Illus 34 Scottish Redware jugs.
Illus 35 Scottish Redware jugs.
Illus 36 Scottish Redware chamber pots 42–43, Scottish Redware jars 44–50.
Illus 37 Scottish Redware open vessel forms.
Excavations at the Horse Cross, Perth

Illus 38 Scottish Red Ware, other vessel forms.

Ely Type Ware (Catalogue 90, Illus 43)

This fabric type has only recently been identified in England as being produced at Ely in Cambridgeshire (Hall 2001, 2–21). There are 23 sherds from this excavation from Phases 1 and 2 (918 and 1050) apparently all from jugs. This is the first Scottish site to produce sherds of this fabric type. Intriguingly the Blackfriars cartulary describes a property on part of this site, lying between the Blackfriars aqueduct and the land of Henry Pullour, as being under the ownership of Thomas de Lyn (ie Kings Lynn in Norfolk) in 1420 (Milne 1893, No XXVI). There are references to the Lenn or Lyn family in Perth from at least the 13th century (Duncan 1974, 47). As Ely lies only 29 miles to the South of Lynn and is where the pottery would have been exported from, it is tempting to suggest that there is a link between the owner of that piece of land and the pottery that he was using.

Rouen-type Ware (Catalogue 91, Illus 43)

There are three body sherds present from glazed jugs decorated with applied notched panels dating to the late 12th or early 13th centuries (Phases 2 and 3).
Illus 39 Cats 61-70 Scottish White Gritty Ware jugs.
Illus 40 *Scottish White Gritty Ware jars.*
Illus 41 *Scottish White Gritty Ware jars.*
Illus 42 Scottish White Gritty Ware jars.

Illus 43 Yorkshire Type Ware vessels 86–89, Ely Type Ware jug handle 90, Cat 91 Rouen-type Ware jug 91, Low Countries Highly Decorated Ware lid 92, Low Countries Greyware pitcher handle 93.
Low Countries Highly Decorated Ware (Catalogue 92, Illus 43)

This distinctive white slipped redware fabric was formerly known as Aardenburg-Type due to the discovery of kilns there which were producing these vessels (Verhaeg 1983, 6 and 7). It has since become obvious that there were a much greater number of production centres and has been renamed. There is a single piece from this excavation from a vessel lid (Context 1168, Phase 3).

Low Countries Greyware (Catalogue 93, Illus 43)

There are only four sherds in the whole assemblage in this fabric type which dates to the 12th or 13th centuries (Verhaeg 1983, 5). Included amongst them is a very distinctive handle from a greyware pitcher (Context 579; Phase 2).

Low Countries: Green Glazed Siegburg Stoneware (not illustrated)

These very distinctive vessels date to the 15th century and are fired twice, on the second occasion with a lead glaze which gives them a glossy green colour (Hurst 1986). There are only five bodysherds from this excavation, from Context 229 (Phase 4) and Context 253 (Phase 5).

Spanish Lustrewares (not illustrated)

There are four sherds from a Malagan lustreware albarello (spice or herb jar) and two other unprovenanced lustreware bowls from Context 253 (Phase 5) and 1363 (Phase 4) in these Iberian fabrics.

Rhenish Stoneware (Catalogue 94–104, Illus 44)

Vessels in these highly fired fabrics became popular in Scotland from 1350 and have a marked effect on the styles of vessels being manufactured by the local redware potters. Vessels from the production centres of Siegburg, Langewehe and Frechen are present in this assemblage (Hurst 1986; Gaimster 1997). Jugs with frilled bases are the most common form present, although there is a single basesherd from a drinking bowl. There are 95 sherds in the whole assemblage.

Merida-type Ware (Catalogue 105–108, Illus 45)

There are sherds from a small jug and a costrel in this Iberian fabric which dates to the 16th or 17th centuries. These vessels are assumed to have been traded as containers for an oil, probably not olive oil given their smallness of size in relation to the much larger olive jars (Hurst 1986, 69). Almond oil is a possibility.

Unidentified (Catalogue 109–122, Illus 46, 47)

There is a group of 274 sherds of unprovenanced medieval pottery from this excavation. The majority are very small whiteware bodysherds which it is very difficult to identify to source. The most distinctive vessel fragment which remains unprovenanced is part of a ring vase (ceramic candelabrum) from context 644 (Phase 3). This vessel comes from a layer associated with the demolished remnants of St Laurence’s Chapel and is the first example from Scotland. The best published parallels for these vessels are from Thetford in Norfolk (Rogerson and Dallas 1984, Fig. 178).

Discussion and conclusions

Evidence for pottery manufacture (Catalogue 123–125, Illus 48)

Over thirty years of excavation in Perth have identified a very distinctive redware fabric which is assumed to have been locally produced. So far evidence for the location of the production site or sites has been not been found, however this excavation produced three fragments of kiln props from Contexts 253 and 254 (Phase 5) and two pieces of kiln waste from Contexts 243 and 339 (Phase 4). The kiln props were used to help with the loading of the kiln and also acted as heat baffles. They are of a distinctive ‘cooling tower’ shape and are similar to those from the Scottish Redware production sites of Rattray in Aberdeenshire and Stenhousemuir near Falkirk (Murray and Murray 1993; Hall and Hunter 2001). The pieces of waste are represented by two highly fired and vitrified Scottish redware rimsherds. The presence of kiln furniture from this excavation and the adjacent excavations at the former Pullars works would seem to suggest that pottery manufacture was taking place in the near vicinity. The former placename of Clayhill seems to be significant in this respect and it is frustrating that no structural evidence for kilns or other structures was found during these excavations. This possibility should be kept in mind if there any other future developments in this part of town.

Phase dating

Phase 1 of this excavation produced pottery that would suggest a late 12th century date for this activity and includes sherds of Developed Stamford Ware and London Shelly Ware. Phase 2 can date to no earlier than 1350 due to the presence of sherds from vessels in Siegburg stoneware. Phase 3 would also seem to be consistently of 14th century date, with sherds of Yorkshire Type wares, Rhenish Stonewares, Low Countries Highly Decorated wares found in association with Scottish Redwares and Scottish White Gritty Wares. Phase 4 includes sherds of Merida-type Redware which should
Illus 44  *Rhenish Stonewares.*
Illus 45 *Merida type Redware vessels.*
Illus 46 Unidentified fabrics.
Illus 47 Unidentified fabrics.

Illus 48 Kiln furniture.
Excavations at the Horse Cross, Perth

Late medieval ceramics

This assemblage is of most interest for the sherds of fabrics of late and post-medieval date which it contains, particularly as deposits of this date no longer survive in the core of the medieval burgh due to later destruction by cellarage. The sherds of vessels in Merida-type redware, Green Glazed Siegburg stoneware and Malagan lustreware are of consistently high status, either suggesting that the inhabitants of this extra-mural suburb had very rich dining tables or that this material all originates elsewhere, for example from the neighbouring Blackfriars monastery. The fragment of ring vase from Phase 3 must have also had an ecclesiastical function given its direct association with the remains of St Laurence’s Chapel.

Table 1 Pottery by phase.

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Pottery illustration catalogue

Scottish Redware

Jugs

1 Rim and handle junction from splash glazed jug, Context 579 Phase 2
2 Rim and handle junction from splash glazed jug, Context 989 Phase 3
3 Rim and handle junction from splash glazed jug, Context 905 Phase 4
4 Rim and handle junction from splash glazed jug, Context 253 Phase 5
5 Rim from glazed vessel, Context 508 Phase 4
6 Splayed rim from splash glazed vessel, Context 253 Phase 5
7 Strap handle decorated with thumbed strips, Context 1085 Phase 1
8 Rim and handle junction from splash glazed jug, Context 579 Phase 2
9 Rim from glazed vessel, Context 508 Phase 4
10 Splayed rim from splash glazed vessel, Context 253 Phase 5
11 Strap handle decorated with thumbed strips, Context 1085 Phase 1
12 Twisted rod handle with remains of anthropomorphic face mask, Context 564 unphased
13 Small decorative handle from figure jug, Context 280/281 Phase 4
14 Small decorative handle from figure jug, Context 1087 Phase 4
15 Thumbed strap handle junction, Context 280 Phase 4
16 Ribbed neck from jug, Context 607 Phase 2
17 Applied pad with cross, Context 771 Phase 2
18 Applied pad with ring and dot decoration and incised lines, Context 350 Phase 4
19 Applied pad with ring and dot decoration, Context 572 Phase 2
20 Applied incised pads, Context 350 Phase 1
21 Applied circular decoration, Context 295 Phase 4
22 Applied incised pads, Context 350 Phase 1
23 Applied incised pads, Context 350 Phase 1
24 Applied incised pads, Context 350 Phase 1
25 Flat base with stacking scar on bottom, Context 1246 Phase 2
26 Flat base, Context 409 Phase 3
27 Flat base, Context 1129 Phase 3
28 Slightly sagging base, Context 998 Phase 3
29 Slightly sagging base, Context 1129 Phase 3
30 Thumbed basal angle, Context 1129 Phase 3
31 Frilled basal angle, Context 253 Phase 5
32 Frilled basal angle with signs of reuse as container, Context 130 Phase 4
33 Sagging base, Context 579 Phase 2
34 Sagging base with internally rilled surface, Context 433 Phase 3
35 Slightly sagging base, Context 420 Phase 4
36 Slightly sagging base, Context 253 Phase 5
37 Sagging base, Context 905 Phase 4
38 Slightly thumbed sagging base, Context 1432 Phase 4
39 Sagging base, Context 253 Phase 5
40 Sagging base, Context 921 Phase 5
41 Sagging base from large jug, Context 866 Phase 3 or 4
42 Complete handled chamber pot glazed yellow, Context 257 Phase 5
43 Virtually complete chamber pot with handle on rim, Context 253 Phase 5

Jars

44 Slightly everted rimsherd from jar, Context 1087 Phase 4
45 Slightly everted rimsherd from jar, Context 772 Phase 5
46 Splayed rimsherd from jar, Context 1050 Phase 2
47 Slightly splayed rimsherd from jar, Context 1050 Phase 2
48 Slightly everted rimsherd from jar, Context 335 Phase 3
49 Slightly beaded rimsherd from jar, Context 579 Phase 2
50 Rimsherd with cordon from jar, Context 1439 Phase 3

Open vessels

51 Rimsherd from green glazed bowl with notched decoration around rim, Context 587 Phase 3
52 Rimsherd from green glazed bowl with applied pad with incised decoration, Context 350 Phase 2
53 Rimsherd from green glazed bowl with applied pierced knob, Context 282 Phase 3 or 4
54 Rimsherd from green glazed bowl with applied pads on rim, Context 905 Phase 4
55 Complete profile from green glazed flat bowl or dish, Context 998 Phase 3
56 Complete small glazed bowl, Context 280 Phase 4
57 Basesherd from green glazed vessel with incised wavy line decoration, Context 1087 Phase 4

Other vessel types

58 Rim and handle junction from ladle, Context 595 Phase 2
59 Fragment of handle from skillet or ladle? Context 754 Phase 3 or 4
60 Sidewalls from unknown vessel type with internally rilled surface and pierced hole, Context 886 Phase 3

Scottish White Gritty Wares

Jugs

61 Rim and spout from glazed jug, Context 589 Phase 2
62 Rim from glazed jug with cordon, Context 885 Phase 2
63 Rim and spout from glazed jug, Context 579 Phase 2
64 Rim and spout from glazed jug, Context 282 Phase 3 or 4
65 Rim and strap handle junction from glazed jug, Context 1087 Phase 4
66 Rim and strap handle junction from glazed jug, Context 700 Unstratified
67 Bodysherd from glazed jug decorated with incised loops, Context 989 Phase 3
68 Bodysherd from glazed jug with applied notched strip, Context 579 Unstratified
69 Flat base from jug, Context 1234 Phase 2
70 Slightly sagging base for jug, Context 989 Phase 3
| 71 | Rim to base profile of jar with frilled rim, Context 949 Phase 3 |
| 72 | Frilled rimsherd from jar, Context 1129 Phase 3 |
| 73 | Frilled rimsherd from jar, Context 380 Phase 4 |
| 74 | Frilled rimsherd from jar with externally rilled surface, Context 554 Phase 3 |
| 75 | Frilled rimsherd from jar, Context 561 Phase 1 |
| 76 | Rimsherd from jar, Context 1234 Phase 2 |
| 77 | Rimsherd from jar, Context 577 Unstratified |
| 78 | Slightly everted rimsherd from jar, Context 1211 Phase 2 |
| 79 | Narrow strap handle, Context 1265 Phase 1 |
| 80 | Narrow strap handle, Context 579 Phase 2 |
| 81 | Rod handle, Context 770 Phase 3 |
| 82 | Strap handle with stabbed holes, Context 380 Phase 4 |
| 83 | Strap handle with stabbed holes, Context 1440 Phase 4 |
| 84 | Basal angle from straight side jar, Context 1265 Phase 1 |
| 85 | Slightly everted basal angle from jar, Context 813 Phase 3 |

### Yorkshire Type Wares

| 86 | Rim and handle junction from green glazed jug, Context 754 Phase 3 or 4 |
| 87 | Fragment of incised green glazed jug lid, Context 577 Unstratified |
| 88 | Bodysherd from green glazed jug decorated with applied strips and pellets, Context 577 Unstratified |
| 89 | Thumbed basal angle from green glazed jug, Context 372 Phase 4 |

### Ely Type Ware

| 90 | Notched strap handle junction from unglazed vessel Context 1050, Phase 2 |

### Rouen-type Ware

| 91 | Bodysherd from yellow glazed jug with applied notched strip, Context 707 Phase 3 |

### Low Countries Highly Decorated Ware

| 92 | Fragment from top of green glazed lid, Context 1168 Phase 3 |

### Low Countries Greyware

| 93 | Rod handle from pitcher, Context 579 Phase 2 |

### Rhenish stonewares

| 94 | Narrow strap handle from vessel in Siegburg stoneware, Context 579 Phase 2 |
| 95 | Narrow strap handle from vessel in Frechen stoneware, Context 989 Phase 3 |
| 96 | Basal angle from mug in Siegburg stoneware, Context 572 Phase 2 |

### Merida-type Redwares

| 105 | Rimsherd from small jug or costrel, Context 1087 Phase 4 |
| 106 | Thumbed handle from jug, Context 989 Phase 3 |
| 107 | Basal angle and sidewalls from costrel or jug, Context 905 Phase 4 |
| 108 | Basal angle and sidewalls from costrel or jug, Context 700 Unstratified |

### Unidentified

| 109 | Rim and sidewalls from small jar, Context 918 Phase 1 |
| 110 | Slightly everted rim from greyware vessel, Context 1266 Phase 1 |
| 111 | Slightly everted rim from greyware vessel, Context 918 Phase 1 |
| 112 | Rim from small jar, Context 918 Phase 1 |
| 113 | Slightly everted rim from greyware vessel, Context 1050 Phase 2 |
| 114 | Rim from small vessel, Context 1170 Phase 2 |
| 115 | Rim from greyware vessel, Context 989 Phase 3 |
| 116 | Rim from glazed jug, Context 326 Phase 3 |
| 117 | Rim, narrow strap handle and sidewalls from small redware jug, Context 921 Phase 5 |
| 118 | Narrow strap handle decorated with incised line, Context 1241 Phase 2 |
| 119 | Green glazed bodysherd with raised applied strips, Context 552 Phase 3 |
| 120 | Strap handle junction from whiteware jug, Context 253 Phase 5 |
| 121 | Rim and sidewall from redware bowl glazed green with slip decorated lines, Context 1231 Unstratified |
| 122 | Rimsherd from open vessel form, Context 25 |

### Kiln furniture

| 123 | Base of kiln prop, Context 546 Phase 3 |
| 124 | Base of kiln prop, Context 253 Phase 5 |
| 125 | Base of kiln prop, Context 254 Phase 5 |
The Artefacts
Adrian Cox

with contributions by Torben Bjarke Ballin, Dianne Dixon, Derek Hall, Mark Hall, Nicholas Holmes, K Robin Murdoch, Catherine Smith and Clare Thomas

Introduction

The artefact assemblage from this excavation includes an unusually diverse range of material and object types, and represents important evidence of medieval and later activities and material culture within Perth’s northern suburb. The survival of waterlogged, organic remains adds to the diversity, with well-preserved arte-facts of wood and leather occurring in the medieval midden deposits.

Of particular significance within this assemblage are the iron artefacts, the largest numbers of which were recovered from the midden deposits within the ditch and the deposits associated with the structural remains overlying the backfilled ditch. These and the other components of the assemblage are described and discussed below by material type and within functional categories. A selective catalogue is presented, and measurements are expressed to the nearest 1mm.

Copper alloy objects

The assemblage of copper alloy artefacts from the site is smaller and less diverse than the iron assemblage, and many artefacts were recovered in a corroded condition from the generally damp deposits. Two functional groupings are dominant: costume accessories such as buckles and lace ends, and objects representing the cold working of sheet metal and its use in repairs.

A buckle frame of simple, D-shaped form (Catalogue No 1) was recovered from a waterlogged midden deposit in the northern part of the site. D-shaped buckles were in common use throughout the medieval period and this type is not closely dateable. The unevenness of the frame indicates that it was not particularly carefully finished. Also of a simple, functional form, No 2 is a plain buckle plate, incorporating a rivet which would have secured an associated leather strap. It was recovered from a midden deposit below the stone buildings in the central area of the site.

A number of buttons, all probably of 19th- or early 20th-century date, was excavated from the area to the west of Castle Gable occupied by the Pullars works. No 3 is a plain, circular, brass button, numbers of which would have adorned men’s attire in the second half of the 19th century.

Popular during the late medieval period and into the 17th century, lace tags were used to terminate laces and thongs and would have had a multiplicity of uses in fastening various types of clothing. Five examples were recovered from this excavation, from Phases 4 and 5, but only No’4, from a midden deposit in Phase 4, is a complete example. It has an edge-to-edge seam which, on the basis of larger groups of tags excavated elsewhere (eg Oakley 1979, 262), tentatively indicates a 16th- to 17th-century date.

1 Buckle frame Length 49mm; width 34mm; thickness 3mm.

Buckle frame of D-shaped form. The frame is of uneven thickness, and is narrowest and thinnest in the area where the missing pin would have been attached. (Not illustrated). Context 1363; Find No 702; Phase 4

2 Buckle plate Length 23mm; max width 12mm; thickness (including rivet) 4mm. Rectangular buckle plate with a circular cross-sectioned rivet near one end. The opposite end is roughly broken. Corroded. (Not illustrated). Context 295; Find No 443; Phase 4

3 Button Diameter 19mm; thickness (including eye) 4mm. Button with a plain, circular face and a distorted, oval eye. (Not illustrated). Find No 700; unstratified

4 Lace tag Length 26mm; width 2mm. Complete lace tag made from a tightly rolled sheet with an edge-to-edge seam and a closed terminal. (Not illustrated). Context 295; Find No 436; Phase 4

A sheet metal repair patch (No 5) and a repaired vessel fragment (No 6), both from Phase 3, represent evidence of the cold working of copper alloy and of the high value placed on metal vessels. No 5 survives in excellent condition due to the anaerobic nature of the midden deposit from which it was recovered. A linear perforation near to one edge would have been occupied by a sheet metal rivet, an example of which survives in situ in No 6. The latter probably represents part of a vessel wall, including its rim. It is distorted and also heavily corroded, being excavated from a less waterlogged midden deposit. A small, sheet metal rivet, derived from a diamond-shaped sheet, penetrates the vessel wall and secures a now fragmentary repair patch.

Finds such as this indicate that vessels were often repaired where possible rather than being discarded after sustaining damage. There is also evidence from elsewhere in Perth (eg Cox 1996, 804) that copper alloy artefacts were recycled at their end of their use-life. Repaired vessel rims and repair patches have previously been excavated from a number of medieval burghs, for example Perth (Ford 1995, 961; Cox 1996, 770), Linlithgow (Stones 1989, 160), Rattray (Goodall 1993, 192) and St Andrews (Caldwell 1996a, 636; Cox 1995, 63–4; Maxwell 1997, 74).

A slightly irregular, slender offcut with trimmed edges (No 7) was found in Phase 5. Offcuts such as this were rare on this site, but their presence indicates at least small-scale working of copper alloy sheet.

5 Repair patch Length 41mm; width 35mm; thickness 0.2mm. Approximately rectangular fragment of plain sheet with a single surviving cut edge. The remaining edges are roughly broken. A linear perforation (length 13mm) has been cut near to the surviving edge. (Not illustrated). Context 409; Find No 437; Phase 3

6 Vessel fragment Depth 46mm; max width 84mm; thickness c1mm. Probable vessel fragment, distorted and with broken edges. Part of an edge possibly representing the rim survives.

Adrian Cox
A sheet metal rivet, securing a fragmentary repair patch, also survives in situ. Heavily corroded. (Not illustrated). Context 1129; Find No 701; Phase 3

7 Offcut Overall length 109mm; max width 6mm; thickness 0.9mm. Offcut strip in two conjoining pieces, with knife-trimmed edges, one of which has a stepped profile. (Not illustrated). Context 253; Find No 703; Phase 5

Lead alloy objects

A majority of the small assemblage of lead alloy objects consists of small fragments of sheet and irregular waste pieces. The four finds detailed below (Nos 8–11) are the exceptions to this as they exhibit clear evidence of being worked.

A strip or bar of sub-rectangular cross-section (No 8) may represent material intended for use in construction or repair work. It was found close to the walls of the 18th-century buildings on the west side of Castle Gable. An elongated offcut from a charcoal-rich deposit in Phase 6 (No 9) has been trimmed by a knife along its length. The bend in this piece appears coincidental rather than deliberate. No 10, from Phase 2, is a quite substantial offcut, knife-trimmed down both long edges. No 11 is a more heavily corroded fragment from Phase 3.

8 Strip Length 94mm; width 20mm; thickness 7mm. Strip or bar of sub-rectangular cross-section and uniform width and thickness, broken at both ends. (Not illustrated). Context 366; Find No 900; Phase 5

9 Offcut Length 56mm; width 6mm; thickness 6mm. Offcut of elongated form and irregular cross-section, incorporating a bend near one end. Both ends are broken. (Not illustrated). Context 168; Find No 901; Phase 6

10 Offcut Length 109mm; max width 22mm; max thickness 4mm. Offcut of elongated, irregular form with knife-trimmed edges. (Not illustrated). Context 589; Find No 902; Phase 2

11 Offcut or fragment Length 36mm; max width 24mm; max thickness 6mm. Offcut or fragment of irregular form (Not illustrated). Context 523; Find No 903; Phase 3

Iron objects

A variety of activities is represented by the assemblage of iron artefacts, which are discussed below within functional categories. A range of household items, structural fittings, horse equipment and implements is included. A small number of objects (including Nos 20, 30 and 36) have surface deposits of vivianite (iron phosphate). Such deposits sometimes occur on objects recovered from waterlogged, organic layers and from other contexts where a source of phosphate is present. On this site, waterlogged midden deposits containing decomposed organic remains and animal dung would have provided a ready source. Vivianite can form a protective coating over iron, protecting it from further corrosion for a considerable period.

Buckles

No 12 is a buckle attached to a leather strap, possibly representing an animal collar or a spur strap. Small buckles of similar size and form were frequently made from copper alloy rather than iron, as at Threave Castle (Caldwell 1981, 109, Fig 10, No 47). No 12 came from well-preserved midden deposits to the north of the bridge crossing the ditch. X-radiography was used to reveal the form of the buckle, which is heavily corroded.

No 13 is a double-looped buckle frame of simple form. Traces of an indentation in which the pin would have rested are visible on the x-ray image. Another simple form is represented by No 14, which has an elongated D-shaped outline.

12 Buckle with strap Buckle: Length 19mm; width 15mm; thickness c3mm. Strap: Length 319mm; width 10mm; thickness 3mm. Possible animal collar, consisting of a buckle attached to the end of a slender leather strap of cattlehide (see Leather report). The strap has a series of nine small, equally-spaced holes along its central axis, beginning at 116mm from the broken end. The buckle is heavily corroded, although x-radiography reveals that it is a double-looped, rectangular form, with a simple pin swivelling around the central bar. The strap is attached by means of a riveted, rectangular buckle plate. (Not illustrated). Context 1315; Find No 704; Phase 4

13 Buckle frame Length 34mm; width 31mm; thickness 4mm. Frame of a double-looped buckle, almost circular in outline, with a circular cross-sectioned edge. The frame is bisected by an oval cross-sectioned pin bar, the central part of which is missing. (Not illustrated). Context 366; Find No 222; Phase 5

14 Buckle frame Length 48mm; max width 38mm; thickness 6mm. Frame of sub-circular cross-section and elongated D-shaped form. The front edge of the buckle is thicker than the straight pin bar. (Not illustrated). Context 1087; Find No 402; Phase 4

Candlestick

No 15 is an example of a pricket type candlestick. Unlike socketed candlesticks, which have a socket into which a candle could be inserted, pricket candlesticks incorporate a spike onto which a candle could be impaled. They also have a pointed shaft, for driving into wood or into crevices in stonework. Scrolls or loops, which occur on some examples, including this one, appear to have served a largely decorative function. Six candlesticks of this type were recovered from excavations at Meal Vennel (Cox 1996, 774–5), where they may have been used to light smithing workshops. Two almost complete examples were excavated at Rattray, Aberdeenshire ([Goodall 1993, 182, Fig 36, Nos 96–7]). No 15, probably of 14th-century date, was closely associated with a medieval yard or track surface close to the west frontage of Castle Gable.
15 Candlestick  Length 128mm; max width 32mm; max thickness 7mm. Complete pricket candlestick with a rectangular cross-sectioned central shank which tapers to a point at both the top and bottom. Rectangular cross-sectioned side scrolls spring from a shoulder in the shank. The upper part of one of the scrolls is slightly distorted. (Illus 49). Context 572; Find No 165; Phase 2

Chains

Iron chains served a great variety of purposes, including securing doors and windows, suspending cooking vessels and as components of horse harness equipment. Smaller examples could be used for tethering dogs and other animals, and to secure household fittings such as padlocks. A length of chain with a connecting swivel ring was recovered from a mid- to late 13th-century context at 80–86 High Street, Perth (Cox 1997, 748, Illus 18, No 54). No 16, from Phase 4, has its links encased by iron tubes, which may have served to protect their weakest parts. No 17 is a complete chain link of elongated form, with part of another link attached. A very similar, but smaller, chain link was excavated at Meal Vennel (Cox 1996, 775, Illus 21, No 317).

16 Chain  Complete link: Length 61mm; width 22mm; thickness 5mm. Part of a chain, consisting of one complete and one fragmentary link. The links are of slender, figure-of-8 form, and the central part of each is encased by a curved iron sheet which forms an incomplete, circular-cross-sectioned tube. Heavily corroded. (Not illustrated). Context 295; Find No 161; Phase 4

17 Chain  Length 52mm; max width 16mm; thickness 7mm. A complete chain link, of elongated figure-of-eight form, with a small fragment of another link attached by corrosion products at one end. (Illus 50). Context 100; Find No 31; Unstratified

Hasps

Hasps were used in conjunction with staples and padlocks to fasten doors and gates or to secure the lids of chests. Two complete examples (Nos 18 and 19) were recovered. They are of similar form, although No 19 is larger and has a more intact terminal. They were widely separated stratigraphically, however. No 18 came from a black, organic deposit in Phase 1, whereas No 19 is from the fill of a cut in Phase 4.

18 Hasp  Length 88mm; max width 23mm; thickness c5mm. Complete hasp of elongated figure-of-eight hasp form, heavily corroded at the wider end. (Not illustrated). Context 904; Find No 357; Phase 1

19 Hasp  Length 114mm; max width 32mm; thickness c7mm. Complete hasp of elongated figure-of-eight form. (Not illustrated). Context 883; Find No 352; Phase 4

Heckle

Heckles were used to comb wool and flax in preparation for spinning, and teeth from them have previously been excavated at several sites within the medieval burgh. Samples of both *Linum* (flax) and wool were recovered at PHSE (Fraser, forthcoming; Ryder, forthcoming) and Kirk Close (Robinson 1987, 200–1). At the latter site, the flax remains came from floor deposits and may have represented waste material used as flooring. Wool fibres were recovered from yard deposits. No 20 came from a deposit of stone representing tumble from a wall in Phase 3.

20 Heckle tooth  Length 172mm; max width 6mm; max thickness 4mm. Heckle tooth of roughly oval cross-section, slightly curved and tapering towards a point. (Not illustrated). Context 588; Find No 104; Phase 3

Jew’s harp

Jew’s harps like No 21 were small musical instruments, held in the mouth. This example is almost complete, and, unusually, the very fragile central reed survives. It was recovered from midden beneath the floor of a stone building on the west side of Castle Gable.

21 Jew’s harp  Length 78mm; width 24mm; thickness 6mm. Almost complete Jew’s harp with rectangular cross-sectioned edges. Most of the central reed survives. The terminal of one arm is missing. (Not illustrated). Context 366; Phase 5; Find No 226

Keys

Two keys (Nos 22 and 23) were recovered from unstratified contexts. No 22 is characterised by a narrow D-shaped bow and a complex bit, whereas No 23 has a roughly lozenge-shaped bow and a much simpler form of bit. Both are probably of medieval date. Keys with
Excavations at the Horse Cross, Perth

lozenge-shaped bows, like No 23, were common in the 13th and 14th centuries (London Museum 1940, 138). In this example, the shank and the bit have been fashioned from a single rolled sheet, although the seam is well disguised. The key appears to have been well-used, and the lower part of the bow is more heavily worn than the upper part.

22 Key Length 150mm; estimated original width of bow c42mm; depth of bit 24mm. Almost complete key with part of a narrow D-shaped bow, a sub-rectangular cross-sectioned shank and a rectangular bit with a complex pattern of ward cuts. The end of the shank projects beyond the bit. Approximate dimensions of the bow have been extrapolated from the surviving part. (Illus 51). Find No 133; unstratified

23 Key Length 104mm; width of bow 38mm; depth of bit 19mm. Key with a roughly lozenge-shaped bow and a roughly circular cross-sectioned shank. The rectangular bit has a single, vertical ward cut. The bow appears to be unevenly worn. (Not illustrated). Find No 148; unstratified

Knives

Two knives, both of whittle tang form (Nos 24 and 25), were recovered. The term whittle tang denotes a tang inserted into a solid handle, whereas scale tang denotes one onto which plates or scales are rivetted, forming a composite handle. A study of over 300 knives from London (Cowgill et al 1987) showed that all knives there dating to before the beginning of the 14th century were of whittle tang type. After c1360, however, over half the knives from this site have a lobed, flat-topped head (eg No 29), which would have been in use during the 13th to 14th centuries, to secure the heavier horseshoes. Unfortunately, many of the horseshoe nails recovered came from unstratified contexts.

24 Knife Length 102mm; max width (excluding corrosion) 14mm; thickness (excluding corrosion) 5mm. Knife of whittle tang type, including the blade and part of the tang. The blade edge is straight, and the back incorporates a shoulder before curving gently downward towards the tip. The tang has a square cross-section. (Not illustrated). Context 380; Find No 163; Phase 3

25 Knife Length 278mm; max width 22mm; max thickness 8mm. Knife of whittle tang type with a long, straight-backed blade, tapering only slightly towards the missing tip. The almost complete, rectangular cross-sectioned tang is also long. (Not illustrated). Context 762; Find No 334; Phase 5

Horse equipment

Four horseshoes are represented. One of the most complete (No 26) has a pronounced sinuous outline and rectangular nail holes in deep, oval countersinkings. Shoes of this type from London (Clark 1995, 95) date from the 12th and 13th centuries, although examples of slightly later date have been found elsewhere, for instance in Exeter (Goodall 1984, 338). Another horseshoe of this form, although larger (length 107mm) was recovered from an unstratified context. No 27, from Phase 3, is part of a later form of shoe, probably of 14th-century date. It has a smooth outline and square nail holes.

26 Horseshoe Length 88mm; max width 19mm; thickness 4mm. Fragment representing slightly over half of a horseshoe, with a sinuous outer edge and three surviving nail holes, with deep, oval countersinkings. The surviving branch terminates in a small but pronounced calkin. (Illus 52). Context 602; Find No 319; Phase 2

27 Horseshoe Length 84mm; width c29mm; thickness c5mm. Fragment representing part of one branch of a horseshoe, with three equidistant, approximately square nail holes surviving. (Not illustrated). Context 546; Find No 212; Phase 3

At least 11 horseshoe nails are present in the assemblage, although many of these are heavily corroded and have been identified with the aid of x-radiography. Examples with a ‘fiddle-key’ type of head, such as No 28, are generally thought to have been used from as early as the 9th century until around the middle of the 13th century (Clark 1986, 2), in conjunction with horseshoes like No 26, above. Most of the horseshoe nails from this site have a lobed, flat-topped head (eg No 29), which would have been in use during the 13th to 14th centuries, to secure the heavier horseshoes.
28 Horseshoe nail Length 29mm; width of head 11mm; thickness 4mm. Horseshoe nail with a shouldered, semi-circular to oval head. The shank is clenched and the tip is missing. (Not illustrated). Context 704; Find No 295; unstratified

29 Horseshoe nail Length 46mm; width of head 12mm; thickness 5mm. Horseshoe nail with a flat-topped, lobed, trapezoidal head. (Not illustrated). Context 748; Find No 305; unstratified

Structural ironwork

Clench bolts like No 30 were used to secure double thicknesses of timber and consist of a nail, which was driven through the timbers, and a rectangular or diamond-shaped plate called a rove, which was placed over the tip of the nail. The nail was then clenched to secure the fastening. Although commonly associated with ship- and boat-building, as outlined by McGrail (1973, 102–3), clench bolts also had a number of structural uses within buildings, for example in the construction of doors and well covers. No 30 was found in a midden deposit in Phase 2.

Hinge pivots were used for hanging doors, gates and window shutters, their tapering shanks being driven into the stone or wooden frame. No 31 is quite a substantial example and was probably used on a door or gate frame. U-shaped staples such as Nos 32 and 33 were used in structural woodwork, and could also be used in conjunction with a hasp (see Nos 18 and 19, above) to fasten doors and gates and secure the lids of chests. Several examples have been excavated elsewhere in Perth. A substantial group was also recovered at Lochmaben Castle (Macdonald and Laing 1975, 148).

A large number of wrought iron nails like No 34 was recovered, especially from the midden deposits within the ditch and from deposits associated with the 18th-century structures overlying them. No 34 is in excellent condition, having been recovered from an anaerobic midden deposit in Phase 2. It is representative of the most commonly found nail type from medieval Perth (Ford and Walsh 1987; Cox 1996a, 805), with an irregular or circular head and a rectangular cross-sectioned shaft.

30 Clench bolt Length 59mm; width of rove 30mm; width of nail head 21mm. Almost complete clench bolt, consisting of a nail with a circular head and a sub-rectangular cross-sectioned shaft and a lozenge-shaped rove, one edge of which is slightly damaged. (Not illustrated). Context 579; Find No 278; Phase 2

31 Hinge pivot Length 83mm; width 98mm; thickness 21mm. Hinge pivot with a circular cross-sectioned vertical section and a tapering, pointed shank. (Not illustrated). Context 475; Find No 197; Phase 2

32 Staple Length 67mm; max width 39mm; max thickness 7mm. Complete U-shaped staple made from a square cross-sectioned strip, tapering towards pointed terminals. One arm is longer than the other and has a bend approximately half way along its length. (Not illustrated). Context 350; Find No 271; Phase 2

33 Staple Length 45mm; width 31mm; thickness 7mm. U-shaped staple made from a square cross-sectioned strip, tapering towards its terminals, the ends of both of which are missing. (Not illustrated). Context 409; Find No 239; Phase 3

34 Nail Length 78mm; width of head 16mm. Nail with a thin head of irregular outline and a rectangular cross-sectioned shaft. (Illus 53). Context 589; Find No 320; Phase 2

Coins
Nicholas Holmes

Two fused silver coins were found with the skeleton of the youth on the E side of Castle Gable. One was a Scottish penny of David II’s third coinage (1367–71). Only the letters AVID are legible on the coin. The identification of this corroded coin is based on the following distinguishable on the obverse—the crown and hair punches, a slight indication of a star on the sceptre handle, and the tendency of pennies of the third coinage to have obverse legends commencing at eleven o’clock. The condition of the visible reverse of the other coin precludes any more detailed identification than that it is a penny of Edward I or II of England.

Since English Edwardian pennies continued to circulate in Scotland throughout much of the 14th century, the juxtaposition of these two coins does not present any problem. The David II penny appears virtually unworn beneath the corrosion layer, and it seems probable that it was lost quite soon after striking—ie, during the period c 1367–75.

35 Coin, silver Scotland: David II penny, 3rd coinage (1367–71, Edinburgh mint. (Not illustrated). Context 1146; Find No 445; Phase 2

36 Coin, silver England: Edward I or II penny, uncertain class and mint (1279–1322). (Not illustrated). Context 1146; Find No 445; Phase 2

Glass
K Robin Murdoch

Discussion

The assemblage of glass from Perth is very typical of an urban site: 18th-century wine bottles are well represented (Nos 45, 46) as are later moulded varieties of different types.
Many of the contexts show disturbance or residu-
ality, quite normal for an urban site where contextual
purity can be a luxury.

The presence of glass can give a false impression
of the occupancy of a site since usage only became
common in the 18th century. Quite simply, before that
period glass was scarce and it was an expensive and
high status commodity. However, the assemblage does
contain a number of items worthy of further comment.

Most of the shards of window glass recovered dated
from the 18th to 20th centuries, but earlier material
was present (Nos 37, 38, 39 and 43). No 37 is particu-
larly interesting since it is a shard of grisaille, carrying
a painted decoration in dark red-brown enamel. This
shard almost certainly derives from the window of an
ecclesiastical establishment and its style of decoration
was popular from the early 13th to the mid 14th centu-
ries (Graves c1985). Grisaille, basically a clear or white
glass painted with dark enameled, has been recovered
from many of Scotland’s major ecclesiastical sites;
cross-hatched decoration is common in the earlier
material (ibid). The extremely fragile condition of this
shard is testament to its having lain in a damp alkaline
environment. Potash glass, from which most medieval
window glass was made, is very susceptible to degrad-
ation and much of it will simply have disappeared. The
problem is particularly severe in urban sites or around
large mortar-bonded structures where soil alkalinity
is high.

Fragments of drinking vessels were recovered from
Contexts 103, 201 and 700 (Nos 47, 48 and 49). Those
fragments from No 43 were very small, but enough
remained to indicate that they probably date to the
latter part of the first half of the 18th century. The
technique of folding the foot rim was gradually phased
out about 1740 (Lewis 1985, 4).

No absolute parallel for the part bowl stem and
foot from Context 201 (No 48) was found but the item
exhibited typical features from the mid 18th century
(Ash 1962, 97). Its small size indicates it probably dates
to just after the re-introduction of taxation on glass in
the 1740s. Styles typically became lighter and thinner
after that period.

The substantial stem, No 49, is from the ‘baluster
period’ c1690–1720 when drinking vessels had heavy and
sometimes complex stems often using true or in-vered
baluster knops as all or part of the construction
(Bickerton 1971, Illus 54). The thinness of the foot
indicates that the foot rim would have been folded to
give extra protection against chipping (Lewis 1985, 32).
This technique was almost universal in this type of
glass. Baluster (balustroid) forms continued to be made
until about 1740 but they were much lighter than this
example which also has the typical round funnel bowl
of the true baluster period. Similar vessels were made
for wine and ale, and in this case it is not possible to
specify which.

Note: a complete catalogue is lodged in the site archive.

37 Window glass
Shard of totally denatured and very fragile
window glass 45.5mm x 37mm x 4.1mm thick. It is part of a
quarry with a curved edge and has been decorated with dark
red-brown oxide paint. The curved edge is sloping indicating
that it has been grozed (clipped to shape), but the condition
is so poor that the characteristic scalloping can not be seen.
The design is fairly simple; a thin 1.25mm line runs parallel
to the curved edge 3.4mm from it. A second, broader
3.25mm line runs almost parallel to the curved edge 13.5mm
from it. There appear to be two radial lines of similar thick-
ness to the latter, but surface loss of the shard makes it
difficult to be sure. These ‘radial’ lines effectively divide the
inner part of the shard into three ‘segments’. Two small
areas of cross-hatching survive in the outer ‘segments’, and
there may be a thin inner radial line in the central ‘segment’
just inside the right hand broader line. The pitch of the cross-
hatching is only 1mm. 13th-mid 14th century. (Illus 54).

Context 282, Phase 2

38 Window glass
Two small shards of window glass, totally
denatured potash glass, thickness 3.8mm and 4.2mm.
Possibly 15th century based on thickness and condition.
(Not illustrated). Context 1104, Phase 2

39 Window glass
Shard of thin window glass, thickness 1.2−
1.4mm, pale green tint with blotchy brown denaturing.
Potash glass. Probably 17th century. (Not illustrated).
Context 289, Phase 5

40 Window glass
Window glass shard, thickness 1.9mm−
2.0mm, pale bluish aqua tint light denaturing. Mid to late
18th century. (Not illustrated). Context 762, Phase 5

Note: a complete catalogue is lodged in the site archive.
41 Window glass Fragment of thin window glass with dull yellowish green tint. Possibly late 17th/early 18th century. (Not illustrated). Context 1225, Phase 6

42 Window glass Shard of thin window glass, thickness 1.3mm, pale yellowish green tint, light iridescent denaturing. Probably early to mid 18th century. (Not illustrated). Context 374, unstratified

43 Window glass Small shard of fairly flat window glass, thickness 2.5mm–2.7mm, totally denatured. Potash glass probably not later than 16th century and possibly earlier. (Not illustrated). Context 700, unstratified

44 Window glass Very small window glass shard, totally denatured but mechanically quite stable, dark brown corrosion products and undulating surface (possibly broad glass), moderate 2.5mm thickness. Probably not later than early 16th century. (Not illustrated). Context 700, Unstratified

45 Bottle Shards in various shades of green, all with some denaturing. Belling is evident in some of the larger shards and some may derive from ‘mallet’ types of c1730–40. One shard possibly earlier (late17th/early18th century) based on colour and condition. (Not illustrated). Context 103, Phase 5

46 Bottle Nine shards, (five conjoin) in mid rich green with moderate to heavy denaturing. Little survives of base but body shape is curving and will not be later than rounded ‘mallet’ type of c1730, possibly earlier. (Not illustrated). Context 366, Phase 5

47 Drinking vessel Two shards from drinking vessels, possibly the same one, in clear colourless glass. One appears to be from near the base of a probable bucket-shaped bowl, the other is a small fragment of folded foot; this technique phased out about 1760. (Not illustrated). Context 103, Phase 5

48 Drinking vessel Lower bowl, stem and detached foot from small drinking vessel in clear glass with no appreciable denaturing. Bowl is a flattened bucket shape with very thick base (thickness 14mm). Stem is short, c31mm, and has a single centrally placed sharp angular knop, joining the underside of the bowl via double thin collar/merese. The stem joins the foot via a flattened collar/merese. Foot is plain, conical and 50mm in diameter, a quite substantial 3.7mm at the rim and has a central pontil scar. Mid 18th century. (Illus 55). Context 201, Phase 5

49 Drinking vessel Substantial drinking vessel stem, 54.5mm in height, in clear glass with some light to moderate denaturing in the shatter. The bowl is a round funnel type supported by a half knop. A projecting round knob in the base of the bowl is probably the other half of the knop around which the base of the bowl has been formed. Moving down the stem, the half knop is followed by an inverted baluster knop and then a rounded basal knop which sits directly on the foot. Only part of the foot survives, without rim, and there is a central pontil scar. Compared to the solidity of the rest of the stem, the foot is quite thin and undoubtedly the rim would have been folded for extra strength. c 1700–1720. (Illus 56). Context 700, unstratified
The ceramic building material
Derek Hall

These excavations produced 66 pieces of ceramic building material, apparently of medieval and post-medieval date, from Phases 2 to 5. Virtually all the fragments from Phases 2, 3 and 4 are from ceramic roof tiles most of which have traces of glaze on their surfaces. Unglazed post-medieval pantiles are only present in Phases 4 and 5. There are two fragments of glazed ridge tile from Contexts 332 (Phase 4) and 700 (Unstratified) and a tile with a peg hole from Context 229 (Phase 4).

All of the tile appears to have been locally produced as it is manufactured from the same red-firing clays that are also used in the pottery industry. Chemical sourcing of these fabrics may be able to tie down their definite provenance at some future date. The best parallels for the roof furniture from this excavation can be found from the excavations at Mill Street and 75–95 High Street (PHSAE), Perth (Hall 1995b; Di Falco and Hall forthcoming).

Table 2 Tile and brick, by phase.

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Stone artefacts
Catherine Smith, Dianne Dixon and Adrian Cox

One hone, ten stone discs and two lids or shallow containers were present. The hone (No 50) is fragmentary and is of a small size, possibly used for sharpening knives for personal use. The small stone discs (Nos 53–62) are made mainly from local schists of varying grain size ranging from coarse, to fine-grained phyllite. These discs may have been used as gaming or reckoning counters; 25 similar discs, of grey slate, were recovered from King Edward Street, Perth (Ford 1995, 965, 974). The larger, thicker discs may have a parallel in similar objects found at Linlithgow Palace and Murraygate, Dundee (Caldwell 1996b, 864, Illus 28, No 146; Cox 2000, 57, No15, Illus 15).

Nos 51 and 52 are shallow-ground containers, or perhaps lids, of soft local stone. It is possible they may have been used to hold or grind pigments, or other materials associated with an industrial process such as tanning.

The stone used to make these objects was almost all locally obtained. Stone of Dalradian age (schists, slates, phyllites and grits) occurs north of the Highland Boundary fault, and crops out about 3km south of Dunkeld, itself only 15 km north of Perth. Schist pebbles need not have been brought by people from the Dunkeld area to Perth, since they might have been transported geologically by various routes, including in the glacial till, or carried downstream by the River Tay, in the late- or post-glacial periods, or more recently during historic floods.

Material of Devonian age (formerly known as Old Red Sandstone) also occurs locally; Perth itself sits on a band of Lower Devonian bedrock.

50 Hone fragment Length 69mm; maximum width 18mm; maximum thickness 13mm. Fragment representing part of a hone. It is sub-rectangular in cross-section and is broken at both ends. One of the long edges is concave. Material is schist of Dalradian age. (Not illustrated). Context 100; unstratified

51 ?Lid Maximum diameter 91.2mm; minimum diameter 84.8mm; maximum thickness 29.4mm; thickness in centre of hollow 21.8mm. Octagonally trimmed disc-shaped lid or shallow container. Outer surface roughly trimmed. Inner surface hollowed by wear. Material is soft local volcanoclastic stone of Devonian age. (Illus 60). Context 130; Phase 4

52 ?Lid Maximum diameter 82.5mm; minimum diameter 78.6mm; maximum thickness 37.0mm; thickness at centre of hollow 33.9mm. Disc-shaped lid or shallow container. Trimmed polygonally on outer edges. Inner surface ground into central hollow. Outer surface ground into convex profile. cf S2, Context 130. Material is local Devonian micaceous sandstone. (Illus 61). Context 700; unstratified

53 Disc Maximum diameter 32mm; thickness 3.2mm. Flat, thin disc. More oval than circular in circumference and ground smooth on obverse and reverse faces and outer edge. Well-finished appearance. Material is phyllite, a fine-grained schist, of Dalradian age. (Illus 57). Context 100; unstratified

54 Disc Maximum diameter 65.5mm; minimum diameter 60.0mm, thickness 12.9mm. Polygonally trimmed flat disc. One outer edge facet appears to be ground flat. Material is drab, flaggy, local volcanoclastic silt/sandstone, of Devonian age. (Not illustrated). Context 229; Phase 4

55 Disc Maximum diameter 42.0mm, minimum diameter 36.6mm, thickness 5.4mm. Similar to no S1 (Context 100), although outer edges are more roughly trimmed. Material is phyllite (fine-grained schist) of Dalradian age. (Illus 57). Context 253; Phase 5

56 Disc Maximum diameter 65.5mm, minimum diameter 62.6mm, thickness 14.9mm. Naturally flattened schistose pebble; one face ground completely flat, opposite face ground flat only in centre of stone. Material is Dalradian schist. (Illus 59). Context 500; unphased

57 Disc Maximum diameter 41.9mm, minimum diameter 36.7mm, thickness 5.9mm. Thin disc with undulating surfaces. More oval than circular. Material is metamorphic Dalradian schist. (Illus 57). Context 572; Phase 2

58 Disc Maximum diameter 43.4mm, minimum diameter 40.9mm, thickness 15.8mm. Thick disc, roughly circular in outline. Both faces and edges ground smooth. May have been made from recycled fragment of imported building material, a fine-grained white/grey marble. (Illus 58). Context 700; unstratified
Illus 57 Stone discs; all phases.

Illus 58 Marble disc; Context 700, unstratified.

Illus 59 Stone disc; Context 500, unstratified.
59 Disc  Maximum diameter 30.1mm, minimum diameter 26.8mm, thickness 6.3mm. Polygonally trimmed disc. One face ground flat, other face and outside edges abraded. Material is Dalradian schist. (Illus 57). Context 704; unstratified

60 Disc  Maximum diameter 43.2mm, minimum diameter 38.0mm, thickness 7.0mm. Both faces and edges ground smooth. Material is Dalradian slate. (Illus 57). Context 772; Phase 5

61 Disc  Maximum diameter 25.0mm, minimum diameter 22.5mm, thickness 1.4mm. Very thin disc, of finely fissile Dalradian phyllite. (Illus 57). Context 904; Phase 1

62 Disc  Length 43.1mm, breadth 18.9mm, thickness 7.2mm. Broken disc, of Dalradian schist. (Illus 57). Context 1065; Phase 3.

The wood

Adrian Cox and Catherine Smith et al

Wood was recovered from the site as finished artefacts, offcuts and waste chippings. Twigs and bark were also preserved at the site. All of the waterlogged wood was sent to York Archaeological Trust for conservation, assessment and determination of species present. Only artefactual material was retained and conserved. Wood species identified at YAT by Steven J Allen and Mags Felter were as listed below:

<table>
<thead>
<tr>
<th>Species</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pinus sylvestris L.</td>
<td>Scots pine</td>
</tr>
<tr>
<td>Abies alba</td>
<td>silver fir (introduced 17th century)</td>
</tr>
<tr>
<td>Taxus baccata</td>
<td>yew</td>
</tr>
<tr>
<td>Pomoideae</td>
<td>hawthorn/apple/pear/rowan</td>
</tr>
<tr>
<td>Crataegus/Malus/Pyrus/Sorbus</td>
<td>hawthorn/apple/pear/rowan</td>
</tr>
<tr>
<td>Prunus avium</td>
<td>gean (wild cherry)</td>
</tr>
<tr>
<td>Ulmus spp</td>
<td>elm</td>
</tr>
<tr>
<td>Juglans regia</td>
<td>walnut</td>
</tr>
<tr>
<td>Alnus spp</td>
<td>alder</td>
</tr>
<tr>
<td>Fagus sylvatica</td>
<td>beech</td>
</tr>
<tr>
<td>Acer campestre</td>
<td>field maple (introduced/rare in Scotland)</td>
</tr>
<tr>
<td>Castanea sativa</td>
<td>sweet chestnut</td>
</tr>
<tr>
<td>Ilex aquifolium</td>
<td>holly</td>
</tr>
<tr>
<td>Quercus sp</td>
<td>oak</td>
</tr>
<tr>
<td>Salix spp</td>
<td>willow</td>
</tr>
<tr>
<td>Fraxinus excelsior</td>
<td>ash</td>
</tr>
<tr>
<td>Calluna vulgaris</td>
<td>heather (ling)</td>
</tr>
</tbody>
</table>

Pegs were primarily of oak (6 examples) although hazel (1) and elm (1) were also used. Pins were most often of yew (10) oak (2) and gean (1). Stakes were commonly of conifer wood, mainly Scots pine.

Bale pins such as Nos 64–6 were also plentiful at the PHSE site (Bogdan, Curteis and Morris, forthcoming). Of the 200 examples recovered there, the majority, 133, were of 14th century date. Similar pins were also recovered from excavation at King Edward Street and from a watching brief at 1–5 High Street, Perth (Ford 1987, 145). Bale pins may have been used to secure
bales of raw wool, by pinning through a sacking covering (Bogdan et al, forthcoming).

Of the non-artefactual or waste material, oak and alder chippings were plentiful, and may have had some connection with tanning or dyeing.

Two fragments of hazel coppice heel indicated harvesting of hazel rods in early spring or summer (Contexts 350, Phase 2; 1315, Phase 4). Wattling found elsewhere in the burgh at Kirk Close was not however thought to be the product of well-regulated, periodical woodland coppicing but may represent gleanings from hedgerow and wayside trees, of various species including hazel (Crone and Barber 1987, 87–8).

**63 Peg** Length 70mm; width 17mm; thickness 15mm. Derived from *Quercus* spp (oak). Peg of sub-rectangular cross-section, with flat terminals. (Not illustrated). Context 1050; Find No 805; Phase 2

**64 Pin** Length 124mm; max width 12mm; max thickness 9mm. Derived from *Taxus baccata* (yew). Tapering pin of approximately D-shaped cross-section, with a circular perforation (diameter 4mm) near the wider end. This end has been roughly trimmed to produce a crudely rounded terminal. (Illus 62). Context 579; Find No 800; Phase 2

**65 Pin** Length 107mm; max width 7mm; max thickness 5mm. Derived from *Taxus baccata* (yew). Tapering pin of approximately D-shaped cross-section, with a transverse cut near the head. (Not illustrated). Context 711; Find No 804; Phase 3

**66 Pin** Length 69mm; max width 10mm; max thickness 7mm. Derived from *Quercus* spp (oak). Flat-topped, tapering pin of flattened D-shaped cross-section. Eroded surfaces. (Not illustrated). Context 771; Find No 803; Phase 2

**67 ?Spatula** Length 132mm; max width 14mm; max thickness 6mm. Derived from *Taxus baccata* (yew). Object with a slender shaft of sub-circular cross-section and a broad, spatulate terminal. The shaft has roughly broken across the last of a series of five shallow, parallel, transverse cuts. (Not illustrated). Context 1057; Find No 802; Phase 3

**68 Awl handle/spinning top** Length 62mm; max width 43mm; max thickness 35mm. Derived from *Alnus* spp (alder). Object of approximately oval cross-section, flat-topped and tapering to a point, in which there remains a fragment of iron. There is a roughly triangular scar in one side. (Illus 63). Context 1050; Find No 801; Phase 2

**The leather**

Clare Thomas

The assemblage consists of 362 pieces of leather. The majority of these are shoe parts or the waste from their manufacture or reuse. Miscellaneous items include plain sheaths, a decorated strip, various stitched fragments and several pieces with holes possibly from rivets.

**Shoes**

Most of the shoes are of turnshoe construction, in which a single sole is stitched to the upper by an edge-flesh seam, then turned inside out, leaving the seam on the inside of the shoe. One example is of riveted construction and another of welted construction, where a separate strip or welt is used to join an outer sole to an insole and upper.

**Turnshoe soles**

Soles are represented by two complete soles, one forepart, a fragment of waist and 11 other pieces. The soles all have typical edge-flesh stitching channels. One sole and one forepart are of two-part construction, with a butted edge-flesh seam at the waist linking separate seats and foreparts. The more complete soles have pointed toes with varying degrees of extension.

Sole No 69 is slender, with a particularly narrow waist, a pronounced bulge at the outer rear of the forepart and an elongated pointed toe, of the type known as ‘poulaine’. The toe was probably stuffed with moss. This is the first find of such a sole in Scotland. In England, however, it is quite common, dating from the late 14th to the mid 15th centuries, with examples from London, Lichfield, Worcester, Shrewsbury and Oxford. (Grew and de Neergaard 1988, 102, no 68, 115–17; Gould and Thornton 1973, 54, fig 2, E22, 57–60; Thornton 1969, 57, fig 13.2, 58, 59, fig 14.5; Mould 2002, 123, fig 74, 883369; Hassall 1976, 276–7, fig 18.6). One of the shoes from Worcester retained its stuffing of moss.

Sole No 70 is a forepart of a similar slender shape, with a pronounced bulge towards the rear of the forepart, but its outwardly pointed toe has a much shorter extension. Soles of this shape dating to the late 14th to 15th centuries were found at Threave Castle, Galloway (Thomas 1981, 125, fig 19, No 177). English parallels, dating predominantly to the 14th and 15th centuries, include London (late 14th century), Oakham Castle,
Excavations at the Horse Cross, Perth

Rutland (early 14th century), King's Lynn (1350–1500), Exeter (1450–1500), Oxford (13th–15th centuries), Plymouth (13th–15th centuries) and Sandwell Priory (15th–early 16th century) (Grew and de Neergaard 1988, 66, No 100; Gathercole 1958, 32–3, fig 9.3; Carter and Clarke 1977, 361, fig 168, 64; Friendship-Taylor 1984, 324 fig. 184, nos 12 and 19; Hassall 1976, 277, fig18.2, 288, fig 22.24; Gaskell-Brown 1986, 55, fig 17.9; Thomas 1981, 107, fig 37, 14)

Sole No 71, has a narrow waist but a broader pointed forepart. A similar sole from Perth High Street (hereafter PHSAE) was of early 14th century date (Thomas forthcoming, fig 8.8, A03.0067a). Parallels from PHSAE came from an early 14th century context.

Other turnshoe sole pieces include two fragments of foreparts. No 72 is fairly similar to No 71 but is missing its toe, which could have been either pointed or oval. Parallels from PHSAE suggest a possible date range of the mid 13th to 14th centuries (Thomas forthcoming, Sole Types 2, 3 and 4).

No 74 has an exceptionally narrow waist, resembling some PHSAE soles of Type 5, especially A8007a; these came from contexts of mid 13th to mid 14th century date (Thomas forthcoming, fig 9.2).

Two other items consist of seat shaped fragments, with cut edges and no apparent stitching. These are possibly cut-down seats, for use as clumps (No 92 and unconserved 439).

Riveted Sole

One sole is probably of riveted construction (No 76; unstratified). This method dates from the mid 19th to early 20th centuries, especially 1870–1920.

Welted Sole

One sole (No 77) is probably of welted construction, where a strip of leather, a welt, was used to link upper to insole and insole to outer sole, resulting in an outer sole with a grain-flesh stitching channel, and an insole with the grain surface uppermost.

Welted shoes date from approximately AD 1500 onwards. Scottish examples of welted construction were found at Fast Castle (late 15th to early 16th century date), Kirkwall, Orkney (16th century date) and Skirling Castle, Borders (Thomas 2001, 138–42; Thomas 1982, 413–16; Dunbar 1963, 244–5). No 77 belongs to Phase 4, dating to the 15th to 16th centuries.

Uppers

The evidence suggests that most, if not all, of the uppers were of boots or shoes with a central fastening at the vamp throat and also occasionally on the leg. The most complete upper (No 78) consists of vamp and quarters, now in two pieces, but probably originally one. Two other fragments may also belong to this shoe. It comprises an upper of one-piece construction, with the vamp wing meeting the vertical edge of the quarters on the inside of the foot. A central fastening is indicated by a 55mm long opening from the vamp throat, with a short slit on one side and two round lace holes on the other. There is also a suggestion of a lace hole on the torn edge of the front of the quarters or leg flap. Small tunnel stitch holes on the flesh side were probably for a tongue.

A small rectangular piece is probably an inserted leg flap. Stitching for a heel stiffener survives on the flesh side of the quarters. The fourth fragment appears to match this stitching, although its curved edge has an edge-flesh stitching channel, instead of being oversewn. Furthermore, there is a wedge-shaped piece of thong threaded through a wide slit. This is possibly a fragment of upper which has been reused as a stiffener.

Uppers with central fastening at the vamp throat are generally of 14th- to 15th-century date. Few shoes with central fastening have been found in Scotland, but examples include several from Threave Castle, Gallo-way (late 14th to mid 15th centuries) and one from Aberdeen (1600–1645, but probably residual) (Thomas 1981, 123–6, fig 19, 184, 187; Thomas 2001, 248–9, 256, illus 187, No 591). Other parallels are known from London (late 14th century), Shrewsbury (mid 15th century), a child’s shoe from Oxford (13th–15th centu-ries), York (late 14th–early 15th centuries) and Bremen (13th–15th centuries) (Grew and de Neergaard 1988, 65–7; Mould 2002, 123, fig 74, No 885794; Hassall 1976, 280, fig 19, nos 21 and 29; Mould, Carlisle and Cameron 2003, 3325, fig 1659, No 15497; Schnack 1993, 62, fig 1, d and e).

Two fragments from a gravel surface (Nos 82 and 83), each with two lace holes, may be part of a similar upper. No 84 is possibly part of an upper with a central opening, but with no apparent lace holes.

Two small fragments (Nos 80 and 81) have latches for central fastening. No 81 has a short latchet, with an oval lace hole. It is similar to one from Perth High Street of mid 12th century date; the High Street example, however, is much more crudely cut (Thomas forthcoming fig 29, 1, A8665). The second has a tapered latchet with oversewn edges. It ends in two ‘tails’. These are probably the torn remains of a slit for a toggle. The closest parallel is an example of 14th-century date from Reading (Mould 1977, 113, fig 61, 10). Uppers with latches with lace holes and slits for toggles for central fastening were found at both Perth High Street and Kirk Close, where they dated from the late 13th to mid 14th centuries, apart from the example mentioned above (Thomas forthcoming, PHSAE Upper Type K; Thomas 1987, 179–81).

Two lace hole strengtheners or facings (Nos 85 and 86), with seven and five lace holes respectively, were for boots with multiple lace holes, either centrally as on No 78, or on the inner side of the foot, as on PHSAE Type C (Thomas forthcoming, Upper Type C).

Other upper fragments included two top bands or bindings (unconserved, Contexts 275 and 1315).

Repairs

Repair work was indicated by a clump sole (No 75) and by a fragment with tunnel stitching on three edges.
Adrian Cox

Sheaths

Two items which have been folded twice and stitched up the centre of the reverse with butted edge-grain seams could be broad straps but are more likely to be part of knife-sheaths. No 87 is slightly tapered. Both are plain, apart from very shallow lines on No 87 which define the outer edges on both front and rear.

Similar sheaths from PHSAE were mainly of early 14th-century date (Thomas forthcoming).

Straps, belts or clothing

An approximately rectangular fragment with three oversewn edges and tiny stitch holes for the attachment of a fitting similar to a buckle is probably part of either a belt or an item of clothing (No 89).

A very narrow strap, made of a single thickness of leather, has part of a buckle attached at one end. The leather has been folded and the buckle attached by a rivet, not stitched. At the other end of the strap there are nine small holes for the pin of the buckle (see Copper Alloy No 12, FN 704, Context 1315).

Two other straps of single thickness had nine and three or four pin holes respectively (unconserved, Contexts 1315 and 229).

Miscellanea

An approximately circular dished object, with the grain surface uppermost, has two parallel rows of grain to flesh slits (No 90). It is not clear whether these are stitch holes. There is also an iron rivet between the rows. On the underside, there is a rust coloured stain which is approximately horseshoe shaped, with an inner area resembling the frog of a horse’s hoof. There are also two cracks in the item, one major, the other much smaller.

For at least three reasons it is possible that this has been a protective pad for a horse’s hoof. Firstly, it could be for the treatment of an injured hoof, either as a shock absorber or to allow the application of a poultice. Secondly, it could act as a silencer or muffler, for instance for funereal purposes. Thirdly, it could act as protection on a surface such as grass. Leather boots were worn by horses towing lawn mowers in the 19th century.

A boot of this kind was found at Bristol Bridge, Bristol. However, it was rather different, as it consisted of a sole and a cylindrical upper, joined by a typical turnshoe edge-flesh-grain-flesh seam, with the flesh surface uppermost (Thomas, unpublished archive report).

The fact that the flesh side faces downwards suggests that the item was not intended for heavy use. Thus, veterinary use seems the most likely.

A strip decorated with a pattern of triangles and a single line is possibly part of a strap or knife sheath (No 91).

A possible fastening consists of a latchet shaped item, with a semi-circular tab and a slit. A very similar piece was found at PHSAE (Thomas forthcoming fig 38, 15, A03.0028, unstratified).

Fragments with rivets or rivet holes

One folded fragment has a rivet through both layers of leather (No 97), while three others have holes which have probably been made by rivets (Nos 94–6). Fragments with rivets or rivet holes are known from Aberdeen (1250–1350), Mill Street, Perth (?early 15th century) and Fast Castle (late 15th--early 16th centuries) (Thomas 2001a, 249, fig 188, 613–20; Thomas 1995, 978–9; Thomas 2001b, 139).

Waste material

The assemblage included 122 offcuts and 70 scraps. Most of the offcuts were from worn leather; only one appeared to be from unused leather (unconserved, Context 600). There were none of the triangular offcuts associated with shoe making. Furthermore, none of the shoe parts appeared to have been cut down to allow reuse of less worn parts. This suggests that these items are an indication of the reuse of leather on a very small scale.

Identification of animal species

The conserved leather was examined in order to identify the animal species by follicle pattern. This was only possible with nine items; the grain surface of the rest was too worn. Six examples of cattlehide were identified and three of goatskin. No attempt was made with the unconserved leather.

Discussion

Most of the leather came from Phases 2 and 4, with almost equal amounts from each phase. Most of the shoe parts show signs of wear, with holes, cracks and tears. Much of the leather is also delaminated, reflecting either poor tanning or deterioration during burial.

The majority of the shoe parts and the two knife sheaths were found in Phase 2 contexts. The straps of single thickness, including that with the buckle, were from Phase 4, as was the welted insole and the substantial upper with a central fastening. The bulk of the leather from Phase 4 consisted of waste material.

This is a comparatively small assemblage but with some interesting pieces, especially the poulaine (No 69), the large upper (No 78) and the circular dished fragment (No 90). The dating indicated by the contexts is broadly in agreement with that suggested by parallels. The degree of wear is normal. The poulaine may be a reflection of wealth, as it was not a very practical style.
Note: conserved leather only; a catalogue of unconserved leather is available in the site archive

**Turnshoe soles**

69 Complete left sole, of 'poulaine' type, with pointed extension.
   Length 280mm; maximum width of forepart 71mm; width of waist 28mm; maximum width of seat 49mm. Length of toe extension approximately 35mm; minimum width 6mm. Thickness 2mm (outer and inner edges of forepart); 3mm (extension); 4mm (seat). Slender left sole, with gently curved forepart, ending in narrow, pointed extension; very narrow waist and rounded elongated seat. Edge-flesh stitching channel, stitch length 5–6mm. Stitching channel is worn, with some stitch holes missing. Slight crack in outer rear of forepart. (Illus 64). Context 350; Phase 2

70 Forepart of left sole with extended pointed toe, sewn across waist. Length 155mm; maximum width 74 mm; width at waist 32mm; thickness at waist 4mm. Left forepart with outward turned extended pointed toe; sole bulges outwards towards rear, before tapering to a narrow waist. Sewn across waist. Edge-flesh stitching channel, stitch length 5–6mm, 4–4.5mm across waist. Partially delaminated, missing most of flesh layer. (Not illustrated). Context 748; unstratified

71 Two part left sole with pointed toe. Length 255mm; width of forepart 85mm; width of waist 27mm; width of seat 55mm; thickness 3mm. Complete left sole consisting of separate forepart and seat, sewn together at waist. Gently rounded forepart, tapering to pointed toe and narrow waist. Seat is long and narrow. Edge-flesh stitching channel, stitch length 6–8mm, 5mm across waist. (Not illustrated). Context 595; Phase 2

72 Forepart of left sole. Length 154 mm; maximum width 91mm; width at waist 41mm; thickness 3–4mm. Left forepart, cut across waist, torn across front, missing toe. Broad, narrowing at waist and at front. Edge-flesh stitching channel, stitch length 6–7mm. Worn, especially on outer edge, and in centre, where there are cracks. (Not illustrated). Context 607; Phase 2

73 Sole fragment, forepart? Surviving length 90mm; maximum surviving width 75mm; width at waist 41mm, thickness 3mm (cut across waist), 1mm (tear across tread). Sole fragment, probably rear of left forepart. Edge-flesh stitching channel, stitch length 5–6mm. Cut across waist, torn across tread. (Not illustrated). Context 579; Phase 2

74 Sole fragment. Length 85mm; width of waist 34mm; maximum width 60mm. Fragment of sole with very narrow waist. Edge-flesh stitching channel, stitch length 6–8mm. Exceedingly worn and delaminated. (Not illustrated). Context 600; Phase 2

75 Clump sole. Length 100mm; width 55mm; thickness 1.5mm Fragment of clump sole, either forepart or seat, with tunnel stitching for attachment to sole. Round hole, diameter 3mm, as well as two other holes, which are apparent on either side but which do not penetrate the leather. Very worn. Also, three other fragments, probably part of same item. Also present, nine fragments of sole, two rands, one edge-flesh stitching channel. (Not illustrated). Context 572; Phase 2

**Riveted sole**

76 Fragment of left sole. Length 190mm; maximum width of forepart 80mm; width of waist 41mm; thickness 3mm Forepart and waist of left sole with oval toe. A row of grain-flesh holes, 6–8mm apart, is set c6mm from edge of sole. Towards front of forepart are at least eight holes with iron nails or rivets. Within area defined by row of holes, very regular linear pattern, possibly impression from machine-made seam on midsole. Torn across rear of waist. Also hole at outer tread; partially delaminated. Probably part of outer riveted sole. (Not illustrated). Context 700; unstratified

**Welted sole**

77 Insole of welted shoe? Length 107mm; maximum width 81mm. Approximately triangular or forepart-shaped fragment, now in two pieces, ending in a point. Traces of stitching, probably grain-edge, on two sides forming point, stitch length 9–10mm. Completely delaminated, only grain layer (uppermost) survives. (Not illustrated). Context 1432; Phase 4

**Illus 64 Poulaine sole; Context 350, Phase 2.**
Uppers

78 Upper with central fastening. Upper of left ankle boot with central fastening, comprising at least two fragments, possibly five, as follows:

a Length, toe to throat, approximately 165mm; height at vamp wing c80mm. Vamp, with lasting margin with grain-flesh stitching channel, stitch length 7mm, and with edge-flesh stitching channel on vamp wing and vamp throat, stitch length 3–4mm. Vamp throat has been slit centrally, with two thong holes, 10mm apart, on one side; one thong hole is triangular, 2x4mm, the other is circular, diameter 2mm. Opposite these is a slit, 16mm long, at right angles, with possibly a second thong hole above, on now torn fragment of quarters. Traces of stitching on flesh surface on both sides of central opening suggest that there may have been a tongue, now missing. Lasting margin is missing on torn outer part of vamp.

b Quarters is irregularly shaped, with only small portion of lasting margin surviving, stitch length 6–7mm. Edge-flesh stitching channel, stitch length 3–4mm, on vertical and diagonal edges of quarters. On flesh side, traces of stitching for semi-circular stiffener. Top edge, and front edge at right angles to top edge, cut. Vertical edge-flesh stitching channel matches vertical edge of vamp wing. Torn end of cut front edge appears to join vamp throat, with possible thong hole, see above. Fragment is very worn, with many torn edges.

c Dimensions approximately 50x45mm. Small rectangular fragment, with two edge-flesh stitching channels, stitch length 4mm. Other edges torn. Possibly fits above vamp throat.

d Length 125mm; width 75mm; thickness 3mm. Approximately semi-circular fragment, with curved edge-flesh stitching channel, stitch length 4mm, and with wedge-shaped piece through slit near top of stitching channel. Remainder is torn and very fragmentary. However, appears to fit inside quarters, against outline of stitching for stiffener. If stiffener, most unusual in having edge-flesh stitching channel and not hem stitch. Wedge-shaped fragment is probably one end of a thong, which probably passed through a slit in upper. Thong may have held a buckle.

e Dimensions 50x10mm. Small curved fragment of lasting margin which appears to fit inside that of quarters, possibly lasting margin of stiffener. Grain-flesh stitching channel, stitch length 6–8.5mm. This is an ankle boot with tie holes for a central fastening. It was probably tied over the instep, but open above this where it may have been fastened with a buckle. One piece of leather comprised both vamp and quarters, with a small additional piece on the leg. There was probably also a tongue and a heel-stiffener, with an unusual stitching channel, indicating that this may have been a reused piece of leather. (Not illustrated). Context 1315; Phase 4

79 Fragment of upper, possibly vamp with central opening at vamp throat. Dimensions 160x115mm. Fragment of upper with lasting margin with grain-flesh stitching channel, stitch length 6mm. One edge possibly cut, possibly vamp throat with central slit; however, this edge might be the result of accidental damage. All other edges torn. Worn, with small holes near lasting margin. Delaminated, only grain layer survives. Cattlehide. (Not illustrated). Context 595; Phase 2

80 Fragment of upper with latchet. Dimensions approximately 85x85mm. Small fragment of upper with latchet with hole for toggle or thong, and with part of vamp throat. Edges of vamp throat and latchet cut, with trace of hem stitch. All other edges torn. Delaminated, only grain surface survives. Goatskin? (Not illustrated). Context 595; Phase 2

81 Upper, latchet? Dimensions 145x55mm. Irregularly shaped fragment with tapered portion ending in two ‘tails’. These are either the remains of two ties or laces or of a torn horizontal slit. Top edge and edges of latchet oversewn. Traces of stitching at right angles to top edge. Worn and delaminated. (Not illustrated). Context 574; Phase 2

82 Fragment of upper with two thong holes. Length c72mm; thickness c90mm; thickness c2mm. Small fragment of upper with two thong holes and two oversewn edges. All other edges torn. Thong holes are 3x2mm and are set 10mm apart. Cattlehide. (Not illustrated). Context 595; Phase 2

83 Fragment of upper with two thong holes. Dimensions approximately 85x95mm. Small fragment of upper with two thong holes and one oversewn edge. All other edges torn. Thong holes are 3x4mm and 10mm apart. Partially delaminated. Goatskin? (Not illustrated). Context 595; Phase 2

84 Upper fragment. Length 145mm; width 105mm; thickness 2mm. Irregularly shaped fragment of upper, now in two pieces, with three tie-holes. Grain-flesh stitching channel parallel to one slightly bent edge; stitch length 4mm; stitch holes are round, diameter 1mm. This does not appear to be lasting margin; it may be a substitute for a butted edge-flesh seam. Three oval and round tie-holes parallel to one cut edge; of diameters 5x4mm, 4mm and 8x6mm. Parallel to this cut edge, faint trace of very neat tunnel stitching, probably for a tongue. Goatskin. (Not illustrated). Context 331; Phase 3

85 Facing. Length 130mm; width 17–20mm; thickness 1mm Strip with three oversewn edges and seven lace holes. (Not illustrated). Context 1362; Phase 5

86 Facing. Dimensions 80x14mm. Very tattered strip with traces of an oversewn edge and with five lace holes; delaminated. (Not illustrated). Also present: 35 fragments of upper, of which two cattlehide, and two top bands. Context 1057; Phase 3

Sheaths

87 Plain knife sheath. Length 164mm; width 48mm; thickness 1mm. Knife sheath constructed from one thin piece of leather folded twice and stitched up centre of reverse with butted edge-grain stitching channel, stitch length 5mm. Plain except for shallow engraved line parallel to each edge on front and reverse. Front of sheath appears to have a suede finish. This object is made of unusually thin leather for a knife sheath. (Not illustrated). Context 595; Phase 2

88 Fragment of sheath. Length 60mm; width 66mm; thickness c1.5mm. Fragment of undecorated leather folded twice and stitched up centre of reverse with butted edge-grain seam, stitch length 4mm. Irregularly cut at both top and bottom. Worn and delaminated. Unusually wide for knife sheath, possibly for large knife or small dagger. Possibly goatskin. (Not illustrated). Context 1050; Phase 2