

# An excavation at 45 Canal Street, Perth, 1978–9

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## SUMMARY

This was a trial excavation conducted on a backland of a South Street property in Perth. It has been demonstrated that the area was in use as gardens and midden until the 16th century when a substantial house was built across the plots. It has also been suggested, though somewhat cautiously, that the area was first occupied in the 13th century and that the demarcation of properties had taken place in the 14th century.

## INTRODUCTION

Perth was one of the major Scottish medieval burghs. It was situated at the lowest fording point and limit of navigation of the River Tay. The argument for an early trading community at Perth has been presented by Duncan (1975, 467–9), who suggests that Perth must have been a thriving township by the middle of the 12th century. It seems plausible that Perth began as a riverside trading community along the Watergate, eventually expanding westward to include Kirkgate and Skinnergate (the access between the castle and St John's Kirk). This was followed by a major realignment to give the present E–W lines of High Street (originally Northgate) and South Street, which is the street relevant to this site. The relative dating and importance of the medieval streets in Perth has yet to be fully understood, but Duncan argues for the existence of a South Street (though not necessarily on its present line) by the latter half of the 12th century. The first direct reference to South Street is a quit claim of William, son of Ketail, in 1211–15 (*Scone Liber*).

Full historical and geological reports on Perth are to be published with the Perth High Street excavation report (Bogdan, forthcoming) and, therefore, only brief comments relevant to the Canal Street excavation are made above.

The Canal Street excavation (NGR NO 118 234) lay just within the S limit of the medieval burgh (fig 1). Access to the site is now gained through the property at 45 Canal Street but in the medieval period the excavated area was probably part of a tenement fronting on to the S side of South Street.

Before this excavation archaeological work in Perth had been concentrated on the central and northern areas of the medieval burgh. Little was known about the survival of deposits to the S of the town centre, a large area of which was scheduled for redevelopment as a multi-storey car park. It was, therefore, essential to collect data from which a programme of archaeological work could be formulated and undertaken once the land was cleared for development. At the time of excavation much of the threatened district lay beneath occupied buildings. However,

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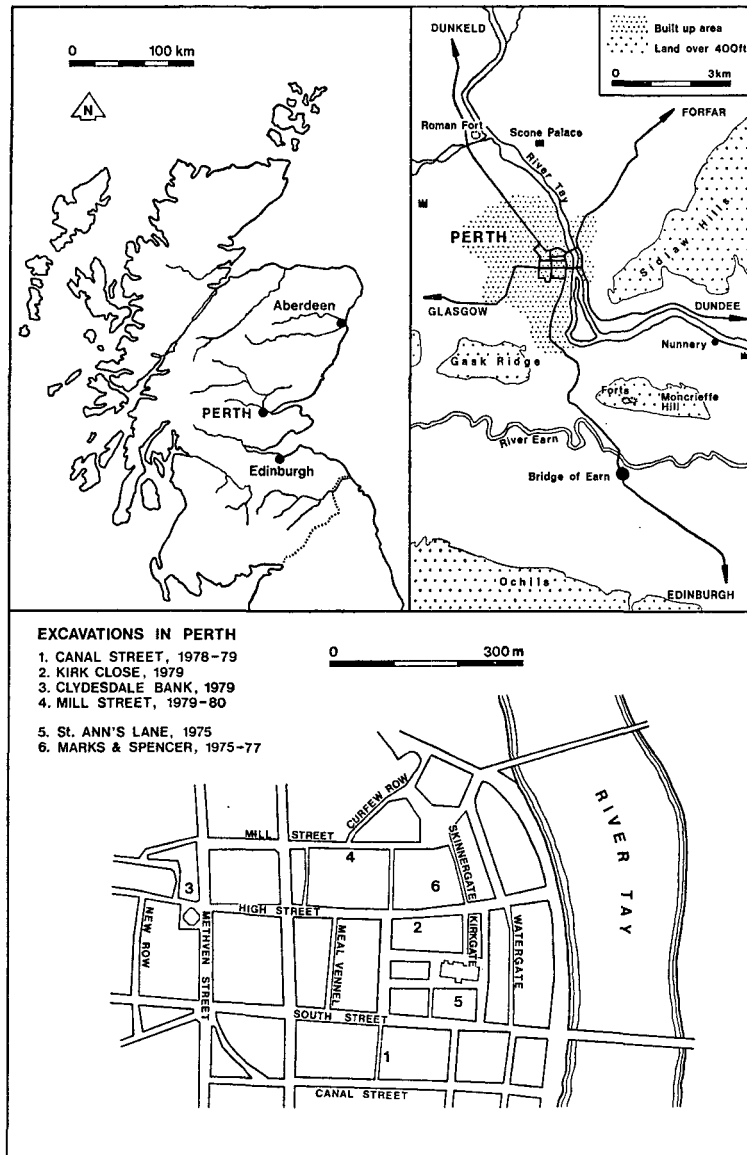


Fig 1 Location map of Perth

the yard at the rear of 45 Canal Street was available for excavation. It was decided to place a trial trench on this plot.

The excavation was carried out between November 1978 and May 1979 with a team of up to five full-time excavators and several local volunteers. The work was funded by the Scottish Development Department (Ancient Monuments Branch). After initial clearance of derelict sheds, an area 10 m by 5 m was opened. This was excavated by hand until natural was reached at a height of 4.1 m OD which was approximately 2.1 m below the existing ground level. The site was excavated mainly in winter weather conditions which caused some delays and problems,

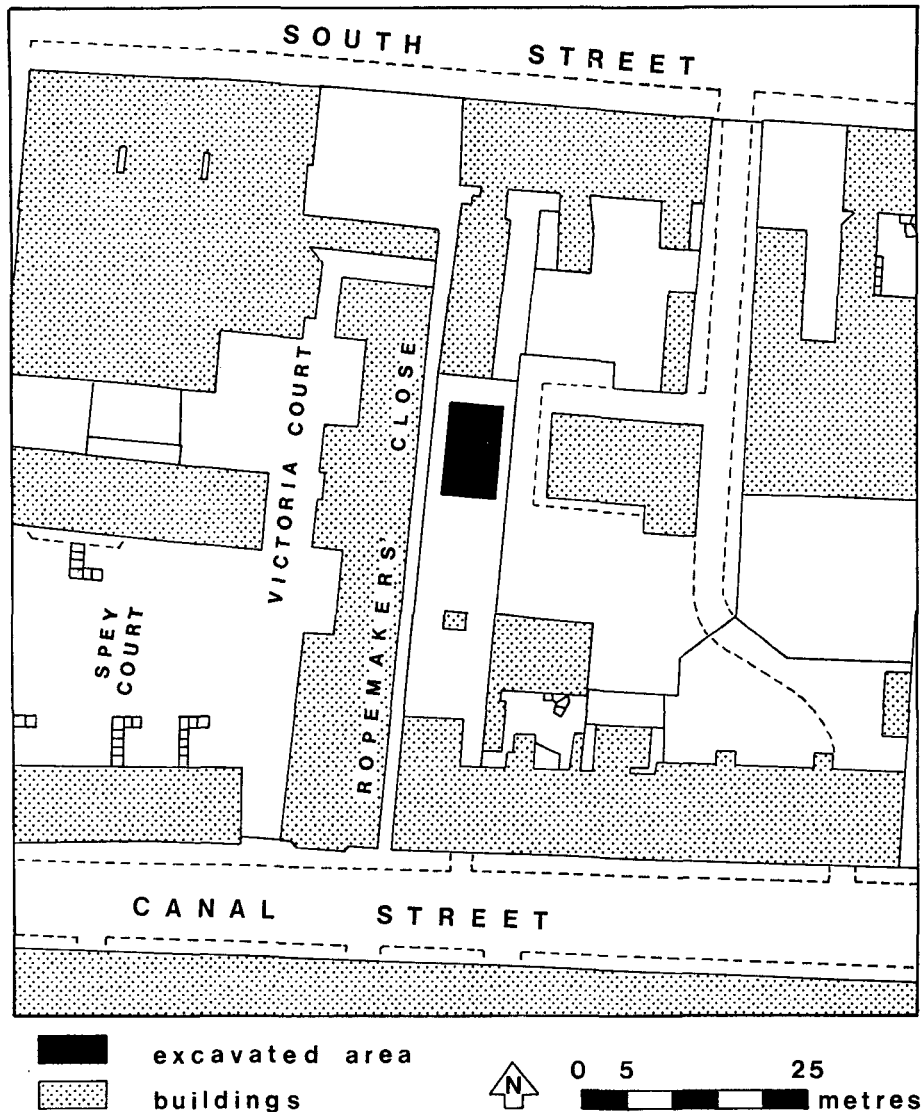


FIG 2 Site location plan

especially the continual erosion of the main sections. Shoring was erected when a depth of approximately 1.5 m was reached. A strip c 1.5 m in width at the N end of the trench was used for dumping stones, at the level of phase VI. This meant a reduction in the size of the excavated area in the earliest phases.

The deposits were divided into a sequence of 12 phases unique to this site. The earliest phase was numbered I and the most modern XII. The area had been used as a garden throughout much of its history and, for convenience of description, the site was divided into phases when a uniform horizon occurred over most of the area. These levels were mainly garden soils; features occurring below a garden soil were assigned to the earlier phase, and both the garden soil and

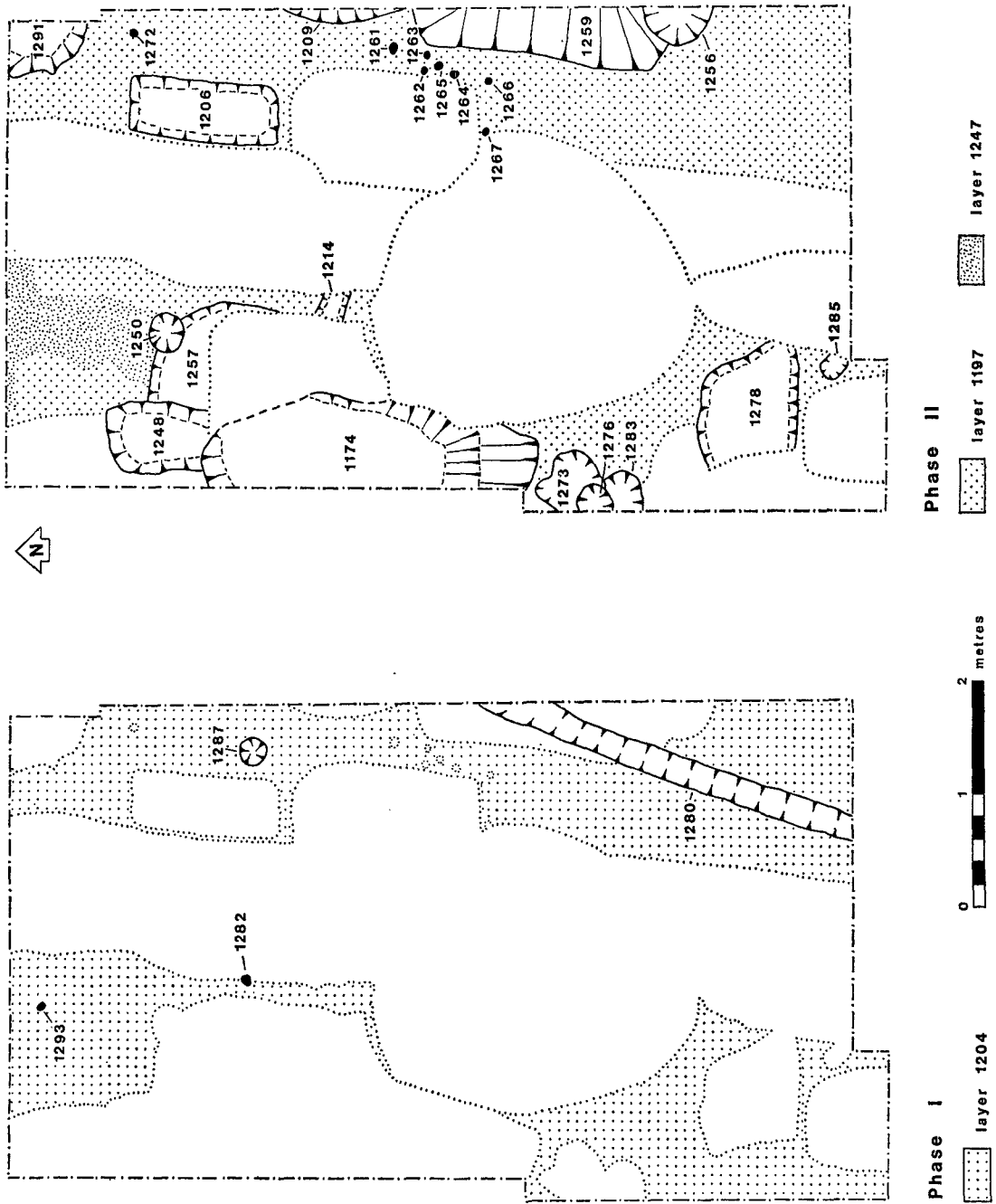


FIG 3 Phase I and phase II

features cutting it to the subsequent phase. Where there was doubt about the phasing of a feature it is discussed with the latest possible phase. A site such as this with its history of pit digging and tilling of garden soils cannot be dated with any precision and only a broad date range for each phase is suggested.

The original site context and finds accession numbers are retained in this report. Phases I to VII are described in detail while discussion of phases VIII to XII, which were 19th-20th-century levels, is confined to the archive report. Phases V and VII, which had very few features, are not illustrated. The key to all the section drawings is with fig 4. For simplicity, the site matrix (fig 9) omits feature fills.

## THE EXCAVATION

### PHASE I (fig 3)

Natural, layer 1204, was composed of clean yellow sand interspersed with lenses of clay and gravel. It was reached over the whole site at a height of c 4.1 m OD and the earliest features were cut directly into it.

A shallow slot, 1280, rectangular in section and 0.17 m deep, lay at a SW to NE angle across the SE corner of the site. It was possibly a beam slot, but this interpretation is open to question as the slot was filled with light brown loam and no trace of a beam survived. The sides of the slot were regular and showed no signs of having been disturbed by the removal of a sillbeam. Only three other features, two stakeholes 1293 and 1282 and a posthole 1287, can be assigned to this phase with certainty. 1287 was 0.15 m deep and its black fill was similar to layer 1197 which sealed it (see phase II), suggesting that 1197 may have sunk into the feature. Other features which may be contemporary with this level have been discussed under phase II.

The fact that the earliest features were cut directly into the natural suggests that there had been some stripping of topsoil before the area was occupied, either in levelling for building or perhaps drainage or sand quarrying. The function of slot 1280 is obscure; it had no associated floor levels and, even when it is considered in conjunction with postholes 1283 and 1285 (see phase II), there is not enough evidence to suggest that the features were part of a building.

There was no dating evidence for this phase.

### PHASE II (fig 3)

Layer 1197 covered most of the E part of the site and was composed of compact black soil which did not appear to have been tilled. A sample of this layer was sieved (by J Locke, Department of Environmental Archaeology, University of York) and its colour was shown to be due to the presence of charcoal dust.

The features which cut natural, but were not sealed by 1197 because of its limited extent, were assigned to this phase. On stratigraphic grounds they could equally be contemporary with phase I. These were feature 1285, a shallow cut, and the intersecting features 1273, 1276 and 1283. The relationship between 1276 and 1283 was not clear; however, it is probable that these two represented the erection and removal of a single post, and that feature 1273 was the cut for a replacement timber.

Cutting 1197 were several stakeholes, 1261 to 1267, forming a group which spread over a length of approximately 1.2 m; further N was another stakehole, 1272. All the stakeholes had similar fills of brown loam and diameters of c 0.07 m. Most of the stakeholes were angled slightly and their bases pointed towards the SW. The only other structural features found at this level were the posthole 1250, filled with silty sand and the possible beam slot 1214, filled with light

orange loam. Although the stakeholes 1261 to 1267 formed a roughly SW to NE alignment there was no significant pattern to the structural features in this phase.

Many pits were noted at this level; only 1206 was relatively complete in plan. It was a rectangular pit on a N-S alignment, c 1.3 m long by 0.5 m wide, its sides were almost vertical and the base flat. It was possible to recover part of the profile of pit 1174; its upper edge sloped gently for a depth of c 0.15 m then more sharply to the base which also dipped northwards to the point where it was cut by the later pit 1130 (see phase VI). The lowest fill of pit 1174 had a high organic content (again probably charcoal dust) and a small amount of this material remained *in situ* at the N side of pit 1130, where it was cut by pit 1257. The pit was c 2.1 m wide at its base, and its depth was 0.6 m. Most of the pits cut at this level, for example 1256, 1209, 1291 and 1248, lay largely outside the excavated area or were cut by later features. There was a small spread of sand, 1247, at the N end of the site.

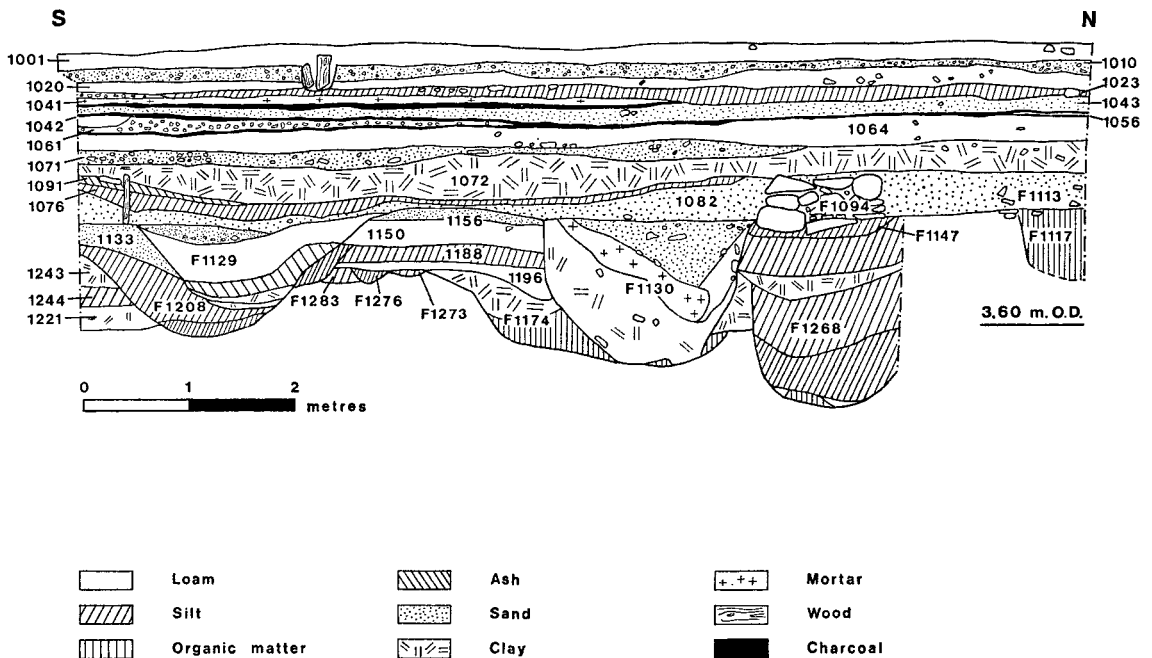


FIG 4 West section

The earliest layer in this phase, 1197, appears to have been an undisturbed ground surface or perhaps a turf level. It is impossible to suggest how long it remained undisturbed. Although many of the features cutting 1197 probably held stakes or posts, they did not form any pattern which could be readily interpreted as a structure. All the features were sealed by a layer of garden soil, 1196 (see phase III), and its cultivation may have disturbed the underlying features. Some of the pits, eg 1278, 1206 and 1257, were less than 0.5 m deep and pits 1206 and 1259 had upper fills which were very similar to 1196. It is difficult to assess how much of these features had been lost; however, elsewhere in Perth medieval pits of 2–3 m depth are common.

One sherd of White Gritty pottery from layer 1197 was the earliest dating evidence from this site. It was not distinctive and can only suggest a general medieval date. The pottery from the

features cutting 1197 consisted mainly of Perth Local and White Gritty body sherds but there were also some imported wares including N French and Scarborough wares. From this material a 13th-14th-century date can be suggested.

#### PHASE III (fig 5)

Sealing all the features in phase III was 1196, a uniform layer of light brown loam which had probably been a cultivated garden soil.

The dominant feature at this level was a shallow gully, 1205, aligned N-S which divided the area roughly in half. The gully was c 1 m wide and at its S end there was a slight break in slope at the E side which may indicate an attempt at recutting. There was no change in the fills that could be associated with this possible recut. There were two postholes, 1215, 0.13 m deep and 1245, 0.32 m deep, both filled with silty loam, which were cut into the base of the gully. The gully was filled with layers of silt, and layer 1211, which was its upper fill, contained traces of mortar. Pits 1252 and 1268, which were both steep sided and more than 1 m deep, and 1221, a layer of clayey loam, lay to the W of the gully. They had similar fills of brown loam although 1268 differed in that its lowest fill was peaty. Cutting the W side of the gully was a small post-hole, 1226, c 0.28 m deep and filled with grey silty clay. Features 1217 and 1176 were cut by later features and interpretation of their function is impossible.

To the E of the gully was the rectangular pit 1189 (fig 6), which was c 1.7 m long by 1 m wide and 1 m deep. The relationship between the two features was not clear at surface level as they both had similar fills; however, in section the gully appeared to cut the pit. At the bottom, and for a short distance up the sides of the pit, were traces of a decayed brushwood- or wicker-lining, layer 1202. It was filled with layers of sand and soil, and feature 1216 had been cut into its W edge. 1216 had been lined, on the E side only, by four stone slabs set on edge. The pit edge and slabs together created a narrow slot which was filled-up with soil.

Gully 1205 is thought to be a boundary marker. Similar gullies found in Aberdeen (Murray *et al* 1978) and Forfar (Spearman 1982) have been interpreted as such. Certainly there is no distinct slope over its length which would suggest a drain. Weight is given to the boundary theory by the two postholes which were cut into the base of the gully. These may have been all that remained of an earlier line of posts marking a boundary which had been destroyed by the gully. Alternatively they may have been contemporary with the cutting of the gully but removed before it silted up. The fact that layer 1221 occurred at the W side of the gully only may indicate some division of the area.

The function of the pits is not known, but the wicker lining of 1189 may suggest that it was used for food storage.

Phase III may well have lasted for a considerable period. Certainly postholes 1245 and 1215 must have been out of use before the gully, 1205, silted up and only after this was pit 1189 cut. In its turn, pit 1189 had been used as a storage pit, then had been backfilled before the slot 1216 was dug.

This phase was the earliest level at which Aardenburg-type pottery was found and Scarborough types also became common. Several sherds of reduced Perth Local fabric came from this level. Phase III probably spanned much of the 14th century.

#### PHASE IV (fig 5)

The phase IV features were sealed by a thick layer of garden soil, 1188, which was cut at its S end by two shallow features, 1234 and 1242, both of which may have been fragments of pits but they were partially destroyed by later features, making interpretation impossible. A further

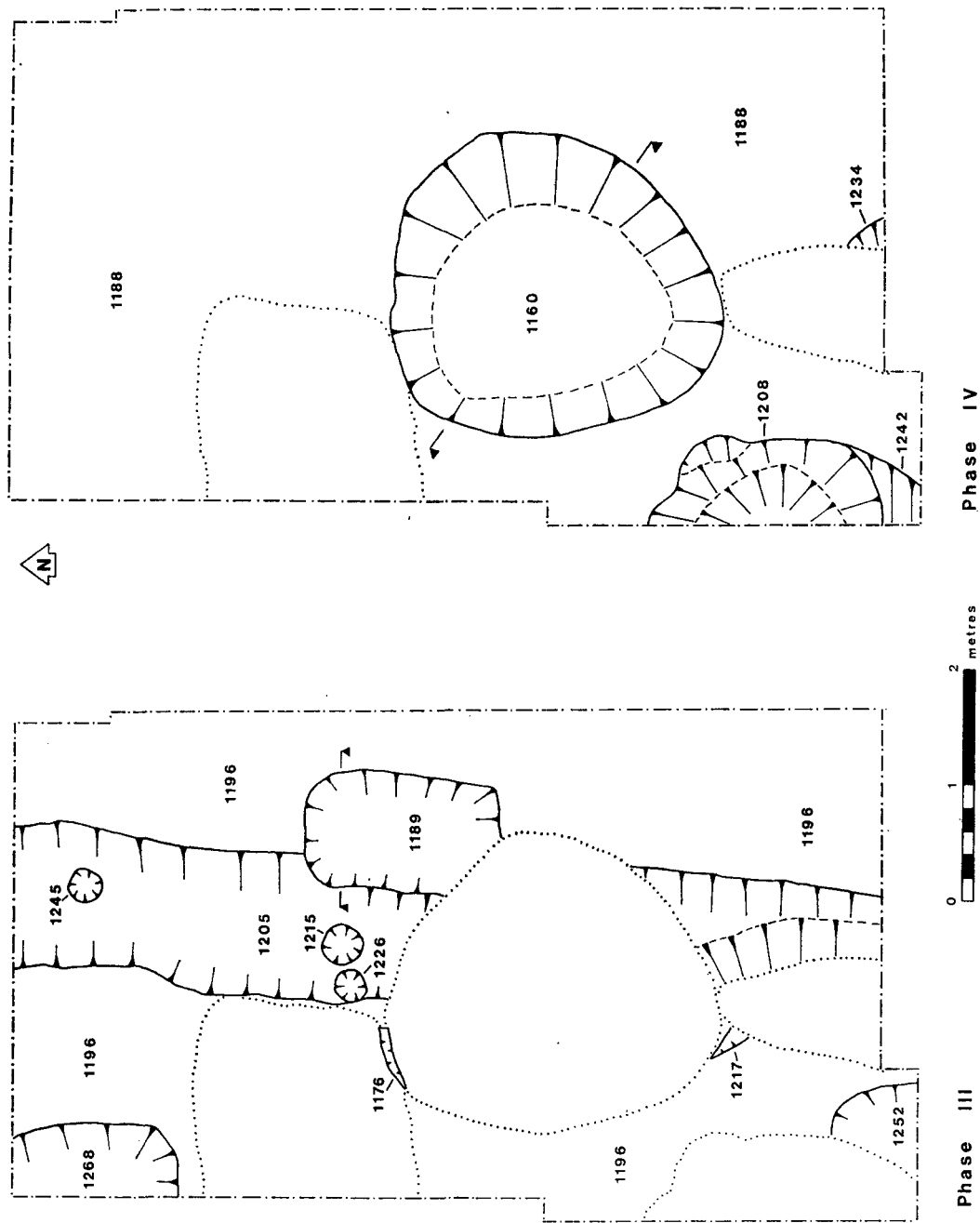


FIG 5 Phase III and phase IV



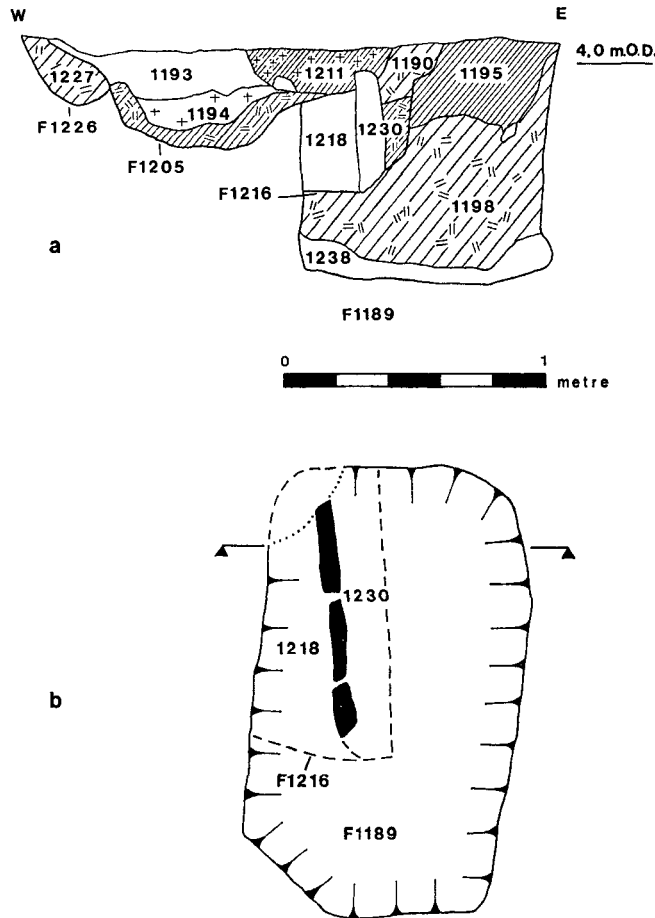


FIG 6 Plan and section of feature 1189

pit, 1208, lay largely under the W section but the full plan and profile were not recovered; however, it was at least 2 m in diameter and had gently sloping sides.

A large pit, 1160 (fig 7), occupied much of the site. It was steep sided, c 3 m in diameter and 2.5 m deep and its base cut natural sand which left the sides unstable. Layers of sand found in the bottom of the pit indicated that there had been some collapse of the sides before the pit was backfilled with layers of ash and organic material. Cut 1166 indicated that pit 1160 had been partially emptied and then refilled with rubbish.

A second layer of brown garden loam, 1178, c 0.22 m deep had built-up over much of the area. As 1178 did not seal the major features, ie pits 1208 and 1160, it has not been phased separately.

The use of pit 1160 is not known. There was no trace of any shoring or lining for its unstable sides and therefore, despite reaching the water table, it is unlikely to have been a well. It may have been dug as a sand quarry and then used as a rubbish pit.

At this level Scarborough and Aardenburg types of pottery were still common. The local material showed more variety of form and included face masks (fig 12, no 16), pipkin handles

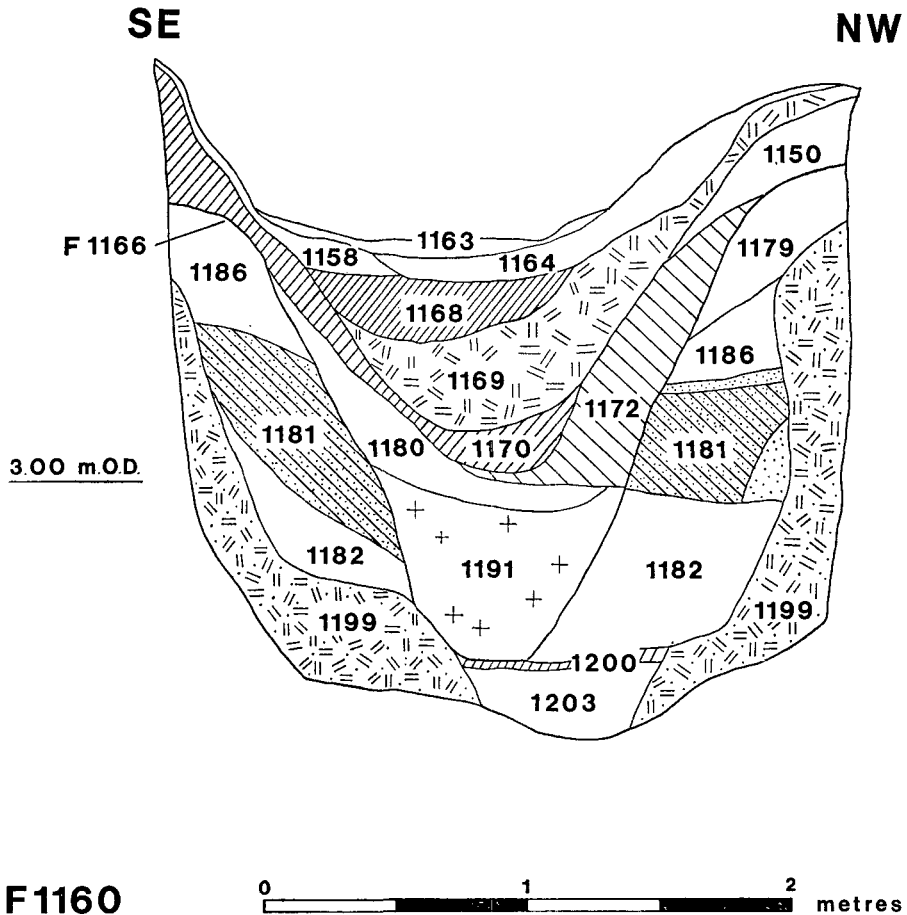


FIG 7 Section of feature 1160

(fig 13, no 23) and baluster bases (fig 13, no 29). Although the material was not closely datable it could suggest a 14th–15th-century date for phase IV.

#### PHASE V (not illustrated)

All the phase IV features were sealed by a thick layer of garden soil, 1150. In the SE corner were layers 1171 and 1167, which contained a large amount of oyster shell, bone and charcoal. These deposits were then covered with a layer of gravel, 1099, which was set into loam, 1100, and a layer of midden, 1157, had built-up on its surface. By this time the fills of pit 1160 had settled, forming a hollow, and layers of dark brown loam and clayey silt, 1158, 1159, 1161 to 1165 and 1168 to 1170, had been dumped, filling this depression. Most of these layers contained a large proportion of domestic refuse.

The only other cut feature at this level was a deep narrow pit, 1207, c 1.5 m deep and 0.8 m wide. It was filled with clean loam but its upper fill contained much coal and charcoal. There was a small fragment of a clay mould (AO185) from this pit.

The tradition of dumping rubbish which had commenced in phase IV continued. It was mainly domestic midden material which could have been dumped over a relatively short period

of time. The increased amount of reduced fabric and knife trimming within the Perth Local material, together with the heavily rilled rim (fig 11, no 16) suggests a 15th-century date for phase V. Imported stonewares were also present; the Scarborough and Aardenburg types found in phase V were residual.

#### PHASE VI (fig 8)

The phase V features were overlain by a thick layer of tilled garden soil, 1098, which covered the whole area and dipped into the hollow formed by the settling of the fill of pit 1160.

About 2 m from the N section was the stone wall, 1094, which ran E-W across the site. The foundations of the wall were set into a trench, 1147. At foundation level the wall was 1.2 m wide but at ground level it narrowed to 0.9 m. It was made up of roughly faced sandstone blocks bonded with clay. Some of the facing stones were more than 1 m long. The wall stopped short of the E section. N of the wall was a clay layer, 1139, overlying the foundation trench. Over this was a build-up of patchy layers of loam or sand. There was also a shallow hollow, 1123, which was filled with silt and a small burnt area. A further layer of clay, 1102, covered most of the area N of the wall.

A pit, 1184, with a clay-bonded stone lining, 1117, cut 1102. It was filled with extremely fine grey silt, 1118. Analysis of this silt for organic remains proved negative. When the pit went out of use it had been capped and levelled with rubble, 1113, and silty clay, 1114. For safety reasons, the pit was not fully excavated.

A cut, 1101, had removed some of the facing stones of wall 1094 and the resulting hole had been backfilled with the sandy loam 1100 and 1107. Two postholes, 1125 and 1105, lay to the S of the wall. Also S of the wall was pit 1130, which cut both the garden soil 1098, and 1147 which was the foundation trench of wall 1094. It was c 2 m across and 1.35 m deep with straight sides and a flat base. It was filled mainly with loam containing domestic rubbish but two of the upper fills were different. Layer 1173 was composed entirely of mortar and layer 1128 contained a great deal of charcoal and slag, as well as some nails.

At the S end of the site was a hollow c 1 m deep and 2 m in diameter which had been caused by the settling of fills within pit 1160 (see phase IV). A foundation trench, 1181, had been cut into the NE face of the hollow and packed with clay, 1152, and the drain 1096 laid into it. The drain was made up of sandstone blocks which were set at an angle forming a narrow V-shaped channel at the top of the slope, but lower down the stones had been placed to form a box drain leading into the bottom of the hollow. There were two small postholes, 1134 and 1135, cut near its exit. Another small feature, 1103, was cut near the top of the hollow very close to the drain. The rest of the hollow acted as a sump and had partially silted up with 1133, which was a light sandy loam. The hollow had then been extended at the SW side by a cut, 1129, and stones 1112 were placed against its sides. More silt, stones and ash had been deposited in the hollow which finally silted up with layers of silt and ash. The drain also filled up with layers of silt, 1142 and 1097; and the whole area was finally levelled by layers of brown loam, 1110 and 1111.

A short section of an irregular gully, 1108, was recovered at the S end of the site but it was too fragmentary to be interpreted.

The wall 1094 and the layers of sand, loam and clay to its N were all part of a stone building. The width of the wall and size of the foundation stones suggest that it was entirely built of stone and possibly two or more storeys high. It appeared to be a domestic building and the soil levels overlying the sand floor were probably the remains of straw bedding and accumulated rubbish. The stone-lined pit, 1117, was an internal garderobe which also suggests a domestic use for the

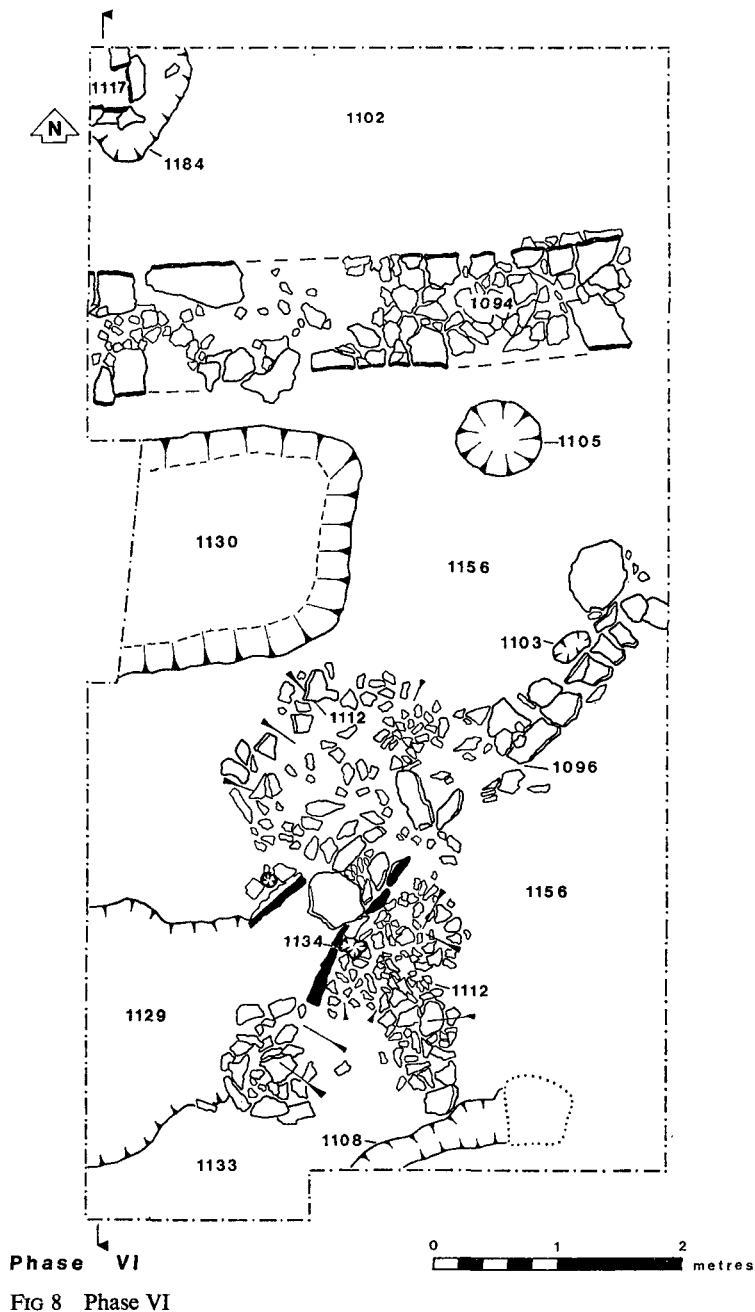


FIG 8 Phase VI

structure. The lack of a destruction level makes estimation of its lifespan impossible. It is quite probable that some of the later occupation levels were removed with the destruction material and even 1101, which was a small section of robber trench, did not provide any clues. The pit, 1130, was almost certainly for domestic rubbish. The two small postholes at the exit to the drain may be all that remains of a sluice mechanism.

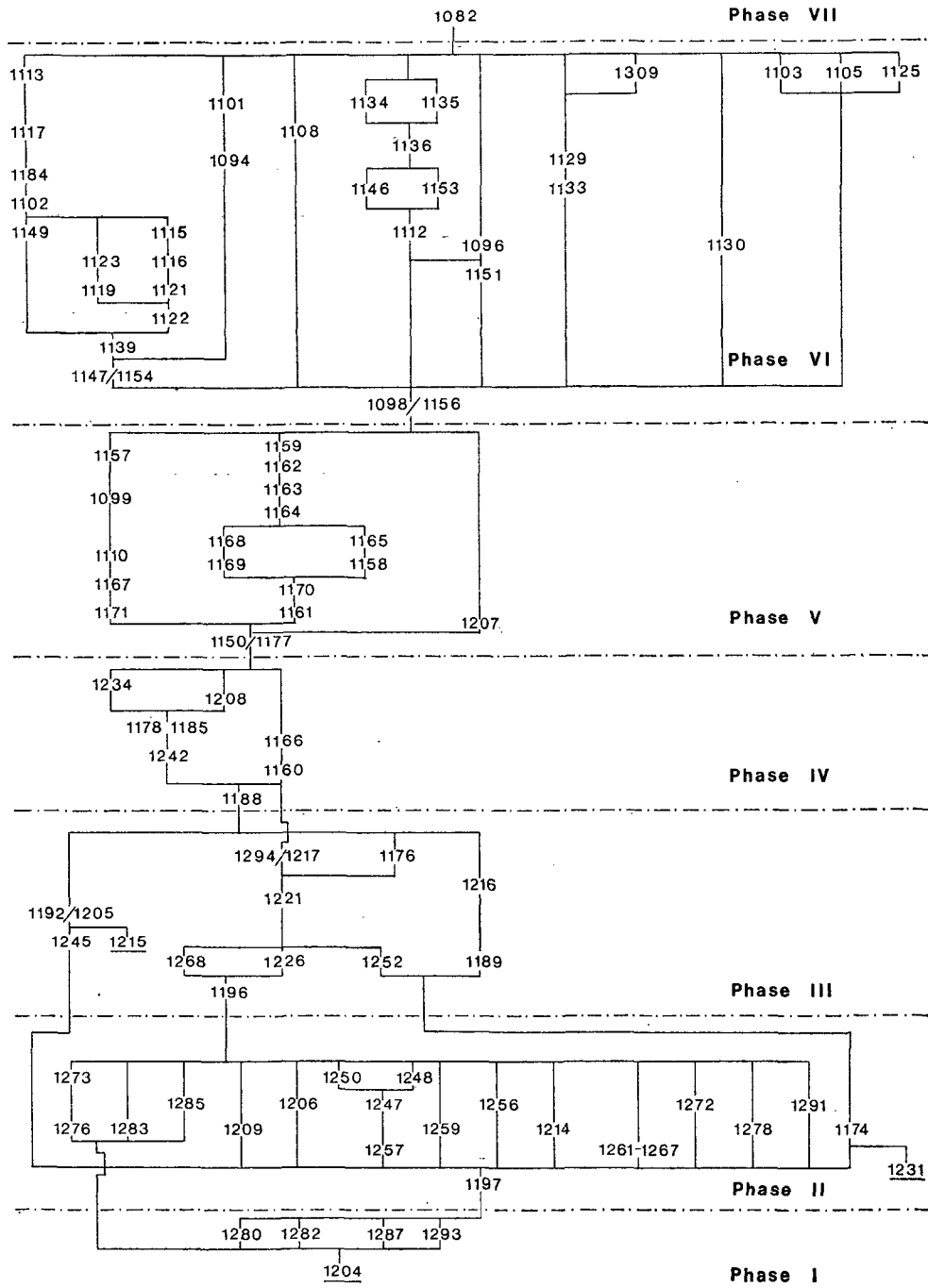


FIG 9 Simplified site matrix

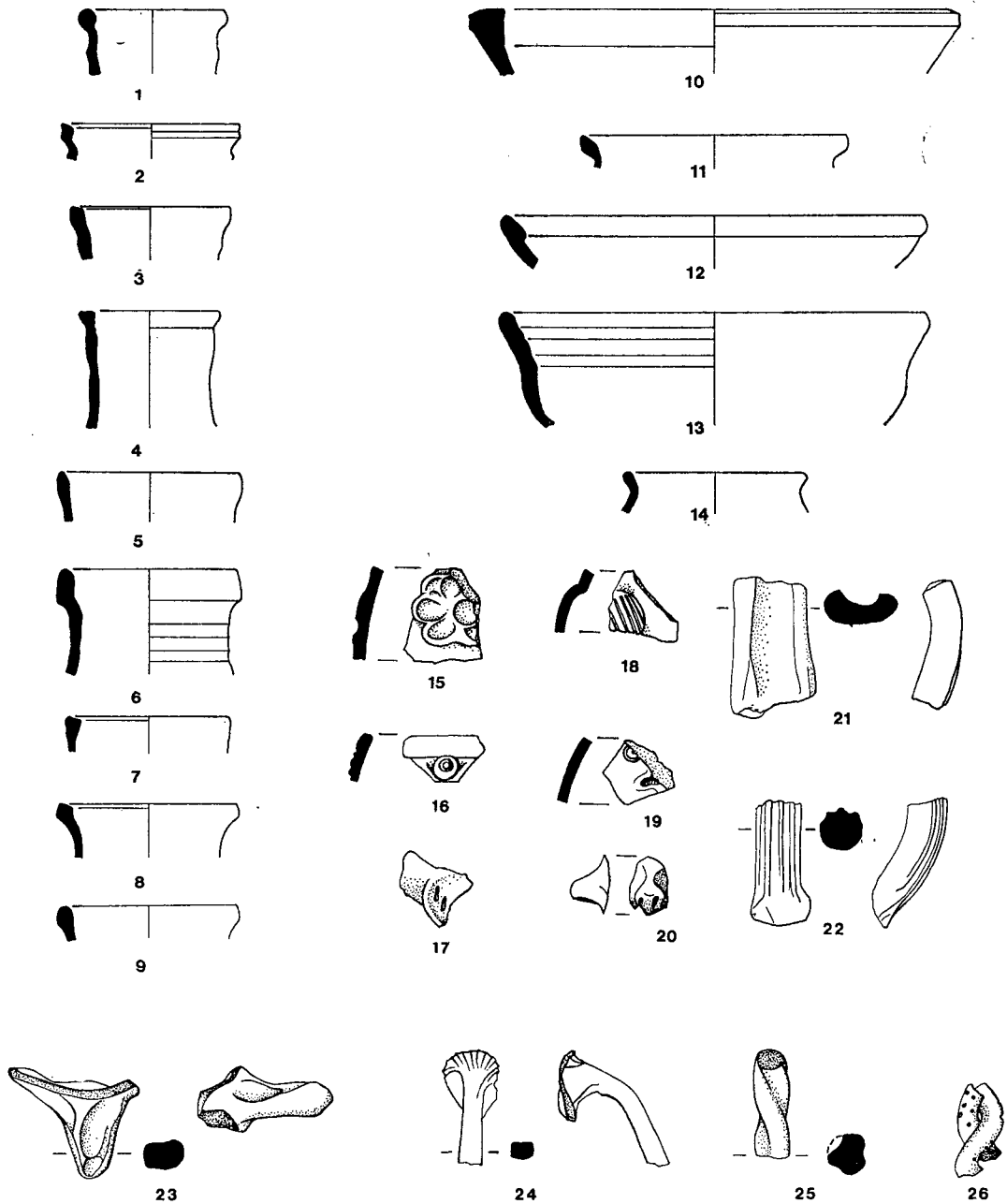


FIG 10 The pottery, nos 1-26 (scale 1 : 4)

There was a marked change in the character of the local pottery types at this level, particularly the high incidence of rim type 6 (fig 10, no 6), which strongly suggested a post-medieval date. A coin (EO114), which has been dated to c 1480, was found in pit 1130 and was probably residual. No clay pipes were associated with phase VI.

## PHASE VII (not illustrated)

All the features in phase VI were sealed by a layer of garden soil, 1082, which was up to 0.5 m thick in places and covered the whole area of the excavation. It was a tilled brown loam and there were no contemporary features cutting its surface which was covered in irregular dips and hollows. 1082 was probably a garden soil which was in use for a considerable period of time. Its surface features were probably the result of deliberate compression before the area was used as an industrial dump in the 19th century.

Large quantities of post-medieval pottery and two 17th-century clay pipe-stems came from the layer. Phase VII probably spanned most of the 17th and 18th centuries.

## THE POTTERY (figs 10-13)

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## THE PERTH POTTERY ARCHIVE

The Urban Archaeology Unit has now completed five excavations in Perth and consequently a large group of pottery is available for study. From this a comprehensive catalogue is being compiled to cover variations within the local wares. This involves the production of a type series of form, fabric decoration, etc, cross referenced by site and context. It should provide the data necessary for a study of the Perth pottery industry. The individual site reports (of which this is the first) include drawings of all the relevant type sherds from the catalogue.

## INTRODUCTION

Over 1600 sherds of local and Scottish east coast wares and 136 sherds of imported wares were recovered from pre-18th century levels. A further 260 sherds came from the overburden and the cleaning of sections. Many of the sherds were very small and abraded and it has not been possible to reconstruct any complete vessel profiles. On completion of the analysis described below, six local fabrics, A1-A6, were recognized. Groups A1-A4 have been given the common name Perth Local, A5 has as yet no common name and A6 has the common name White Gritty. Eight imported pottery groups were identified, fabrics B1-B8. The minimum number of vessels, estimated by counting all the rim types, is 43 Perth Local, five A5 and 16 White Gritty.

## METHODOLOGY

During preliminary sorting it became evident that most of the local pottery fell into two visually distinct categories. One was smooth, soft and reddish-yellow in colour (Perth Local), and the other was harsh, hard and white (White Gritty). Detailed microscopic analysis was carried out on the first type to determine the kinds of inclusions present. A clean 0.01 m break was examined at  $\times 30$  magnification and the inclusions were provisionally identified. Eventually five groups, A1-A5, were identified. Attempts to identify subgroups within the White Gritty ware proved unsuccessful and it is unlikely that this can be achieved microscopically. It has, therefore, been treated as a single fabric in this report.

## FABRICS A1-A4: PERTH LOCAL (previously called Kinnoull Ware)

Fabrics A1-A4 have been identified as belonging to the group of pottery with the common name Perth Local. It was first published as Kinnoull types A and B (Henshall & Stevenson 1957) and has since been recovered in high proportions from excavations within the town of Perth, including St Ann's Lane (Thoms 1982), the High Street (Haggarty & Thoms, forthcoming) and other Urban Archaeology Unit sites. It has also been found on sites in the surrounding area, such as Huntingtower (unpublished material) and Elcho Nunnery (unpublished material). It has not been recognized in any quantity elsewhere in Scotland, although a few similar sherds have been found at Inverness (MacAskill 1982) and Forfar (Scott 1982).

Typically Perth Local is reddish-yellow (Munsell code 5YR 6/6), can be scratched with a fingernail

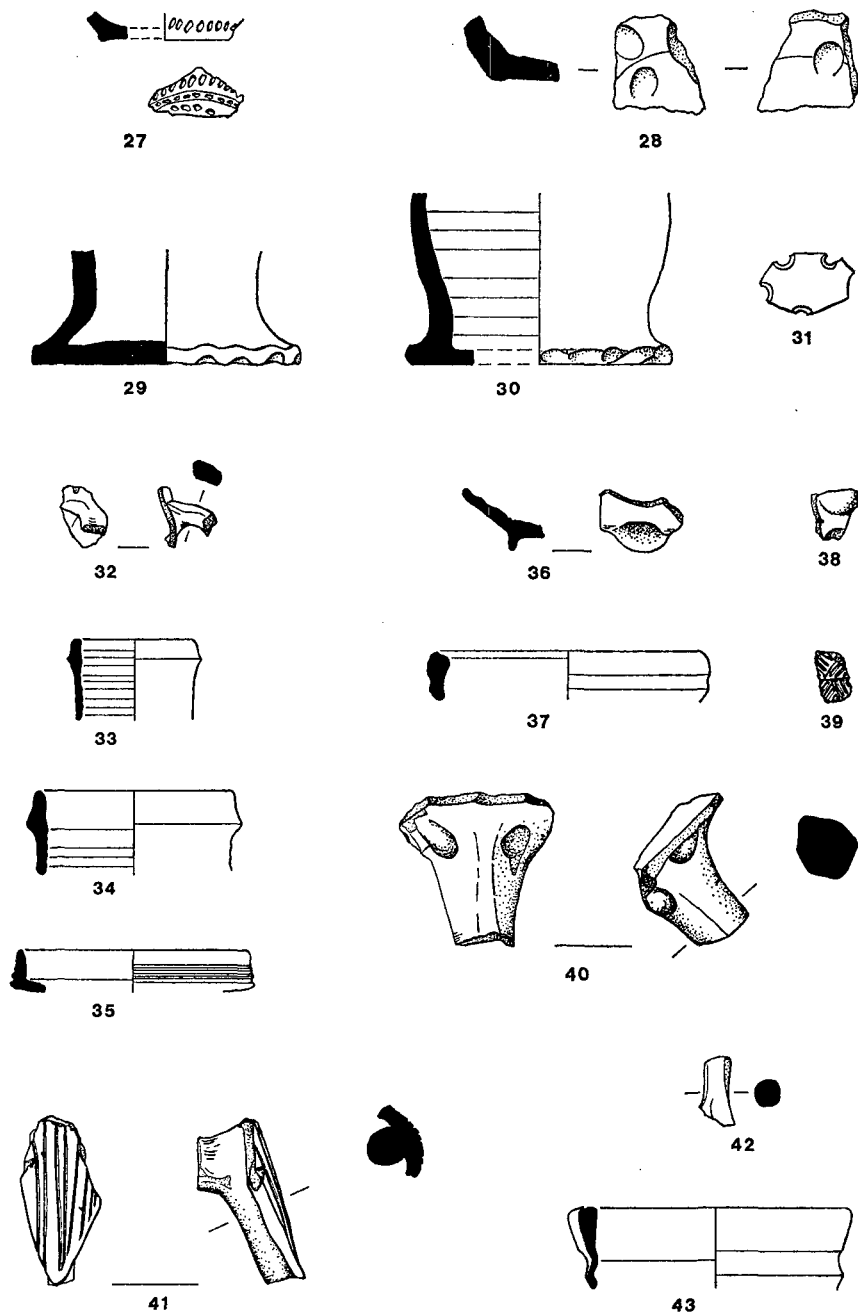


FIG 11 The pottery, nos 27-43 (scale 1 : 4)

and has a smooth surface texture and an even fracture. Many of the sherds are thin bodied with a white slip and splashes of green and dark orange glaze. Others have a harder grey fabric (Munsell code 7.5YR N5/ ), due to reduction in the kiln, and are thicker and more coarsely made. The glaze on the latter type is generally thicker, ranging from a pock-marked to an even surface. The reduced ware, which occurs



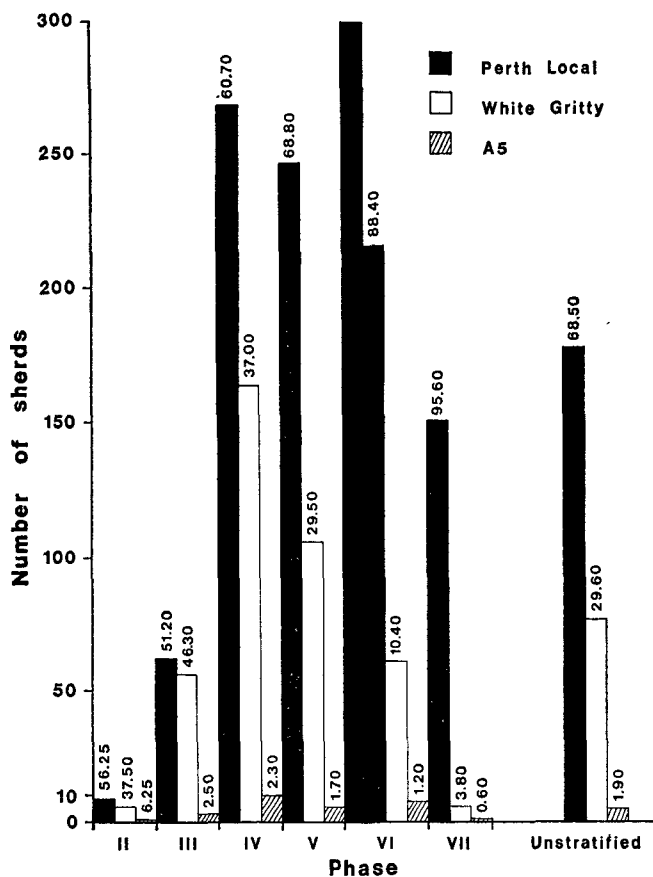


FIG 12 Pottery, fabrics by phase

mainly in the later levels, is distinctive but the fabric is microscopically indistinguishable from Perth Local. It is probably a version of the reduced Scottish greenware described by Haggarty (1980, 36-40). The fabric groups A1-A4 have in common a fine grained ( $< 5\mu\text{m}$ ) micaceous clay with inclusions of quartz and black particles, provisionally identified as black iron ore. A major difference between the groups is the percentage of quartz within the fabric, with A1 having less than 2%, A3 around 6% and A2 and A4 around 25%. In addition A4 possesses unidentified red inclusions. The majority of the Perth Local vessels are jugs, most of which are glazed and decorated.

Rim forms vary considerably but no correlation can be made between phase and jug rim type, with the exception of no 6. This is a distinctive type with a squared rim and heavily rilled neck and is normally found in a reduced fabric. A single example was found in phase V and 16 examples came from phase VI. The rim is a typical post-medieval form described by Haggarty (1980, 36-40) who suggests that it remained a common type from the 15th through to the 18th century. The rims of three bowls were found: one (no 13) is from phase V and another (no 10) is from phase VI. Only two rimsherds are from cooking pots and both were recovered from phase IV; one is illustrated as no 14. Blackened, possibly burnt, base and body sherds suggest that these vessels were used as cooking pots but some may also have served as storage jars. Several rimsherds (not illustrated) were too fragmentary to identify as to vessel type; however, two of them, both from phase VI, showed traces of the post-medieval characteristic of knife trimming.

A common decorative feature is applied vertical strips which are often a different colour from the body of the pot. Some of the strips are notched, or thumbled, or have applied pellets; others are positioned to form a box pattern. Applied pellets, often imitating fish scales, are also common. Two sherds have

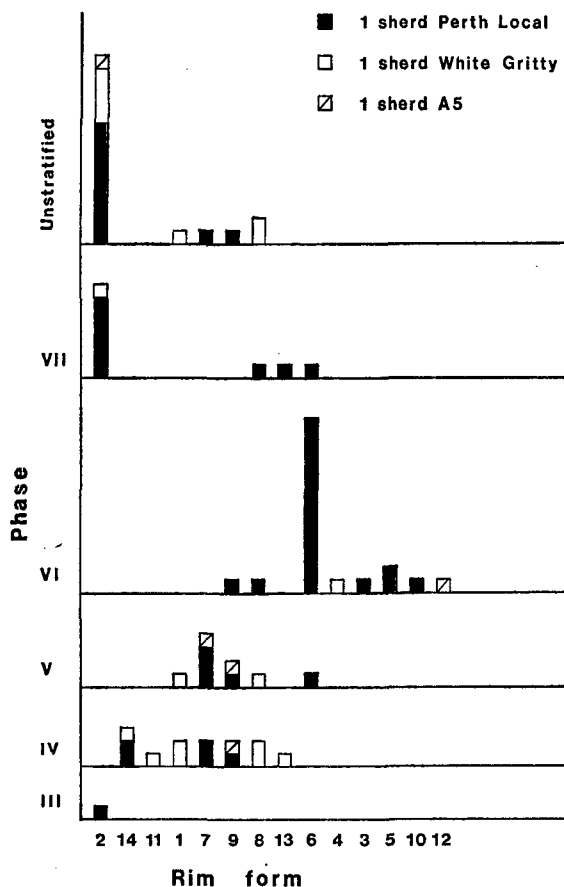


FIG 13 Pottery, form by phase

floral pads (no 15) and another has an embossed shell (no 18) and four sherds have parts of incised or applied faces (nos 16, 17, 19 and 20), which are all from phases VI and VII. The applied faces may well be local copies of imported Scarborough wares.

The majority of the jug handles are strap-forms, most of which are plain although a few are ribbed or ridged. There are three rectangular-sectioned handles, smaller than most of the strap handles. One example of a ribbed rod-handle and a single probable skillet handle (no 23) were recovered. Decorative handles include a twisted ribbed rod (no 25) and two entwined rods with stab marks (no 26).

Most of the basal angles are flat and undecorated. A few appear to have been slightly rounded although this is not always easy to assess due to the fragmentary nature of the sherds. Two of the bases are perforated. Thumbing is present in four examples (no 28), in one case below the base. One sherd has a pinch mark inside as well as one each on the outside body wall and base. Phase VI yielded two frilled baluster bases (nos 29 and 30) and an unusual small ornately tooled basal angle in a reduced fabric with high quality green glaze.

#### FABRIC A5

A5 occurs in very small numbers from phase II to phase VII. It has also been found at Forfar (Scott 1982). It has a similar surface appearance and clay matrix to the Perth Local fabrics but has around 65% inclusions, mostly quartz but also rock fragments. It is so coarse that it is possible that some of the inclusions were added as temper. The clay source for A5 is probably the Strathmore area where there are thick glacial drift and fluvioglacial deposits (Cox, E, pers comm).

Of the four identifiable rimsherds, one, the platter (no 12) in phase VI, is unique to fabric A5. The other vessels are jugs, one of no 7 and two of no 9. The only handle is a strap form which is square in section and also peculiar to fabric A5. There are two plain basal angle sherds. None of the sherds is decorated.

#### FABRIC A6: WHITE GRITTY

Fabric A6 has been found on many sites in south and east Scotland. It is usually white to light red (Munsell codes 10YR 8/1 and 2.5YR 6/8) with abundant, 50%, coarse quartz and other inclusions. It can be scratched with a needle and has a rough surface texture and uneven fracture. The amount and quality of glaze varies from splashing to a fairly high-quality pale green or yellow dipped glaze.

Of the 16 identifiable rimsherds, 12 are from phase IV. There are two cooking pots, nos 11 and 14, an open bowl, no 13, while the remainder are large jugs. A jug with an upright rim, no 8, and the cooking pot with an inverted rim, no 14, are the only forms to occur both in Perth Local and White Gritty fabrics; no 13, the large open bowl, was found in phase IV.

There are three ribbed rod handles (no 22) and four strap handles, three of which are undecorated (no 21) while the other has two parallel vertical incisions.

Most of the basal angles are plain but three have thumbing on the body wall, one has basal thumbing and there is one example of a baluster type.

There are fewer varieties of decorative types than in the Perth Local material. The most common is the applied strip, particularly of a different colour from the body of the pot. Notched strips are also common. There are a few sherds with applied pellets, probably representing fish scales, and one example from residual material has pyramid-shaped applied pellets. There is some incised decoration but it is limited to simple grooves. Another residual sherd is rouletted. There are two other unusual sherds: one, in phase IV, is probably a fragment from a strainer (no 31) and the other, in phase V, has an impressed thumb-mark.

#### FABRIC B1: SCARBOROUGH WARES

There are 87 sherds of fabric B1 from the excavation. This fabric has been identified as a product of the Scarborough phase II kilns. A catalogue of Scarborough wares has been compiled by Rutter (1961, 11-14), and Farmer (1979) has produced a comprehensive discussion of the material. The fabric varies in colour from light red (Munsell code 2.5YR 6/8) through to a very pale brown (Munsell code 10YR 8/4). It has red inclusions as well as coal and limestone. Its surface can be scratched with a needle and is fairly smooth. Many of the sherds have a thick lustrous dark green glaze. All the rimsherds are glazed but bases are often only partially glazed. Both rims and bases frequently have kiln scars.

The Canal Street sherds are probably all from large jugs, most of the rimsherds (eg no 43) and bases are probably from Rutter type 2 vessels and there is a grooved rod handle (no 42) similar to that from a Rutter type 6 jug. There are three very slender rod handles (eg no 42) similar to the arms applied to the anthropomorphic Rutter type 5 face jug. Another has incised thumbing where a handle has been attached to a vessel. A similar technique is used on the Scarborough vessel from Stamford (Farmer 1979, 22, pl IV). There is one shield (no 41) from a knight jug and this has incised lines similar to the vessel from the Moot Hall, Scarborough (Farmer 1979, 30, fig 9.4). There is also one unusual sherd which has a stamped decoration in the form of a raspberry which is more typical of Aardenburg-type wares (Dunning 1968, 35-58) than of Scarborough.

Scarborough ware first appears as two sherds in phase II and is present through to the modern levels. It is most common in phase V where 33 sherds were found; however, for each phase the minimum vessel count is one. Farmer has dated Scarborough phase II wares as being produced from 1225 until just after 1350. At Canal Street the fabric was first found in phase II. It is slightly more common in phases III and IV and, although some sherds occur in garden soils, others are in undisturbed features such as gully 1205 and the lower levels of pits 1189 and 1160. Although phase V has the largest number of sherds, most of the fragments are abraded and they all came from dumps of midden. They could well be residual and, therefore, are not valid as dating evidence for this phase.

#### FABRICS B2-B5: LOW COUNTRIES

There are 40 sherds of fabrics B2 to B5 which are considered to have been made in the Low Countries. Most of these are fabric B2, commonly called Aardenburg-type, which is a red (Munsell code

10R 5/8) sandy fabric typically covered by a white slip over which is a bright green glaze. A few of the Canal Street sherds have a white slip and a yellow glaze with an orange stripe.

The Aardenburg-type wares have been discussed by Trimpe-burger (1974) and Dunning (1968, 35-58). These wares are commonly found in Aardenburg but were probably not produced in the town. The Canal Street sherds are probably all from jugs and the three rims (no 37) are typical of those illustrated by Dunning (1968, 48, fig 25.11). Several body sherds have the rouletted pattern (eg no 39) also described by Dunning (1968, 48, fig 25.2). One body sherd has a stamped raspberry decoration (no 38). Fabric B2 is present from phase II through to the modern levels. It is most common in phase IV and in undisturbed layers, eg the earliest deposits in pit 1160. Trimpe-burger and Dunning suggest dates of late 13th to 14th centuries for the production of Aardenburg.

Fabric B3 is similar to fabric B2 except that it is reduced (Munsell code 10R 6/1). It is commonly called Low Countries greyware. The five body sherds from this site are probably from the hump-shouldered pitchers described by Verhaeghe (1970, 33) and dated to the second half of the 14th century. A more complete vessel of this type has been found on a recent excavation at Elgin (Lindsay, forthcoming). The Canal Street sherds were from phases III and IV, and modern levels.

Fabric B4 is similar to B3, the main difference being its pink slip. There are only two sherds of this fabric, one is a fragment of a thumbled base, slipped on both surfaces, and the other is a body sherd with an internal slip, applied strips and a brownish green glaze on the exterior. The base is from phase III and the body sherd from phase IV.

There is one sherd of fabric B5 (no 40) which is a brownish yellow (Munsell code 10YR 6/6) heavily gritted fabric. It is a heavy coarse foot which is probably from a tripod cooking vessel. Similar examples have been illustrated by Trimpe-burger (1974, 12, 15, figs 9 & 16) and they probably date to the 14th century. The Canal Street example was from phase IV.

A single sherd of B6, which is a soft sandy red fabric (Munsell code 10YR 5/5) with a brown internal glaze, came from phase VI. The pulled lug (no 36) is a typical Low Countries form, probably of the 14th century (eg Trimpe-burger 1974, 14, figs 15a & b).

#### FABRICS B7 AND B8: STONEWARES

Fabric B7 is a very hard fused light grey (Munsell code 10YR 7/1) fabric which has been identified as Siegburg. There are seven sherds of this fabric and the earliest sherd was from phase IV. It is a small fragment of rim attached to part of a slender handle (no 32). A second rim (no 35) came from phase VI and it is part of a shallow cup of the type illustrated by Beckmann (1974, 220, fig 9.164). A third rim (no 33) came from modern levels; it is probably from a jug and is paralleled by Beckmann (1974, 213, fig 12). Beckmann ascribes similar stonewares to the Siegburg period IV production, which commenced c 1300 and continued until the 16th century.

Only one sherd of fabric B8 (no 34) was recovered. It is a hard fused purple fabric and is probably a product of the Langerwehe kilns. It is part of a cordoned rim of a jug similar to the Hurst type 2 vessel (1977, 228, fig 3) and dated to the 13th and 14th centuries. This sherd was from modern levels.

#### FABRIC B9: N FRENCH

Only two sherds of this fabric were recovered. It is a fine-grained very pale brown (Munsell code 10YR 8/3) coloured fabric with a pale green glaze which was probably produced in N France. It is possibly 13th century. One sherd was found in phase III and the other in phase V.

#### MISCELLANEOUS WARES

Nearly 50 sherds have medieval characteristics but are neither readily identifiable nor fall into fabric groups. Most of them are plain or glazed body sherds in both reduced and oxidized fabrics. The only distinctive pieces are two fragments of strap handles, a thumbled base and one body sherd with a rouletted applied strip. If other Perth sites produce similar sherds then these fragments will be discussed more fully in a future publication.

#### DISCUSSION

Perth Local is the dominant fabric in each of the pottery-bearing phases. Fabrics A3 and A4 are most common, while fabrics A1 and A2 together rarely make up more than 20% of the sherds in

any phase. In phases II to V, White Gritty occurs as around 30% of the total but drops to 10% and 4% in phases VI and VII respectively. There is a minimal amount of fabric A5 throughout. Secure dates cannot be given to individual phases using the evidence of local pottery as there are no closely dated parallels; however, some generalizations can be made. Most noticeable is the almost total lack of cooking-pot rims in all phases which may suggest a later medieval date. In phase II, a sherd of Perth Local fabric with a reduced core was recovered. This type is not found in the Perth High Street Excavation in levels dated to before 1300 (Haggarty & Thoms, forthcoming). However, this one sherd may be anomalous. Gradually the glaze type changes from phase II, where a splashed glaze is common, to phase VI when the majority of sherds are dipped, bright, even green. Similarly the incidence of knife-trimmed sherds increases through to phase VI. Perth Local material changes from a fine bodied white slipped ware in phases II and III to thick reduced wares in phase VI. There are differences in pottery forms, with the frilled baluster types first occurring in phase IV. These may be copies of continental stonewares and are perhaps 15th-century in date. Twisted rod handles occurring in phases IV and V are probably copies of Scarborough phase II forms (Farmer 1979) and are probably of a late 14th- to 15th-century date. The rim no 6 is a post-medieval form first occurring in phase V and then in large quantities in phase VI. From the local wares, a tentative date-range between 13th and 14th centuries in phase II to 15th century by phase V and 16th century by phase VI can be suggested.

The imported material falls into a similar date range. The only French sherds are from phases II and III and these could well be part of 13th-century vessels. The 13th- to 14th-century Scarborough and Low Countries products are most securely stratified in phases III and IV and the somewhat later stonewares first occur in phase IV but are most common in phases V and VI.

#### CATALOGUE OF ILLUSTRATED POTTERY (figs 10-13)

A brief description of each sherd is given, followed by its fabric type and the phase from which it came. In cases where there are very similar types in other fabrics, this is mentioned. Fuller description and discussion of the sherds can be found in the main text.

##### *Scottish wares*

- 1 Jug rim; White Gritty (A6); VII.
- 2 Jug rim; Perth Local (A1/4); III.
- 3 Jug rim; Perth Local (A1/4); VI.
- 4 Jug rim; White Gritty (A6); VI.
- 5 Jug rim; Perth Local (A1/4); VI.
- 6 Jug rim; Perth Local (A1/4); V.
- 7 Jug rim; Perth Local (A1/4); V. Also A5.
- 8 Jug rim; Perth Local (A1/4); VI. Also White Gritty (A6).
- 9 Jug rim; Perth Local (A1/4); VI. Also A5.
- 10 Bowl rim; Perth Local (A1/4); VI.
- 11 Cooking pot rim; White Gritty (A6); IV.
- 12 Bowl rim; Perth Local (A1/4); VI. Also A5.
- 13 Bowl rim; Perth Local (A1/4); V. Also White Gritty (A6).
- 14 Cooking pot rim; Perth Local (A1/4); IV. Also White Gritty (A6).
- 15 Decorative floral pad; Perth Local (A1/4); VI.
- 16-20 Parts of face mask decoration; Perth Local (A1/4); VI-VII.
- 21 Strap handle; White Gritty (A6); V. Also Perth Local (A1/4).
- 22 Ribbed rod handle; White Gritty (A6); IV. Also Perth Local.
- 23 Skillet (?) handle; Perth Local (A1/4); V.
- 24 Small rod handle, probably decorative; Perth Local (A1/4); V.
- 25 Twisted rod handle, probably decorative; Perth Local (A1/4); V.
- 26 Stabbed twisted rods, probably decorative; Perth Local (A1/4); VI.
- 27 Tooled basal angle; Perth Local (A1/4); VI.
- 28 Thumbled basal angle; Perth Local (A1/4); VI.
- 29 Frilled baluster base; Perth Local (A1/4); VI.
- 30 Frilled baluster base; Perth Local (A1/4); VI.
- 31 Part of a strainer; White Gritty (A6); IV.

*English and Continental wares*

- 32 Rim and handle fragment; Siegburg stoneware (B7); IV.
- 33 Jug rim; Siegburg stoneware (B7); modern level.
- 34 Jug rim; Langerwehe stoneware (B8); modern level.
- 35 Cup rim; Siegburg stoneware (B7); VI.
- 36 Basal angle with pulled lug; Low Countries (B6); VI.
- 37 Jug rim; Aardenburg type (B2); IV.
- 38 Body sherd with 'raspberry' stamp; Aardenburg type (B2); IV.
- 39 Body sherd with decorative rouletting; Aardenburg type (B2); III.
- 40 Leg from a large pipkin; Low Countries (B5); IV.
- 41 Shield from a knight jug; Scarborough ware (B1); IV.
- 42 Decorative rod handle; Scarborough ware (B1); unstratified.
- 43 Jug rimsherd; Scarborough ware (B1); IV.

## THE SMALL FINDS

## THE STONE OBJECTS (fig 14)

D Caldwell, National Museum of Antiquities of Scotland  
and L Blanchard

- 1 Context 1203 phase IV J161  
A thin piece of grey slate with scratch marks. The slate is probably from a local source. The design on one side could represent a bascinet (a type of helmet of the late 14th century).
- 2 Context 1137 phase VI J105  
A fragment of a stone mortar. The stone has been identified as Purbeck marble probably from Swanage in Dorset but also occurring in the vale of Wardour near Swindon, Aylesbury and Sussex (M Taylor, Perth Museum). The fragment is small and chipped; however, part of one of the rib lugs survives. This is of a very similar shape to the lugs of a more complete Purbeck marble mortar from Northampton (Dunning 1979, 284). The peck marks from the tooling are also similar, being in rough lines at an angle around the vessel sides. Dunning has researched stone mortars of this type and placed them at mid-13th to mid-14th century in date. The Canal Street example came from a layer in pit 1130 in phase VI.
- 3 Context 1195 phase III J164  
A whetstone. This has been fashioned out of a piece of almost pure dark red quartz which was almost certainly imported. No parallel for this whetstone has been located and it is certainly an atypical form for Perth. Other Perth whetstones (as yet unpublished) are made of local stone, are rectangular in section and perforated at one end.
- 4 Context 1001 unstratified J191  
A plain disc-shaped stone spindle whorl. This stone is mica schist which is very common in Perthshire and the Highlands.

## GLASS OBJECT

- 1 Context 1120 phase VI J161 (not illustrated)  
A black globular glass bead.

## THE IRON OBJECTS (fig 15)

D Caldwell and L Blanchard

There are 96 nails or nail fragments from this site. Many of them were heavily corroded and broken but, where possible, they have been measured and full details are stored in the archive.

The nails first occur in phase III and they steadily increase in number through to phase VI but there was no particular concentration in any individual feature (but see Metalworking report). They are all of wrought iron and are simple wood nails. Most of them have shafts which are rectangular in section. The majority also appear to have sub-rectangular heads, although four are clearly circular. The longest nail is 102 mm and the shortest 25 mm but most of them have a surviving length of between 30 and 80 mm. Some of the more complete nails are bent. One nail merits more detailed comment.

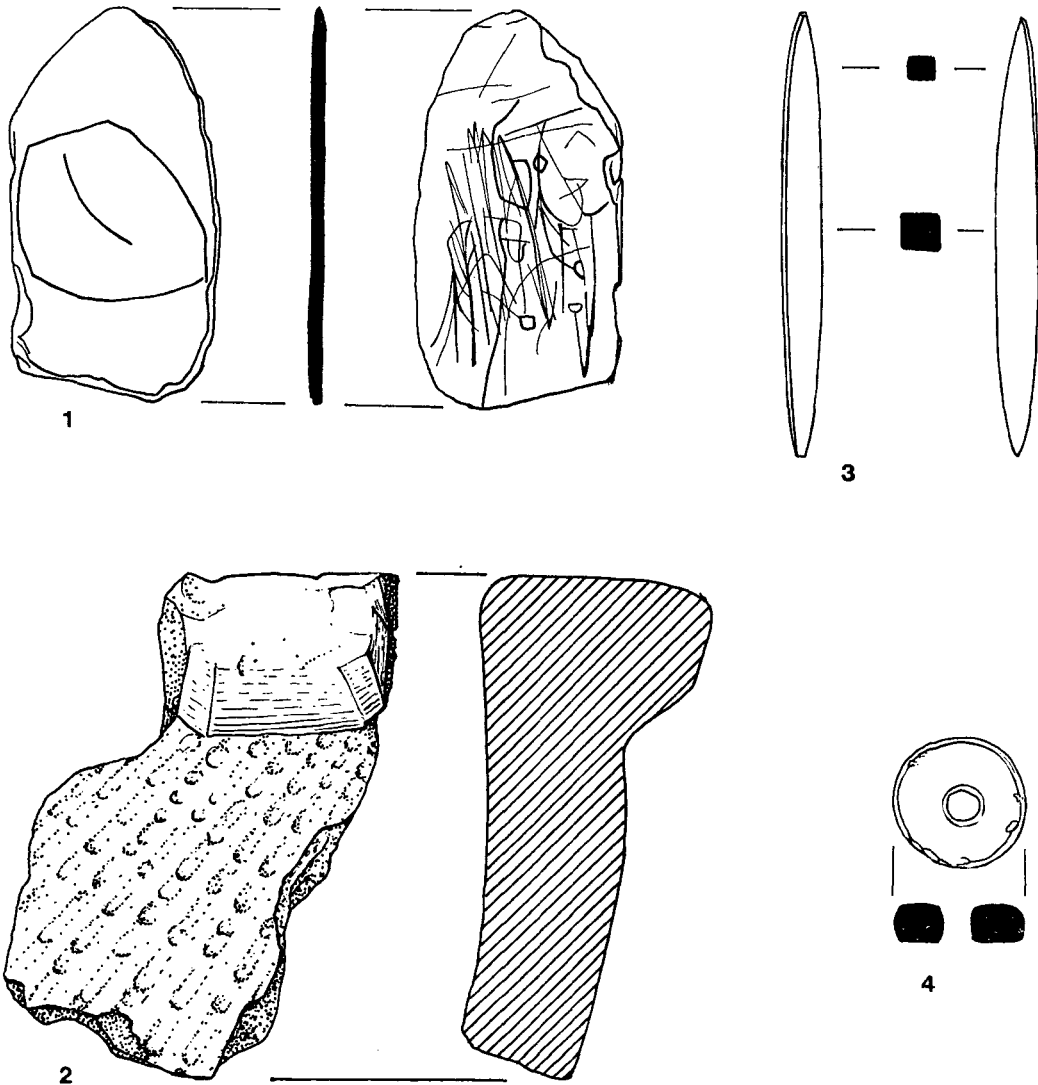


FIG 14 Stone objects (scale 1 : 2)

- 1 Context 1178 phase IV EO145 (fig 15, 13)  
Nail with a figure-of-eight-shaped head and rectangular, pointed stem. Similar nails have been found in 12th-century contexts in England, eg Ascot Doilly Castle, Oxfordshire (Jope & Threlfall 1959, 261) and in Ireland in the 12th and 13th centuries, eg at Clough Castle, County Down (Waterman 1954, 141). It is not unlikely that they were commonly employed after the 13th century.
- 2 Context 1132 phase VI EO90 (fig 15, 16)  
Key with oval bow (part missing) and solid shank narrowing to a point below the uppermost of its three wards, LMMC, type VIIA.
- 3 Context 1156 phase V E118 (fig 15, 4)  
Candle or taper holder with part of supporting tang. These are known from three Scottish castles: Threave, Urquhart and Lochmaben.

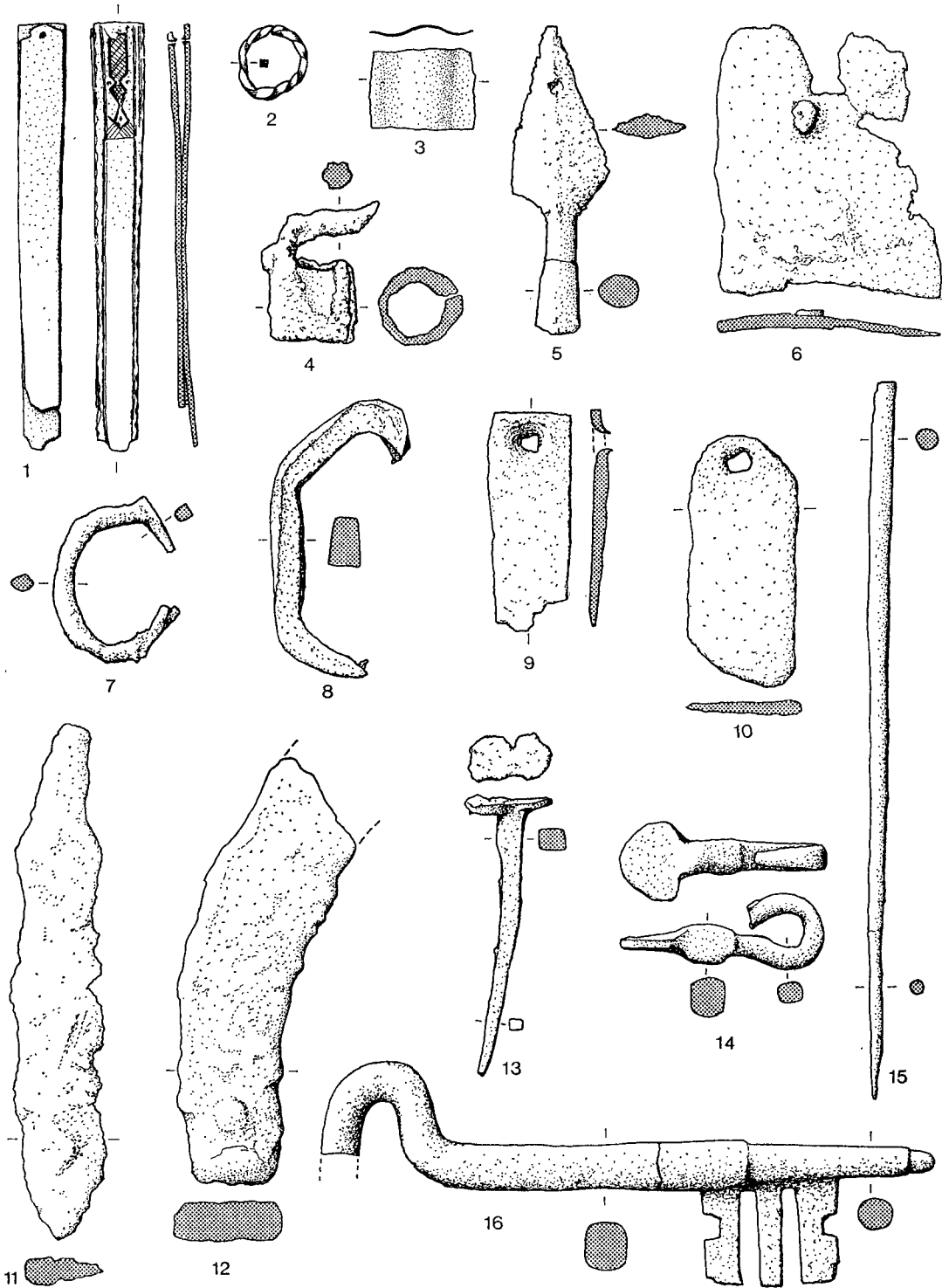


FIG 15 Iron and copper objects (scale 1 : 2)



- 4 Context 1167 phase V E121 (fig 15, 9)  
Piece of sheet iron mount.
- 5 Context 1163 phase V E129 (fig 15, 6)  
Piece of sheet iron mount.
- 6 Context 1168 phase V E200 (fig 15, 10)  
Piece of sheet iron mount.
- 7 Context 1111 phase VI E113A (not illustrated)  
Hinge.
- 8 Context 1111 phase VI E113B (not illustrated)  
Hinged? mounting.
- 9 Context 1178 phase IV E145 (fig 15, 14)  
Belt hook? or spur buckle?
- 10 Context 1170 phase V E134 (fig 15, 8)  
Loop handle.
- 11 Context 1172 phase IV E132 (fig 15, 11)  
Knife blade, badly corroded.
- 12 Context 1150 phase V E140 (fig 15, 12)  
Part of a horseshoe with calkin.
- 13 Context 1187 phase IV EO205A (not illustrated)  
Bullet shaped arrowhead?, LMMC, type 5.
- 14 Context 1229 phase II E202 (fig 15, 5)  
Socketed arrowhead with pointed leaf-shaped blade, LMMC, type 1, where it is dated to the 13th century and earlier. More recent discoveries at Ballyrone Motte in N Ireland (Waterman 1955, 100), Ascot Doilly Castle, Oxfordshire (Jope & Threlfall 1959, 266) and Perth High Street (Bogdan, forthcoming) tend to confirm a 12th- to 13th-century date for arrowheads like this.
- 15 Context 1211 phase III E222 (fig 15, 15)  
Spike, probably a tooth from a carding comb.
- 16 Context 1187 phase IV E205B (not illustrated)  
Part of a horseshoe.
- 17 Context 1193 phase III E243 (fig 15, 7)  
D-shaped buckle, burst open.
- 18 Context 1178 phase IV EO238 (fig 15, 1)  
Strap-end of iron coated with tin, engraved on one side with a simple geometric design.

## COPPER ALLOY OBJECTS (fig 15)

D Caldwell and L Blanchard

- 1 Context 1137 phase VI EO76 (not illustrated)  
Needle.
- 2 Context 1197 phase II E224 (not illustrated)  
Needle, lacking head.
- 3 Context 1082 phase VII EO77 (not illustrated)  
Fragment with rectangular hole.
- 4 Context 1178 phase IV EO138 (not illustrated)  
Chipping with a hole in it, used as a washer?
- 5 Context 1168 phase V E151 (fig 15, 3)  
Mount.
- 6 Context 1197 phase II E162 (not illustrated)  
Clip fastening.
- 7 Context 1255 phase III EO207 (fig 15, 2)  
Ring formed of twisted wire (possibly for hanging curtains).
- 8 Context 1127 phase VI EO114 (not illustrated)  
Coin, silver groat of James III; Stewart (1967) type VI, e, minted at Edinburgh c 1485-8. The obverse is the same die variety as Burns (1887) no 42. The reverse is similar to no 43 but has four annulets before ROTET in the second quarter. It was probably not more than a few years old when lost. Weight 38 grains.

## METALWORKING DEBRIS

R M Spearman

The metalworking debris from this site is limited and will be more fully considered with similar debris from other Perth sites in a future report. There are, however, some small concentrations of interesting material. None of the material is illustrated.

## Context 1130 phase VI

This feature produced 1.25 kg of iron slag, some fragments of which were found adhering to a few of the 17 iron nails also recovered from the pit. No hammer-scales were discovered with this group of material, although a few amorphous lumps of soil and iron may represent their remains.

## Context 1111 phase VI

This layer, outwith pit 1130, also produced a small quantity (40 g) of iron slag and some 11 nails.

Neither of these groups of material imply iron working on the site. They might suggest, however, that iron working was being carried out in the vicinity, possibly involving the production of nails.

## Context 1207 phase V

One fragment of a clay mould 108 by 60 mm of variable thickness from 15 to 35 mm was recovered from this pit. The casting surface of the mould was coated with a smooth clay slip of average thickness 1 mm. The main body of the mould was composed of clay, with organic, possibly dung, tempering. The mould was well-baked and heavily reduced on the interior.

The fragment was from the interior of a circular mould and would have produced a casting of maximum internal diameter 180 mm, tapering to 150 mm. It is not possible to determine what part of the casting the mould would have formed.

X-ray fluorescence analysis of the interior surface of the mould was carried out by Dr J Tate, National Museum of Antiquities Laboratories (Lab Ref no 6190, Analysis no FO325B). This indicated residual zinc and lead. Similar results have appeared for a wide range of other moulds and is thought not to be representative of the main casting metal.

## REPORT ON THE ANIMAL REMAINS FROM THE MEDIEVAL LEVELS

G W I Hodgson and A Jones, Duncan of Jordanstone College

## SUMMARY

Although the sample is small (803 bones) it is important when considered in conjunction with bone samples recovered from the other Scottish urban medieval sites. Data from these smaller excavations may tell us more about the dietary habits and the availability of meats in Scottish medieval burghs than data derived from a single large excavation such as the Perth High Street site.

The animal remains are thought to be from domestic animals which were eaten. The relative frequencies of the main food-bearing species are compared with those from several other Scottish medieval sites. The percentage of cattle bones is similar to those reported from one site at Elgin (Hodgson & Jones forthcoming), two sites at Aberdeen (Hodgson & Jones 1982a) and St Ann's Lane, Perth (Hodgson & Jones 1982b). The percentage of sheep bones is higher at Perth than at the northerly sites while the percentage of pig bones is smaller. This may be related to the availability of pasture in lowland Scotland. There is little dental evidence for the presence of piglets, but the evidence of long bones lacking fused epiphyses suggests that young animals were present. Dental evidence suggests that cattle and sheep were successfully reared to ages of three to six years when the animals would be mature and at an optimum age for hide and wool-fells production.

The evidence of age at slaughter from bones and teeth is somewhat contradictory; the dental evidence is preferred because it is unaffected by cooking processes. On this evidence and that of the pathology of the bones the animals were apparently successfully over-wintered in a healthy condition.

## METHODOLOGY AND MEASUREMENT

The material was identified as to species and bone by direct comparison with modern examples. No attempt was made to identify or to record rib fragments and vertebrae other than the first two neck vertebrae. The bones of birds have been identified only to bone and not by species. Measurements were taken in accordance with the scheme proposed by von den Driesch (1976).

Number of bones identified:

Phase II	7
Phase III	97
Phase IV	108
Phase V	148
Phase VI	363
Phase VII	78
Total	803

SPECIES PRESENT

The species represented are cattle, sheep, goat, pig, horse, bird, dog, cat and small mammal. The remains of greater game, ie deer and wild boar, and of lesser game, ie rabbit and hare, are absent as are those of fish. None of the bird bones is from a large animal such as a goose or a swan.

The species present in each phase are given in Table 1. It is difficult to distinguish certain sheep and goat long bones. In cases where identification was uncertain they have been recorded as sheep/goat.

TABLE 1  
Species present in each phase

Phase	Species present
II	Cattle, pig
III	Cattle, sheep, goat, pig, horse, cat, bird
IV	Cattle, sheep, sheep/goat, pig, horse, bird
V	Cattle, sheep/goat, pig, horse, bird
VI	Cattle, sheep, sheep/goat, pig, horse, dog, bird

RELATIVE FREQUENCIES OF SPECIES

The relative frequencies of species are estimated by the minimum numbers method and the percentage method and are given in Table 2. These values may reflect the extent to which the animals were eaten but the sample is small and it may be misleading to infer dietary preference. At each phase cattle bones are most numerous while those of sheep/goat outnumber other species. In phase V the percentage of pig bones is significantly greater than at any other level. The high percentage of horse bones in phase III may be due to a burial.

The percentage of bones of the main food-forming mammals at six Scottish medieval urban sites are compared in Table 3. The relative abundance of food-forming species is the same at these six sites except Broad Street, Aberdeen, where the percentage of horse bones exceeds that of deer.

TABLE 2  
Relative frequencies of species

Phase	Cattle		Sheep/goat		Goat		Pig		Horse		Bird		Cat		Dog	
	No	%	No	%	No	%	No	%	No	%	No	%	No	%	No	%
II	1	85.7					1	14.3								
III	5	57.3	3	20.8	1	1.0	1	5.2	2	12.5	1	3.1	1			
IV	3	56.5	4	33.3			1	5.6	1	2.8	2	1.9				
V	5	53.4	6	27.0			3	10.8	1	3.4	2	5.4				
VI	7	54.8	10	36.4			3	3.5	1	1.5	2	3.8			1	
Whole site		56.4		31.2		0.3		5.3		3.6		3.2				

- 1 Minimum numbers were estimated from the most frequent bone of a species in a given phase
- 2 Estimates of percentages are based only on cattle, sheep, goat, pig, horse and bird remains
- 3 In phase VI only material from 15th and 16th centuries is reported on

The relatively high percentage of sheep bones (32.3%) at Canal Street, Perth, is similar to that from St Ann's Lane, Perth (32.2%), and is significantly higher than the percentages reported from the other Scottish medieval urban sites. Some of the Scottish sites have high frequencies of pig bones; the

relative abundance of sheep and pig bones may reflect the availability of pasture for sheep and pannage for pigs. There is no evidence of deer remains at Canal Street. The low frequencies of deer bones at Scottish urban medieval sites have been discussed elsewhere (Hodgson & Jones, forthcoming) and may be due to the erosion of the rights of the people to hunt game (Gilbert 1979).

TABLE 3

Comparison of percentages of bones from the main food-forming mammals at six Scottish urban medieval sites

Site	Cattle	Sheep	Goat	Pig	Horse	Deer
St Ann's Lane, Perth	57.9	32.2		9.1	0.4	0.2
Canal St, Perth	58.5	32.3	0.3	5.5	3.4	
High St, Elgin	57.1	21.9	5.6	9.5	5.1	0.7
Farquhar and Gill, Aberdeen	68.8	19.5		8.5	1.6	1.5
Broad St, Aberdeen	58.1	26.7		13.7	0.2	1.2
High St, Perth	63.1	21.8	4.7	9.2	1.1	0.1

#### AGES OF ANIMALS ON DEATH

##### *Cattle*

There is no dental evidence of young immature cattle; a worn third molar (M3) from phase VI indicates the presence of at least one mature beast. Long bones lacking fused epiphyses (and which are therefore attributed to young animals) were found at three levels in phases III, V and VI and up to 50% were from juveniles.

##### *Sheep*

Sheep/goat half mandibles were assessed as to age in accordance with the criteria proposed by Payne (1973). The sheep range in age from lamb of less than six months to older animals of up to six years. Most of the sheep were successfully reared into adulthood and died or were culled between the ages of three and six years. Selected long bones of sheep and goat were classified as juvenile or mature animals according to whether the articulatory surfaces (epiphyses) were absent or were fused to the shafts. Lambs and young sheep were found at all the levels where sheep remains were present. On the dental and bone evidence it appears that lambs and young sheep were eaten but many of the sheep were successfully reared into maturity. Possibly the flocks were kept to provide wool and lambs and the remains of the young sheep were from animals which died or were selectively culled.

##### *Pig*

There is no dental evidence to indicate the presence of piglets or young pigs. A single pig half mandible from phase III bears a worn third molar (M3) and comes from a mature animal. The pig long bones were not assessed as to age because the epiphyses readily became detached from the shaft during cooking.

##### *Horse*

Horse bones from phase III come from adult animals.

##### *Dog*

The dog remains from phase VI are from mature animals.

##### *Cat*

A single cat humerus from phase III is from a kitten.

#### SEX, SIZE AND TYPE OF ANIMALS

There is insufficient evidence to comment on the sex of the cattle, sheep, goats, pigs and cats. A single *os penis* indicates the presence of at least one male dog. The animal remains of the cattle, sheep,

goat and pigs seem to represent unimproved domestic breeds which conform with those described from other medieval sites at Perth, Elgin and Aberdeen.

#### CARCASS ANALYSIS

The numbers of high meat-yielding limb bones of cattle and sheep were compared with those of low meat yield (foot and metapodials) in order to try to detect evidence of the import or removal of joints of meat to and from the site or the accumulation of carcass dressing waste.

The ratios of limb to foot bones for cattle are remarkably constant from phase II to phase VI and range from 0.5 to 1.4. This suggests that all parts of the cattle carcasses were exploited. The ratios of limb to foot bones for sheep/goat increase from 3.2 in phase III to 7.3 in phase VI, an increase being recorded at each intervening phase. This may be due to an increase in the standard of living or to the Canal Street site becoming more opulent as time passed.

#### PATHOLOGY AND BUTCHERY

With the single exception of an arthritic cattle phalange the bones and teeth examined came from apparently healthy animals. Some of the bones bear chopping marks but none has been sawn.

#### COAL ANALYSIS

Several fragments of coal were analysed by Mr T W Pettigrew (Scientific Department, National Coal Board) who was unable to identify their source. However he felt that they were compatible with coals from 'opencast' workings. They also had a low sulphur content as do coals from several seams in Fife and Clackmannan. The coal fragments came from phases IV, V and VI.

#### DISCUSSION

The Canal Street site had been open, cultivated land throughout much of its history. It was presumably the garden, orchard and rubbish dump for properties built nearer to the South Street frontage. The series of pits that has been described above has not been fully understood, although it has been suggested that pit 1189 (phase III) may have been for food storage. Most of the other pits had eventually been filled with domestic rubbish, but their primary use remains a mystery. It is hoped that studies of pits elsewhere in the town will provide at least some satisfactory solutions.

The cultivation of this site meant that the soil was aerobic when compared to conditions on more central sites. Sieving for environmental remains proved unsuccessful, no organic material (other than bone) survived. The metalwork was fragmentary and badly corroded. The finds that did survive were generally plain and functional. Most of them were probably made locally and were probably domestic rubbish from fairly poor households.

It is the pottery that has proved most useful. Ninety-three per cent of the sherds are believed to have been made in Scotland, showing the success of the local kilns. The imported wares were perhaps luxury goods. Most of them originated in the Low Countries, northern England and the Rhineland, which emphasizes the importance of the North Sea in Scottish trade during the medieval period.

This site was a trial excavation and, as such, was not intended to produce firm data regarding the history and development of the medieval burgh of Perth. However, some general comments can be made, especially when the site is contrasted with Kirk Close (Blanchard, forthcoming) and Perth High Street (Bogdan, forthcoming). Perhaps the most noticeable difference is the relatively late date of levels at Canal Street. The earliest datable level was phase II (late 13th to 14th centuries) and there is only one earlier phase, whereas the High Street site was securely dated to well before 1150.

There is some tentative evidence regarding the development of South Street. The earliest linear feature, slot 1280 in phase I, appeared to have been cut at random across the corner of the site and it was not until the gully, 1205, in phase III that there was a feature aligned at right angles to South Street. It has been suggested above that this gully acted as a burgage plot boundary and it may be that it represents the earliest marking-out of South Street properties. It could be postulated then that this area was not occupied until the 13th century with burgage plots being marked out by the 14th century. In contrast to property boundaries at Kirk Close and High Street, which remained fixed over the centuries, gully 1205 was respected only in phase III. This could be because the area was used mainly as garden and midden, and therefore there was no need for rigid separation from neighbouring properties. By the 16th century the whole site must have been part of a single plot as shown by the house in phase VI which was set squarely across the site. Its central position also suggests that the present-day property boundaries were also established by this time and perhaps Ropemaker's Close was in use, at least as a private access.

The lack of a destruction level for building 1 is intriguing and it is tempting to ascribe this to Cromwellian activity in the town c 1652-3 (Cowan 1904, 168-70). At this time vast quantities of stone were moved from the town to build a citadel on the South Inch less than half a mile away from the excavation. The subsequent low level of activity on the site is contemporary with a general decline in the prosperity of Perth in the 17th and 18th centuries.

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