4 THE EXCAVATIONS

4.1 Introduction

4.1.1 Previous excavations on the site

The City of Edinburgh Council Archaeology Service undertook initial evaluation of the site in 1990 (CECAS 1990). This revealed midden deposits up to 1m in depth beneath the concrete tank. Finds recovered from the upper deposits were dated to the 15th and 16th centuries and the lower deposits were waterlogged.

Monitoring by AOC Archaeology Group in 2000 revealed a similar sequence of deposits, with subsoil taken to be stiff clay beneath the midden deposits. The infilling of the burn on the north side of the Cowgate and subsequent levelling of the ground was proposed as an explanation for the moist nature of the deposit (Rees & Martin 2000).

4.1.2 Main excavation

The excavation was undertaken in a number of stages due to the nature and depth of the deposits and the limited area within which we were working. In addition, the winter of 2006 was very wet and this, combined with the site's location at the base of the slope, rendered it subject to daily flooding. The water level was usually knee-high every morning and two pumps were in constant use to keep the site dry enough to work in (illus 5 & 18).

The initial excavation was stepped in 2m from the existing boundary walls and modern overburden was removed by machine. Two trenches were machine-excavated through the deposits down to natural subsoil to establish the sediment history of the site and to guide the subsequent excavation strategy (Trenches 1 and 2). Kubiena tins were taken for sediment analysis and bulk samples were taken for environmental assessment. A third trench running east to west along the street frontage quickly became waterlogged and was abandoned.

The excavation then proceeded by excavating the layers encountered in the profile trenches by context and spit. Each context/spit was initially hand-cleaned and swept by a metal detector and any features excavated. A series of test pits (1m × 1m) were excavated through each context/spit and the material wet sieved for finds retrieval. Ten per cent of the midden was excavated by hand. Excavations were stepped in by 1m for every 1m depth of deposit excavated. The northern two-thirds of the site were excavated first, with the southern area nearest the street frontage excavated afterwards. Trenches 3 and 4 were excavated through perceived natural deposits to clarify the sequence across the site.

4.1.3 Watching brief

After the insertion of sheet piling the Cowgate frontage and areas on the east and west side of the site were subject to further archaeological excavation. Three trenches were excavated (illus 1; Trenches 5–7). A crane pit was also excavated by contractors to the east of the site within the church grounds. Due to its depth it was not possible to record the sections of the trench in detail, but sketch sections were made and photographs taken.

4.2 Phases 1–5

The phasing scheme is based on stratigraphy and from dating of specific artefacts, primarily pottery.

4.3 Phase 1: on the edge of urban development, 11th–14th centuries

4.3.1 11th–12th centuries

Till [004] was noted at the base of the sequence, which would be the expected glacial sub-soil in this area of Edinburgh. In Trench 2 a light brown silt deposit [105] was identified overlying the surface of the till. This was interpreted in the field as a possible buried soil, however, it appeared to correspond with the upper part of [142] (see below). Directly overlying the till in the northern part of the site was stony silty clay [126] with occasional larger angular stones. This was thought to be a result of weathering of the till, however, it contained fragments of medieval pottery, although these may be intrusive given the excavation conditions.

Above the weathered surface of the underlying glacial till were irregular patches and bands of a rich organic deposit [142] (illus 3). This deposit was seen in Trenches 3 and 4 on the eastern side of the site. On the basis of the thin-section analysis this context was divided into two distinct deposits (Lancaster, Appendix 3). The lower deposit was fine, organic-rich sediment, which accumulated relatively rapidly through slope wash. A seed from this deposit has been radiocarbon dated to AD 1020–1210 at 2-sigma (Appendix 3).

The upper deposit was characterised by unsorted sand and rock fragments, with fragments of soil and sediment, suggesting that the deposit was formed

in high-energy conditions. The process of deposition of the upper sandy layer had caused the scouring and partial truncation of the lower organic rich silty layer. Given the apparent absence of a buried soil of prehistoric date and the medieval date of the lower deposit, a layer of this kind in the overall profile suggests an extreme event, which may have been rapid and local, such as a flash flood that had removed any earlier material (Lancaster, Appendix 3). The lack of an earlier ground surface suggests this was happening regularly prior to the 11th–12th centuries, with the final episode of flooding recorded here.

Cereal grain recovered from the earliest accumulation was preserved through charring and is thus likely to indicate anthropogenic, ie domestic/commercial, activities (Timpany & Haston, Appendix 4). The assemblage is likely to represent waste ground with some evidence of periodic pooling of water.

Overlying the lowest deposits was mid-grey to brown silty clay [070] (illus 3). The deposit deepened towards the centre of the site (0.4m) and became shallower to the south and north (0.1m). It was absent in the north-eastern part of the site. The deposit was initially taken as indicative of a natural water channel, based on the presence of a postulated former stream along the Cowgate (Makey 1988; Carter *et al* 2008). This now appears to be incorrect because thin-section analysis demonstrated that it accumulated through slope wash (Lancaster, Appendix 3). Pottery datable to the 12th–14th centuries was recovered from the overlying deposit. This gives the relatively short period from under 100 years to 300 years for the accumulation. From the deposit itself only one sherd of pottery was recovered, White Gritty Ware dating to the 12th–14th centuries.

The insect remains from the deposit represented damp, foul ground conditions with occasional representations from nearby agricultural (both pasture and arable) land (Reilly, Appendix 6). Fly pupae suggested the presence of dung, human excrement and carrion (Smith 1989). There were no indicators of moving water, which would be expected in the case of a former stream, or specific indicators of wetland plant communities.

Although the pottery may be intrusive, the environmental remains indicate that the deposit contains material associated with human activity. This probably represents the beginnings of accumulated rubbish associated with the growth of the medieval town. In addition, disturbed waste ground and/or arable land is also visible in the assemblage.

4.3.2 13th–mid-14th centuries

Overlying the above deposit was blackish-brown sandy silt [140] and above this was greenish-brown silty sand [125]. Both contained pottery and animal and bird bone. Cut through these deposits were a small posthole [130] and an irregular linear feature [127] (illus 3). These features may represent sporadic use of the site at this time. However, given the evidence for biological mixing in the overlying midden layer (see section 4.5 below) it is possible that they represent the bases of later cut features, the upper parts of which were not identifiable. No evidence for plot boundaries along the central part of the site was found.

Grey-brown clayey silt [007], 0.40m in depth, sealed these features and deposits. This was a buried soil formed through the accumulation of midden material from the surrounding area and indicates an increase in activity.

The small collection of pottery from the early features included a sherd of probable Saintonge Ware, which was imported in the 13th and 14th centuries. Finds from the midden soil provided the first significant collection of finds from the site, however, the size and condition of the sherds implies redeposition from deposits upslope on the High Street. Three imported sherds suggest a date of 13th or early 14th century, while the presence of local Greywares demonstrates continued deposition into the 14th century. However, the lack of Rhenish stonewares suggests this did not continue into the late 14th century and certainly not into the 15th century. A bone bead (illus 8.17) from this layer is likely to be from a set of rosary beads (Egan & Pritchard 1991, 305).

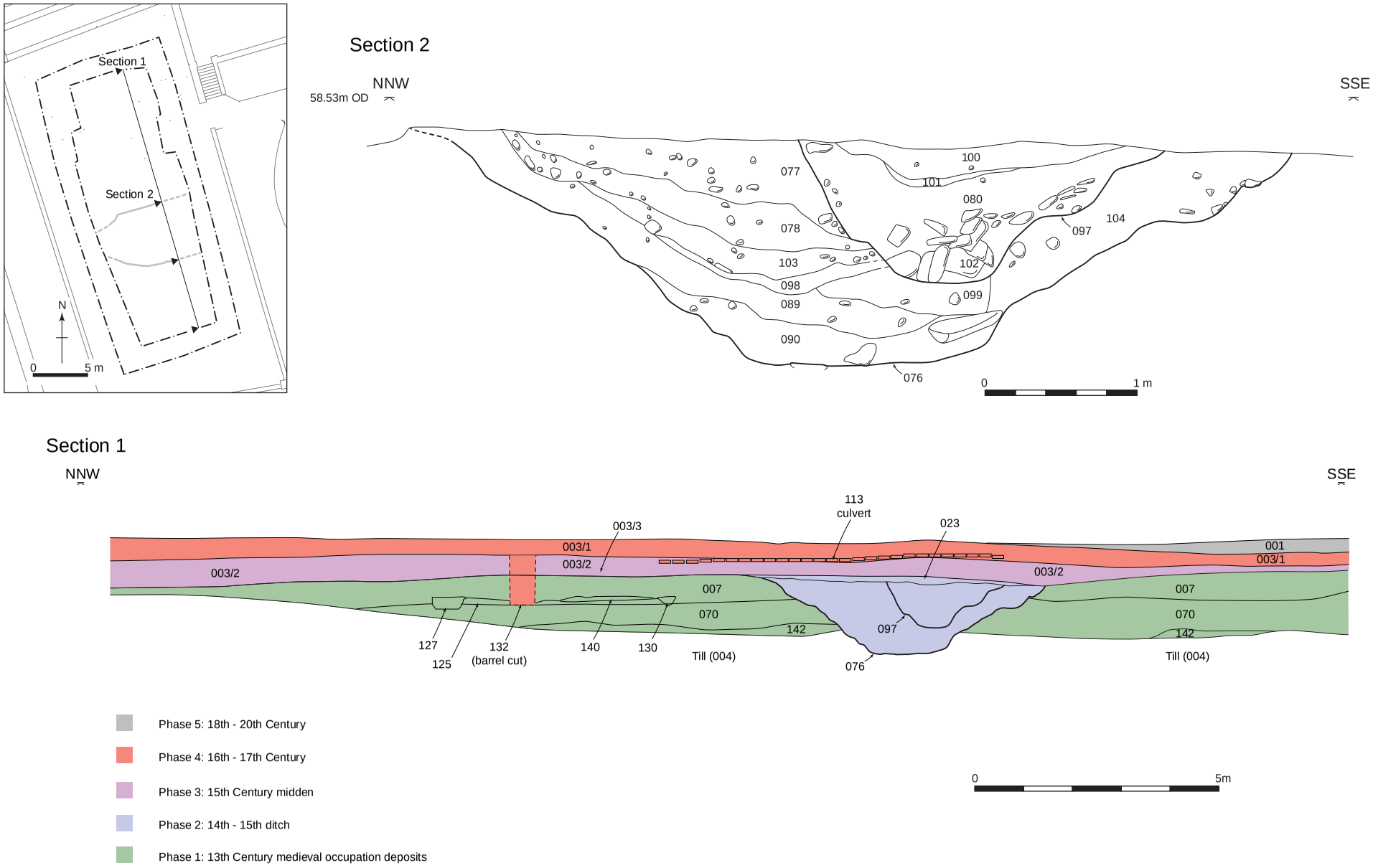
The pottery assemblage increases in quantity over time as activity in the medieval town gradually encroaches on the site. By the mid-14th century the site may be part of a plot on the very edge of the burgh.

4.4 Phase 2: medieval ditch 14th–15th centuries

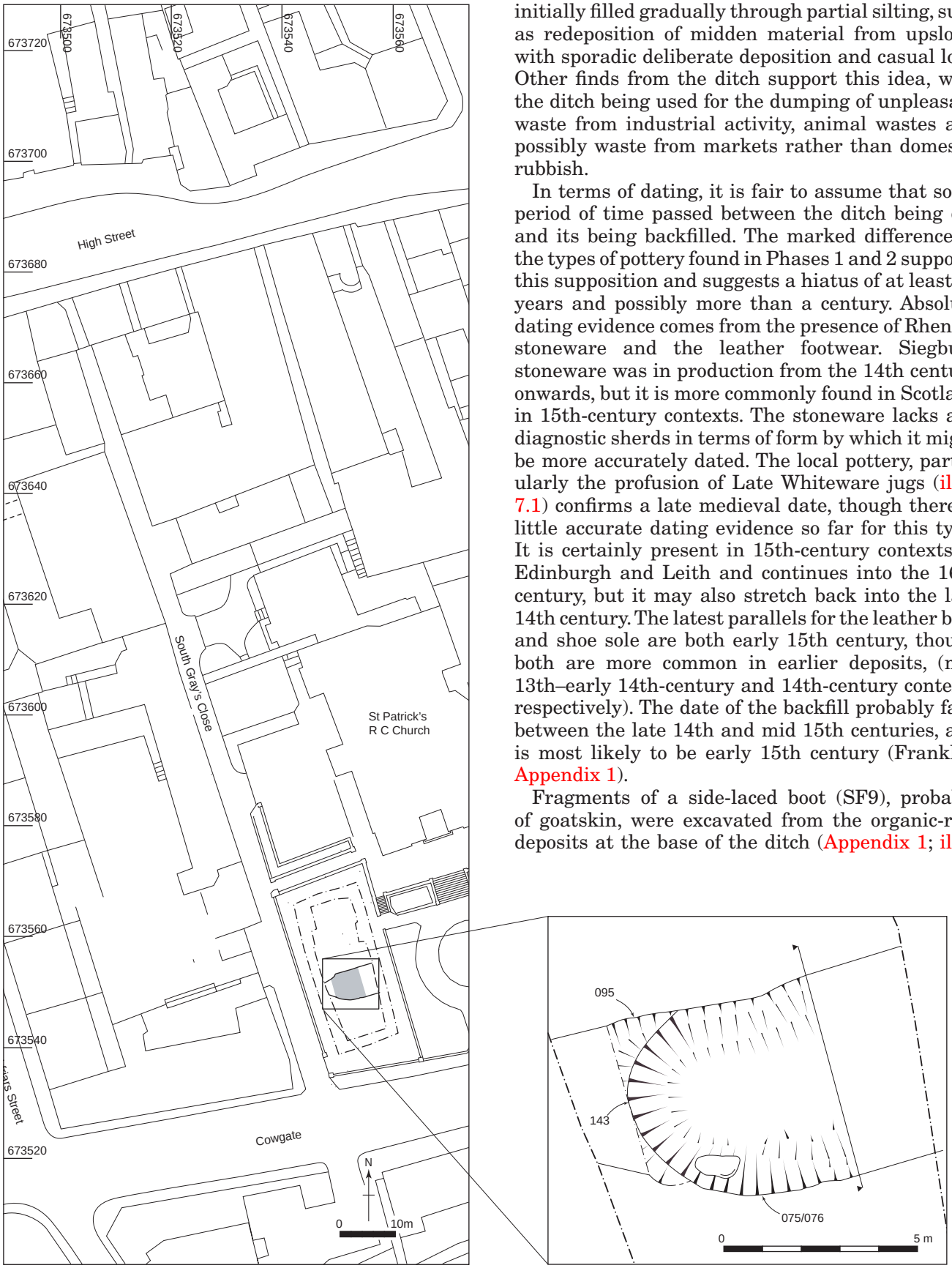
4.4.1 Initial ditch cut

A substantial ditch [075/076], first exposed during the excavation of Trench 2, was found running east to west across the site, approximately 13m from the street frontage (illus 2, 3–6). The ditch terminated around 5m before the western edge of the site. The ditch was 5.5m wide and 1.3m deep. The primary fills were waterlogged organic-rich silty sediments [081/090/093, 089/094]. In the southern half of the ditch was a thick deposit of silty clay [104], which had been tipped in from the side. Above these fills was re-deposited subsoil [99], probably slumped from a bank on the northern side of the ditch. Above this were an organic deposit [98] and a layer of silting [103]. Bank material [078] had then been used to deliberately backfill the ditch. Above this was a layer of light brown silty clay [077].

The finds from the ditch were more varied, better preserved and less abraded than the finds from the earlier soils. There were, however, no large pottery profiles nor similar evidence of domestic rubbish being dumped straight into the ditch, and the pottery appears to derive from redeposited midden material. The stratigraphy suggests that the ditch



Illus 3 Indicative south-west facing section across site



Illus 4 Phase 2: Medieval town ditch with modern streetscape

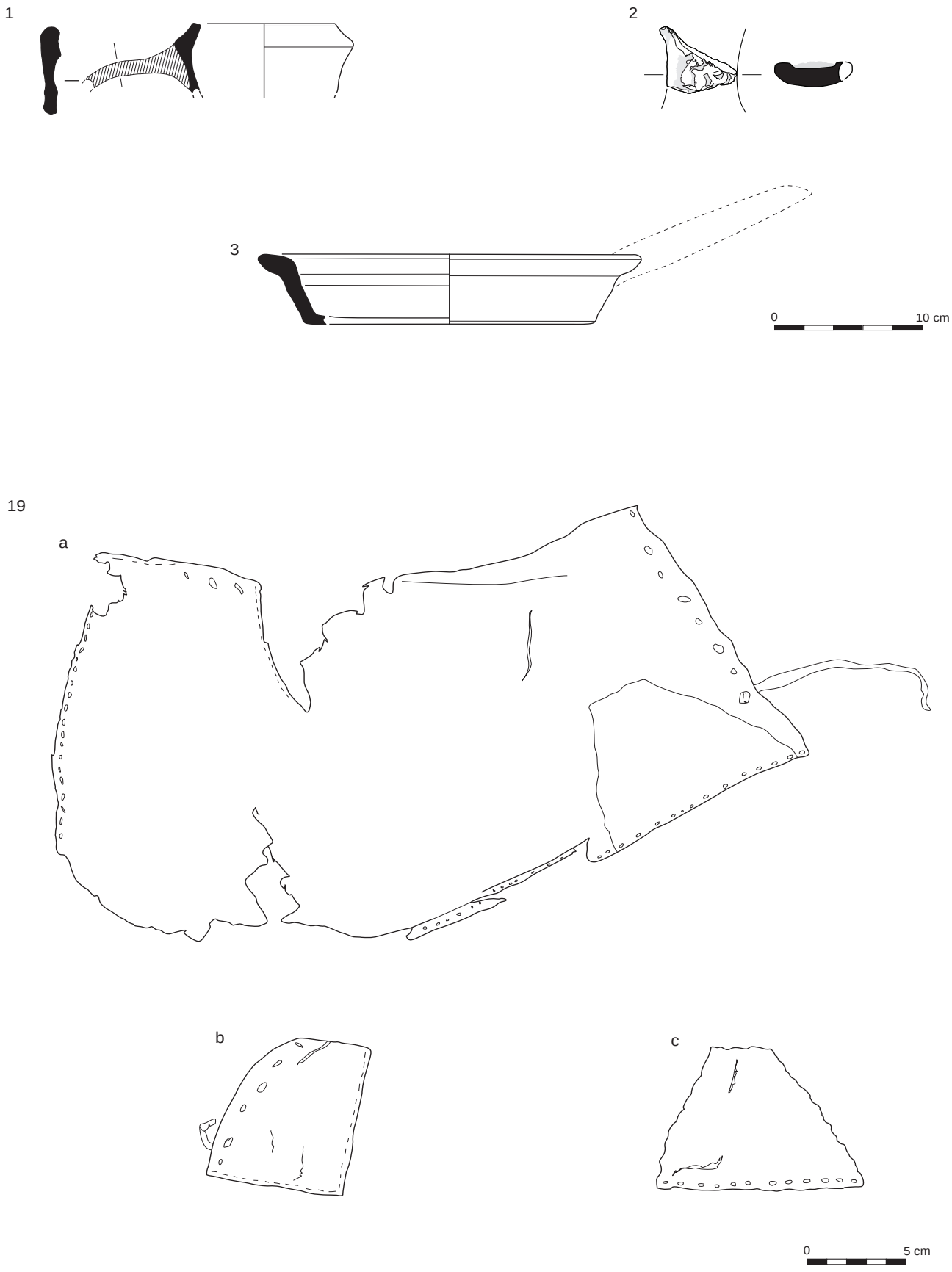
initially filled gradually through partial silting, such as redeposition of midden material from upslope, with sporadic deliberate deposition and casual loss. Other finds from the ditch support this idea, with the ditch being used for the dumping of unpleasant waste from industrial activity, animal wastes and possibly waste from markets rather than domestic rubbish.

In terms of dating, it is fair to assume that some period of time passed between the ditch being cut and its being backfilled. The marked difference in the types of pottery found in Phases 1 and 2 supports this supposition and suggests a hiatus of at least 30 years and possibly more than a century. Absolute dating evidence comes from the presence of Rhenish stoneware and the leather footwear. Siegburg stoneware was in production from the 14th century onwards, but it is more commonly found in Scotland in 15th-century contexts. The stoneware lacks any diagnostic sherds in terms of form by which it might be more accurately dated. The local pottery, particularly the profusion of Late Whiteware jugs (illus 7.1) confirms a late medieval date, though there is little accurate dating evidence so far for this type. It is certainly present in 15th-century contexts in Edinburgh and Leith and continues into the 16th century, but it may also stretch back into the late 14th century. The latest parallels for the leather boot and shoe sole are both early 15th century, though both are more common in earlier deposits, (mid 13th–early 14th-century and 14th-century contexts respectively). The date of the backfill probably falls between the late 14th and mid 15th centuries, and is most likely to be early 15th century (Franklin, Appendix 1).

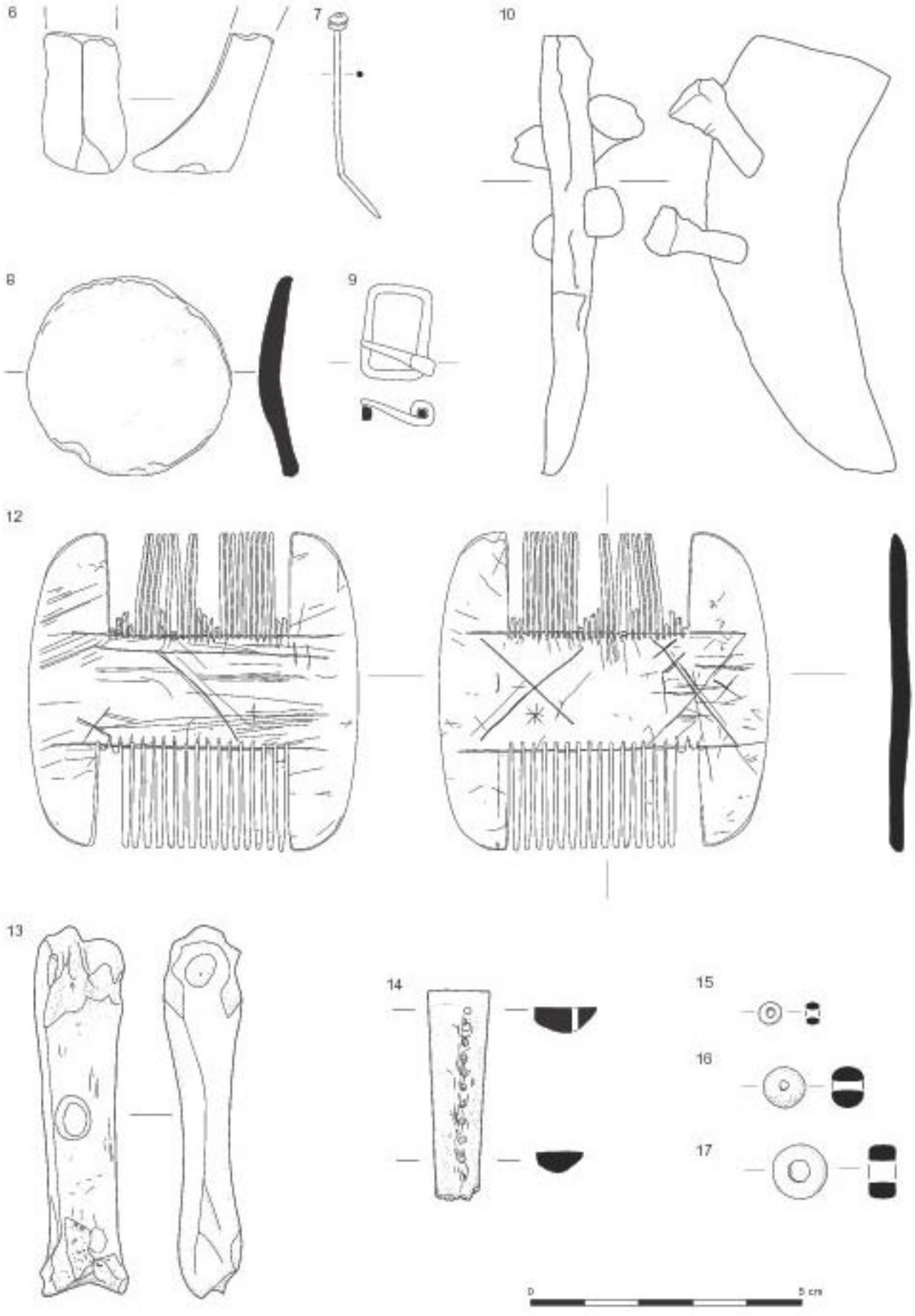
Fragments of a side-laced boot (SF9), probably of goatskin, were excavated from the organic-rich deposits at the base of the ditch (Appendix 1; illus

Illus 5 Ditch under excavation looking south-east

Illus 6 Ditch fully excavated looking north-east



Illus 7 Finds illustrations 1–3, 19



Illus 8 Finds illustrations 6–17

Illus 9 Pre-excavation view of site looking south

7.19). Other finds included a small iron buckle (illus 8.9), a copper alloy pin fragment and the length of a knife blade. An opaque glass bead (illus 8.15) was recovered from a sample.

Animal remains from the ditch included horn core fragments and fragments of cow and horse bones as well as sheep, smaller mammals, fish and amphibians (Tourunen, Appendix 2). The majority of the animal bone derives from domestic species and is representative of domestic waste. These mainly derive from the primary fills; smaller quantities and fragments of bones were recovered from the upper. The dominance of older and male sheep in the sample suggested that sheep were being kept for wool, with the cattle-culling pattern indicating that stock was kept mainly for hides (Hodgson 1983, 111; Smith 1997, 769). This follows patterns seen in other Scottish burghs (Smith 1997, 769; Henderson 2001; Smith 2007; Hodgson 1983, 111).

The palaeoenvironmental assemblages indicate a mixture of waste and cultivated ground, with possible scattered trees or small patches of woodland; a number of taxa associated with damp meadows are also present (Timpany & Haston, Appendix 4; Mighall, Appendix 5; Reilly, Appendix 6). Insect species suggest that wood/leaf litter may have formed part of the fill, possibly as fuel or fodder waste (Reilly, Appendix 6). The insects all suggest locally open/disturbed ground, with a number of species associated with heath/moorland (Reilly, Appendix 6). These include the ground beetle, which only occurs in the secondary fill of the ditch. Dumped peat or turf used for roofing or fuel may possibly be the source for such beetles in the ditch fill.

Some unidentifiable fragments of 'woodworm' beetles were present, but in very small numbers. This is somewhat surprising for the fill of a medieval ditch, where species associated with wooden buildings might be expected to become incorporated into ditch fills (Reilly, Appendix 6). 'House fauna' often make up a significant proportion of deposits in cut features, like pits and wells, in medieval sites due to their location within the settlement (Kenward & Hall 1995; Reilly 2003). Along with the lack of structural wood pests, this lack of house fauna supports the suggestion that domestic waste was not deposited in the ditch.

Charred grains are likely to have washed into the ditch and represent domestic/commercial activities taking place upslope in the town (Timpany & Haston, Appendix 4). There is an increase in the representation of cultivated ground species within the upper layers, suggesting some cultivation was taking place near the ditch. The presence of seaweed is suggested by the finding of *Cafius* sp. (Reilly, Appendix 6), which may have been brought

into Edinburgh from the coast for sheep feed or manuring.

The rise in seed numbers of *R. sceleratus* and *Urtica dioica* in the later fills of the ditch may indicate an increase in the amount of faecal matter being washed in from humans and animals (Timpany & Haston, Appendix 4). These taxa are associated with habitats of extremely nitrogen-rich, periodically wetted and disturbed ground, such as the manured surrounds of streams where cattle water (Rodwell 2000). Rodwell notes that *R. sceleratus* is one of the few plants that will readily grow on the sludge beds of sewage farms. The ditch may also have been used to discard human waste. Parasitic eggs of the whipworm (*Trichuris trichuria* L.), the most common human intestinal parasite, were recorded from most of the samples (Mighall, Appendix 5). The insect remains also contain species indicative of dung, including human excrement/urine as well as common 'cess-pit' species (Reilly, Appendix 6; Smith 1989). Thus the palaeoenvironmental evidence not only provides an ecological picture of the site but also an impression of the conditions on the Cowgate during this period.

4.4.2 Re-cut of the ditch

The ditch had been re-cut on its southern side [097] (illus 3). The re-cut ditch had been rapidly backfilled with a layer of large stones [102] within dark greyish-brown silty clay [080]. Above this were a wood-rich organic layer [101] and a layer of silting [100]. The re-cut was 2.5m wide and 0.9m deep but was not clearly visible in other sections further west and at the terminal. However, the stony backfill continued into both these sections and completely filled the terminal. This suggests that the re-cut widened towards the west and encompassed the whole of the terminal.

Ten horn cores and numerous fragments of cow, horse, sheep/goat and pig bones were recovered from the fill of this ditch. Smaller mammal bones and fish remains were also retrieved from sample processing. Evidence of bone-working comes from a near-complete horn comb (illus 8.12; illus 11) and a bone buzzbone or toggle (illus 8.13). This was made from a drilled pig metatarsal with a hole drilled through the centre. These are common finds on medieval and post-medieval sites (eg Cox 1996, 787; Murray & Murray 1993, 197) and they are now generally thought of as a kind of child's toy or musical instrument. Threaded onto a string, they can be spun to produce a humming noise (Franklin, Appendix 1). A lead weight (illus 8.8) was also recovered.

A second, shallower, ditch [095] had been cut into the top of the ditch at the west end. There was little to distinguish the backfill of the ditches, suggesting they had filled up at the same time. This ditch would appear to have been cut while the main ditch was still fairly open, presumably for drainage. At 4m it was wider than the main ditch at this point and was 0.55m in depth. Horn cores, cow, sheep and other large mammal bones were recovered from the upper fill [079] of this ditch.

The finds assemblages from the re-cut and the initial ditch are quite similar, although there must have been some time between the two ditches. The pottery is largely made up of similar large Late Whiteware and Greyware jugs. There is, however, no 14th-century leather. Other finds such as the horn comb could be late medieval or early post-medieval. This phase is likely to date to the second half of the 15th century (Franklin, Appendix 1).

4.5 Phase 3: 15th-century midden deposits

Sealing the ditch was a thick deposit of grey-brown gritty silt [003] (illus 3) up to 0.8m in depth, which was fairly consistent across the site. It was broadly divided into three spits for excavation, based on the diminishing frequency of shell fragments. This was a re-worked buried soil comprising refuse dumping and accumulated deposits washed down from properties further upslope on the High Street.

The finds assemblage is the largest from any phase but is largely made up of redeposited material. This is demonstrated by the proportion of White Gritty Ware, which is almost as high as in Phase 1. Finds from the midden deposits included a copper alloy vessel foot (illus 8.6; CECAS 1990), a bone handle scale (illus 8.14) and a gaming counter made from a medieval Greyware potsherd of 14th- or 15th-century date. There is nothing that unequivocally postdates the 15th century. It seems unlikely this deposit was laid down any later than the late 15th or possibly early 16th century, and could in fact be earlier (Franklin, Appendix 1).

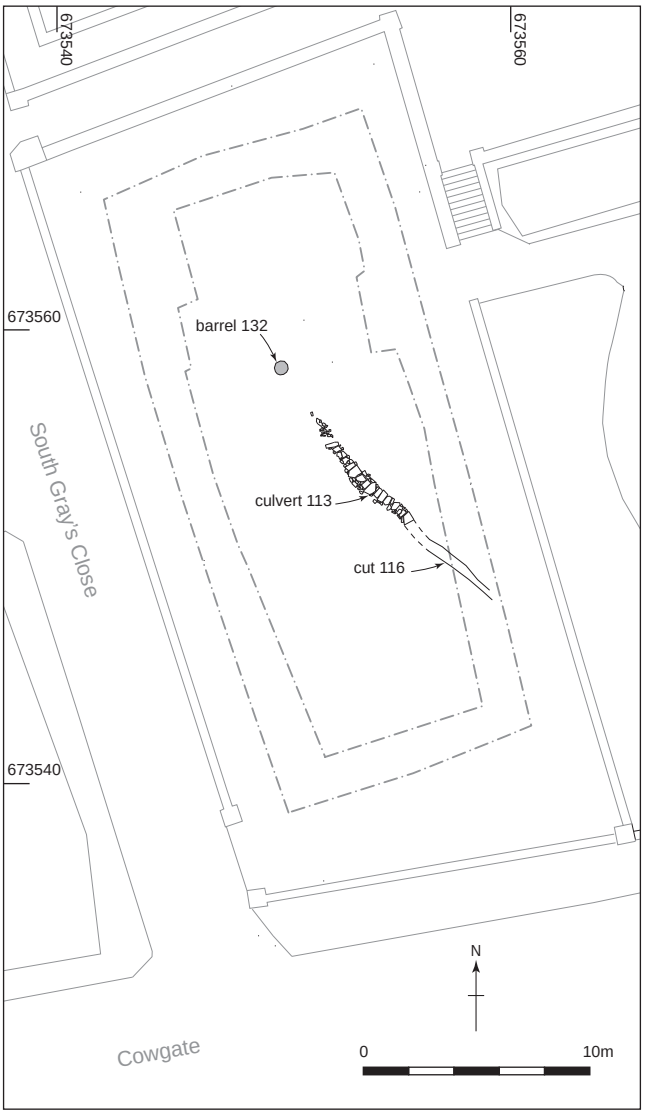
4.6 Phase 4: 16th–17th-century occupation

4.6.1 Coopered barrel and culvert

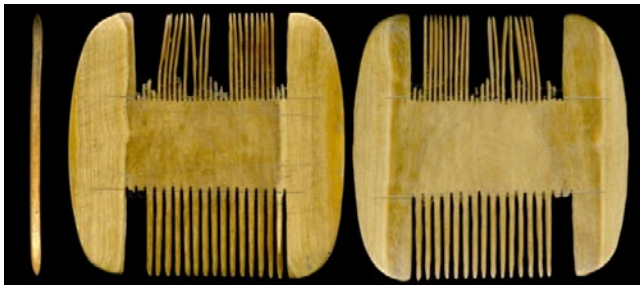
A stone-lined culvert [013/014] (illus 3, 5 and 16) was cut into the Phase 3 midden deposit. It measured 0.5m wide and 0.2m in depth and ran for 12m north-westwards from the eastern section. At its north end the culvert appeared to have been partly truncated by the excavation of Trench 2, however, it did not continue beyond this point.

Three courses of large sub-rectangular stones were laid on either side of the flat base of the cut. Large, flat sandstone slabs capped the culvert with several small stones packed into the gaps. The finds from the culvert were largely redeposited but included crystalline fragments of window glass (Franklin, Appendix 1).

The upright lower half of a barrel (illus 10, 12, 13, 14, 15) was found to the north of the culvert, located approximately in the centre of the site. Although the term 'barrel' is used throughout, the

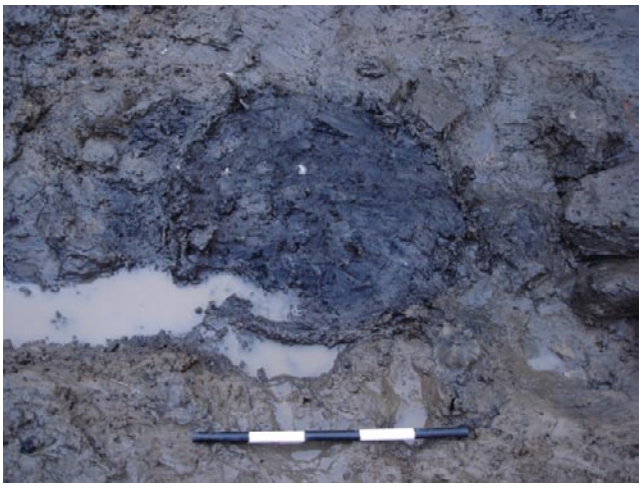


Illus 10 Phase 4: 16th–17th century features



Illus 11 Horn comb

vessel may have been a tub, the widest part did not survive and it is not possible to determine this (Crone, Appendix 1). The staves, hoops and withies were all generally well preserved. An iron object, possibly a handle, was found on the outside of the barrel during the removal of the upper group of hoops. The barrel was initially identified after the removal of Phase 3 midden deposits, however it has



Illus 12 Pre-excavation view of barrel

Illus 13 Part-excavated view of barrel

Illus 14 Close-up of barrel staves

been dendrochronologically dated to the early 17th century (Crone, Appendix 1). The midden deposits had clearly undergone a considerable amount of mixing that had removed any distinction between

Illus 15 Withy-wrapped hoops

Illus 16 Culvert looking south-west

it and the fill of the well and hence any evidence for the cut further up the sequence.

The barrel was placed in a sub-circular pit 0.45m in depth, with a flat shelf 0.1m from the base. The barrel rested on this shelf and the space between the barrel and the cut was filled with sandy silt. Large boulders were placed around the edge of the cut, apparently to shore up the sides of the cut following collapse. There was a large stone at the base of the pit and a series of organic black silt deposits filled the barrel; two staves were found within the fills. There was no base.

A wooden bead (illus 8.16) from the fill of the barrel is unlikely to be earlier than the 17th century. It is likely to come from a set of rosary beads (Egan & Pritchard 1991, 305) and the post-Reformation dating of it is interesting (Franklin, Appendix 1). Crystalline fragments of window glass were also found in the fill of the barrel. Finds of similar fragments from the culvert indicate that these features are of the same date and it is thought the culvert may have drained into the barrel.

4.6.2 Later midden development

Overlying the culvert was a further accumulation of midden material (illus 3). This contained a greater number of marine shells, particularly oyster, than the lower midden deposits. The layer contained a large amount of finds but these were almost entirely redeposited from upslope. There are only a handful of pottery sherds dating to the 16th and 17th centuries, nothing later, and no clay pipes. The latter are so ubiquitous in 17th-century deposits that their absence here is striking (Franklin, Appendix 1).

Two coins were recovered, a silver James II billon penny (1437–51) and a copper James III farthing (*c* 1470–82). The James II penny is unlikely to have been in circulation past the 1460s, as early James III pennies were much smaller and more debased and probably drove earlier issues out of circulation. The relative lack of wear on the James III farthing suggests deposition in the 1470s or '80s (Holmes, Appendix 1).

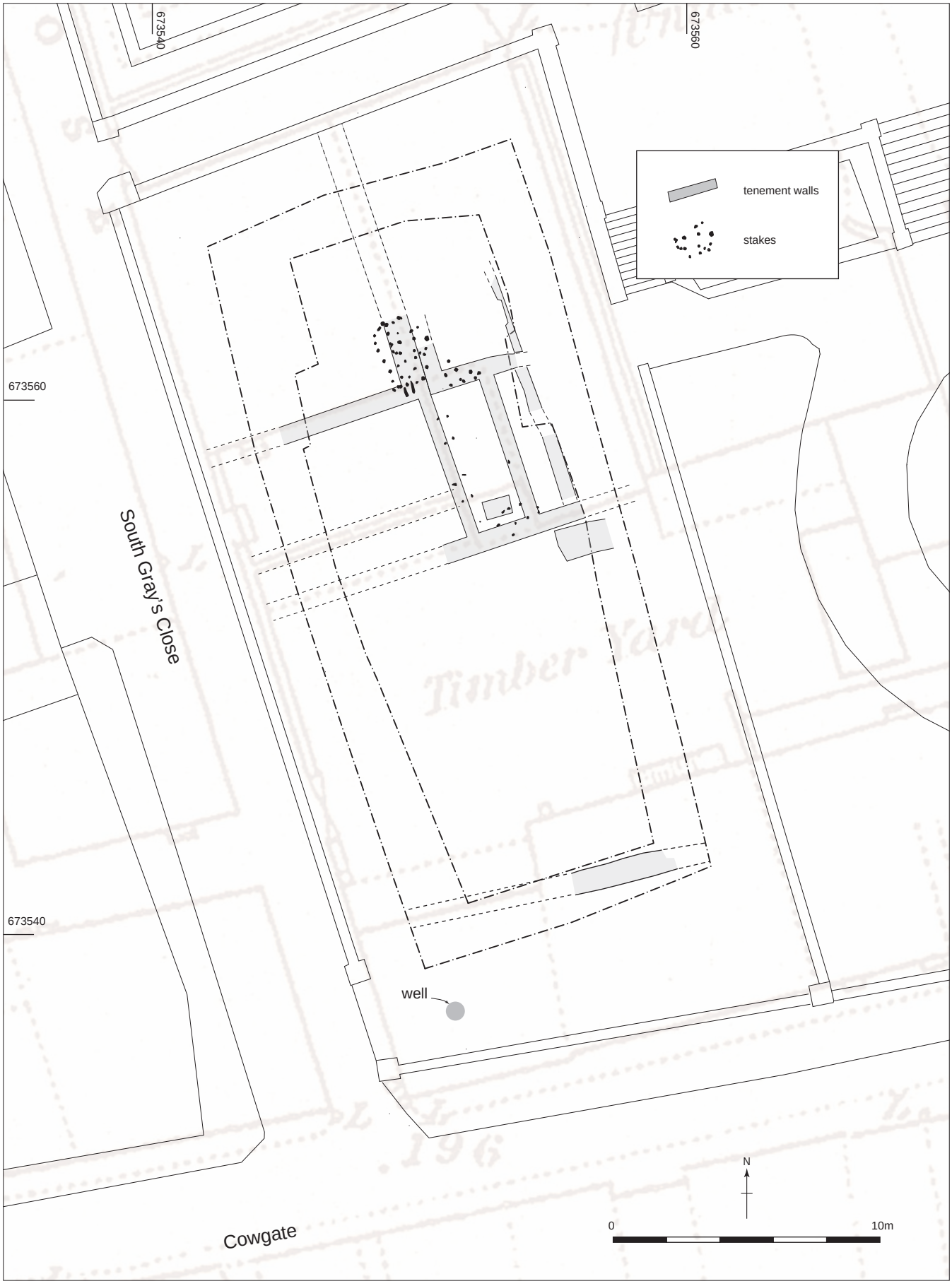
A complete example of a copper alloy wire pin (illus 8.7) was recovered. There were other fragments recovered from the site, including from the ditch, but, as a relatively early type, this is probably redeposited (Franklin, Appendix 1). The head is soldered on, a method of fixing only common up to the 15th century (Caple 1983, 274). A horseshoe (illus 8.10) was also found in this layer. It is of a form commonly found in later medieval contexts (Clark 1995, 88, Type 4), though examples can be found as late as the 17th century (Goodall 1983, 251). Two of the nails were still in position, suggesting this shoe was deliberately removed, but was lost before it could be scrapped.

A large sherd of window glass (25 × 25mm) was found in this midden layer and its size suggests it originates from on or near the site. The fragments found in the barrel and culvert indicate they have been redeposited, as would be expected. All are most likely to derive from a high-status building, as even in the 17th century glazing was still rare in private residences in Scotland (Turnbull 2001, 52). The Earl of Selkirk's House, immediately to the north of the site, would seem the most likely candidate for the origin of the glass (illus 19). Elphinstone's Land was built above this later midden on the northern half of the site in the 17th century (illus 20).

4.7 Phase 5: 18th–20th-century buildings

4.7.1 Timber piles

A number of shaped timber stakes were found driven through the Phase 3 midden deposits (illus 17, 18). The first stakes were visible following the removal of the upper spit of the midden layer, and more stakes were recorded following the removal of each



Illus 17 Location of post-medieval tenement walls and supporting stakes, overlaid on first edition Ordnance Survey map (1849)

Illus 18 View of timber piles and Trench 2, looking south

of the subsequent layers. This is likely to reflect the differential survival of the timbers rather than successive building phases; only when all the midden deposits had been removed did the stakes begin to form a coherent pattern.

The stakes were all well-preserved fast-grown oak roundwood. The majority of the stakes had been roughly squared with a pointed base. A number of them contained square-shaped notches in the sides. This may reflect re-use or a means of carrying the stakes.

A number of 17th-century and later walls at 144–166 Cowgate were found to be resting on wooden piles driven into soft midden deposits (Dalland 2004). Although a number of the stakes excavated at St Patrick's Church corresponded with buildings seen on early OS maps, those that did not may have supported earlier 18th-century buildings which were later demolished. A number of 18th-century buildings are also likely to have survived into the 19th century, as maps of the site show the same building outline on the site from the mid 18th century onwards (Edgar 1742; OS 1854, 1881, 1895).

4.7.2 19th-century walls

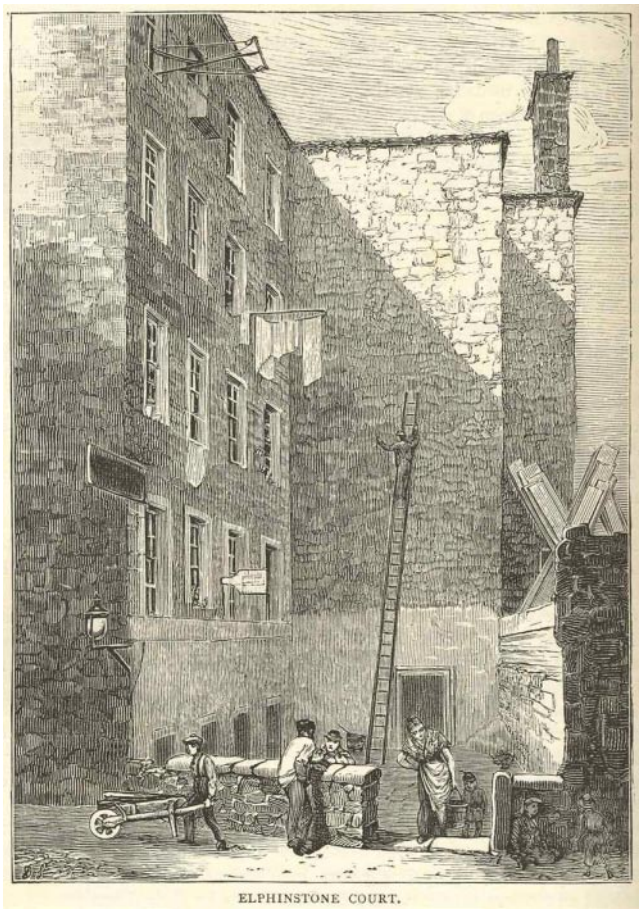
The southern part of the site became a timber yard in the 19th century, seen on an illustration from the 1880s (illus 20). A number of 19th-century walls were recorded across the site (illus 17). During the main excavation a number of sandstone and mortar walls [002] were surveyed. Following the insertion of the sheet piling a number of brick walls were revealed along the eastern, southern and western edges of the site. These were recorded on a measured sketch plan as the ongoing construction prevented any more detailed recording. The walls relate to buildings shown on the 1st edition Ordnance Survey map (1849; illus 17).

This phase includes 19th-century structures, unstratified finds and finds from the evaluation

Illus 19 The 17th-century Earl of Selkirk's House as imagined in the 1880s

trenches. There are few finds from modern contexts, and again these are mixed modern and medieval.

Site construction workers found a brick-lined well on the southern edge of the site during the insertion of the sheet piling. The approximate location of the well is shown in illus 17. No trace of the structure was seen by monitoring archaeologists, as the void was subsequently backfilled with gravel.



Illus 20 Elphinstone Court c 1880

4.7.3 20th century

The 20th century saw the demolition of Elphinstone's Land on the northern part of the site, which became part of the lands of the church. The site was in use during World War II as an emergency water tank and later became a bowling green.