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# Tutbury: 'A Castle Firmly Built'

Archaeological and historical investigations at  
Tutbury Castle, Staffordshire

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# Chapter 12: Clay Tobacco Pipes

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## INTRODUCTION

The material examined comes from three different periods of investigation, the first comprising excavations in 1955/6, from which there is just one surviving unstratified pipe bowl. The second phase of work was undertaken by Staffordshire County Council's archaeological 'Roving Team' between 1986 and 1988. During this period pipes were recovered from four different trenches, the site codes for which are TUMS 86, TIGS 87, TC 88A and TC 88B. The first three trenches all have context numbers starting with 1000 while the fourth (TC 88B) starts with 001. The most recent work was undertaken over four seasons between 2004 and 2007 by the University of Birmingham. The site codes used for these four seasons are TTD 04, TTD 05, TUT 06 and TTD 07 respectively. The author has previously prepared archive reports for the material from the 1986–88 and 2005 excavations,<sup>1</sup> as well as a context summary for the 2006 finds.<sup>2</sup> This study has re-examined all of the pipes from the 1955–2007 excavations and brings together all of the previous studies in this final report.

## METHODOLOGY

All of the pipe fragments have been individually examined and details of each logged onto an Excel worksheet. The layout of the worksheet has been based on the draft clay tobacco pipe recording system that has been developed at the University of Liverpool.<sup>3</sup> Copies of both the worksheet and the draft recording system have been provided for the site archive. The pipe bowl forms have principally been dated with reference to the London typology established by Atkinson and Oswald,<sup>4</sup> although the dating has been modified according to the exact form and attributes of the individual fragments. Bowl forms identified from the London typology have been prefixed with the letter 'L'. Variants of the basic London shape illustrated in the typology have had the letter 'v' placed after the type number.

An assessment of the likely date of the stem fragments has been provided. The stem dates should, however, be used with caution since they are much more general and less reliable than the dates that can be determined from bowl fragments. All of the pipes were recorded and dated before context information and other site data was examined. This methodology avoided any pre-conceptions being formed as to the possible date or nature of the various pipe

groups while they are being identified and catalogued. A context summary has been prepared as part of the archive. This provides a summary of the overall numbers and date range for the pipes recovered from each context, together with the most likely deposition date, based on just the pipe evidence.

## MATERIAL RECOVERED

The study group comprises a total of 640 pieces or pipe, comprising 123 bowl, 493 stem and 24 mouthpiece fragments from the various phases of work. This material includes eleven marked and four decorated pieces. A summary of the pipe evidence from the site as a whole is provided in Table 12.1. The finds from each phase of work are described in more detail below.

### 1955/56

A neatly made but unmarked heel bowl of *c*1630–60 is the only surviving pipe fragment from the 1955/56 excavations. It is unprovenanced.

### 1986–88

The excavations produced 274 fragments of pipe, comprising 49 bowl, 217 stem and eight mouthpiece fragments, from a total of 35 different contexts in the four excavated trenches. The pipes were not evenly distributed between the trenches with 31 pieces coming from the 1986 trench (Area 8), just four from the 1987 trench (Areas 9 and 10), 155 from the 1988 A trench (Area 5) and 84 from the 1988 B trench (Area 4). Despite the relatively small size of this assemblage, the pipes are still able to contribute to a broader understanding of the site and its use during the post-medieval period. Before the pipes are considered by trench it is worth noting the overall chronological distribution of the 1986–88 pipe assemblage. Of the 49 bowl fragments recovered, 43 (88%) dated from the 17th or early 18th century, just one (2%) dated from the 18th century and five (10%) dated from the 19th or early 20th century. Furthermore, no less than 42 of the bowl fragments (86%) had a date range that included the 1640s. This clearly shows that the majority of the fragments recovered date from the 17th century and, in particular, from around time of the Civil War. The high proportion of Civil War pipes suggests that this period saw the greatest phase of post-medieval activity on the site, or at least that this was the phase during which the largest number of artefacts became deposited in the archaeological record. The dramatic drop in pipes dating from after *c* 1660 suggests that there was little interest in the castle following the war, save for the occasional visitor to the ruins.

<sup>1</sup> Higgins 2000 and 2005.

<sup>2</sup> Higgins 2006.

<sup>3</sup> Higgins and Davey, 1994.

<sup>4</sup> Atkinson and Oswald, 1969.

Code	B	S	M	Tot	Marks	Decoration	Figs
1955/56	1	0	0	1			
TUMS 86	3	27	1	31			
TIGS 87	0	4	0	4			
TC 88A	35	114	6	155	H.CLEE//RM x 1; CORK x 1	Faceted bowl x 1; Leaf seams x 1	3, 4, 11, 14, 23, 28, 31, 34, 37, 39, 40, 41
TC 88 B	11	72	1	84	GH x 1; wheel x 1; Midlands border x 1		5, 8, 24, 32, 36, 38
TTD 04	3	3	0	6			33
TTD 05	21	86	2	109	GH x 1; PT x 1	Milled stem x 1	1, 6, 9, 15, 17, 18, 19, 21, 22, 25
TUT 06	42	151	13	206	IG x 3		2, 7, 12, 13, 16, 20, 26, 27, 30, 35
TTD 07	7	36	1	44	P?E? x 1	Flutes and leaf seams x 1	10, 29
<b>TOTAL</b>	<b>123</b>	<b>493</b>	<b>24</b>	<b>640</b>			

TABLE 12.1 SUMMARY OF PIPE EVIDENCE FROM THE VARIOUS SEASONS OF EXCAVATION, SHOWING THE NUMBERS OF BOWL (B), STEM (S), AND MOUTHPIECE (M) RECOVERED, AS WELL AS A SUMMARY OF THE MARKED AND DECORATED PIECES PRESENT

#### TUMS 86 (Area 8) Inner Bailey Ditch

This trench produced a total of 31 pipe fragments, comprising three bowl, 27 stem and one mouthpiece from two different contexts. The majority of the pieces, 26 fragments, are labelled as having come from Context 1000. In the interim report, Context 1000 is described as the turf covering the trench with 1001 being a topsoil layer below this. The interim report also notes that the topsoil (1001) contained a wide variety of finds, including clay tobacco pipes. This description clearly suggests that the pipes have been mislabelled and that they were actually recovered from the topsoil layer (1001), which covered the trench to between a depth of 100 and 250mm. The presence of so many 17th-century pipes in the topsoil suggests that the residue of the Civil War activity on this part of the site is mainly contained within the surface layer. It also suggests that there has been little later deposition of material on this part of the site.

The only other context from which pipes were recovered was 1012, the lowest excavated layer. This context produced five pipe fragments comprising part of a bowl of c 1640–60 and the four stems, which are all of 17th-century date. The pipe bowl provides a *terminus post quem* for the excavated contexts and suggests that these deposits may date from the Civil War or subsequent slighting activity on the site.

#### TIGS 87 (Areas 9 and 10) The Hollow way

This trench produced just four pipe fragments, all of which were stems. Three of these were recovered from Context 1000 and one from 1002. None of these fragments could be very closely dated but all were of 18th- or 19th-century date, ie, post Civil War.

#### TC 88A (Area 5) South Tower

This trench produced by far the largest assemblage of pipes, a total of 155 fragments, comprising 35 bowl, 114 stem

and six mouthpieces. The pipes were recovered from 21 different contexts, the stratigraphically earliest of which was 1042. This was a rubble layer containing three pipe bowl fragments, all of which dated from around 1630–60. This context has been identified as a possible Civil War slighting deposit of 1647 and the dating of these fragments would be consistent with this. Sealing 1042 was a layer of clay loam, Context 1037, which produced four bowl and 18 stem fragments. All of the bowls (two of which are shown as Fig. 12.1, 4 and 14) date from around 1640–60 and all but one of the stems are of 17th-century date. The remaining piece of stem is of 19th-century date. This deposit has also been identified as possible Civil War slighting of 1647, in which case, the later stem must be intrusive or contamination of the sample. All of the other fragments, however, would be consistent with this interpretation. A third deposit, Context 1035, which overlay 1037, was also thought to result from the Civil War. In this case the context produced a single pipe bowl fragment (Fig. 12.1, 37) which dates from the 19th century. This must either be intrusive or the layer needs to be re-dated.

Between contexts 1037 and 1035 was a pit fill (1039) which contained three pieces of 17th-century pipe stem. Above Context 1035/1013 were a further series of pit fills (1024–6 and 1032–4) which all contained 17th-century material with the exception of 1025, which contained ten 17th-century fragments and one of c 1750–1900. If this one later piece is also intrusive, then these fills may all have been associated with the Civil War or its immediate aftermath. A similar situation applies to contexts 1012 and 1019. These each produced a single bowl, both of which were almost certainly made in the same mould and which can be dated to c 1620–50. These contexts overlay 1037 and may also form part of the Civil War sequence.

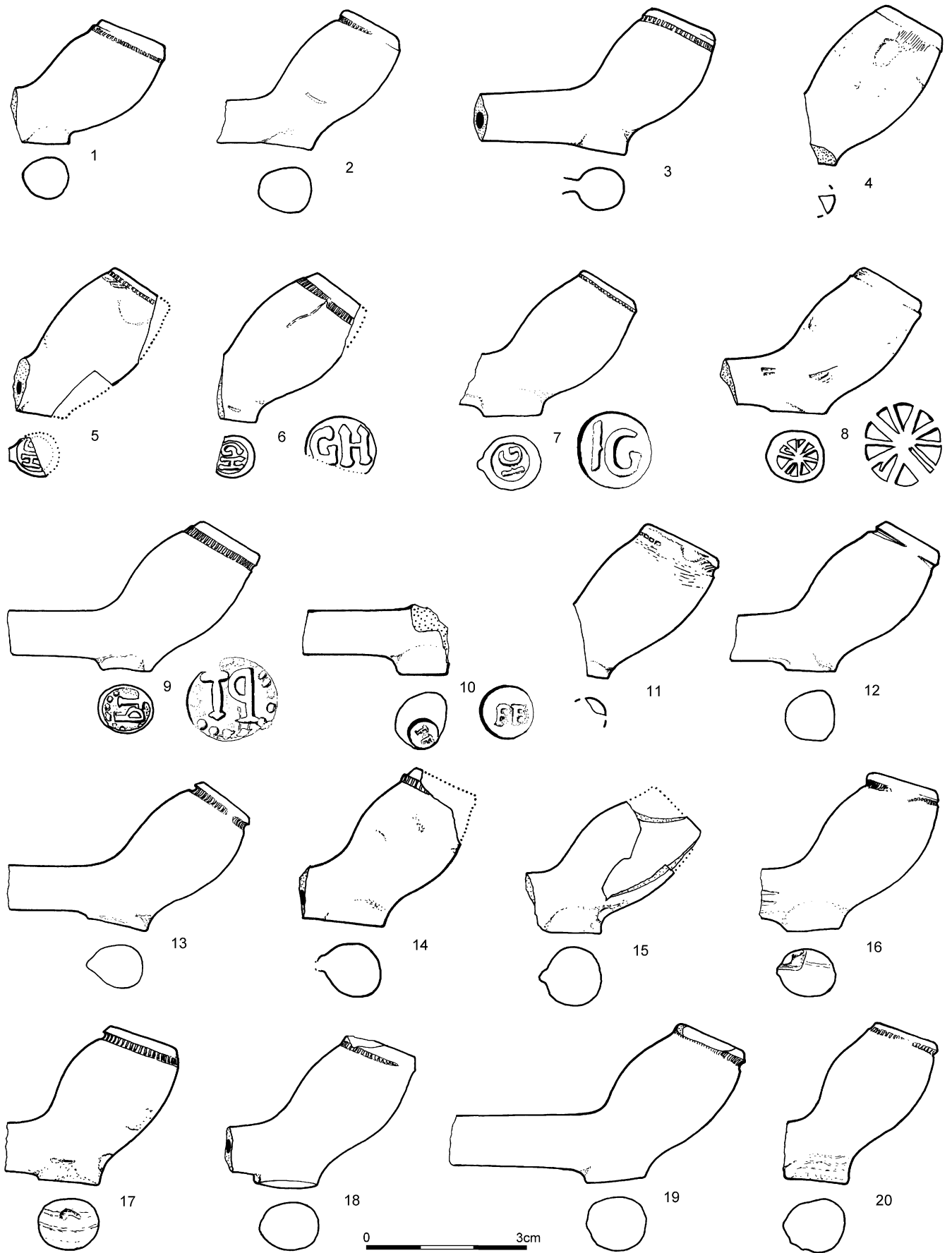


FIGURE 12.1 CLAY TOBACCO PIPES 1-20

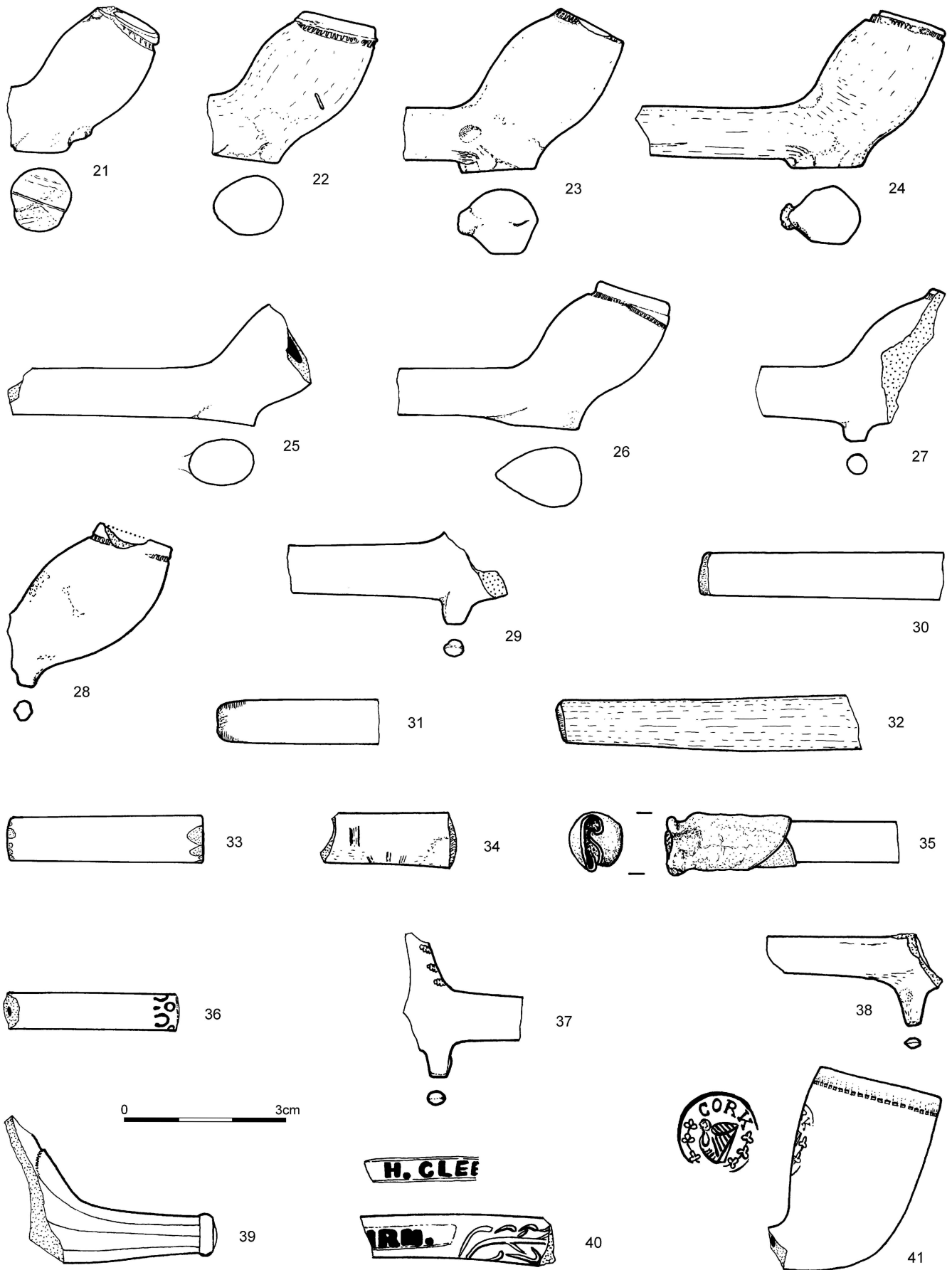


FIGURE 12.2 CLAY TOBACCO PIPES 21-41

Above the possible Civil War sequence was a series of later layers and pits (1001, 1002, 1014/1015, 1018, 1020, 1043 and 1065) all of which contained pipes dating from as late as the 19th or early 20th century. The consistent presence of much later material in these contexts suggests a distinct phase of activity when new material was being laid down and/or earlier deposits were being reworked in this area. The occurrence of several well stratified pipes from below the extensive rubble spread 1002/1003 shows that this cannot have been a late 18th-century landscaping layer sealing earlier material, as had originally been thought.

#### TC 88B (Area 4) North Tower

This trench produced a total of 84 pipe fragments, comprising eleven bowl, 72 stem and one mouthpiece from a total of ten different deposits. The earliest pipe-bearing deposits appear to be 012 and 028, each of which contained two stems of 17th-century date. These two contexts represent foundation or construction work associated with the construction of wall 004. A pipe bowl of c 1640–60 (Fig. 12.1, 24) was found associated with wall 004, suggesting that this phase of building work may have been part of the Civil War activity on the site. Either way, the pipes provide a mid 17th-century *terminus post quem* for this building, showing that it could not have been the building that housed Mary Queen of Scots, as has been previously suggested.

Above the 17th-century building deposits was a loamy layer (009) and then spreads of demolition rubble (005–7), all of which contained mixed groups of pipes. These contexts contained material dating from as late as the end of the 19th or early 20th century. Context 009 had originally been interpreted as a possible occupation layer, sealed by demolition material from 004. The pipes, however, show that all these deposits date from late 19th or early 20th-century activity on the site. The same is true of the overlying deposits 002–3, which also contained pipe fragments of mixed date. These layers had been seen as debris resulting from the 1647 slighting but the stratigraphy and finds clearly shows that they are much later deposits, whatever their original source. As with Trench 88A (Area 5), the post-medieval sequence in this part of the castle appears to include a clear Civil War phase followed by a long blank in the archaeological record before a period of active disturbance and/or deposition in the late 19th or early 20th century.

#### 2004 (TTD 04)

This season of work produced just six pieces of pipe, comprising three bowl and three stem fragments. All of these fragments are of typical 17th-century forms and all of the bowls are heel types. One of the bowls stylistically dates from c1610–40 and the other two from c1640–60, although all three could well have been deposited as the result of Civil War activity on the site. The two slightly later looking forms are both very crudely made and both were made in the same poor quality mould that was used to make many of the other pipes recovered from this site. One of the stems has been ground smooth roughly square to the long axis of the pipe at

both ends, leaving a piece 37mm in length (Fig. 12.1, 33). This has no obvious function and is most likely the result of idle doodling with a piece of broken pipe stem.

#### 2005 (TTD 05)

The 2005 excavations produced 109 fragments of pipe, comprising 21 bowl, 86 stem and two mouthpiece fragments, from a total of 14 different contexts in the excavated trenches. There is also one bag of unstratified finds. The pipes were not evenly distributed between the trenches with 71 pieces coming from Area 4 but only 27 pieces from excavations on the motte and just a single pipe fragment from Area 5. The contexts that produced pipes are described and discussed by trench below.

Despite the relatively small size of this assemblage, the pipes are still able to contribute to a broader understanding of the site and its use during the post-medieval period. As with the material recovered during the 1980s, the first point to note is the overall chronological distribution of the pipe assemblage. Out of the 109 fragments recovered all but four of the fragments, ie, 96.3% of the assemblage, dates from the 17th century. More specifically, 20 out of the 21 bowl fragments have been dated to the Civil War period and all but four of the other stems and mouthpieces are likely to be contemporary with these bowls. This supports the impression, formed from the earlier excavations, that the post-medieval use of the site, at least in terms of the archaeological finds, is overwhelmingly dominated by Civil War activity. Pipes of this period clearly litter the site and this in itself could lead to problems with dating and interpreting the excavated contexts. The scarcity of later material means that the majority of the contexts contain only Civil War pipes. While many of these contexts may well be the result of Civil War activity it is important to be aware that later earthmoving activities may well have redeposited some of the pipes but that this remodelling may not be immediately apparent from the finds if no later objects have become incorporated within the deposits. Having sounded this cautionary note, the following sections will discuss the pipes in their context groups.

#### Area 4 (North Tower)

This area produced the majority of the pipe fragments recovered during this season's work, comprising 71 of the 99 stratified pieces (72%). Most of these pieces (49 fragments) were recovered from contexts 3001 and 3002. In the southern half of the trench the stratigraphically earliest pipe fragment appears to be a single stem recovered from a red/brown sandy silt containing alabaster chunks (3023) and overlying a demolition layer (3021). The stem from this layer (3023) is certainly of 17th-century type and it could well date from the Civil War period. This stem provides a *terminus post quem* for the sealing of the demolition layer. Context 3023 was overlain by a brown clay layer (3054) that did not produce any pipes and then a red clay layer (3019) that produced a single Civil War period bowl, stamped GH (Fig. 12.1, 6). It is possible,

therefore, that this whole sequence of layers overlying 3021 is the result of Civil War activity on the site.

In the northern half of the trench, the stratigraphically earliest pipes appear to have come from a patch of dark brown soil with charcoal inclusions (3027), possibly a cut, within a more general layer of brown silty clay (3038). This layer (3027) produced a group of seven pipe fragments, including two bowls dating from the Civil War period (Fig. 12.1, 18 and 25), and so this deposit seems likely to date from the mid 17th century. A related clay layer (3038) was cut by a gully (3008) that also produced a small group of 17th-century pipes, including a heel bowl of *c*1610–40, the earliest bowl to have been recovered from this season of excavation (Fig. 12.1, 1). At the northernmost end of the gully a small pit had been dug (3035), which produced three pieces of 17th-century pipe stem.

The largest group of pipes from Area 4 was recovered from a rubble layer covering the southern and central parts of the trench (3002), which produced 29 fragments, including three bowl fragments, all of which dated from *c*1640–60 (eg, Fig. 12.1, 22). Another bowl of the same date and five further pieces of 17th-century pipe stem were recovered from 3017, an associated spread of brown mortar. The rubble layer (3002) was overlain by a dark brown silt layer (3001), which produced four pipe bowl fragments (eg, Fig. 12.1, 15) and 16 stems. The 20 fragments from this deposit (3001) all date from the 17th century with the exception of one stem that dates from somewhere between about 1760 and 1910.

#### Area 5 (South Tower)

This trench produced a single pipe bowl of *c*1640–60 from 4001, a brown silt below the topsoil and turf that sealed all of the other features.

#### Areas 1 and 2 (Motte)

The motte area produced 27 fragments of pipe from four different contexts. Context 5007 produced four bowl and four stem fragments. All the bowls in this group are of Civil War date (eg, Fig. 12.1, 17 and 21) and so it seems likely that this is a Civil War deposit. Context 5010 only produced four stems, all of which are of 17th-century type, as are the two joining pieces (freshly broken) from 5014. The largest group, comprising two bowls and eleven stems, was recovered from 5017, which was interpreted as backfill from the 1960 excavation. Ten of the stems are of 17th-century type and the bowls, including one stamped TP (Fig. 12.1, 9) both date from *c*1640–1660. There is, however, one stem that probably dates from *c*1700–1780, confirming that this context has either been disturbed or redeposited at a later date.

#### 2006 (TUT 06)

The 2006 excavations produced 206 fragments of pipe, comprising 42 bowl, 151 stem and 13 mouthpiece fragments, from a total of between seven and ten different contexts (the bag labelling is uncertain or ambiguous in

some instances), plus one unstratified group. As in previous seasons, almost all the pipe bowls recovered were of Civil War date and almost all of the stems would also fit well with this dating. Where later fragments did occur, they tended to be isolated pieces amongst mid 17th-century assemblages, and particularly from the upper layers where contamination is more likely. Overall, this suggests low levels of later deposition on top of essentially Civil War deposits. The Civil War fragments are, however, generally rather abraded and broken, suggesting they have been redeposited or disturbed to some extent since being broken. This appearance was confirmed when an attempt was made to find joins between the more diagnostic pieces from the largest context groups (6000 and 6001), which between them represent nearly 75% of all the fragments recovered this season. No joins could be found amongst this relatively large sample (144 fragments) from one part of the site. This confirms the impression that the pipes have been moved around to some extent and are not simply lying where they were broken.

As mentioned above, contexts 6000 and 6001 produced the majority of the finds from this season, with 101 fragments coming from context 6001 alone. This was a rubble layer from beneath the topsoil and almost all of the pipes from it date to the mid 17th century. This might suggest that the rubble derives from the slighting of the castle in 1647, and it would also explain the slightly abraded and ‘trampled looking’ nature of the pipe fragments that this deposit contains. There were just a few later stems from 6001, which could well be intrusive given that it lay just below the topsoil.

One particularly unusual fragment recovered from the demolition deposit (6001) consists of a broken stem fragment, one end of which has been wrapped in a small piece of lead sheet (Fig. 12.1, 35). This has been crimped together at one end, the marks in the lead suggesting that this was done by somebody using their teeth. There are no parallels for this find from anywhere else in the country and the purpose of wrapping the lead around the stem is unclear. It may have been applied as an idiosyncratic act by someone to make some sort of a mouthpiece for a broken pipe or it may simply have been an idle bit of doodling.

#### 2007 (TTD 07)

The 2007 excavations in the outer bailey produced 44 fragments of pipe, comprising seven bowl, 36 stem and one mouthpiece, from a total of six different contexts, plus one unstratified group. All of the stratified pipes came from the upper three layers in each of the two trenches excavated. The nature of these pipe finds is quite different from those found within the walled part of the castle during previous excavations. All of the pipe fragments from the outer bailey tend to be rather abraded and fragmentary, and are more typical of those found in a regularly worked plough soil as opposed to those from a sealed archaeological deposit. The date range of the fragments recovered is very different too. Although there are certainly a number of 17th-century stem

fragments present, the majority of the more diagnostic pieces date from later periods and five out of the six pipe bearing deposits are most likely to date from the 19th century or later (and the sixth only produced a single pipe fragment). Within the curtain wall of the inner bailey the pipe assemblages are dominated by material of Civil War date whereas in this area there is much less emphasis on this period and many more finds of a later date. This might suggest that the outer bailey was something of a 'no man's land' during the Civil War but that its open nature made it more attractive to use during later periods.

### THE PIPES THEMSELVES

Although Tutbury Castle was used by both James I and Charles I as a hunting lodge there are very few early 17th-century pipes amongst the assemblage and, when these do occur, they are of very ordinary quality and do not hint at the site's royal connections. It seems most likely that, during this period, the site was kept relatively clean and tidy with little deposition of domestic waste within the excavated areas. In contrast, the overwhelming majority of the pipes recovered date from the mid 17th century and almost certainly represent a flurry of activity (and waste deposition) during the Civil War, which saw two sieges of the castle during the 1640s before its slighting in 1647. Pipes of this period were particularly concentrated within the walled inner bailey and they were not found in such density in the outer bailey excavations. Only small areas have been sampled, but this distribution may reflect the locations where troops were garrisoned and deployment during the war.

Although the site continued in occupation after the war, and it was increasingly visited as a tourist attraction from the mid 19th century onwards, there is only a relatively thin scatter of later pipes from the site. Once again, this may well reflect waste disposal off-site but the result is that the bulk of the assemblage represents a substantial mid 17th-century group, most of which can almost certainly be accurately dated to the 1640s. As such, this assemblage not only provides an important benchmark for this period in east Staffordshire but also a key group for comparison with other Civil War groups from across the country.

### The Bowl Forms

Although one or two of the bowl fragments could date from before the Civil War (eg, Fig. 12.1, 1–3), they are of styles that could equally have continued in use into the 1640s. Most of the remaining forms (eg, Fig. 12.1, 4–28) are firmly of mid 17th-century styles that would usually be dated to c1640–1660. Given the known history of the site, however, it seems almost certain that these were actually deposited during the 1640s and so can be considered as a single, closely dated group.

Civil War groups from elsewhere in the country, such as those from the castles at Pontefract, Sandal, Scarborough (all in Yorkshire) and Beeston in Cheshire provide good parallels for the general size and range of bowl forms represented at Tutbury. The most obvious characteristic of the Tutbury group is the small number of spur pipes present. In total there were 90 mid 17th-century bowls where the form was apparent but, of these, only two were spur types (2%; Fig. 12.1, 27 and 28). Although this is too small an assemblage to provide an absolute figure for the mid 17th-century use of spur pipes in this part of Staffordshire, the general trend is clear and this figure makes an interesting comparison with Civil War groups from elsewhere. At Pontefract Castle in Yorkshire there were no spur pipes at all amongst the very large Civil War assemblage.<sup>5</sup> In contrast, 23 (14%) of the 166 Civil War pipes from Beeston Castle in Cheshire were spur forms.<sup>6</sup> This variation in the use of spur forms from different parts of the country is quite marked and Civil War deposits provide an ideal point of reference for making these regional comparisons.

The heel forms from Tutbury exhibit quite a range of variation. The smallest form, for example (Fig. 12.1, 1), has quite a sharply waisted form, which contrasts markedly with the much more oval profile of Figure 12.1, 4–6. These more oval forms are typical of early products from the Broseley area of Shropshire and so their design may have been influenced by the emerging regional styles from that area. Figure 12.1, 1–20 show a range of typical mid 17th-century bowls, all of which have a reasonably good form to them. In contrast, Figure 12.1, 21–24 show examples from with a much more chunky form with a markedly uneven and lop-sided bowl. Three of these examples (Fig. 12.1, 22–24) were made in the same mould, which is easily recognisable from clear mould flaws on the sides of the heel, which is fairly large and usually with a slight heart-shaped or tailed form to it (although this was sometimes modified during the trimming process, as is the case in Fig. 12.1, 22). The pipes from this mould form a particularly interesting group, which will be discussed in more detail below.

The later pipes from the site are very scrappy and there are not enough complete examples to make any very meaningful observations. There is just the very end of a tailed heel dating from c1680–1730. This is a very distinctive regional form, which was extensively produced and exported from around Broseley in Shropshire. The style was copied by some of the Midlands manufacturers as far east as Birmingham and north Warwickshire but unfortunately the main part of the heel, which is likely to have had the maker's name on it, is missing in this example. There is also one fragmentary spur pipe of later 17th-century date (Fig. 12.1, 29) and others (Fig. 12.1, 37–8) that are typical of the types produced during the mid 19th century. Spurless forms (Fig. 12.1, 39 and 41) did not appear until the middle of the 19th century, after which they remained common.

<sup>5</sup> Davey and White, 2002.

<sup>6</sup> Davey 1993.



## The Marked Pipes

Very few of the Tutbury pipes are marked. Only nine out of the 87 mid 17th-century pipes where a reasonable amount of the heel or spur survived had marks on them (10%). This figure, however, is much higher than at Pontefract Castle in Yorkshire, where there were 463 bowls of Civil War date but only eight marked pipes whose date range included the 1640s (1.7%).<sup>7</sup> A similar low incidence of marking was evident at Beeston Castle where only five of the 166 Civil War period pipes (3%) had marks on them.<sup>8</sup> The low figures for these other two castles is perhaps surprising given that by this date there were emerging industries at both Rainford in south Lancashire and in the Broseley area of Shropshire where marking appears to have been relatively common. Excavations in Chester have suggested a general level of marking of around 14% at this period,<sup>9</sup> which is far higher than at nearby Beeston but comparable with Tutbury. It is worth noting, however, that a pit group that is likely to date from the Civil War period at Commonhall Street in Chester only had three stamped pipes out of about 50 bowls present (6%).<sup>10</sup> This is a lower percentage than found elsewhere in the city and may be symptomatic of a general drop in the quality of the pipes being produced during the Civil War period – a characteristic that has been noted from Civil War sites elsewhere,<sup>11</sup> and one that is pertinent to the pipes from Tutbury (see below). If Civil War assemblages generally exhibit a lower than normal percentage of marked pipes, then it may be that before and after the war a figure of more than 10% marked pipes might be expected from other south Staffordshire sites.

In terms of the marks themselves, the nine Civil War period marks, representing five different makers, will be discussed first, followed by the later examples. The Civil War period marks are not randomly applied to the pipes, but are associated with specific mould types. The most common mould type from the site (see below) was never marked while the three IG stamps all occur on pipes that were probably made in the same mould – and there were not any unmarked examples that appeared to come from this same mould. The same is true of the GH pipes. In short, only some of the pipemakers during the Civil War (around 10%) appear to have marked their pipes but these makers seem to have consistently marked their products.

Perhaps the most interesting result of studying the marks is the evidence for Lichfield being an early and important pipe production centre. A mid 17th-century pipe kiln at Lichfield was discovered in the 19th century,<sup>12</sup> and there are at least four pipemakers documented in the town who would have been contemporary with it,<sup>13</sup> which suggests a flourishing early industry. At least three of the five different makers

represented at Tutbury appear to have worked at Lichfield, indicating that this may well have been a regionally important source of pipes. It would be interesting to compare this finding with the as yet unpublished Civil War groups of pipes from Stafford<sup>14</sup> and Dudley castles, particularly since it is already known that three of the Tutbury mark types can be matched at Dudley, suggesting either a common supply source or troops moving between the two sites.

The marked pipes from Tutbury are individually described below. Any die numbers given relate to the as yet unpublished national catalogue of pipe makers marks that is being compiled by the author.

### IG (Die 312)

Three pipes from the excavations marked IG were found, all of which date from c1640–60 (eg, Fig. 12.1, 9). All three bowls are made of a hard fired fabric and it seems likely that they were all made in the same mould – in two instances there is a clearly defined mould flaw forming a dot on the left hand side of the heel, towards the stem (this area is missing in the third example). The rims of two examples survive, both of which are fully milled with quite a narrow band of milling that has been placed particularly close to the rim. All three pipes have a simple circular mark containing the initials IG without any other ornamentation but these marks are poorly impressed so that it is hard to be certain that they were all made using the same die. What is clear, however, is that the background to the lettering is slightly uneven and that the 'I' does not have serifs at its ends, although there is a slight bar across its middle. One of the examples has been applied upside down (Fig. 12.1, 7).

Pipes of this period marked IG are regionally common with some 35 different examples recorded in the author's mark catalogue. There are at least six different die types represented amongst these examples, four with dots around the lettering and two without. Unlike the GH marks (see below) these different mark types seem to occur together at the same sites and the bowl forms are stylistically similar, suggesting a common source for all the pipes. The distribution of these marks ranges from Willaston near Crewe in Cheshire (two examples) through Eccleshall, Stafford and Tutbury in south Staffordshire (nine, twelve and three examples respectively) to Atherstone and Coventry in Warwickshire (two and four examples respectively). There are also three examples from Dudley Castle in the West Midlands. This is quite an extensive distribution for one maker and suggests that they came from quite a large and prolific workshop. The largest numbers of these marks have been found at Eccleshall Castle and Stafford. These two places are near the middle of the distribution spread and suggest the origin of these pipes was probably somewhere in the south Staffordshire area.

Although at least six different die types attributable to the IG maker are known, all three from Tutbury are of the same

<sup>7</sup> Davcy and White 2002, 235–36.

<sup>8</sup> Davcy 1993, 172.

<sup>9</sup> Higgins 2008, 244.

<sup>10</sup> Higgins forthcoming.

<sup>11</sup> White 2004, 79.

<sup>12</sup> Hewitt 1869.

<sup>13</sup> Oswald 1976, 65.

<sup>14</sup> Although a volume on the Stafford Castle excavations has been produced (Soden 2007), publication of the finds was selective, and did not include the clay tobacco pipes.

type with just plain initials. These marks are all rather poorly impressed and, as noted above, one of them is upside down. There are ten known examples of this mark type, two each from Coventry and Eccleshall Castle and three each from Tutbury and Dudley Castles. In four of these ten examples the mark is inverted, a characteristic not found with any of the other die types and so one that can be seen as peculiar to this particular IG mark.

The only currently known mid 17th-century maker from the Tutbury area with the surname initial 'G' was a 'Gunson, wife and sonne, Tobacco Pipemaker' recorded as a squatter, occupying property in The Close, Lichfield, in about 1660.<sup>15</sup> This is the only known reference to Gunson as a pipemaker and no Christian name is given, although it may be significant that there was only one family named Gunson that could be found at Lichfield in a search of the online IGI index (searched 5.5.09). Four references to this family were found, as follows: -

18/10/1628 John Gunsson (*sic*) baptized a daughter Elizabeth (*sic*) at St Mary's, Lichfield.

24/10/1630 John Gunson baptized a daughter Anna at St Mary's, Lichfield.

24/08/1633 John Gunston (*sic*) baptized a daughter Febe (*sic*) at St Mary's, Lichfield.

17/11/1637 John Gunson baptized a daughter Jane at St Mary's, Lichfield.

If this John Gunson is the same individual as the pipemaker recorded in about 1660 then it not only provides his Christian name, but also shows that he was living (and presumably working) in Lichfield from at least 1628–1660, which would fit well with the date range of the recorded pipes. Very few marked pipes have so far been recorded from Lichfield and so absence of examples from there does not preclude their having been made there. Based on the present evidence, it is suggested that the IG pipes can be attributed to John Gunson of Lichfield and that he was a prolific maker, marketing his wares over a radius of some 40–50km (25–30 miles) from his workshop.

#### GH (Die 319)

There are at least two and probably three pipes of c1640–60 from Tutbury that are stamped GH. All three bowls are damaged to varying degrees and only a small part of one of the marks survives, which is why the identification of the third example is uncertain. What all three bowls share, however, is a neat bowl form and finish, with all three being made of a slightly glossy and hard fired fabric. They all have a particularly oval bowl form and at least two of them (TTD 05 3019 and TUT 06 6000) appear to have been made in the same mould, which is distinguished by quite a sharp angle change on the right hand side of the heel, towards

the front of the pipe (ie, away from the smoker). The two substantially complete marks (Fig. 12.1, 5 and 6; Die 319) are characterised by rather globular serifs to the letter H, with the upper pair coming to a point at the top. There is also a small vertical die flaw between the lower pair of serifs to the H.

Mid 17th-century pipes marked GH appear to be fairly widespread across the region, with the author having recorded various types from the Broseley area, Ludlow, Gloucester, Dudley, Lichfield, Stafford and at Willaston, near Crewe. These marks include a range of circular varieties, with or without dots around the lettering, as well as heart-shaped examples. While one maker could have used various different dies, the regional differences in bowl style combined with the distribution of the different marks makes it clear that several makers must be represented by these examples. When just the circular marks without any other embellishment are considered a much tighter distribution is evident, with two examples from Dudley Castle and two from Lichfield. The Dudley examples are very similar to those from Tutbury, although at least one is from a die variant, since the H is without any serifs. The other Dudley example could, however, be the same as the Tutbury examples, and the bowl form is certainly identical in appearance.<sup>16</sup> The Dudley examples are particularly interesting given that they came from a site where the pipes are also likely to derive from Civil War activity. As such, the pipes from both sites could have arrived with troops moving between the two castles. The two Lichfield marks both appear to be identical to the Tutbury examples,<sup>17</sup> and certainly came from the same workshop. Lichfield lies roughly equidistant between the two castles and in the centre of the distribution of these six or seven known examples. Lichfield appears to have had a well-established pipemaking industry by the middle of the 17th-century since at least four pipemakers are known to have been working there during this period.<sup>18</sup> Given the distribution of these marks, it may well be that the GH pipes were produced in Lichfield as well by an as yet unidentified pipemaker.

#### TP (Die 2056)

There is one marked pipe of c1640–60 with quite a neat, well-finished bowl form but with the mark itself very crudely executed. As impressed, the mark reads as a T followed by a retrograde P (Fig. 12.1, 9). Although it could be argued that the whole mark is retrograde and should be read as PT, the evidence presented below suggests the correct reading is TP.

Both the style of the bowl and that of the mark suggest that this pipe was made somewhere locally. The only pipemaker from this region with the initials TP or PT that has so far been identified is a pipemaker named Thomas Prince, who is recorded working in Lichfield in 1662, with an individual of that name still living there in 1666.<sup>19</sup> A search of the

<sup>15</sup> Oswald 1976, 65.

<sup>16</sup> Higgins 1987, Fig 81.12.

<sup>17</sup> For example, Higgins 1987, fig. 95.15.

<sup>18</sup> Oswald 1976, 65.

<sup>19</sup> Oswald 1976, 65.

internet IGI (searched 5.5.09) found only one reference to an individual of this name in Lichfield during the 17th century – a Thomas Prence (*sic*) who married Paitience (*sic*) Brewster on 5/ 8/1624 and who died 29/3/1673. Unfortunately this reference comes from an ‘ancestral file’ and does not have proper parish register references for the information given. The dates, however, would fit well with the documented pipemaker of this name and so it seems likely that the Tutbury pipe mark should be read as TP and attributed to a Thomas Prince of Lichfield, who appears to have been living there from at least 1624 until his death in 1673. Only one other known example of this mark has been identified and, perhaps significantly, this was found at Dudley Castle,<sup>20</sup> where a large number of other Civil War pipes were also found. Studies in Yorkshire have shown that pipes made in the same moulds are present in the Civil War assemblages from both Sandal and Pontefract Castles,<sup>21</sup> and a detailed analysis of pipes from such sites across a broader region may well shed interesting light on the supply of goods and movement of troops during this period.

#### Wheel Stamp (Die 1792)

The other early mark is a crude star or wheel mark on a bowl of c1640–60 from TC88B 003 (Fig.12.1, 5). This type of symbol mark was widely used by the early pipemakers and only the detailed plotting of individual die types is likely to reveal the origin of any given piece. This example has a particularly uneven and distinctive pattern of ‘spokes’ but, as yet, no identical parallels are known.

P?E?

There is one small circular mark on a heel fragment of c1640–80 (Fig. 12.1, 10). This has been very poorly impressed making the reading very uncertain, and either of the initials could be a B, E, F, P or R. No good parallels have been found to help identify this mark, but small circular stamps of this type are common in the Newcastle-under-Lyme area.

#### Later Marks

There are three later marks from the excavations at Tutbury. There is part of a Midlands style roll-stamped stem decoration from TC88B 003 (Fig. 12.1, 13). This type of incuse stamped decoration usually comprised a central band of hatched ovals of alternating size flanked on either side by a series of horseshoe like motifs. This style of decoration is generally found from southern Yorkshire, through the Midlands to Cambridgeshire. It was produced by many different makers, most of whom did not include a name mark on their products. This style of decoration was most commonly used during the last third of the 18th century, although it may have continued in use into the early 19th.

The second marked piece is a stem fragment with a very faint and poorly moulded incuse stem mark which appears to read ‘H.CLEE... /...RM.’ (Fig. 12.1, 17). This fragment can be attributed to Henry Cleaver, who was born into a pipemaking

family in Cambridgeshire in about 1845 and who is recorded working at Birmingham from at least 1871–95.<sup>22</sup> The final marked piece is a spurless bowl with moulded milling and an incuse bowl stamp facing the smoker (Fig. 12.1, 18). The bowl stamp has the lettering ‘CORK’ above an Irish harp with shamrock leaves surrounding it. Irish style pipes were popular during the second half of the 19th century and formed a standard element of any large firm’s production range. This example was almost certainly produced somewhere in the Midlands to cater for this market.

#### The Decorated Pipes

None of the 17th-century pipes is decorated, and the five later examples of decorated pipes are all very fragmentary. There is one piece from a late 18th-century Midlands style decorated stem (Fig. 12.1, 36; see above), one 19th-century bowl fragment with leaf decorated seams (Fig. 12.1, 37), a 19th-century bowl fragment with faceted panels around the bowl/stem junction (Fig. 12.1, 39), a stem just opening into a bowl that would have had fluted decoration and leaf seams (not illustrated) and a stem with broad leaf decoration (Fig. 12.1, 40), perhaps intended to represent thistle leaves. The leaf-decorated stem is unusually wide and oval with the large and boldly executed leaves joining together underneath the stem. This piece was made by Henry Cleaver of Birmingham, c1870–1900 (see above).

#### Mould Types, Manufacturing and Finishing

The dominance of mid 17th-century pipes from this site, the majority of which are likely to date from the 1640s, allows an analysis of the production and finishing techniques that were being used during this period. Most of this information relates to normal production techniques, but there is one fragment from the excavations which is less usual. One of the 17th-century stems from TC88B 003 has a thin, clear glaze on its surface. This is rather thin and with some ‘dry’ patches but covers most of the surface. It has the appearance of a thin salt glaze but this would not have been intentionally applied since it would fuse all the pipes together in the kiln. The application of glaze to pipes was very rare because of the problems involved in keeping them separate and this example is likely to have been accidentally formed.

With regard to more normal production features, there are 82 bowls whose date range includes the 1640s and which have a measurable stem bore. These exhibit a very wide overall range of stem bore sizes (Table 12.2), but with the majority (88%) ranging from 6/64in to 8/64in and with this highest proportion (35%) having stem bores of 7/64in.

The bores of 5/64in are unusually small for the period, while the bore of 10/64in is unusually large for any period. The range of bore sizes in this sample may well have been skewed by the fact that 22 of the examples were measured from pipes produced in the same mould. This mould was characterised by its very poor quality and is discussed

<sup>20</sup> Higgins 1987, 596.

<sup>21</sup> White 2004, 499.

<sup>22</sup> Gault 1979, 395.

Bore (64ths of an inch)	Number of Bowls	Percentage of Total
5	5	6%
6	21	26%
7	29	35%
8	22	27%
9	4	5%
10	1	1%
<b>Total</b>	<b>82</b>	

TABLE 12.2 STEM BORE MEASUREMENTS FOR THE MID 17TH-CENTURY PIPE BOWLS, THE MAJORITY OF WHICH ARE LIKELY TO DATE FROM THE 1640S

further below. The 22 measurements associated with this one mould type comprise two bores of 5/64in, 16 of 6/64in and four of 7/64in. These measurements account for the majority of the smaller bore size measurements for this sample as a whole and show that this maker was typically using a bore of 6/64in, which is smaller than the average for the other bowls of this period from the site. This is not only a clear example of a particular manufacturing characteristic being associated with a single workshop but also of how there must have been a range of stem bores being produced by different workshops at the same time. The dominance of this one form with an unusually small bore size will also skew the average bore size for the sample as a whole, and this is a factor that is rarely taken into consideration when determining stem bore values for pipe assemblages.

In terms of milling, there were 38 Civil War period bowls with sufficiently complete rims to be assessed. Two of these (5%) had no milling, one had just one quarter of the rim milled (3%), five (13%) were three-quarters milled but the majority, 30 examples (80%), had fully milled rims. Overall, 36 of the 38 pipes (95%) were milled. Although this is a rather small sample, it is in stark contrast with the 166 Civil War pipes from Beeston Castle in Cheshire where only one bowl was milled – just 0.6%.<sup>23</sup> On the other hand, 271 of 288 17th-century bowls from Pontefract Castle in Yorkshire were milled (94%) and 83% of these pipes were fully milled.<sup>24</sup> Figures from domestic assemblages of the period in Chester have given figures of between 30% and 56% for the numbers of milled pipes.<sup>25</sup> While this is not as high a proportion as at Tutbury or Pontefract, it highlights the contrast with nearby Beeston Castle and reinforces the suggestion that there was a drop in the quality of pipes being produced during the war and/or that the troops only purchased the cheapest available quality of pipes.

Around the middle of the 17th century distinctive regional pipe forms were only just emerging and makers' marks were scarce. It is only the comparative study of manufacturing details such as the amount of milling that reveals these marked differences between the pipes produced in different

parts of the country. Until recently it was received wisdom that the early pipemaking industry was urban in character and, to a large extent, monopolised by London. It is now becoming clear that pipemaking rapidly spread to towns and villages during the early 17th-century and that traded pipes from large urban centres were the exception rather than the rule. Civil War assemblages, such as the one from Tutbury, exhibit distinctive local characteristics and show that each region was already served by its own well-established workshops from at least as early as the 1640s.

Another means of identifying local production is to look at the individual mould types represented in any given group. Amongst the Civil War material from this site a number of mould duplicates, ie, pipes produced from the same mould, can be identified. These are important since they are likely to represent the products of local workshops that were in common use on the site. Examples have already been noted for the IG and GH marked pipes (see above) and some mould types, such as the distinctive type with a heart-shaped heel (Fig. 12.1, 26), of which there are three examples, are relatively easy to isolate and identify. This is more difficult with the less distinctive forms, particularly where the moulds are of good quality, without obvious flaws, and/or the pipes have been highly finished. There are two pipes, from contexts TC88A 1012 and 1019, which are almost certainly from the same mould (Fig. 12.1, 3). Usually, small mould flaws are present which can be used to confirm that two pipes were produced in the same mould. In this instance, however, the mould is very smooth and cleanly finished so that no distinctive marks can be matched on both examples. Despite this, the overall form and finish is so similar in these two pieces that it is almost certain that they came from the same mould. Furthermore, there is a distinctive flaw in the milling tool used on these pipes so that one gap is particularly small. This occurs on the right hand side of the bowl, near the end of the milling band facing away from the smoker. The same defect can clearly be seen on both examples, showing that they were certainly finished in the same workshop and probably by the same person. It also shows that the milling tool, probably the serrated edge of a knife, was held and applied in the same way to finish each pipe with the result that the flaw occurs in the same place each time. Two further bowl fragments, from contexts TC88A 1020 and 1043, come from the same part of the bowl and show the same distinctive milling flaw. From this it can be seen that at least four of the mid 17th-century bowl fragments were contemporary products, finished in the same workshop and using the same milling tool. It is also likely that all four of these examples were produced from the same mould.

Identification of mould types can be much easier if clear mould flaws are present, as is the case with the most common type of pipe found on the site. No less than 25 of the excavated pipes were produced in a very rough mould with a lumpy, uneven surface and lots of mould flaws around the extremely angular heel (eg, Fig. 12.1, 22–4). The flaws in this mould are particularly pronounced, and can be easily seen on both sides of the heel (Plate 12.1).

<sup>23</sup> Davcy 1993, 172.

<sup>24</sup> White, pers comm.

<sup>25</sup> Higgins, forthcoming.



PLATE 12.1 CIVIL WAR PERIOD PIPES FROM THE SAME MOULD SHOWING CLEAR FLAWS ON BOTH SIDES OF THE HEEL (HIGGINS)



PLATE 12.2 THREE CIVIL WAR PERIOD PIPES FROM THE SAME MOULD SHOWING DIFFERENT RIM ANGLES CAUSED BY POOR QUALITY AND HEAVY-HANDED FINISHING (HIGGINS)



PLATE 12.3 INTERIOR OF A PIPE BOWL FROM THE POOR QUALITY MOULD SHOWING EVIDENCE FOR A LARGE CONICAL PROJECTION IN THE CENTRE OF THE BOTTERING TOOL THAT WAS USED TO FINISH THE RIM (HIGGINS)

The pipes from this mould have been very roughly finished to the extent that it has often altered the shape of the heel (eg, Fig. 12.1, 22) and sometimes even the profile of the bowl itself. The deformities caused by this heavy-handed and very poor quality trimming are particularly evident when the rim angles of three examples from this mould are viewed from the smoker's perspective (Plate 12.2). Furthermore,



PLATE 12.4 SEVENTEENTH-CENTURY PIPE STEM WITH ONE END WRAPPED IN LEAD SHEETING (HIGGINS)

the clay consistency and/or firing temperature seems to have been very variable so that some examples have shrunk much more than the others, although they are all very hard fired. As a result of these factors the finished pipes exhibit a much greater range than would normally be expected from one mould.

Another feature of interest provided by this group of poor quality pipes is the evidence that one fragment provides for the tool that was used to finish the rim. This process is known as bottering and was done using a circular object with a groove around the edge that could be placed on the top of the still slightly soft pipe and twisted to smooth and shape the rim profile. Eighteenth-century illustrations of continental European examples show a fairly flat tool with a raised lip around the edge, rather like an old-fashioned button.<sup>26</sup> One of the Tutbury bowl fragments (TUT 06 6001

<sup>26</sup> Oswald 1975, plate I.5.

	Unburnished	Poor	Average	Good	Fine	Total
Bowl	93 (18%)	14 (26%)	1 (0.2%)			108 (20%)
Stem	334 (63%)	62 (12%)	5 (1%)		2 (0.4%)	403 (76%)
Mouthpiece	20 (38%)					20 (4%)
<b>Total</b>	<b>447 (84%)</b>	<b>76 (14%)</b>	<b>6 (1%)</b>		<b>2 (0.4%)</b>	<b>531</b>

The percentages are all calculated as a fraction of the total sample (531 pieces)

TABLE 12.3 NUMBERS OF BURNISHED FRAGMENTS SHOWN BY TYPE AND QUALITY OF BURNISHING. THE PERCENTAGES ARE ALL CALCULATED AS A FRACTION OF THE TOTAL SAMPLE (531 PIECES)

[Y]) was made in the poor quality mould and has broken so that the bowl interior is clearly visible. This shows a distinct mark where the bottering tool has scraped against one side of the interior, leaving a mark that extends at least 10mm down into the bowl interior (Plate 12.3). This shows that the bottering tool must have had a cone-shaped centre, and that it was of a different form to the 18th-century continental illustrations (and later examples that survive from the Netherlands). The Tutbury bowl provides the first indication that English tools of the 17th century may have been of a rather different form. Bottering fell out of fashion on English pipes during the early 18th century and there are no surviving examples of the early tools that were used in this country. There was some resurgence of the technique in Britain during the 19th century, and examples of the tools used at Broseley are known, although when they were published they were mistakenly thought to have been 17th century rather than 19th century in date.<sup>27</sup> What is interesting, however, is that one of the tools illustrated has a conical centre that could have left marks very similar to that seen on the Tutbury bowl. This tool may have been made based on a traditional British style, evidence for which is now provided by the excavated bowl fragment.

There are around 85 substantially Civil War bowls from the site where part of the heel or spur survives, of which 25 were made in this one mould (29%). This is an extraordinarily high percentage for one assemblage and these pipes clearly formed a major proportion of the Civil War supply to the site. The very rough mould and poor quality finishing suggests they were cheap pipes provided by a provincial manufacturer, although these very characteristics could also reflect the turmoil caused to the labour market and the supply of goods by the Civil War.

Another gauge of the quality and care with which a pipe was finished is burnishing. The application of a burnished (polished) surface to the pipe during the manufacturing process was an additional task that increased both the cost and value of the pipe. As with milling, the use of burnishing varied regionally. At Tutbury there were some 531 fragments of 17th-century pipe (whole century) where the surface finish could be determined, comprising 108 bowl, 403 stem and 20 mouthpiece fragments. Of these, 447 pieces (84%) were not burnished at all (Table 12.3).

The percentage figures given in the table are for the group as a whole. If just the numbers of burnished bowl and stem fragments (all grades of finish) are considered, then there are 15 bowl fragments and 69 stem fragments, representing 14% and 17% of each fragment type respectively. This suggests that, when burnishing was applied, it was applied to the whole pipe and not just to the bowl. The quality of the burnishing, however, was far from even. Only two of the fragments (0.4%) had a fine quality burnish on them and both of these were stems, ie, they cannot be matched to any of the recovered bowl forms. These pieces represent truly good quality pipes, and it is clear that only a very small number were in circulation. A few of the pieces have an average burnish on them but the majority only have a very poor burnish on them, often so slight as to be barely discernible. Ironically, 13 out of the 14 burnished bowls were made in the same very shoddy and poorly finished mould described above (eg, Fig. 12.1, 22 and 24) and the fourteenth example consists of just a body fragment from a bowl that cannot be identified to a specific type. It is quite possible, therefore, that all of the burnished bowls were the products of a single manufacturer. There were a further twelve examples of pipes from this mould that were not burnished, and so this finish only appears to have been applied to about half of the pipes made in this mould. The fact that burnishing is found on these particular pipes is notable since it is usually regarded as a sign of quality, being an additional manufacturing task that is known to have increased the value of the pipes. In this instance the products from this mould were so uneven and lumpy that the burnishing may have been an attempt to smooth the surface so as to produce something approaching a saleable finish at all.

The fact that all of the burnished bowls were probably made in the same mould becomes even more significant when the milling evidence is considered as well. There are twelve complete rims that can be attributed to this particular mould. All but one of these are fully milled and the last example is three-quarters milled, ie, they were all consistently finished with a good band of milling. These findings are significant for two reasons. First, it shows that despite the poor appearance of these pipes, they were produced and finished in a standardised and systematic manner. The finishing included the use of full milling and burnishing, both of which are usually associated with well-finished, good quality pipes. Second, it undermines the simplistic conclusion that the use of burnishing was a standard technique being used on about

<sup>27</sup> Oswald 1975, 19 and plate 1.4.

16% of all the Civil War pipes in this area. The correlation of all the burnished bowl fragments with one particular mould clearly shows that this type of finishing was, in fact, peculiar to just one manufacturer. This demonstrates the importance of carrying out a fully integrated and detailed analysis of all aspects of a pipe assemblage rather than just making general assumptions based on particular features of it.

The poor quality of the pipes from the 'shoddy' workshop is interesting to note since pipes dating from before the Civil War were generally neat and well made. Amongst the Tutbury assemblage the 'shoddy' pipes stand out as being particularly poor but there are often defects on the other pipes as well. This drop in the general quality of pipe production may be associated with the social upheaval caused by the war. It is possible that some of the master pipemakers and skilled journeymen were displaced to fight in the war, leaving less skilled wives and children to continue production in their absence.

Another finishing characteristic that may link the products of a single maker has been noted amongst this group. In at least three of the bowls the wire used to form the stem bore appears to have been pushed through so far that it has pierced or marked the front of the bowl. This is most evident in an example from where there is still a clear bulge visible at the front of the bowl (Fig. 12.1, 21). The fact that this mark is visible shows that the wire must have been pushed against the front of the bowl after the pipe had been removed from the mould, either as it was being laid to dry or, more likely, as another wire was inserted later to support the stem while the partially dried pipe was being trimmed. This poor workmanship may well be a reflection of a skills shortage in the local pipemaking industry as a result of men going off to fight in the war. Marks where the wire has pushed against the bowl and then been smoothed can also be seen in two other examples, Figures 12.1, 15 and 17.

Another general observation that can be made about the pipes is with regard to the fabric from which they are made. This is usually a good, fine-grained fabric without any visible inclusions. This contrasts with the rather gritty coal measure clays that are characteristic of the Shropshire pipes made in the Much Wenlock and Broseley area, which were widely exported. The absence of these gritty fabrics not only shows that Shropshire pipes did not form a significant element of the mid 17th-century pipes being used in this area, but also that the local pipemakers must have been accessing good quality clay deposits from which to make their pipes.

The final point to note in relation to the bowl forms themselves is to do with their size. Tutbury Castle is one of only four Civil War sites in the country where systematic data regarding the bowl height and widths has been collected.<sup>28</sup> The 2004 study only included twelve measurable bowls from Tutbury, whereas there are now 43 height and width measurements that have been recorded for pipes from this

site. These measurements were made with vernier callipers and show a range of between 27.1mm and 32.1mm for the height of the bowls and between 16.9mm and 20.9mm for their maximum width, with average values of 29.00mm and 18.21mm respectively. The overall ranges have not changed from the original sample published by White, and the average values are only slightly different, but now more reliable being based on a larger sample size. The original study showed a slight increase in bowl heights between the smaller bowls of around 28mm found in Yorkshire (Pontefract and Sandal Castles), the slightly larger ones found at Tutbury Castle (29mm) and the largest ones found in the south (31mm at Portland Castle, Dorset). A larger sample from other Civil War sites would clearly be beneficial to see if this is a reliable pattern reflecting different bowl sizes in contemporary use in different parts of the country. The large group of pipes from the same poor quality mould at Tutbury included twelve measurable examples, which had heights of between 27.1mm and 29.7mm and widths of between 18.2mm and 19.6mm. This demonstrates the degree of variability in overall size that can be caused by differential trimming, drying and firing conditions.

### Ground Fragments

Another characteristic of the Tutbury pipes which may be associated with the Civil War is the presence of a number of ground fragments. These are pieces of pipe with one or more areas showing signs of deliberate abrasion (probably grinding against a hard abrasive surface) that has occurred after the pipe has been fired. There are six or seven examples from Tutbury, comprising five or six stems (one is weathered and so not certainly ground) and a bowl. The bowl (Fig. 12.1, 23) is a particularly unusual area to find reworking on, and has had the whole rim ground down so that it is reduced right into the milled band. Some of the stems have been ground smooth on the broken end nearest the mouthpiece (eg, Fig. 12.1, 30–32). In these cases the abrasion could have been to allow the reuse of a broken pipe. In other instances, this cannot have been the case since the grinding occurs either on both ends of the stem fragment (Fig. 12.1, 32), or at the end nearest the bowl (Fig. 12.1, 34). Furthermore, this second example appears to have been scraped along its surface and it has a number of sharp cuts, possibly from a knife, on each side. At Pontefract Castle, broken stems appear to have been used to write graffiti on the walls during the Civil War.<sup>29</sup> Alternatively, ground surfaces may have been the result of idle doodling with a piece of broken pipe. Fragments such as these seem to be particularly associated with situations where either pipes were in short supply (and so re-use became necessary) or where there was idle time for doodling. Both of these circumstances could have applied to the Civil War garrison at Tutbury.

### Stem with Lead Sheeting

The final piece of note is a broken piece of pipe stem, one end of which has been carefully wrapped in a piece of lead

<sup>28</sup> See White 2004, Fig. 6.3 for details of where the measurements were taken.

<sup>29</sup> Davey and White, 2002.

sheet (Fig. 12.1, 35, Plate 12.4). The pipe stem fragment is about 35mm in length and of typical 17th-century form with a stem bore of 8/64in. The stem has had a 25mm wide strip of lead sheet rolled around its narrower broken end. There appear to be teeth marks on the lead sheet, which overlaps for about one quarter of the circumference of the stem and which is more tightly crimped together where it overhangs the broken end of the stem. This has all the appearance of a piece of lead that has been used as some sort of mouthpiece for a broken pipe. This find is unique in Britain.

## SUMMARY AND CONCLUSIONS

Although this is only a relatively small assemblage of pipes, it does provide a considerable amount of evidence in relation to both the archaeology of the castle and in relation to the south Staffordshire pipe industry. There are only one or two pipe fragments that can probably be dated to before the Civil War and very few from after it. This suggests that the Civil War was the only major phase of post-medieval activity when significant amounts of rubbish were allowed to accumulate within the castle walls. Civil War pipes occurred in quite a range and depth of deposits suggesting that there was considerable activity within the castle at this period. A number of features and fills appear to contain only Civil War period material and so can be attributed to the 1640s with some certainty. The majority of the mid 17th-century pipe fragments were found within the inner bailey, with a less dense concentration in the outer bailey, perhaps suggesting the focus of Civil War activity on the site. The upper deposits from the excavations proved to have been considerably disturbed during the late 19th or early 20th century, although they still contained finds of predominantly mid 17th-century date. These deposits suggest that a considerable amount of clearance and landscaping probably took place on the site at this time. Even though many of the pipes were from mixed contexts, the majority were almost certainly discarded during the 1640s and so provide an important regional benchmark against which other assemblages can be compared.

The pipes themselves exhibit marked regional characteristics, suggesting that a well-established local industry had already emerged by the 1640s. Lichfield appears to have been a regionally important production centre at this time and the majority of the marked pipes can be attributed to makers there. Some of the marks found at Tutbury have also been recorded from Dudley Castle and there is great potential for comparing the as yet unpublished Civil War assemblages from Dudley and Stafford Castles to see what light this sheds on the supply of goods and movement of troops across the region during this period.

Although Lichfield could be identified as an important supply source, only around 10% of the pipes were marked and the bulk of the Tutbury pipes were probably obtained from more local manufacturers. In particular, there was one manufacturer producing very poor quality pipes who was almost certainly operating locally, since the pipes from just one mould accounted for nearly a third of all the pipes being

used on the site. The low quality of the pipes themselves also hints at the social and economic ramifications of the war. The identification of pipes produced in individual moulds and workshops allows characteristics such as the use of milling and burnishing to be seen in context and demonstrates the importance of detailed finds analysis in interpreting archaeological material from closely dated assemblages such as this.