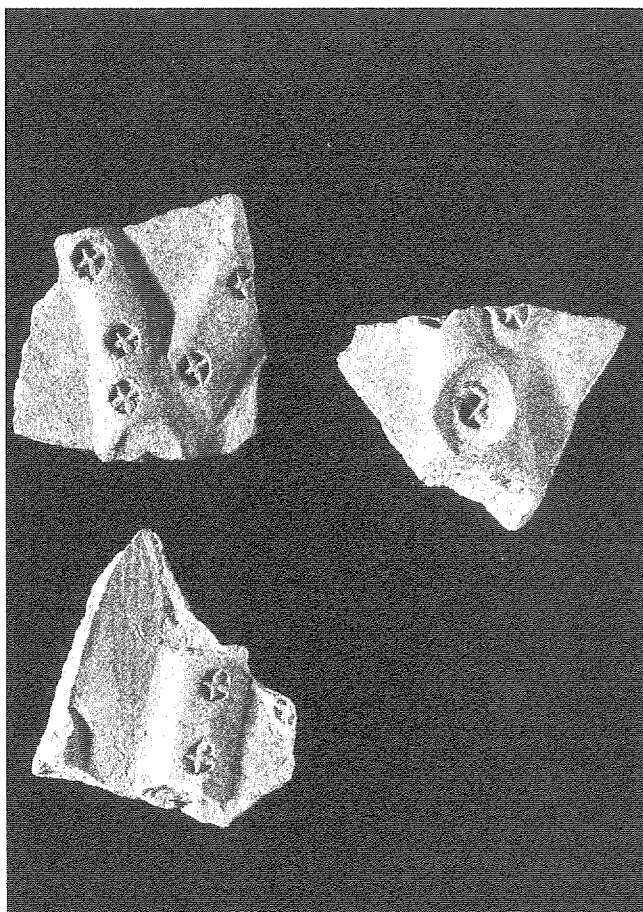


Plate 6. Stafford-type ware reduced very large storage jars with applied stamped strips — quadranted circular stamps.

ST32: two sherds from context 1511 (fill of waster pit F248), and one from 1996, a fill of F470, part of the very earliest, pre-kiln phase on the site. Other sherds, amounting to a total of 20, have been mentioned in the literature, but not yet located (Cane 1986, 2).

The glaze is green and gritty, and in two cases runs over the broken edge of the sherd. This would suggest that it may be 'accidental', perhaps the result of metalworking activities, although the glaze has not yet been subject to analysis. Small-scale iron-working at ST32 in a later phase (site phase III) has an archaeomagnetic date of 1170.⁶

There are no reasonably complete glazed vessels known in Stafford-type ware.

DISCUSSION

Fabric source

Stafford-type ware has a broad distribution pattern. It would be useful to know whether all major groups of Stafford-type ware share the same clay source. This might help indicate whether there was more

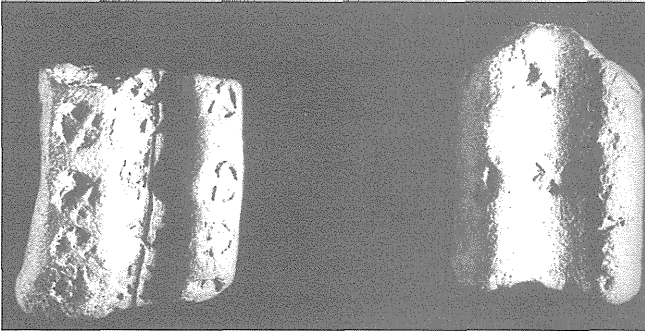


Plate 7. Stafford-type ware reduced very large storage jars with applied stamped strips — quadranted stamps on strap handles.

than one centre of production. A few pots from Stafford contain gypsum, which is found locally in the Mercia Mudstone Group. The presence of gypsum could make the clay body disintegrate during or after firing (gypsum may expand when damp), so it might be assumed that the potter would normally prepare the clay to remove this stone. Perhaps these pots were discarded because of their gypsum content. So far gypsum has only been noted in pots from contexts 1936 and 1966 on ST32. Both are fills of F444, a waster pit north of kiln F238. Examples of Stafford-type ware from Chester and Hereford do not contain gypsum (Williams 1985, 55–56; Vince 1985, 62, 78).

There has been some petrological study of Stafford-type ware from Stafford (D. Williams, pers. comm.), but more work is needed, including an examination of the ware from other sites in Staffordshire. Both Stafford-type ware and Chester ware (McCarthy and Brooks 1988, 205) are made from coal measure clays which have a wide distribution.

Development of the industry and comparisons with other Late Saxon/Saxo-Norman industries

Dating is important in understanding the origin of Stafford-type ware production. It occurs in an area without any earlier post-Roman pottery tradition. The close similarity of manufacturing techniques, form, decoration and kilns to other Late Saxon manufacturing centres in England, notably Thetford, Northampton, St. Neots, Oxfordshire (Late Saxon Shelly wares), Stamford, Torksey and Lincoln, and to earlier continental industries suggests influence rather than innovation.

Of particular note is the close link between the few large and very large Stafford-type ware jars and their Thetford equivalent (detailed under form descriptions, above). In addition, the resemblance of Stafford-type ware, in the forms of small to medium jars, and bowls, and general types of

decoration, to Lincoln Kiln-Type pottery is striking. It would be hard to distinguish them by, say, vessel form drawings alone (see Miles *et al.* 1989, figs. 22, 31, 32), although there are some small differences in decoration.

At Thetford, there are similarities in the detail of kiln structure: there are pre-formed clay firebars (or arches, as they are called), which have been shaped around withies, as at Stafford (Dallas 1993, 75, 157). The pottery industry in Thetford is dated to the later 9th to early 12th century, and in Lincoln to the late 9th to early 11th century (McCarthy and Brooks 1988, 161, 147; Miles *et al.* 1989, 235). Accepting a similar date-range for Stafford-type ware, based on parallels with Late Saxon pottery produced at other centres (manufacturing technique, form and decoration) would fit nicely with historical information: in 913 Aethelflaeda restored the town (which had been in ruins since Viking raids of 874), and created a burh, or defended settlement. It is also supported by archaeomagnetic and radiocarbon dating from three Stafford-type ware production sites which give a broad, overall date-range from the 9th to 11th century.

There has not yet been any attempt to analyse changes in the pottery through the lifespan of the industry. If changes are very slight over what may be a 200-year span, then this may be due to cultural conservatism. This sense of cultural identity may have been damaged by the vigorous suppression of the revolt against William in 1069–70.

The kiln form at Salter Street, Stafford is very similar to kilns 1 and 5 from Torksey, which have archaeomagnetic dates of 1050–1150 (McCarthy and Brooks 1988, 43, 151–2). This would place Salter Street at the end of Stafford-type ware production. The excavators thought that the very sandy and crumbly jars and bowls from the kiln backfill were like later forms from the Chester-type ware sequence (D. Garner pers. comm.).

It is not yet clear whether Stafford's pottery production was intra- or (just) extra-mural. Certainly, wholesale pottery dumping helped consolidate the marshy ground in the east of the peninsula, allowing for 11th-century expansion of the town. There may have been a need for centralised control over production.

In addition, excavated finds of Stafford-type ware outside Stafford have not been found in associations earlier than the 10th century. Stafford-type ware has been recovered in Staffordshire at Cold Norton and Sandon (both deserted medieval settlements), at Rocester, Lichfield and Tamworth (small towns), and Drayton Bassett (a manorial site; see Ford 1995, fig. 1, appendix 1).

At Hereford, Stafford-type ware continues in use into the early 11th century (Vince 1985, 62–63). The extensive excavations at the post-1070 Stafford

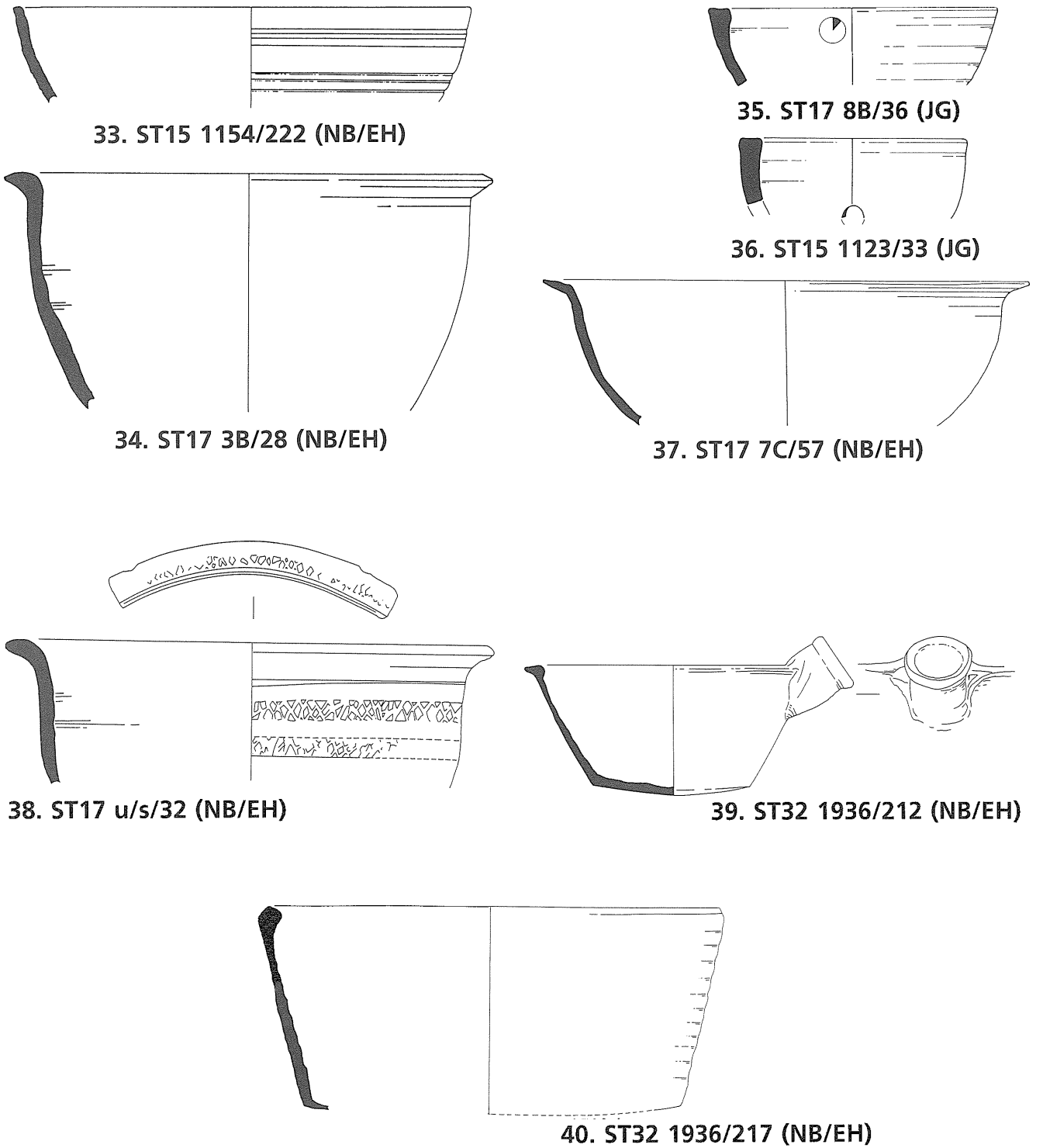


Fig. 13. Stafford-type ware bowl forms, including decorated examples. Scale 1:3.

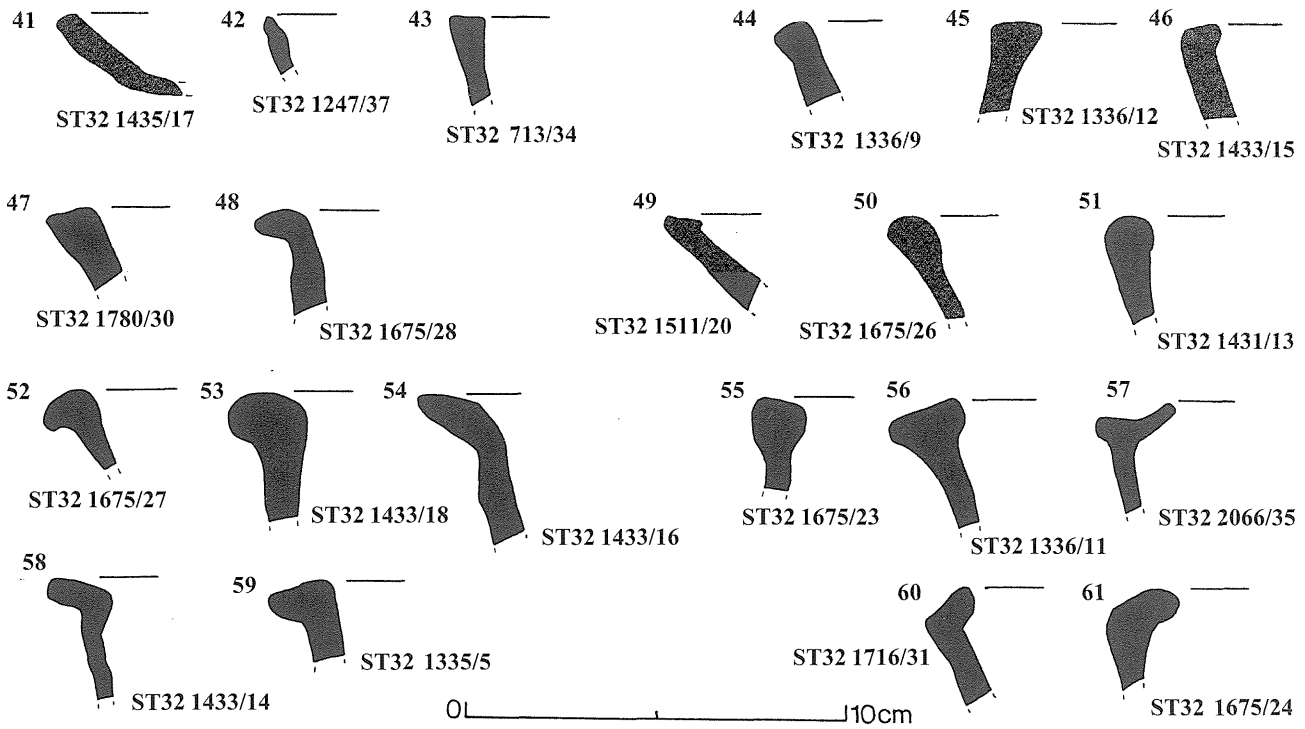
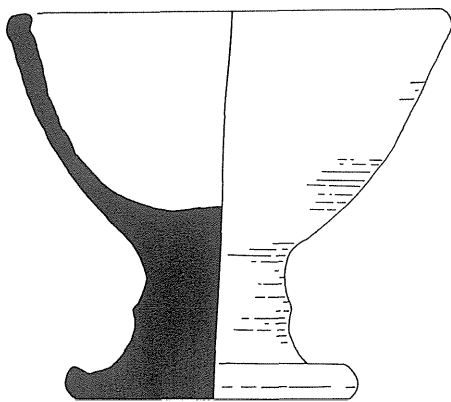


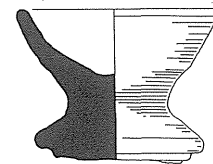
Fig. 14. Stafford-type ware bowl rim profiles (all JG). Scale 1:2.



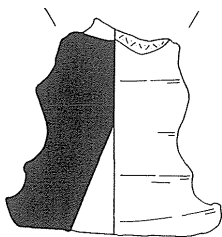
62. ST32 1936/215 (NB/EH)



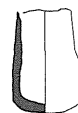
63. ST29 1607/118 (JG)



64. ST32 1343/240 (NB/EH)



65. ST32 1937/213 (JG)



66. ST15 1123/216 (NB/EH)

0 10cm

Fig. 15. Stafford-type ware goblet, cup and lamp forms. Scale 1:3.

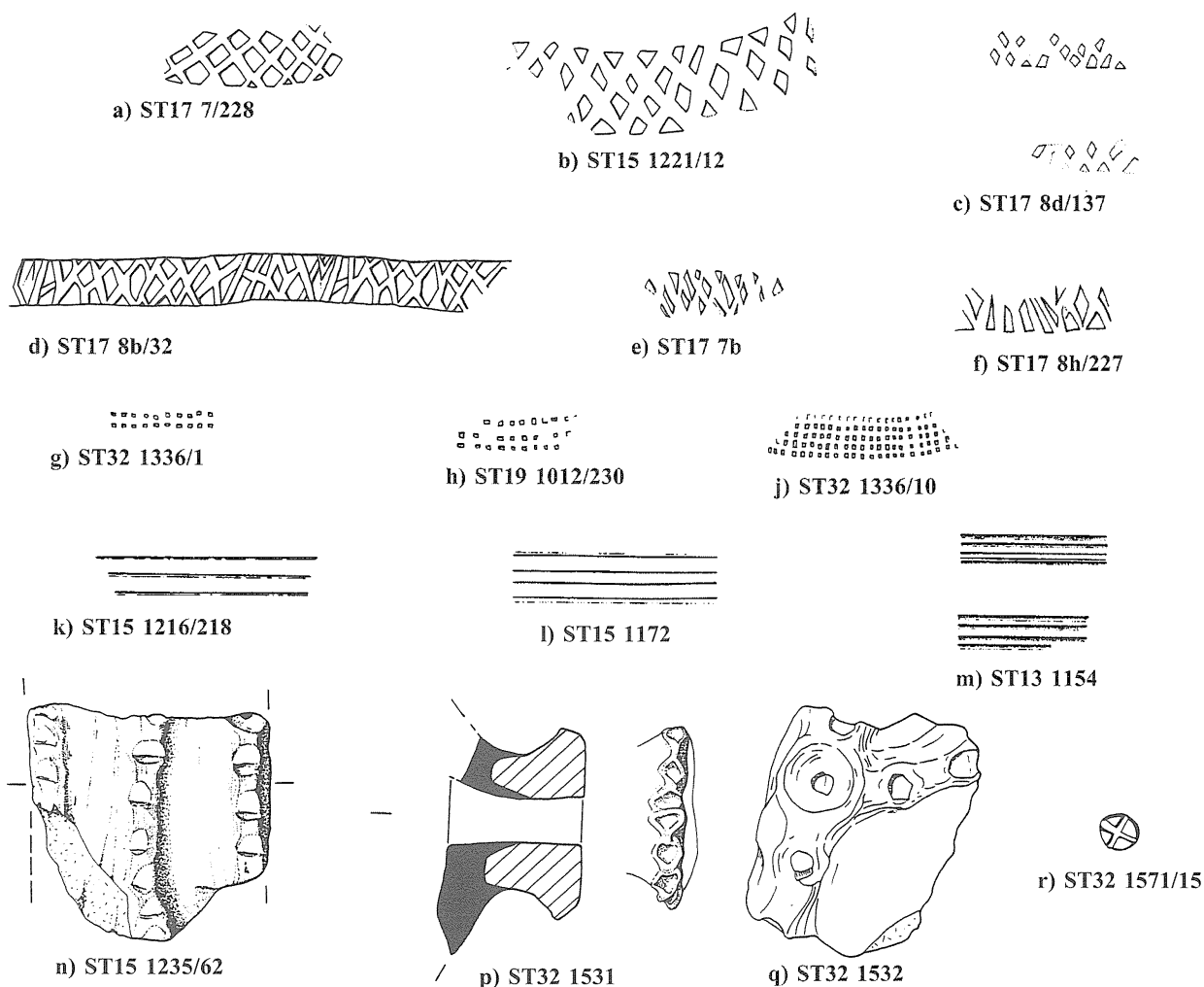


Fig. 16. Stafford-type ware decoration types (JG). Scale 1:2.

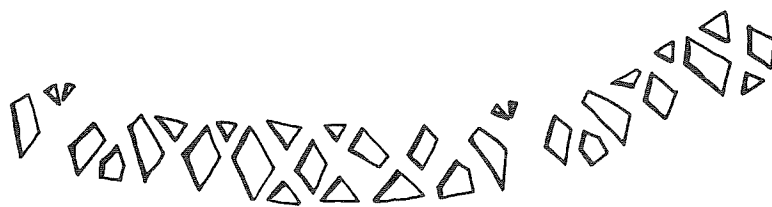


Fig. 17. Diagram to show roulette repeat on Stafford-type ware ST19 1012/24 (JG). Scale 1:1.

Castle have not produced any Stafford-type ware (Table 2).

Stafford-type ware appears to be heavily influenced in its production, distribution and lifespan by historical and political events, which have been outlined above. 'In Stafford there is a period of decline in the early 11th century, and in the resurgence of the late 11th century there is only apparently residual Stafford [-type] ware' (Cane 1986, 3). This decline may be linked to Cnut's and Edmund's raids in 1016. At any rate, Stafford-type

ware pottery production had ended by the late 11th century.

Distribution of Stafford-type ware

The distribution of Stafford-type ware is striking. Apart from Rocester and Barton Blount, which account for only seven sherds, finds of the pottery are concentrated on the Saxon side of the Danelaw demarcation (Fig. 18). However, it has never been confirmed that the Late Saxon pottery from all the

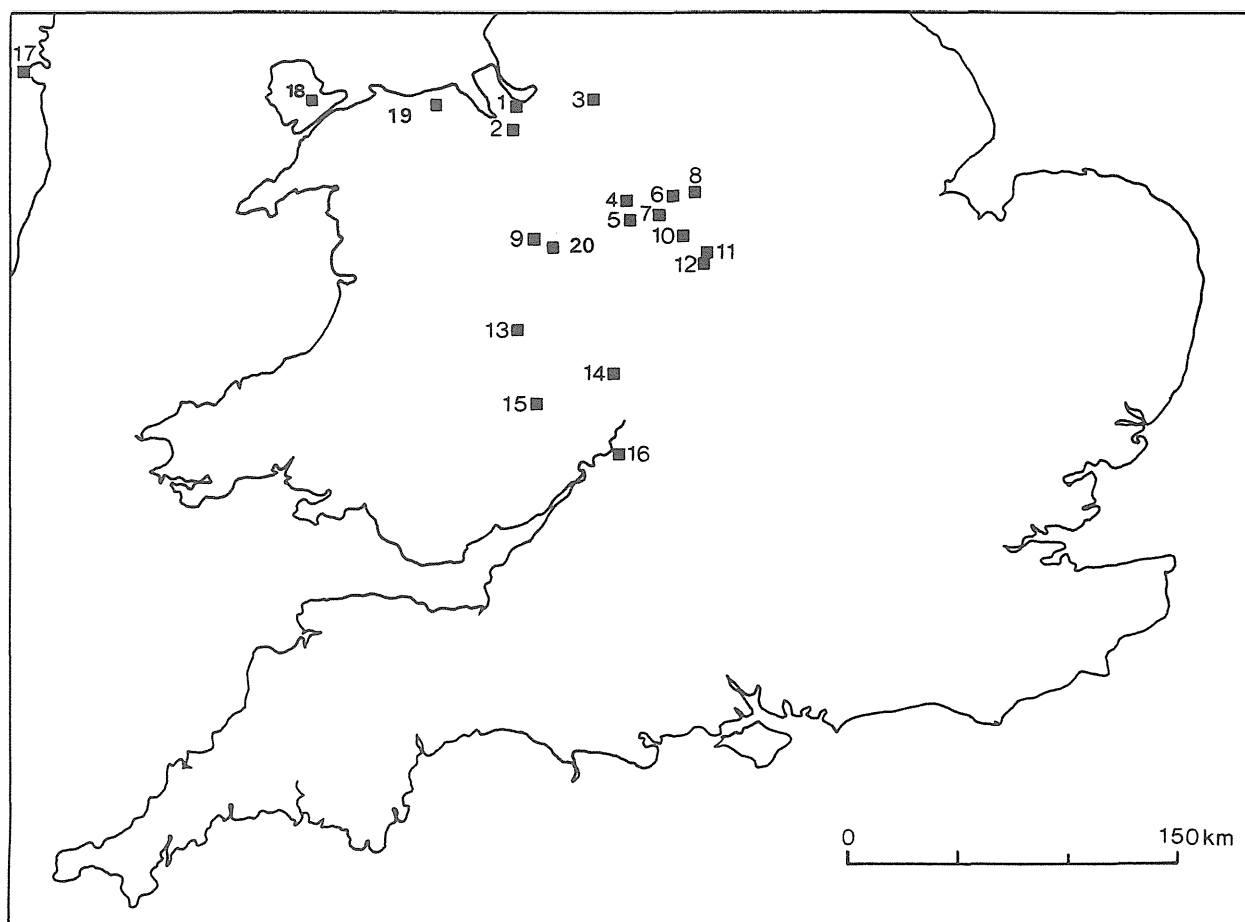


Fig. 18. The distribution of Stafford-type ware in the UK and Ireland (KB). 1. Grange-cow-Worth; 2. Chester; 3. Tatton Park; 4. Cold Norton; 5. Stafford; 6. Rocester; 7. Sandon; 8. Barton Blount; 9. Shrewsbury; 10. Lichfield; 11. Tamworth; 12. Drayton Bassett; 13. Leintwardine; 14. Worcester; 15. Hereford; 16. Gloucester; 17. Dublin; 18. Llanbedrgoch; 19. Rhuddlan; 20. Wroxeter.

findspots recorded is the same ware. Findspots outside Mercia include Dublin (Rutter 1985, 54–55)⁷, Llanbedrgoch (Mark Redknap pers. comm.) and Rhuddlan (identification uncertain; see Courtney in Manley 1987, 28–30).

Within 10th-century Mercia, the distribution is focused on Aethelflaedan burhs, but this is where excavations have been concentrated; there are only scattered rural finds. At present the balance of the evidence suggests that Stafford was the only production centre. Distribution outside Stafford does not appear to have been in response to domestic needs. It may be that Aethelflaeda's military system was used for distribution, possibly by and for the army. Carver has suggested that Stafford-type ware 'appears to have been supplied to those serving or entertaining the king at places of royal interest' (Carver forthcoming). Stafford-type ware may have been distributed for its contents, which might have been salt. Brine was known to come to the surface north of Stafford town centre

and the medieval saltway from the Cheshire *wiches* ran to the south, just east of the town, where one of the villages is called Salt.

It is a difficult task to trace the origin of most markets. Charters and other documentary references to markets may well have formalised arrangements that already existed. Some may never have had documentary references. Few Staffordshire markets are first mentioned in the 9th to 11th centuries, though Lichfield, Eccleshall, Burton-upon-Trent, Tutbury, Newcastle and Stafford are all known to have had markets by 1200 (Palliser and Pinnock 1971, 49–62). Figure 3 shows markets of medieval Staffordshire, with those in capitals being places named in the Domesday Survey which had markets later in the Middle Ages. In addition, there are fair sites, an archaeological classification usually based on a range of metal-detected finds of all dates from a rural site with no known occupation (S. Youngs pers. comm.). Two have been tentatively identified in or near Staffordshire, one on the edge

Table 2. Summary of Stafford-type ware finds (Stafford and elsewhere).

Sites	No. of sherds	% grey	% dec.	Types of dec	Min. no. vessels	Ratio of jars to bowls
STAFFORD						
Tipping Street (kiln phase)	49,000	20%	2%	All	400	2:1
(pre-kiln phase)	758	13%	1%	11,6,1	-	3:1
St. Mary's Grove	1,354	7%	3%	6	57	2:1
Hereford	395	0	10%	6	2	no bowls
Shrewsbury	192	6%	3%	6	14	6:1
Chester: Lower Bridge Street*	156	8%	8%	6, 11	-	one bowl
Lichfield	19	21%	1 sh	6	2	no bowls
Dublin	8-12	-	-	-	-	no bowls
Worcester	sev.	0	-	6	2	no bowls
Rocester	5	-	2 sh	6	3	1:2
Barton Blount	2	-	-	-	-	no bowls
Sandon DMS	61	0	1 sh	6	5?	no bowls

The types of decoration are listed in order of frequency for each group.

Key: 1-thumbed strips with punched circles, plain or quadranted; 3-thumbed strips; 6-rouletted lozenges; 9-incised lines; 11-rouletted small squares.

One or two sherds of Stafford type ware have also been recovered from Tamworth, Gloucester, Cold Norton, DMS, Drayton Bassett, Grange-Cow-Worth, Tatton Park, Leintwardine, Wroxeter Church, Llanbedrgoch (Anglesey) and Rhuddlan.

*There are other sites in Chester with assemblages of Stafford-type ware, not included here.

of Swynnerton, and one near Talke, just over the border in Cheshire (Fig. 3).

Fairs and markets would have had their own road networks linking them and navigable waterways would have been used extensively. There has been no comprehensive research on medieval roads in Staffordshire (Paul Hindle, pers. comm.). Figure 3 shows the Roman road network, and the 13th- to 14th-century routeways used by Edward I. How many of these were in use during the Saxo-Norman period is unknown.

CONCLUSION

This paper has had a long gestation and, apart from the basic description of Stafford-type ware and its production, raises more questions than it answers. English Heritage is now funding the author (from May 2000) to research and publish the medieval pottery from some 50 excavations in Stafford. In the interim, some brief concluding remarks will suffice.

The manufacture of Stafford-type ware was a large-scale operation based in Stafford, which flourished some time during the 9th to 11th centuries, and which had a wide area of distribution, from Dublin and North Wales to Hereford. It has clear and strong links to other Late Saxon pottery industries, seen in manufacturing technique, forms and decoration.

The main questions which remain unanswered are:

1. What were the developmental changes in fabric preparation, manufacturing techniques and vessel forms, throughout the lifespan of the Stafford-type ware industry? As a backbone for this study, dating at each of the kiln sites needs clarification although of course, the fundamental need is for all the major excavations in Stafford to be published.

2. Was Stafford-type ware made at other centres? A programme of detailed examination of the fabric is needed. The Late Saxon pottery from all findspots (Fig. 18) needs to be confirmed as Stafford-type ware.

3. What was the supply-and-demand distribution network for Stafford-type ware? A close study of historical sources for the period, alongside a study of market and road networks in Staffordshire, allied to archaeological work, is needed in order to make any sense of the trading networks operating.

Wider issues include exploring the obviously close links between the English Late Saxon pottery industries. Some of the details of manufacture are so similar that movement of skilled potters between the major urban centres must be inferred. It may prove fruitful to bring together some of the similar vessels from, say, Thetford, Lincoln and Stafford for close comparison — including the thumb- and fingerprints!

Notes

1. This includes synthetic work by Charlotte Cane of

- Birmingham University Field Archaeology Unit (BUFAU), including Cane 1986 np.
- The Salter Street site was excavated by Earthworks Archaeology of Clwyd, directed by Will Walker. The other two production sites (ST17 and ST32), and the second season at Clarke Street (ST15) were excavated by BUFAU under the direction of Martin Carver. Stafford and mid-Staffordshire Archaeological Society (SAMSAS) conducted the first season at Clarke Street (ST14), under the supervision of Ashley Carter. None of these sites have been published. The bulk of the BUFAU archive, and all the SAMSAS and BUFAU finds are held at the Potteries Museum and Art Gallery, Stoke-on-Trent.
 - Radiocarbon dates quoted are uncalibrated. The original Harwell certificates are in a research archive in York (as at July 2000). The sample from site ST17 (HAR-3039) was taken from charcoal associated with the kiln (context 8d); both samples from kiln F238, ST32 (HAR-8239 and HAR-8240) were taken from context 1753, a deposit of burnt material and ash just inside the stokehole; the two samples from kiln F246, ST32 (HAR-8237 and HAR-8238) were from context 1516, 'probably the remains of the last firing.'
 - The wells were F245 and F363, the latter thought to be associated with Stafford-type ware production. The two oak samples from F245 were unsuitable for measurement. Fourteen samples (three oak and eleven poplar) from F363 produced very short ring sequences which could not be dated reliably (Groves 1987, 3-4).
 - Large white inclusions in two different Stafford-type ware vessels were examined by geologist Don Steward (Natural History, The Potteries Museum and Art Gallery): a jar and a socketed bowl from ST32 1936, a fill of a waster pit, F444, lying to the north of kiln F238. Examination under a low power binocular microscope showed the inclusions giving no reaction to 10% hydrochloric acid. The white stone is platelike and soft. It is thought to be gypsum. The local Triassic Mercian Mudstone beds (formerly Keuper Marl) around Stafford contain gypsum in varying amounts.
 - Date quoted in Stafford archive text: 'Medieval structures and features' 2.1. The original dating certificate has not been located.
 - 'Between eight and a dozen vessels were recorded from the Fishamble Street site [in the Wood Quay area of Dublin] . . . and dated provisionally to the later tenth and eleventh centuries' (Rutter 54-55).

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Résumé

Cet article donne un compte rendu de la production de poterie en Staffordshire entre la fin du IX^{ème} et le XI^{ème} siècle. Il est basé sur un papier donné lors du Congrès du "Medieval Pottery Research Group" (le groupe de recherche sur la poterie médiévale) à Londres en mai 1998. En Staffordshire, le type principal de poterie Saxonne tardive s'appelle "Stafford-type ware". Stafford est le seul endroit où la preuve de sa production ait été trouvée -presque une tonne de poterie et les restes de quatre fours ainsi que des structures associées et des fosses. Cependant, cette céramique dite "Stafford-type ware" a tout d'abord été identifiée à Chester et elle est aussi connue sous d'autres noms: "Chester ware", "Chester-type ware", "Stafford ware" et "West Midlands early medieval ware". La variété de noms peut semer la confusion et il n'a jamais été confirmé que tous ces noms correspondent à des poteries provenant de la même source de production. Ces problèmes ne sont pas adressés ici; mais jusqu'à ce que cette industrie ait été pleinement recherchées les archéologues devraient être prudent avant d'appliquer une signification induite à l'identification et à la datation de tessons de type "Stafford ware"/"Chester ware"/"West Midlands early medieval ware".

La poterie produite à Stafford a une pâte sableuse, dure, bien cuite. Les formes principales étaient des petits bocalux et bols à fond convexe. On y fabriquait aussi de grands bocalux, des tasses à pied, des lampes et des bols à anses tubulaires. Les mobiliers démontrent une gamme de techniques de fabrication et finition; certains même sont décorés. La céramique dite "Stafford ware" était bien façonnée, mais on peut y voir des variations dans sa qualité et sa finition.

Zusammenfassung

Dieser Bericht gibt einen Überblick über die Töpferwarenproduktion vom späten 9. bis zum 11. Jahrhundert. Er basiert auf einem Vortrag anlässlich der Konferenz der mittelalterlichen Töpferei-Forschungsgruppe im Mai 1998 in London. Die häufigste Töpferware in Staffordshire in spätsächsischer Zeit ist der Staffordtyp, der auch nur hier gefunden wurde — fast eine Tonne Töpferware, die Reste von vier Brennöfen inklusive der dazugehörigen Strukturen. Der Staffordtyp wurde jedoch zuerst in Chester beschrieben und läuft auch unter dem Namen Chesterware, Chester typware, Staffordware und frühmittelalterliche West-Midlandware. Die Vielfalt der Namen kann Verwirrung stiften und es wurde nie bestätigt, dass sie sich auf Töpfergut ein und derselben Produktion beziehen. Dieses Thema wird auch in diesem Bericht nicht angesprochen. Bis zur vollständigen Erforschung dieser Industrie sollten Archäologen bei der Verwendung der vier Begriffe Vorsicht walten lassen und ihnen keine zu große Bedeutung für die Identifikation und Datierung zumessen.

Die in Stafford produzierte Töpferware ist sandig und hart gebrannt. Die Hauptformen waren kleine Töpfe und Schalen mit konvexem Boden. Große Töpfe, Tassen mit Sockel, Lampen und Schalen mit eingelassenen Griffen kommen auch vor. Die Gefäße weisen eine Reihe von Herstellungstechniken und Ausführungen auf; einige sind dekoriert. Obwohl der Staffordtyp im Allgemeinen gut gearbeitet ist, gibt es doch Unterschiede in Qualität und Ausführung.