



Society of Antiquaries
of **Scotland**

SCOTTISH ARCHAEOLOGICAL INTERNET REPORTS

e-ISSN: 2056-7421

Where There's Muck There's Money: The Excavation of Medieval and Post-Medieval Middens and Associated Tenement at Advocate's Close, Edinburgh

How to cite:

Engl, R 2017 'Where There's Muck There's Money: The Excavation of Medieval and Post-Medieval Middens and Associated Tenement at Advocate's Close, Edinburgh' *Scottish Archaeological Internet Reports* 67
<http://doi.org/10.9750/issn.2056-7421.2017.67>

Visit <http://archaeologydataservice.ac.uk/archives/view/sair> to see the journal homepage

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Where There's Muck There's Money: The Excavation of Medieval and Post-Medieval Middens and Associated Tenement at Advocate's Close, Edinburgh

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with contributions by

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Funding

Interserve Construction Ltd

e-ISSN: 2056-7421

<http://doi.org/10.9750/issn.2056-7421.2017.67>

Published by the Society of Antiquaries of Scotland with the
Archaeology Data Service archaeologydataservice.ac.uk.

Society of Antiquaries of Scotland
National Museums Scotland
Chambers Street
Edinburgh EH1 1JF
United Kingdom

Managing editor: Catherine Aitken

Copy-editor: Susan Milligan

Production: Raspberry Creative Type, Edinburgh

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1. ABSTRACT

In 2012 excavation works undertaken along the western frontage of Advocate's Close, Edinburgh revealed the remains of a 16th-century tenement, owned in turn by the Cants, Hamiltons and Raes, all burgesses or merchants of the city. The tenement remains consisted of wall foundations, cellar floor surfaces and other substantial architectural features including a turnpike stair and corbelled roof. The tenement was demolished and back-filled with rubble during the late 19th century, after which it was replaced by a formal, terraced garden. The excavations within this area revealed a series of associated midden deposits, pits and structural features located to the immediate rear of the tenement. These deposits have provided a stratified sequence of occupation ranging from the initial settlement of Edinburgh's Old Town in the 12th/13th century to the clearing and landscaping of the tenement area in the late 19th century.

A large artefactual assemblage was recovered from the midden deposits, including important animal and fish bone, glass, clay pipe, tile and ceramic evidence. The ceramic assemblage included substantial amounts of imported material from England and the Continent. The consumption patterns revealed by the artefactual and ecofactual evidence appear to directly reflect the changing fortunes of post-medieval Edinburgh. The high status of many of the Close's inhabitants is illustrated throughout the expansion of the 16th and 17th centuries, as is the decline undergone during the later 17th and early 18th centuries.

The stratified midden deposits at Advocate's Close reveal the changing attitudes of the Old Town inhabitants towards the issue of midden management and general waste disposal, which in turn reflects the development and growth taking place in Edinburgh during the late 16th to 19th centuries. During this period the denizens of Edinburgh moved from pursuing a peri-urban system of agriculture, in which midden material was stored, to one in which a decreasing involvement with agriculture led to a shift in favour of rapid disposal.

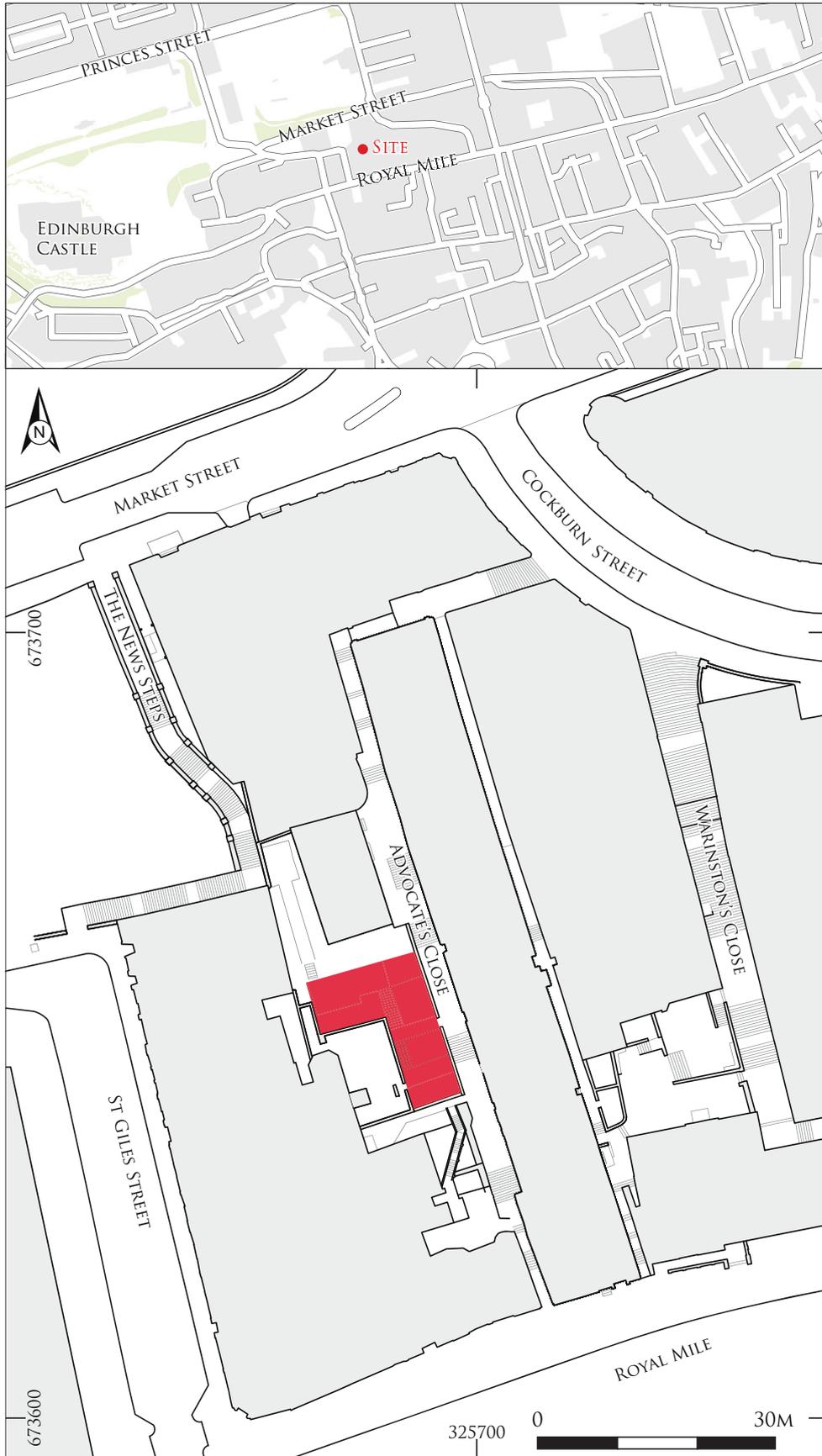
2. INTRODUCTION

This report presents the results of archaeological excavations commissioned by Interserve Construction Ltd prior to and during commercial development within the centre of Edinburgh's Old Town at Advocate's Close, Edinburgh (Illus 1). The excavation area itself was located along the western frontage of the Close in a small L-shaped area of formal terraced garden (NGR NT 25700 73671). The site was the southern part of a wider development scheme located between the Royal Mile and Market Street.

The excavation area was severely limited, with the area of the tenement measuring just 20.0m north to south by 6.0m east to west. The midden deposits were located to the immediate rear of the former tenement and measured 8m east to west and 7m north to south. The excavation area was bounded to the south, west and east by existing buildings dating from the 16th to 19th centuries and to the north by the steep cut and terrace of a late Victorian municipal building (Illus 2). Structural features relating to the excavated tenement such as blocked

doorways and windows were observed incorporated into an existing building and wall near the entrance to the Close off the Royal Mile.

Advocate's Close lies on the northern slope of a 'crag and tail' geological formation created by the volcanic basalt plug of Castle Rock. This has protected the sedimentary rocks lying east of the castle from glacial erosion (Sissons 1973; Ruckley 1997: 15) creating a ridge line occupied by the High Street. The early development of the burgh appears to have been restricted by the steeply sloping sides of the ridge, leading to crowding along the High Street and a secondary southern axis of settlement along the Cowgate (Masser et al 2014: 4). Braun and Hogenburg's (1582) map of Edinburgh depicts the relatively open nature of Edinburgh behind the High Street even in the late 16th century, but by the mid 17th century when Gordon of Rothiemay (1647) mapped Edinburgh it is clear that the burgeoning population and economic growth of this period had led to the rapid expansion of multi-storey development within the burgage plots running off the High Street, including that of Advocate's Close.



Illus 1 Location map. The area of the excavation is marked in red



Illus 2 The excavation in progress

The current redevelopment of Advocate's Close has enabled the foundations of a demolished tenement dating to the late 16th century to be revealed. This structure comprised walls, floor surfaces and structural features including a corbelled cellar roof and a turnpike stair. Several deep midden deposits and pits were also excavated, together with an underlying drainage ditch or watergait. These deposits and features produced a rich artefactual assemblage and provided a rare stratified sequence of occupation ranging from an initial settlement in the 12th/13th century to the clearing of the tenement in the late 19th century.

The stratified deposits and associated artefact assemblages have presented an opportunity to examine the social and economic development of Advocate's Close and its inhabitants within the Royal Burgh throughout the late medieval/post-medieval period. This has been undertaken in conjunction with both documentary and cartographic evidence

and adds to the information from a number of other substantial excavations located within the burgh, such as Jeffrey Street (Masser et al 2014), Marlin's Wynd (Cook et al 2013) and Edinburgh High Street (Schofield 1976).

Abbreviated versions of the specialist reports are published here as appendices but the full specialist reports are available in the site archive. Catalogue descriptions have been included for illustrated artefacts only but full catalogues are also available in the archive.

3. ARCHAEOLOGICAL BACKGROUND

The early development of the Royal Burgh along the eastern ridge of the High Street appears to have contributed to a relative scarcity of surviving archaeological deposits pre-dating the construction boom of the late 16th century. The clearance of sites for rebuilding, together with the terracing of the

slopes for new construction, appears to have involved the large-scale truncation of many of the burgh's early deposits and structures. This is especially prevalent along the highest parts of the slope, where early frontages may have survived (Turner-Simpson et al 1981: 36; Haggarty & Lawson 2013: 26).

The impact of 16th/17th century development within the Old Town can be seen at many excavation sites. At Jeffrey Street (Masser et al 2014: 10) evidence for medieval activity pre-dating the 16th century was restricted to 'backlands' activity consisting of pit digging and terracing. This was most probably due to the direct effects of early 17th-century terracing and cellar excavation close to the frontage of the High Street. The removal of earlier medieval settlement pre-dating the 16th century is also recognised at the Marlin's Wynd site underlying the Tron Kirk (Cook et al 2013: 1). Previous excavations at the Tron Kirk in 1974 again revealed late 16th-century buildings, with earlier evidence restricted to 14th-century ceramics (Holmes 1975). Nevertheless, deep midden/garden soil deposits and structural features relating to 14th- and 15th-century occupation were recorded at the excavations at Blackfriars Street lying on the southern slope of the ridge towards the Cowgate (Schofield 1976: 162).

Deep deposits of 'dark earth' or middened garden loams are a recurring feature of excavations within Edinburgh's Old Town and indeed within many of Scotland's other historic towns (Stronach et al 2008). In Edinburgh the presence of steeply sloping former 'backlands' has led to an aggregation of these deposits along the lower slopes and base of the ridge-line on which the town was situated. Deep deposits up to 4m in depth have been encountered within recent excavations along the northern side of the ridge (Gooder 2013; Masser et al 2014; Engl forthcoming) as well as in the excavations at Blackfriars Street to the south of the High Street (Schofield 1976). In 1988 an exploratory pit excavated towards the foot of Advocate's Close revealed similar garden soil deposits up to 5.0m in depth (Holmes 1988: 18).

Other archaeological investigations within the Close have seen the recording and dating of structural elements located south and east of the present excavation at 343 High Street (Borden & Holden 2010), and at 1 Advocate's Close (Cressey 2007: 81). A trench cut during landscaping works in

the 1970s revealed a wall of the demolished tenement investigated during the recent excavations (Turner-Simpson et al 1981: 35). A small ceramic assemblage was recovered during the works (Appendix 1).

4. THE EXCAVATED EVIDENCE

4.1 Introduction

An evaluation in 2011 indicated significant archaeological deposits pre-dating the 19th century. These occurred in the form of structural remains and stratified midden soils. Building on the sloping ground north of the High Street appears to have involved extensive terracing, with buildings descending in a series of steps (Masser et al 2014: 10). The demolished tenement had been landscaped with rubble infill and imported topsoil. This was removed to natural or floor surface level by a combination of machine and hand excavation. The area of the midden appeared to have escaped the scarping of the tenement, providing deep stratigraphy. Following the identification and cleaning of archaeological features, all further excavation was then continued by hand.

Given the enclosed nature of the area, all spoil had to be removed from site by hand.

The excavations undertaken in 2012 revealed a long stratified, chronological sequence of features and deposits. An associated assemblage of ceramics, tile and brick, glass, clay pipe, animal bone, metalwork and coarse stone was retrieved, the majority of these finds being recovered from the midden deposits. A variety of other features were also exposed, including the substantial remains of the demolished tenement together with several pits, a medieval drainage ditch, a retaining wall and a stone culvert.

Ceramic evidence has provided broad dates for the main features (Table 1). Four broad phases of activity are identified:

- Phase 1: 12th/13th century associated with the open sewer ditch [067] and the localised capping deposit [070];
- Phase 1a: 15th/16th century ceramic hiatus associated with the open sewer ditch and overspill midden [058];
- Phase 2: Late 16th/17th century associated with the tenement building, boundary

wall [041], pit [059] and the main midden deposit [027];

- Phase 2a: Late 17th century sealing deposits [028–062–064];
- Phase 3: 18th century associated with the later midden [026] and retaining wall [024];
- Phase 4: 19th century associated with pits and stone culvert.

4.2 The midden area

4.2.1 Introduction

The evaluation of 2011 focused on the garden area situated to the immediate rear (west) of the tenement building (Illus 3). This revealed several stratified midden soils and features, suggesting that a small area west of the tenement and south of the High Street frontage had survived the rigours of post-medieval development, providing a sequence of occupation from the 12th/13th centuries to the late 19th century (Illus 4 & 5).

The midden area measured 8m east to west and 7m north to south. It was bounded to the immediate south and west by walls of probable 16th- and 18th-century date and to the east by the rear tenement wall [013]. Like the remains of the tenement, the area to the immediate north was truncated by the former Victorian municipal building.

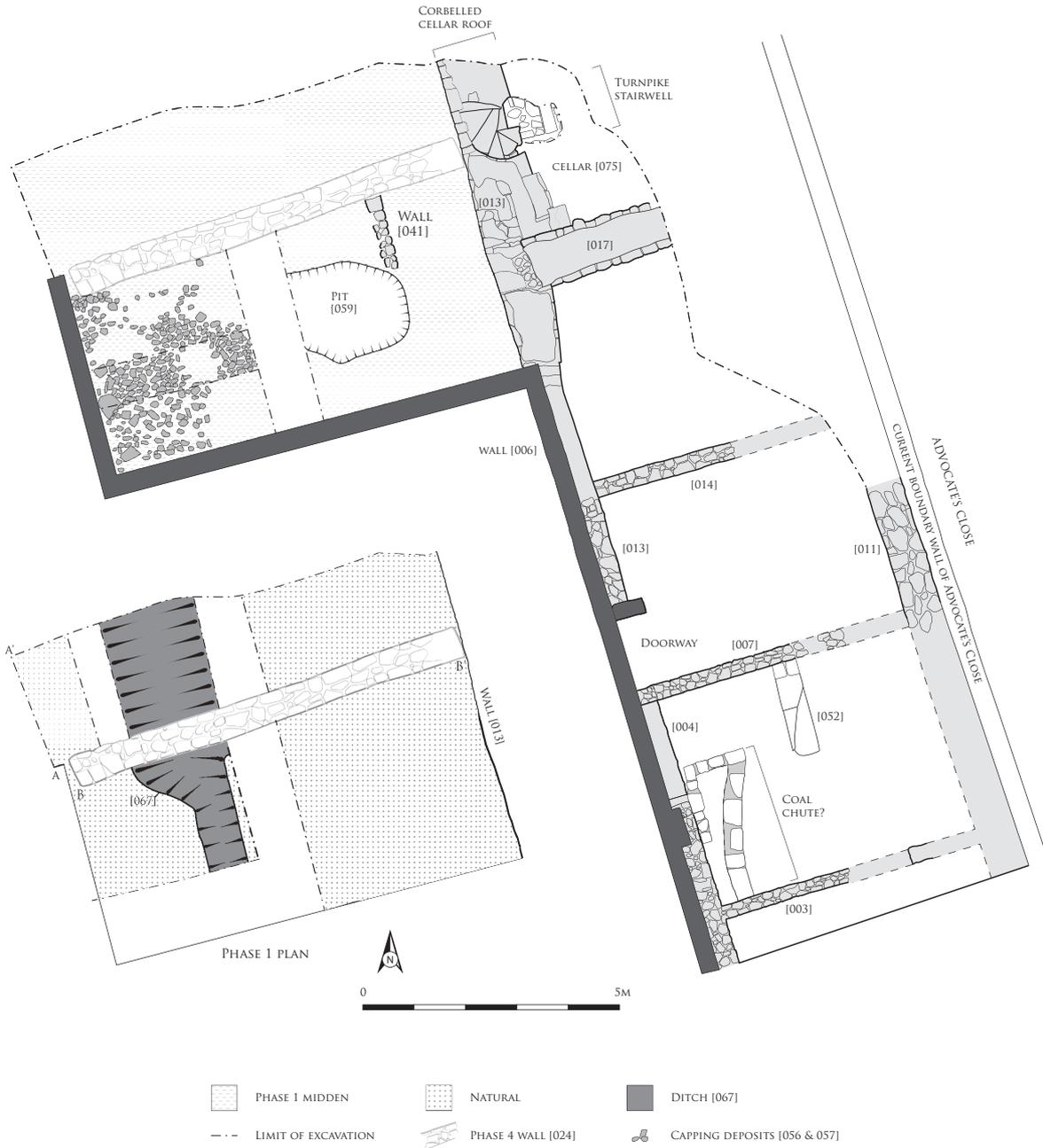
4.2.2 Phase 1/1a (12th/13th to 15th century)

The earliest feature within the midden area, both stratigraphically and through its associated artefact assemblage, was the linear ditch [067] (Illus 3, 4 & 6). This feature was visible for approximately 7.0m and ran downslope from under the 15th/16th-century boundary wall. The ditch was U-shaped in profile with a maximum depth of 0.90m, and expanded in width from 0.70m to 2.0m to the north. The primary fill was a compact clay silt [080], over which lay a dark organic silt [066] which partially overflowed its bounds to become the early midden deposit [058–040] (Phase 1a). This latter deposit extended across the area and ranged from 0.15m in depth in the south to 0.80m in the extreme north. A localised capping of clay silt [070] covered the ditch within the southern part of the midden area.

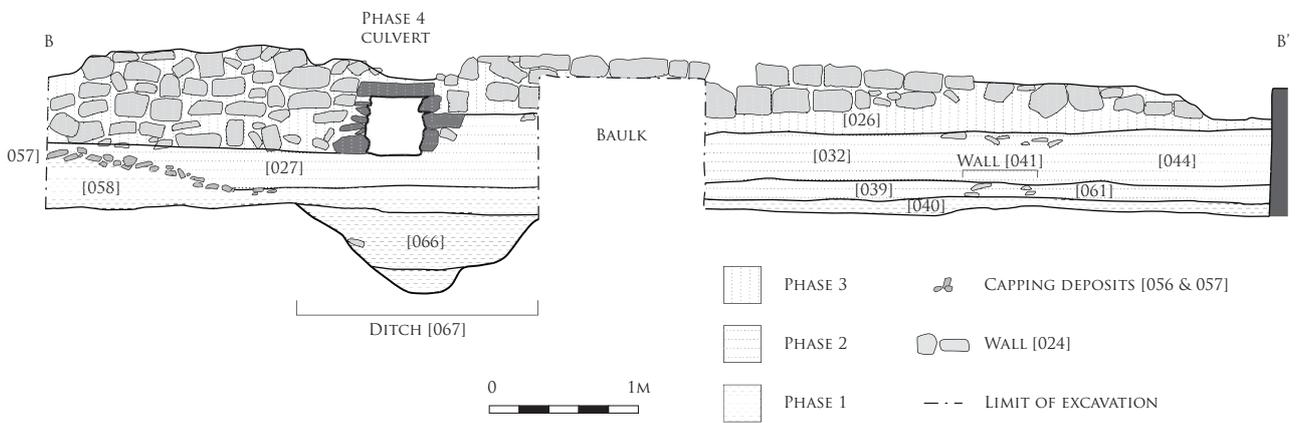
The early midden and ditch fills were rich in small finds, including substantial quantities of 12th/13th-century pottery (Appendix 1). The pottery consisted largely of Scottish white gritty wares together with smaller quantities of Yorkshire glazed whitewares, some north-eastern English redwares and two conjoining French Rouen jug sherds. A few jug fragments of 14th-century date were recovered from the initial fill of the ditch [080], which represents the later filling up of the northern part of the ditch

Table 1 The dating of contexts on the basis of ceramic content.

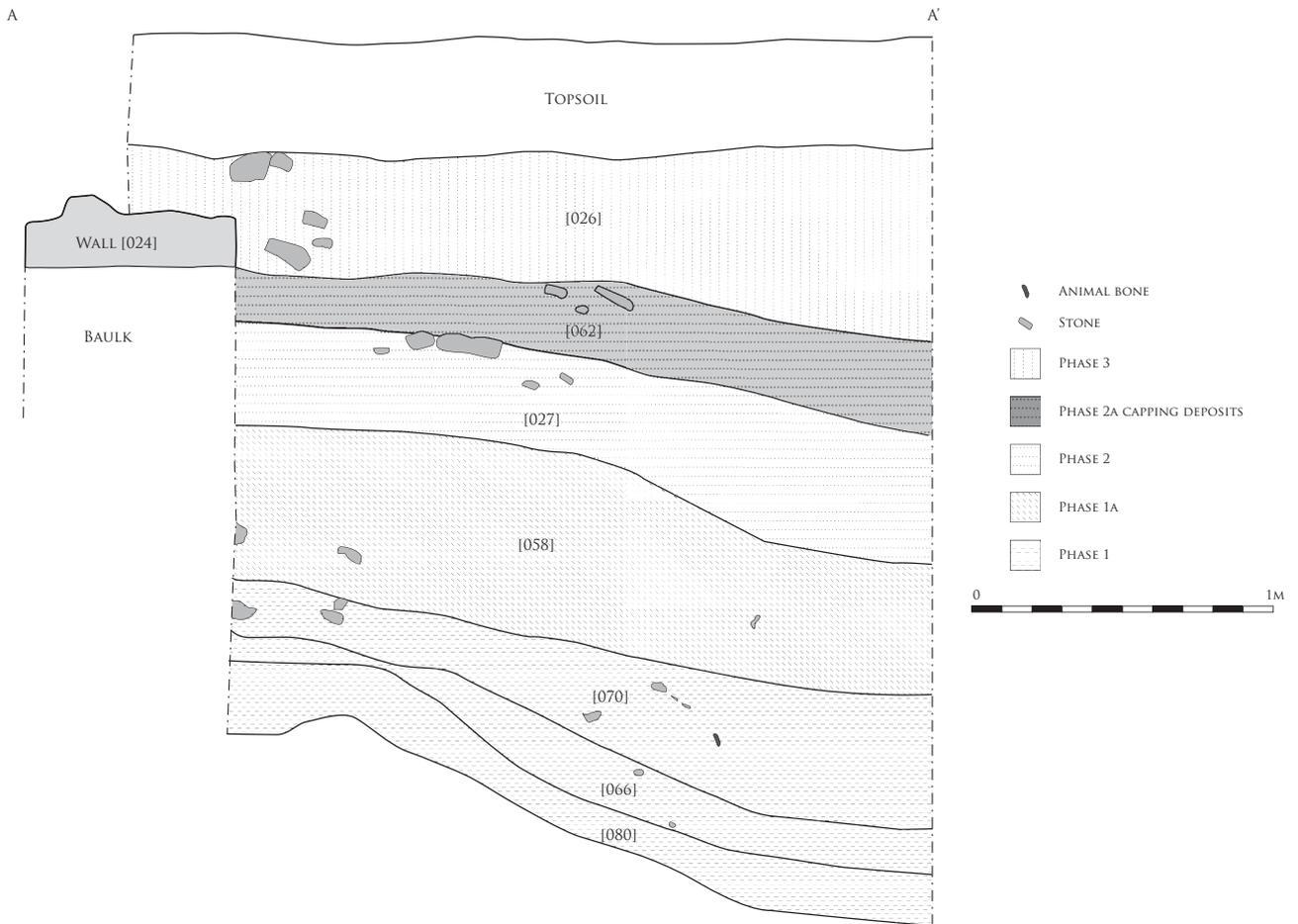
Context	Type	Date
066–058–040	Sewer fill/midden deposit	12th/13th to 16th century
080	Fill of sewer ditch	17th century
056	Deposit	17th century?
057	Deposit	16th/17th century
061	Bedding deposit	17th century?
027–030–032–044	Midden	17th century
028–062–064	Sealing deposit	17th century & 16th/17th centuries
060	Pit fill	17th century
026	Midden	Early 18th century
031	Sealing/levelling deposit	Late 19th century intrusive?
038	Pit fill	Late 18th/early 19th century
048	Demolition deposit	Late 19th century
069	Pit fill	Late 19th century



Illus 3 Plan of the excavated features. The Phase 1 features are shown in the insert



Illus 4 Section 1: north-facing section along line of Wall [024]



(Above) Illus 5 Section 2: east-facing section through midden deposits

(Left) Illus 6 The Phase 1 ditch [067] seen in the south-facing section

as material moved gradually downslope over time, away from the frontage.

A varied assemblage of shell, animal and fish bones was present within the Phase 1 deposits (Appendices 6, 7 & 10). These included sheep/goat, cattle, pig, roe deer, cat and rodent. Sheep/goat dominated, followed by cattle. The majority of the fish bones were saltwater species, indicating an early preference for the consumption of both fresh and preserved sea fish. Both the fish and animal remains appear largely derived from butchery waste and domestic food debris.

The small macroplant assemblage retrieved from Advocate's Close was largely restricted to this initial phase (Appendix 9) and revealed that the ditch was not used for the deliberate disposal of food waste.

It is likely that the ditch represents a watergait carrying domestic liquid waste away from the buildings situated along the High Street frontage. This gradually drained downslope into the Nor' Loch. The lack of substantial amounts of 14th- and 15th-century ceramics within the early midden suggests that there was a hiatus with regards to the dumping of domestic waste at this time.

4.2.3 Phase 2/2a (late 16th to 17th century)

The early sewer/midden deposits were partially capped along the western side of the ditch by elements of hard standing in the form of the stone deposits [056–057] (Illus 3 & 4). On the eastern side of the ditch lay a bedding deposit [061] of compact clay (Illus 4). A 1.5m-long section of clay-bonded sandstone wall [041] cut into the bedding deposit (Illus 3 & 7). The wall most probably represents the remains of a burgage plot boundary aligned north to south.

The northern end of this wall was truncated by a large circular rubbish pit [059] which cut into the natural (Illus 3 & 7). This pit was 0.50m in depth with a diameter of 1.70m. The pit fill contained 17th-century ceramics and was overlaid by the second midden. The second midden soil [027–030–032–044] (Illus 4 & 5) is most probably associated with the direct occupation of the excavated tenement, which was constructed in the latter part of the 16th century. The soil consisted of an organic

clay silt ranging from 0.15m to 0.50m in depth. A large amount of ceramic material was recovered from this soil, including substantial assemblages of Scottish Post-Medieval Oxidised Ware and Scottish Post-Medieval Reduced Ware (Appendix 1). A large number of foreign imports were also recovered, including sherds of Beauvais earthenware, marbled Italian pottery, various French types and German Langerwehe salt-glazed stoneware among others, all 17th century in date.

A small number of high-status glass finewares were also recovered from these contexts, alongside clay pipes including both Scottish and imported examples from England and Holland (Appendix 2).

As with the earlier midden soil deposits, a large number of animal and fish bones were recovered, representing a similar range of species including sheep/goat, cattle, horse, pig, red deer, roe deer, dog, cat and rodent (Appendix 6). Sheep and cattle were again the most common animal remains, with increasing numbers of deer present within the assemblage. Occasional eel and salmonid fish species were recovered during this phase, suggesting a slight widening of the tastes of the Close's inhabitants possibly because of greater access to riverine sources (Appendix 7). A relatively large concentration of horn cores were recovered from the midden soils, suggesting possible horn working occurring within the Close. Other industrial practices are suggested by the presence of a millstone and whetstone (Appendix 3).

The second midden soil was capped by a compact sealing deposit [028–062–064] (Phase 2a) of friable orange-brown clay which ranged from 0.10m to 0.20m in depth (Illus 5). The deposit most probably relates to late 17th-century efforts at greater sanitation.

4.2.4 Phase 3 (18th century)

The sealing deposits of Phase 2a were in turn overlaid by a later midden deposit [026] of organic dark brown clay silt (Illus 4 & 5). This ranged from 0.10m to 0.60m in depth and provided ceramic material of early 18th-century date, including imports of tin-glazed earthenware, Staffordshire types, Raeren/Westerwald stoneware and Chinese porcelain (Appendix 1).



Illus 7 The midden area showing the burgage plot wall [041] (running from foreground to centre of trench) truncated by pit [059]

A reduced number of animal species was present within the midden consisting of sheep/goat, cattle, cat, rabbit and rodent (Appendix 6). This reduction may illustrate a decline in living standards but it may also suggest that large-scale butchery practices had been largely removed from the Close during this period.

A number of brick and tile fragments were associated with this phase (Appendix 5) but these were considered to be 17th century in date and therefore residual.

The Phase 2 and 3 midden deposits were cut by a large retaining wall [024] running across the midden area from east to west (Illus 3 & 4). The wall was built on a foundation deposit of clay [077] and consisted of a mix of dressed and rough mortared sandstones. The wall ranged from 0.40m to 1.50m in elevation and 0.60m in width. Given its stratigraphic position, the wall most probably dates to the late 18th or early 19th century.

4.2.5 Phase 4 (19th century)

Two 19th-century rubbish pits and a stone culvert were also recorded (Illus 4). The culvert was situated in almost the same position as the early sewer ditch and was constructed from slabs of lime-mortared sandstone. The culvert ran out of a forced opening within the southern boundary wall to truncate the retaining wall [024] downslope. The culvert then continued outwith the excavation area to join with a larger culvert associated with the Victorian boiler house immediately bordering the excavation to the north.

4.3 The tenement (late 15th century to late 19th century)

The removal of the demolition material and imported garden soil from along the western frontage of the Close revealed a terraced tenement building built on natural clay and laterally aligned in steps, south

to north downslope from the High Street (Illus 3). Surviving elements of the tenement are still visible at the southern end of the Close incorporated into later walls. Several blocked doorways remain visible at ground level, suggesting that the Close was substantially lower at the time of construction.

The southernmost part of the tenement consisted of a 12m length of substantial load-bearing front and rear sandstone walls [004/013] and [011], together with three lime-mortared sandstone partition walls, [003], [007] and [014], running east to west, each measuring 0.35m in width. The internal faces of the walls revealed patches of plaster. The partition walls created three individual cellar blocks, each with dimensions measuring 4.0m north to south by 4.60m east to west. The cellar blocks were stepped with drops of 0.50m between each block. A large clay-bonded gable-end wall [017] formed the northern limit of this building. The wall was up to 1.0m in width and the foundations reached

a depth of 2.5m below the existing ground surface.

The southernmost cellar block was filled by deposits of coal dust and mortar which were themselves overlaid by a truncated sub-rectangular foundation consisting of handmade bricks and sandstone cut into the coal dust. This structure was mortared directly onto the walls [003 & 004] and was partially curvilinear. The feature may represent an 18th-century restructuring of the cellar space or it could be the remains of a coal chute, given the amount of coal dust. A small path of stone flagging [052] was uncovered at the same level close to the footings of the partition wall [007]. None of the other cellar blocks within the southern tenement provided intact floor deposits.

A further feature was revealed within the central cellar of the structure. This consisted of a 1.5m-wide doorway with a sandstone door jamb set within the rear wall [004–013]. The doorway was filled with demolition material and subsequently built over



Illus 8 The turnpike stairwell, with the walls of the cellar visible on either side

by a later wall [006] which partially truncates and overlies the rear wall of the tenement. No intact floor levels were observed within this cellar.

Another building lay north of the gable-end wall [017] and was keyed into it. This structure consisted of a single cellar constructed within walls [017] and [013]. Any structural remains existing further north appear to have been completely removed by later ground-works associated with the late Victorian boiler house. This cellar utilised the same frontage and rear walls as the southern building and was probably contemporary. The northern face of the gable end contained a stone ledge aperture [076] which was 0.40m in diameter with a recess of 0.30m. The aperture was positioned 1m from the top of the wall and was probably made to contain an oil lamp.

The removal of the demolition deposit from the structure revealed the partial remnants of a corbelled cellar roof within the south-western corner keyed into the gable end and the rear wall. The roof survived to a maximum of eight courses either side of a turnpike stairwell (Illus 8). The turnpike consisted of four rectangular steps arranged concentrically and incorporated into the rear wall.

Three distinct floor deposits were recorded in this cellar, the earliest being a compact layer of coal dust similar to that encountered within the southern tenement. This was overlaid by a bedding layer of sandy silt over which lay a floor of large flat sandstones and red clay. The basal step of the turnpike lay directly on this floor.

5. DISCUSSION

Though relatively small in scale, the excavation at Advocate's Close has revealed a well-stratified sequence of occupation ranging from the 12th/13th centuries to the late 19th century. This has provided insights into the social and economic development of the Close through a study of the artefactual and ecofactual evidence recovered from the middens, enhanced by documentary and cartographic records, and has prompted an examination of wider issues related to waste disposal, sanitation and midden management within Edinburgh's Old Town. The evidence can be added to that from other recent excavations such as Jeffrey Street (Masser et al 2014)

and Marlin's Wynd (Cook et al 2013), which all demonstrate the processes through which Edinburgh and in particular the Old Town developed through the medieval and post-medieval periods.

5.1 Ownership

The Close has a documented history as far back as the late 15th/early 16th century. The east side was occupied by the tower-and-hall residence built behind Andrew Bertram's 'newly built' foreland building and described as such in 1490/1 (Laing 1859: 155 (4 March)). Stell & Tait (2015: 22) have described this residence as a prime example of a lateral backland building built by wealthy burgesses who, rather than be constrained by the narrow widths of a foreland property, chose to build along the length of the backland to achieve the scale of residence they desired. The property was subsequently bought by Andrew Cor in 1553 and inherited by his son, Clement Cor, in 1564, both merchant burgesses (Boog Watson 1929: 15). The door lintel bears the date '1590' and the initials of Clement Cor and his wife (Harris 1996: 53–4), while dendrochronological analysis of the painted ceiling beams in the building produced a date of 1591 (Crone et al in press), both indicating that the building underwent a substantial rebuilding programme at this time. The mansion would appear to have escaped the depredations said to have occurred on the lands east and south of the Close (Coghill 2008: 26–7; Cross 2013: 9) and associated with the sack of Edinburgh by the Earl of Hertford in 1544 (Gifford et al 1991).

The western side of the close, the site of the excavation, was in the ownership of the Cants of St Giles Grange by 1501 (Prot Bk Foular I, 12 January 1501). The Cant dwelling appears to have been set within the second backland, as the first passed to the burgess Thomas Hamilton in 1522 (Prot Bk Vincent Strathachin, 30 August 1522). The Hamiltons, who later became Earls of Haddington, had taken ownership of both the tenement and Cant dwelling by 1558 (Prot Bk John Guthrie, 12 August 1588). In 1589 the property passed to the merchant Hector Rae (Prot Bk Alex Guthrie Snr, 15 May 1589) (Laidlaw 1927: 6–7), and it was still in the ownership of the Rae family at the time of the housemails taxation survey of 1634–6 (Allen &

Spence 2014: fol 112). At this time the property had two tenants and the highest tax valuation within the Close, and is described as a turnpike building with cellar, surely the structures excavated north of the gable-end wall [017]. Like the Bertram–Cor residence on the east side of the Close, the Cant–Hamilton–Rae residence on the west side was probably also an example of lateral backland building, the phenomenon of construction along the longitudinal axes of plot boundaries to avoid the physical limitations imposed by the narrow widths of the foreland plots (Stell & Tait 2015: 22).

5.2 Waste disposal, sanitation and midden management

Initial activity on the site is represented by the watergait and associated midden soil. The location of the ditch running downslope to the north suggests that it is associated with the early ‘foreland’ buildings facing the High Street. It is therefore possible that the sewer was positioned within the postulated early backlands associated with Edinburgh’s first 12th-century settlement (Duncan 1975: 466). Early Modern towns included a complex network of open and closed sewer ditches designed to drain liquid waste and rainwater (Skelton 2012: 115). Given the position of the close on the north side of the Old Town, this waste water would have drained into the Nor’ Loch (Makey 1987: 201). These watergaits were often rudimentary, but functioned effectively as long as they were maintained (Skelton 2012: 57). Their care was often shared by at least two properties (*ibid*: 44) but although maintenance was invariably the householders’ responsibility they were not forced to do so (*ibid*: 48).

The ceramic assemblage from these initial deposits includes items imported from north-eastern England and northern France. The watergait itself appears to have been in use until the 15th/16th century, when it overflowed its banks and turned into a general midden spread, possibly due to lack of maintenance.

The overflow of waste from medieval sanitation into more general midden/backland soils is also recorded at Blackfriars Street on the southern slope of the High Street where the overflow of a late 14th-century cesspit contributed to the gradual development of a midden soil downslope (Schofield

1976: 172) into the Cowgate. This would help explain the great depths of such deposits found during excavations along the lower slopes of both sides of the High Street. This more gradual build-up of deposits also occurred alongside the more rapid large-scale movement of topsoil and midden deposits resulting from the extensive terracing undertaken during the construction boom of the late 16th/17th centuries.

Scotland’s burghs were initially closely integrated with the countryside (Oram 2011), a connection that began to weaken during the 16th century as the rate of urbanisation increased and populations grew. Middens such as those excavated at Advocate’s Close were created through concentrated human activity. This involved not only the re-deposition and intentional storing of cesspit contents but also the waste associated with domestic food processing and industrial activity. Middens underpinned the socio-economic life of the burgh, with each household maintaining its own mound of organic waste (known as ‘fuilzie’ or ‘failyie’) on their forefronts (Oram 2011: 11). As the tenement lacked a forefront on the High Street, the rear of the building was a more likely choice for such storage. The sheer volume of material produced by domestic, agricultural and industrial activity, allied with the growing restrictions on urban space, would cause middens to grow amongst buildings as a matter of course (Skelton 2012: 85). The midden material would be periodically carted to the vegetable gardens, orchards and arable fields owned by the burgesses and situated on burgh lands (Oram 2011: 5). The economic value attached to this material is reflected in the repeated burgh legislation concerning private middens and dung-hills from the 16th century onwards (*ibid*: 3).

There is a brief hiatus in midden deposition within the Close during the 14th–16th centuries, which probably reflects a lack of development seen throughout the Old Town. It is likely that the bedding deposit capping the early midden is associated with the construction of the tenement along the western frontage of the Close. The fragmentary wall cutting this deposit within the midden area may be a boundary marking out a 16th-century burgage plot associated with the development of the Close during this period as the original backlands were given over to construction.

The increased habitation within the Close in the 17th century led to the creation of a new midden rich in ceramics, shell, animal bone, fish bone, glass and tile. This and the later 18th-century midden were probably partly the result of tenement garderobes emptying directly into this open space to flow downhill into the Nor' Loch. In fact, the reason it remained free of development may have been due in part to the presence of the open midden, which remained partially uncovered throughout the 16th century.

The 17th-century midden developed in a period of economic prosperity, during which the Old Town played host to an array of prestigious foreign and native visitors (Skelton 2012: 19). Scotland's foreign trade began to be monopolised by a small elite of burgesses such as those that occupied the backland properties along Advocate's Close (Brown 1987: 126–7; Whyte 1995: 279). This is reflected in the quantity of local and imported ceramics recovered from the deposit, including material from Spain, France, England, the Low Countries and Italy (Appendix 1). The midden also produced an important assemblage of glass fineware, again most probably imported from northern continental Europe. Parallels with both of the assemblages can be found amongst the early 17th-century material excavated at Marlin's Wynd (Haggarty & Lawson 2013), High Street/Blackfriars Street (Schofield 1976) and Jeffrey Street (Masser et al 2014). The propensity for high-status commodities is also reflected in the assemblage of clay tobacco pipes found within the later middens: 48% of those recovered were burnished, an additional manufacturing stage which would have added cost (Appendix 4). It is likely that an increasing demand for Baltic iron and pit props from local mine owners developed existing trade links with northern continental Europe and facilitated the trade in luxury and high-value items (Haggarty & Lawson 2013: 26).

By the early 17th century a variety of professions were occupying the Close. These ranged from merchants, tailors and cobblers to knights, advocates and provosts (Boog Watson 1924: 104; Laidlaw 1927: 6–7, 14; Harris 1996: 53–54) and it is likely that the excavated buildings were under multiple occupancy. The high status of many of the small finds and the variety of the faunal remains, including

increasing amounts of game (Appendix 8) and freshwater fish (Appendix 7), reflects Edinburgh's continued growth and prosperity during the early 17th century, with the majority of the Close's inhabitants being drawn from the higher end of the social scale.

A capping layer of clay sealed the 17th-century midden, probably as a direct response to the rapid urbanisation of the Old Town. During the latter part of the century a large influx of immigrants led to an infilling of the closes and the erection of higher subdivided tenements (Skelton 2012: 110). Nevertheless, a later 18th-century midden was allowed or encouraged to form. This midden contained fewer imports and more locally made ceramics. A less varied faunal assemblage also appears to reflect a change of economic circumstance, with butchery being practised by professionals away from the immediate vicinity. This apparent decline in material status within the Close is mirrored elsewhere within the Old Town, such as at Jeffrey Street (Masser et al 2014: 1) where the area takes on a more industrial character.

By the 18th century fewer burgesses were actively cultivating ground on the outskirts of the town and consequently private middens were becoming a less essential part of the socio-economic fabric of the Old Town. Indeed, the longstanding perception of this material as a public nuisance, albeit one of some value, appeared to increase during this period, marking a fundamental shift in attitudes towards waste and refuse (Oram 2011: 2). One begins to find numerous, if possibly biased, references such as that by Joseph Taylor in 1705 to the 'nastiness of the inhabitants: the excrements lie in heaps ... in a morning the scent was so offensive that we were forc't to hold our nose as we past the streets and take care where we trod for fear of dislodging our shoes ...' (Smout 1973: 343–4). This change in attitude to household waste and its disposal appears to have coincided with a general decline of the Old Town during the latter part of the 17th and early 18th centuries, possibly associated with the loss of the Scottish Parliament. The rapid expansion of building and the general increase in population experienced in the earlier part of the 17th century appears to have put pressure on the town as prosperity declined. A late 17th-century observer, Thomas Morer, noted the 'presence of many lanes of communication, but

very steeply and troublesome and withal so nasty' (Brown 1891: 280). Despite this the Close appeared to retain its high status, at least within the historical record, being thought of as very fashionable in the days of Queen Anne (Grant 1883: 222).

The 19th century saw the construction of the stone culvert/sewer which issued from the northern building bordering the midden area. Interestingly, this was placed in almost the same position as the by now covered and invisible medieval watergait, reflecting the solidity of burgage plot boundaries despite the scale of urban development. The culvert was probably part of a larger waste disposal system associated with the late Victorian water pump house lying to the immediate north of the area. The 19th century saw the final demolition and infilling of the tenement and the creation of the small formal garden.

5.3 The tenement

The structural remains revealed at Advocate's Close can be readily compared with buildings excavated at Blackfriars Street (Schofield 1976), Jeffrey Street (Masser et al 2014) and Marlin's Wynd (Holmes 1975; Cook et al 2013). Buildings of this period appear to exhibit a growing permanence, with stone walls, multiple storeys with turnpike stairwells, and excavated cellarage. It is not clear whether the cellars at Advocate's Close were used for domestic occupation because, unlike those excavated at Jeffrey Street, no fireplaces were revealed. However, traces of plaster were observed on the inner walls, and two of the cellar blocks revealed black sandy floor deposits. At Jeffrey Street this was thought to be indicative of occupation (Masser et al 2014: 48).

The presence of blocked up entrances incorporated into later buildings nearer the High Street shows that the main entrance into the excavated tenement was directly off the Close. However, the presence of a blocked entrance at the rear of the building suggests alternative access before it was blocked off in the 18th century. The turnpike recorded within the southern building of the tenement provided access into the cellar, probably from the ground floor. This was the deepest part of the excavation, with floor levels 2.5m below the present ground surface. As no other turnpikes were recorded within the northern

part of the tenement, it may be a feature confined to this part of the building, probably due to the depth of the cellarage.

The walls of the tenement were all constructed of lime-mortared sandstone, with the exception of the gable end situated towards the northern end of the tenement block. This wall was clay-bonded and may actually pre-date the adjoining building and its frontage and rear walls. Tait (2006: 299) notes that by 1535 there were four backland properties located along the east side of the Close. These buildings pre-dated the construction boom of the latter part of the century. Hynd (1976: 187) inferred a similar origin for a gable end recorded at Dickson's Close and suggested that this was to be expected with the amount of construction and rebuilding being undertaken in the 16th century.

The lateral backland building of the late 15th/early 16th century therefore reflects a combination of increasing political stability and economic prosperity, which subsequently resulted in a burgeoning population and thus the marked expansion of the Old Town. Between 1600 and 1650 the population of Edinburgh grew from 15,000 to at least 20,000 (Dingwall 1994: 13–16) and tenements now proliferated down the slopes of the High Street, reaching at least six storeys in height (Gordon 1647).

5.4 Conclusion

Many excavations associated with the Old Town have failed to find material associated with the burgh prior to the dramatic development of the late 16th and 17th centuries. This is largely due to the geographical constraints imposed by the early town's ridge line location and the subsequent scarping and rebuilding associated with its later period of growth.

The excavation of the tenement building perfectly illustrates the destructive nature of 16th/17th-century construction. Progressively deepening cellarage was revealed as the tenement was stepped downslope, reaching a depth of 2.5m below the existing ground surface. Yet the associated midden area also revealed the presence of substantial, well-stratified deposits surviving reasonably close to the frontage of the High Street, albeit in small pockets set within later development. The key to this survival was the

longstanding use of the area to the rear of the tenement for waste disposal.

The excavation at Advocate's Close fits into the corpus of recent excavations within the Old Town such as Calton Road (Gooder 2013), St Patrick's Church (Jones 2011), 144–166 Cowgate (Dalland 2004), Blackfriars Street (Will & Radley 2006), Jeffrey Street (Masser et al 2014) and the

Canongate Poorhouse site (Engl forthcoming), which have revealed large midden soil deposits complete with rich artefactual and faunal assemblages of 14th–17th century date, the future study and synthesis of which will hopefully help illuminate the socio-economic development of the city and its inhabitants during this period of rapid change.

APPENDIX 1 MEDIEVAL AND LATER POTTERY

George Haggarty

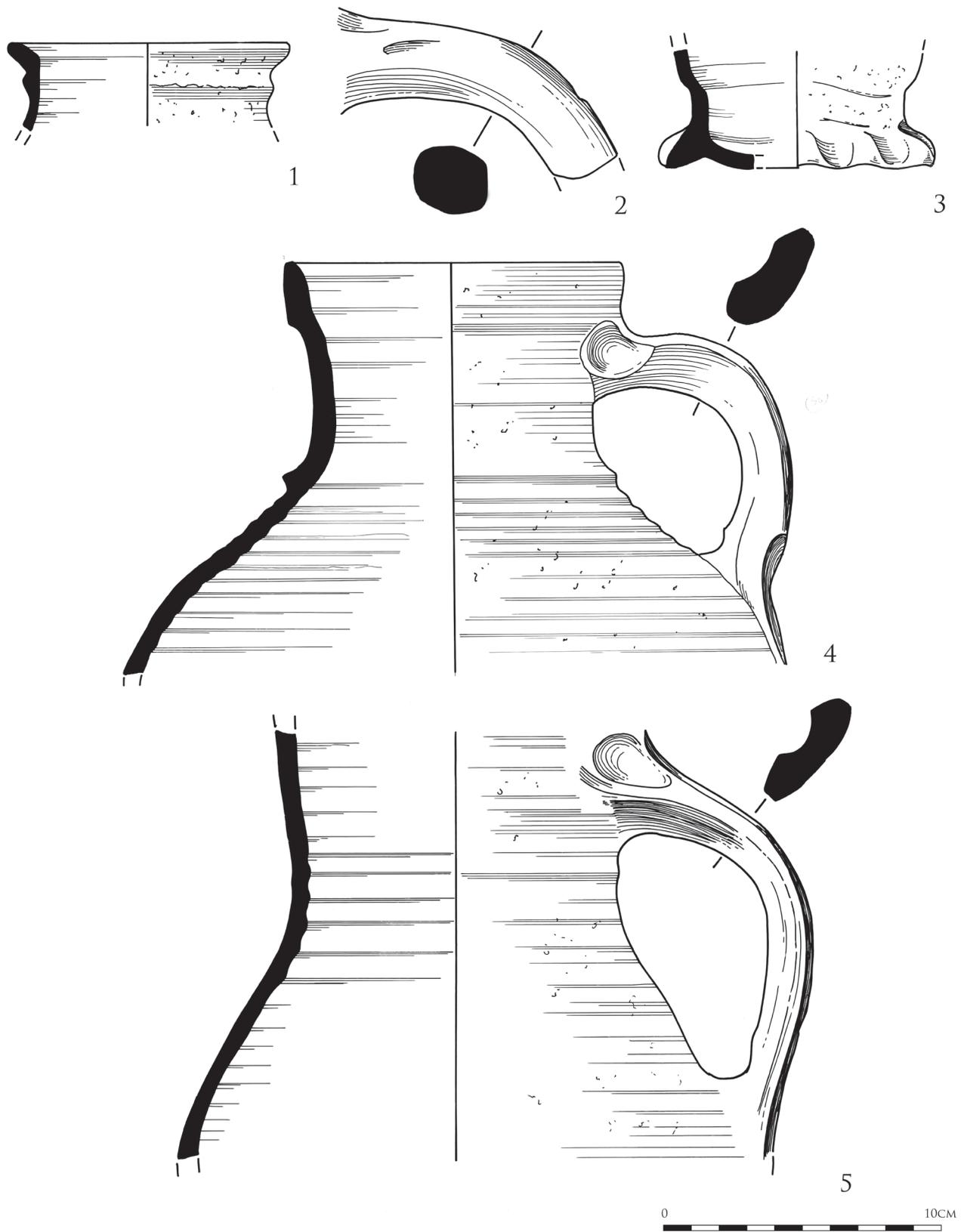
The ceramics reported on below derive from the recent excavations, but a small collection of pottery recovered in 1988 from a workman's trench in the same area is also included. All the material was examined using $\times 20$ magnification, but no ICP chemical analysis or thin sectioning was undertaken. Unless otherwise stated, the pottery described below was recovered from the Phase 2 medieval midden deposits [027], [032] and [044].

The earliest pottery recovered was almost certainly from the Phase 1 midden soils [058] (71 sherds) and [066] (24 sherds). These are all likely to date from the 12th and 13th centuries. The earliest may be a small green-glazed body sherd of Developed Stanford ware or small piece of a cooking pot rim which looks as if it may be from the mid to late 12th-century Newcastle Dog Bank kiln (O'Brien 1988: 31). There are also seven sherds of Yorkshire glazed whitewares, a sherd of Scarborough-type ware in Farmer's fabric 1, and almost certainly some other north-east English redwares. The remainder are sherds from Scottish white gritty ware vessels, except for two conjoining 13th-century French Rouen type jug rimsherds (Ceramic 1; Illus 9). This mirrors the evidence from other Scottish east-coast burghs, where along with the development of an indigenous 12th-century pottery industry (Haggarty 1984: 395), imported wares from a number of English east-coast regions start to become common. Later quality Yorkshire and Scarborough ware jugs, in particular, begin to dominate imported assemblages. This pottery comes from what may have been the first St Giles backlands, an area included in a suggested model of Edinburgh's first 12th-century settlement (Duncan 1975: 466).

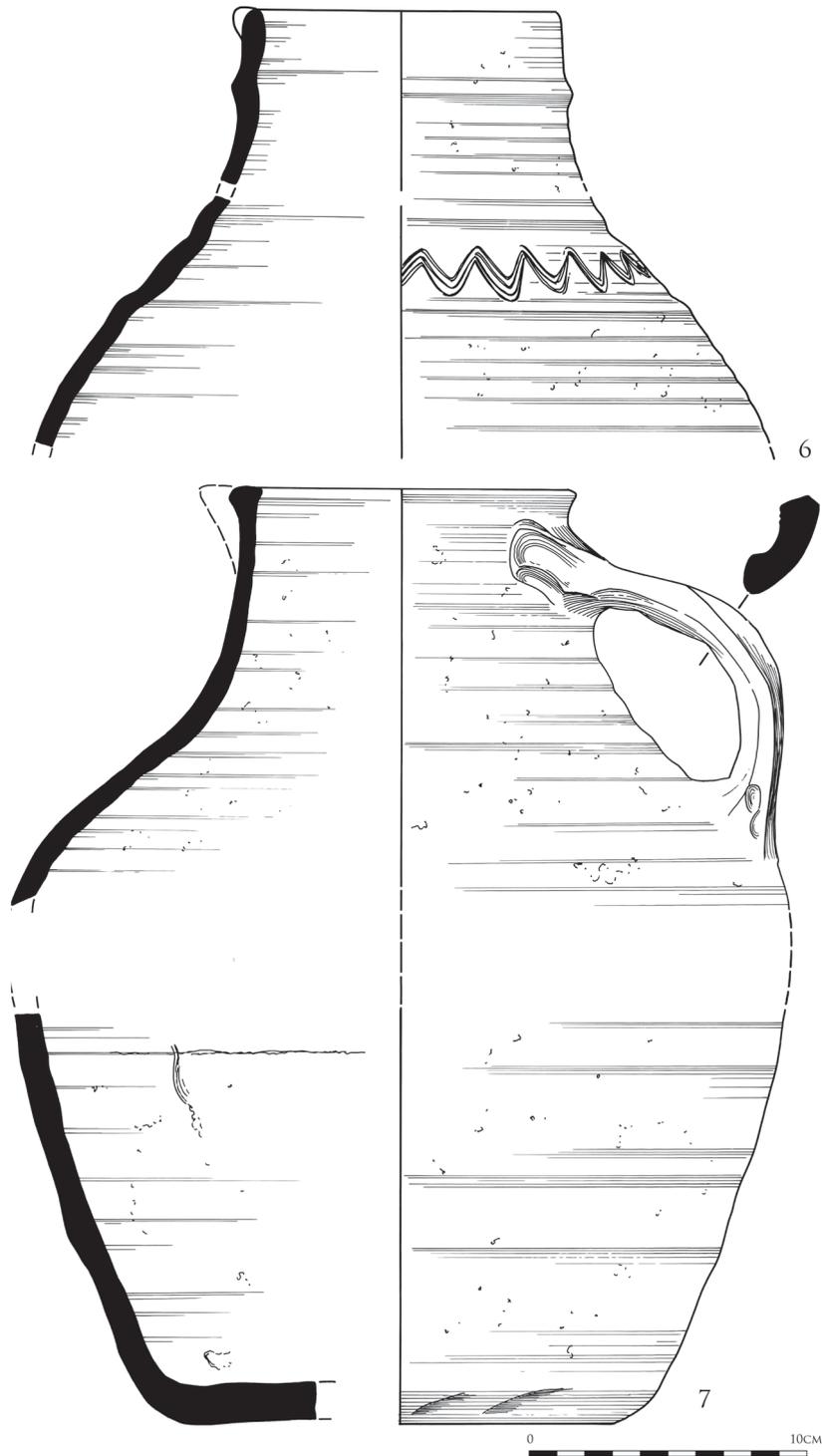
There are only a few probably residual 14th-century sherds in later contexts, one being the abraded rod handle from a Low Countries greyware jug in [069] (Ceramic 2; Illus 9). Interestingly, these hump-shouldered vessels are more commonly recovered in north-east burghs such as Aberdeen and Elgin. Also from the 1988 workman's trench is an unstratified, unglazed, German Siegburg stoneware base sherd (Ceramic 3; Illus 9). Siegburg, which is situated on the Sieg, a tributary of the Rhine,

was probably north-west Europe's largest ceramic production centre between the 13th and 16th centuries, and important for the development of its early stoneware industry.

There seems to be something of a chronological ceramic hiatus, until dumping begins on a large scale, probably sometime towards the end of the 16th century, and which seems to continue throughout the 17th century. That said, there are a few jug fragments from context [081] in a gritty reduced fabric which is probably of late 15th-century date (Ceramics 4 & 5; Illus 9). By far the largest and most important pottery group, with a large number of cross-joins between [027], [032] and [044], is from the post-medieval period. The vast majority of this pottery comprises 611 sherds of Scottish Post-Medieval Oxidised Ware (SPMOW), in a range of forms, and 144 sherds from the ubiquitous olive-green lead-glazed Scottish Post-Medieval Reduced Ware (SPMRW) jugs. These large jugs typically have multiple wavy grooving on the shoulder (Ceramic 6; Illus 10). The fabrics, forms and distribution, along with production evidence for this important Scottish ceramic industry, have been discussed at length elsewhere (Haggarty et al 2011). However, it is worth repeating that this industry has a long lifespan, from the late 15th century, and at least in the Forth littoral, into the third quarter of the 18th century (Haggarty 2004). Its wares, however, are far more common in contexts dating from the later 16th, 17th and first half of the 18th centuries. Forms such as jugs come in various sizes, including large (Ceramic 7; Illus 10) or small, such as the thick example from [026] (Ceramic 8; Illus 11). Vessels also in various sizes but generally smaller often have frilled bases in imitation of German stoneware (Ceramics 9, 10 & 11 and, from [062], Ceramic 12; Illus 11). Skillets with their distinctive folded handles are not uncommon (Ceramics 13, 14 & 15; Illus 11), as are apothecary/drug pots in various sizes (Ceramics 16 & 17; Illus 12). Within the assemblage are a large number of internally glazed vessels, also in various sizes, whose handles spring from their rims. These are often externally sooted, suggesting they were used as cooking pots (Ceramics 18, 19 & 20; Illus 12). Most of the other vessels, such as dripping trays (Ceramics 21 & 22; Illus 12), pirlie pigs/banks (Ceramics 23 & 24; Illus 13), pitchers (Ceramic 25; Illus 13), narrow-necked



Illus 9 Ceramics 1-5

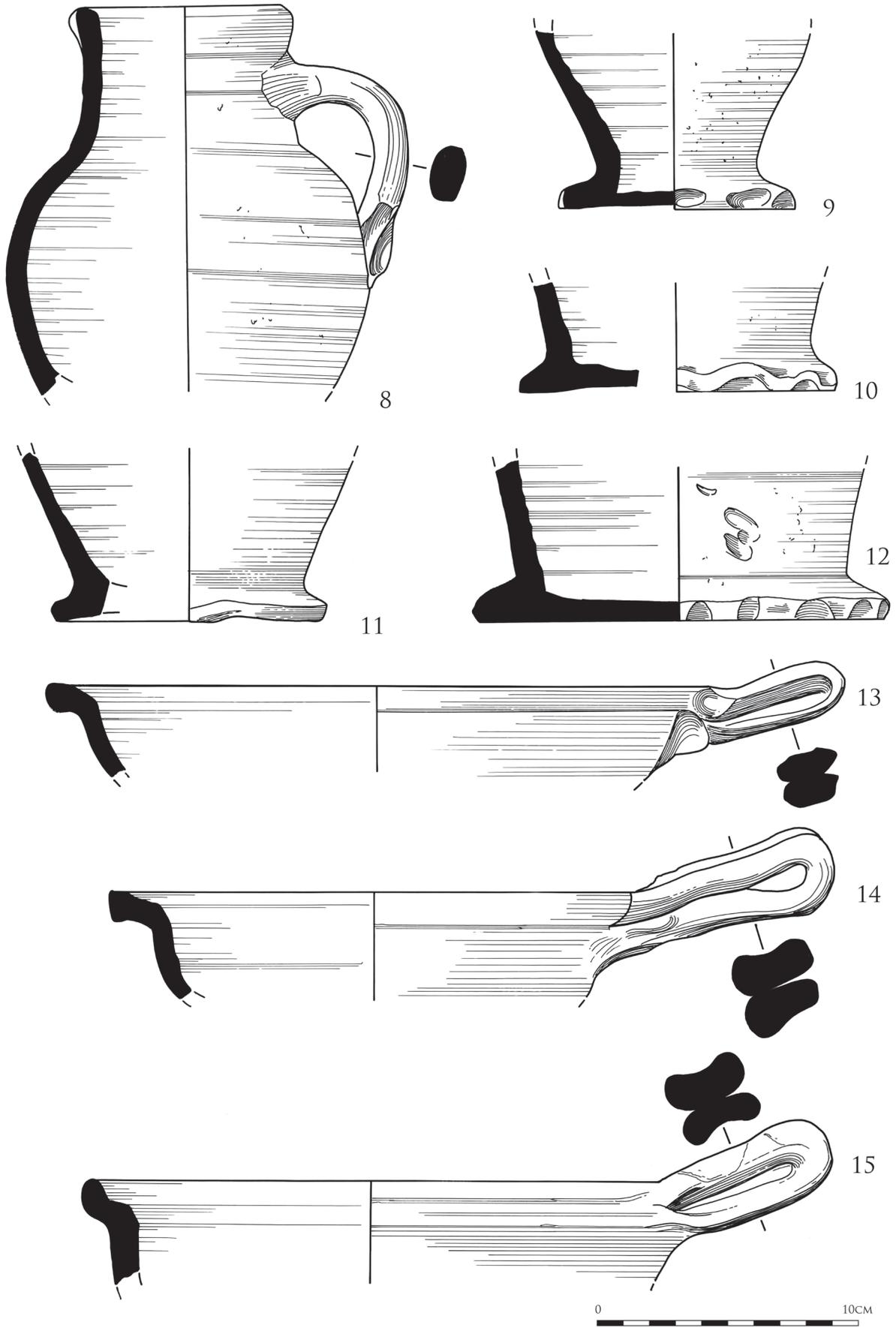


Illus 10 Ceramics 6-7

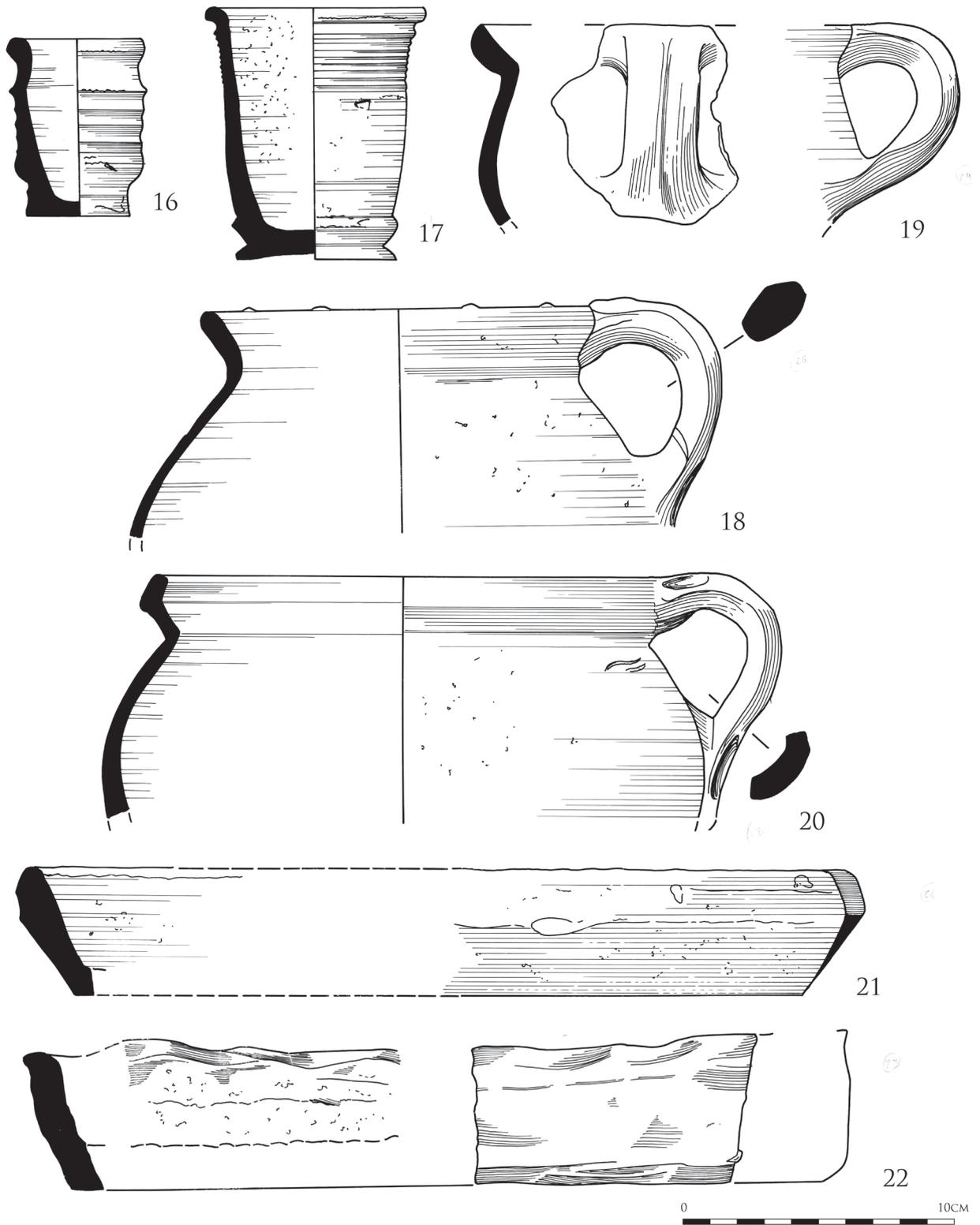
jugs (Ceramic 26; Illus 13) and probable single-handled chamber-pots (Ceramic 27; Illus 13, and Ceramics 28, 29 & 30; Illus 14) are normally in oxidised fabrics (Haggarty et al 2011).

Unfortunately, many of these forms are extremely difficult to identify from body sherds alone. Many of the oxidised sherds have reduced light grey cores or

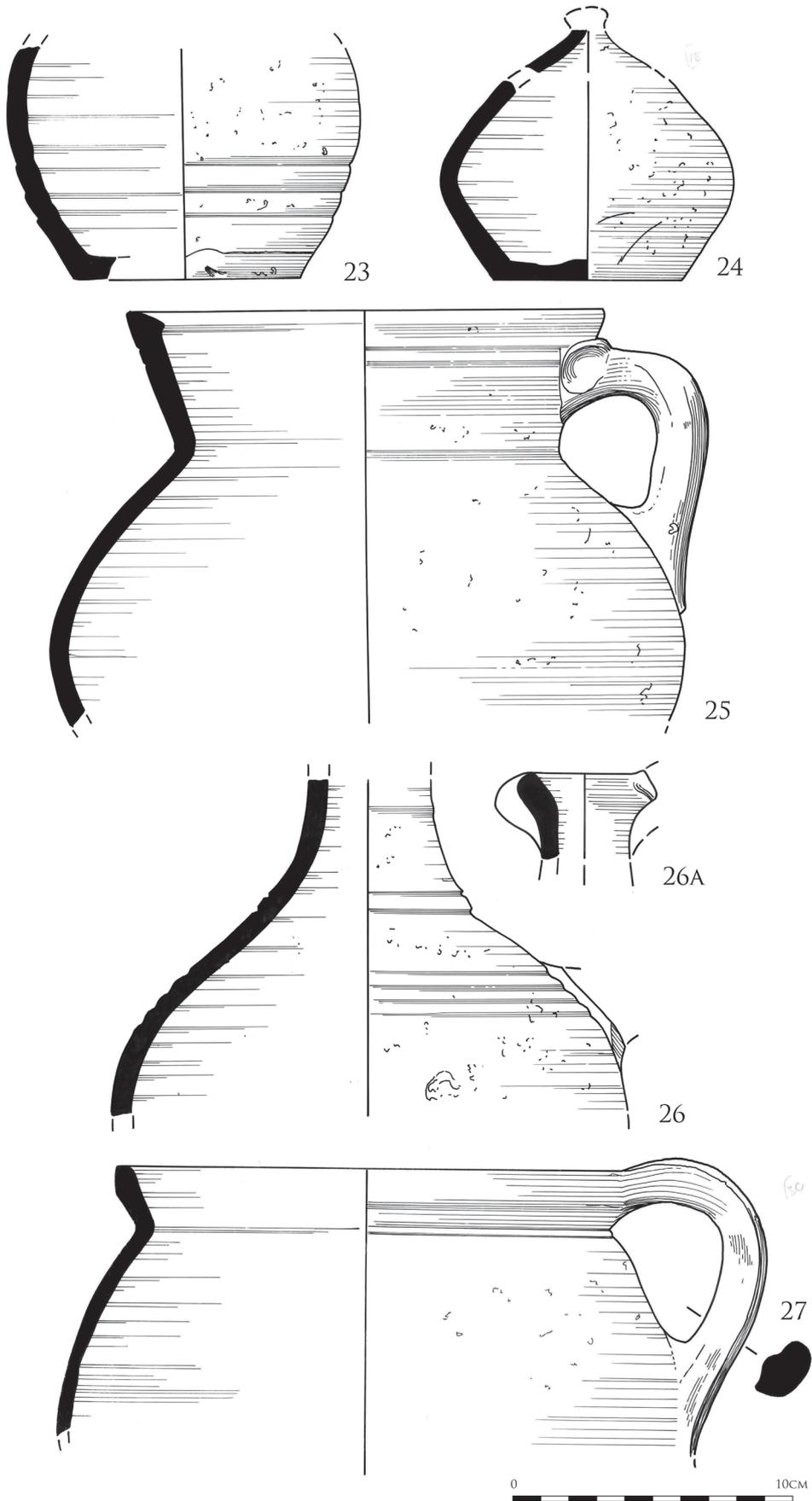
patches of grey on the surface, but as there appears to have been no deliberate attempt at reduction, they are still classed as SPMOW. Oxidised vessels can also be heavily knife-trimmed on or above their base, as shown in examples from [040] and [028] (Ceramics 31, 32 & 33; Illus 15). Oxidised vessels can also be covered with a thin red coating, almost



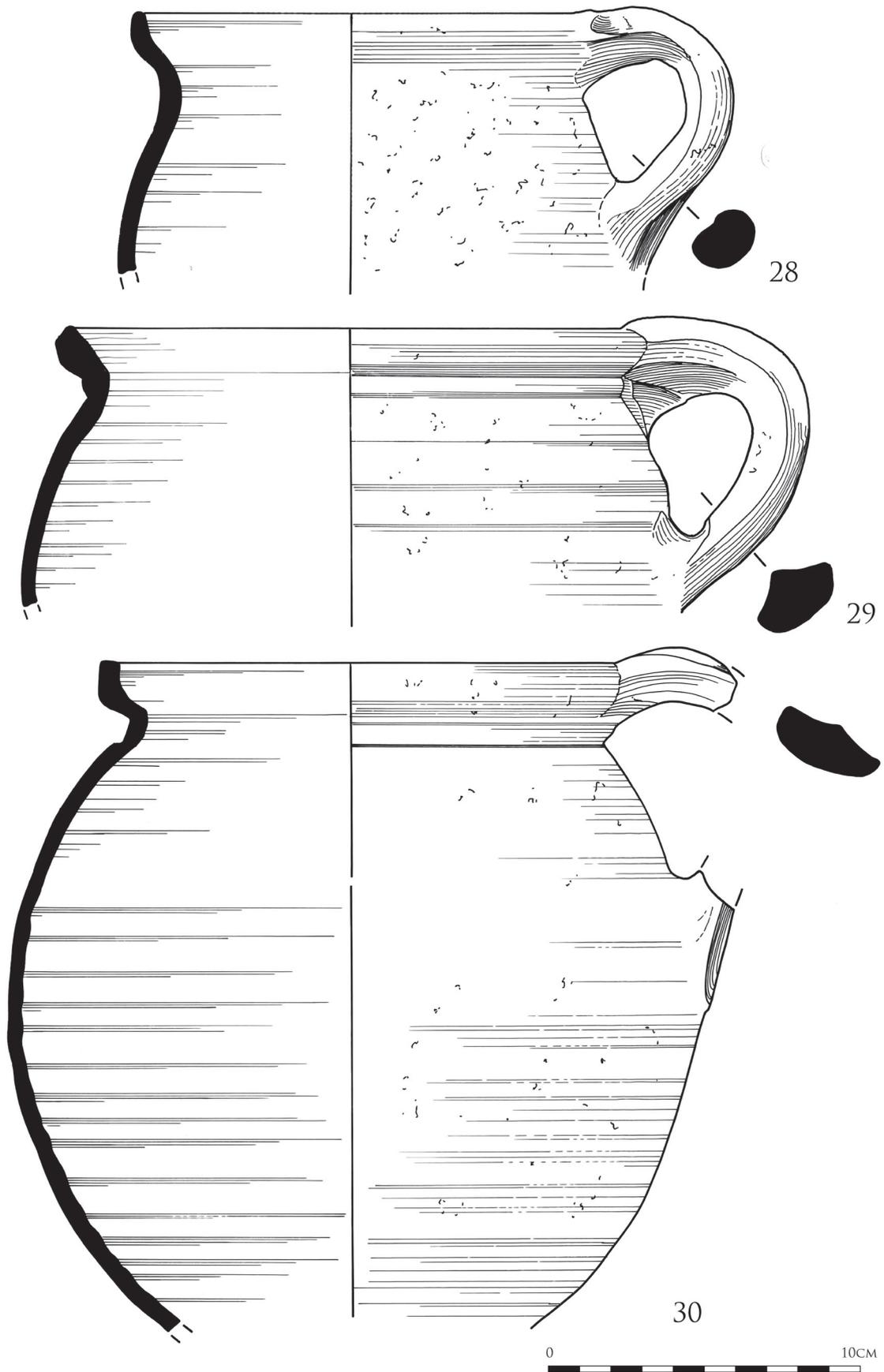
Illus 11 Ceramics 8-15



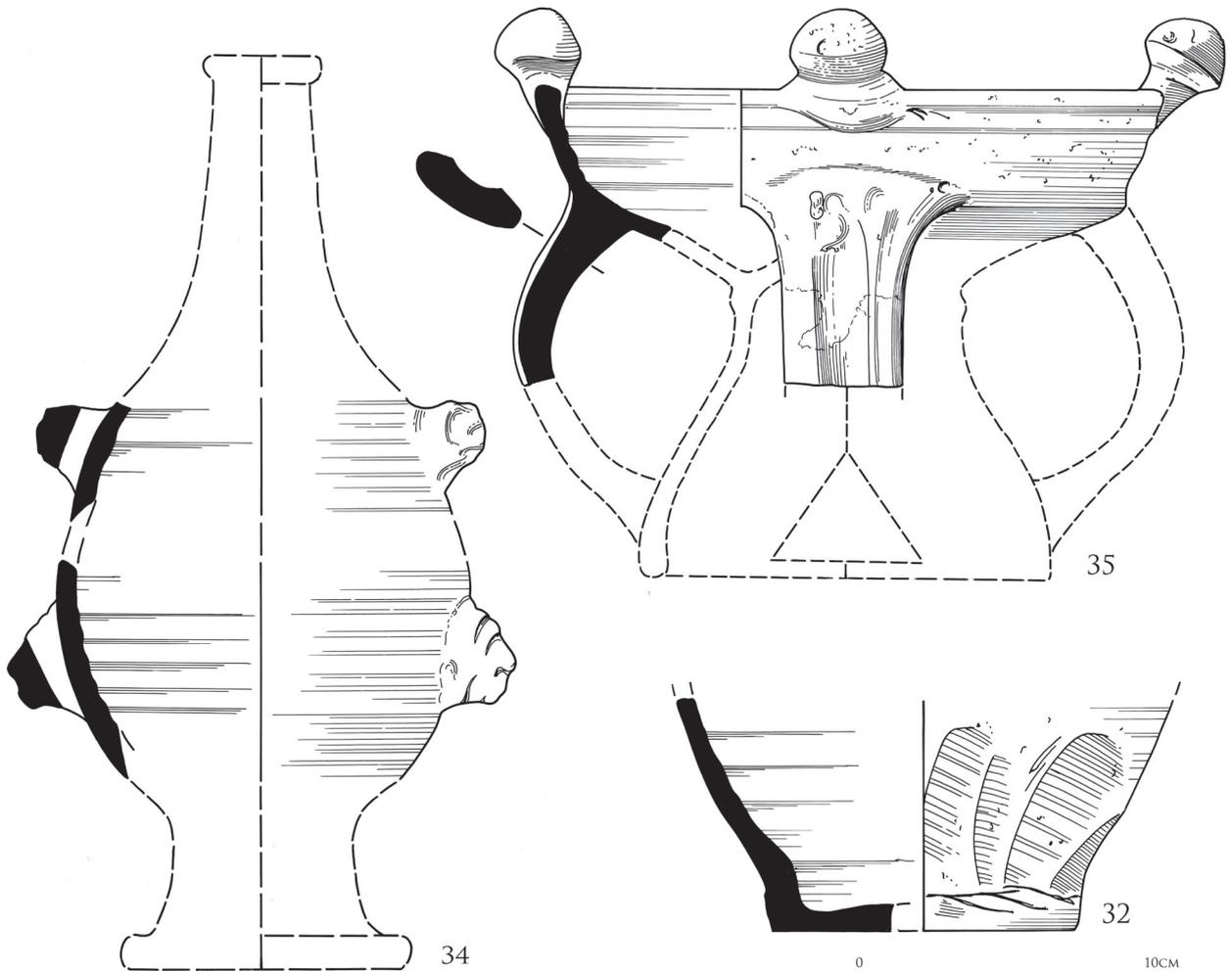
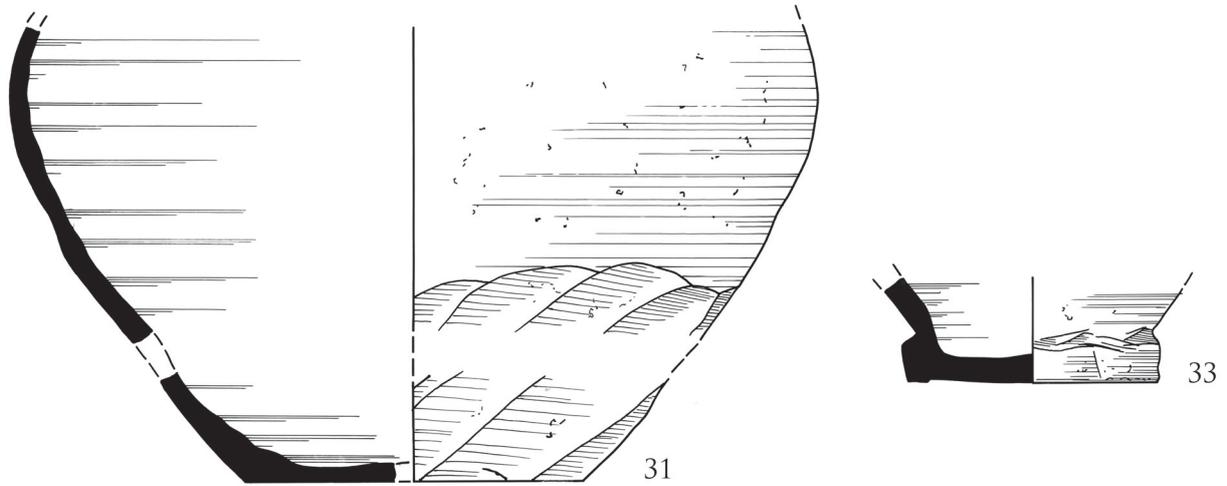
Illus 12 Ceramics 16-22



Illus 13 Ceramics 23-27



Illus 14 Ceramics 28-30



Illus 15 Ceramics 31-35

certainly caused in the kiln by the iron in the clay body being drawn out then re-deposited back onto the surface.

Documentary research on ceramic production in the Edinburgh area has revealed that at least seven potters were working in the area of Potterrow, just outside the city wall, in the first half of the 17th century (Haggarty et al 2011: 16). This might suggest that most of the iron-rich SPMOW and SPMRW pottery recovered from the excavations in and around Edinburgh would be locally produced. However, recent work at Niddrie, an estate now on the outskirts of Edinburgh, suggests that the Throsk kiln site in the upper Forth may have been the source for at least a proportion of it (Haggarty & Hughes 2013). Archaeological evidence suggests that it was mainly the large distinctive SPMRW jugs which were being traded, as one does not see many of the open forms such as bowls and dishes produced at Throsk (Caldwell & Dean 1992: 14, illus 5, 1–14) and almost certainly at the other potteries recorded in the Stirling area (Haggarty et al 2011: 15, illus 20). A large assemblage of these open forms, many decorated with stamp impressions, was recovered during excavations at Stirling Castle (Haggarty 1980: 34–46; Franklin 2008: 14–15, illus 28–35), and it is highly probable that a body sherd in [200] was from one of these dishes.

There are four thick, late Scottish whiteware sherds from [027], [032] and [044]. Two of these are basal angle sherds and another is a body sherd, probably from two large jugs. The fourth sherd is internally glazed and is almost certainly from a dish or bowl. Amongst the 1988 assemblage there are sherds from another three jugs. Sherds of these wares, which to date have a limited Edinburgh, Leith and Inverkeithing distribution, are currently the subject of an ICP research project by Dr Richard Jones (pers comm).

A.1.1 Post-medieval imports

This imported post-medieval pottery assemblage adds significantly to the accumulating evidence which these wares and forms reveal about the Scottish social and economic implications of their usage and trade. It is especially significant for the burghs of Edinburgh and Canongate where, thanks to the increasing number of

excavations and stratified ceramic collections, we can for the first time begin to see clearly emerging patterns.

Unless otherwise stated, the imported ceramic material described below was recovered from the Phase 2 midden soils [027], [032] and [044]. Two debased lion-head lug sherds from a North Italian marbled standing costrel (Ceramic 34; Illus 15) come from only the third such vessel identified from a Scottish site, the others being from Fetternear (identified by the author while visiting the site) and Archerfield (Hall & Haggarty 2012: 254, illus 17.10). The two lion-head lug sherds are the first examples of post-medieval Italian pottery recorded from Edinburgh and only the fifth Scottish findspot for all Italian marbled forms (Haggarty 2015). These costrels in a brick red fabric have white marbling on the upper body and the four lion-headed loops come in both narrow and wide-bodied forms. They are generally thought to date to between 1600 and 1650 (Hurst et al 1986: 33 & 37, illus 15, 32 & 33). Some may, however, be a little earlier, as examples from Amsterdam have a suggested date of 1575–1625 (ibid: 37). Although most examples in Britain are probably Pisan, this type of material is also known to have been produced at Antibes in southern France (Chapelot 1978).

Spanish imports are represented by two sherds, one a thick body sherd from the shoulder of a large gritty vessel in a hackly orange micaceous fabric with reduced core. This is almost certainly from a Spanish vessel, but it is unlike the normal Seville types found in Scotland, which generally have a white surface coating. A number of the sandstone fragments in the fabric are large. The second sherd is from the shoulder of a Spanish olive jar in an orange gritty fabric with a white coating on its exterior.

Like many Scottish late and post-medieval sites of status, sherds of French pottery from a number of areas are relatively common and Advocate's Close is no exception. There are eight sherds, of which five conjoin, from the upper body of a green dipped glazed vessel. It has been suggested that these chafing dishes with rounded knops may be from the area of central France (Hurst et al 1986: 80) (Ceramic 35; Illus 15). Unfortunately it is impossible to tell if its bowl was pierced or the exact form of its base. This is a rare chafing dish form, and in Scotland, to date, only three findspots have been recorded.

A sherd was identified in an assemblage from Carrick Castle (Franklin 1998) and Colin Martin excavated a number of sherds from three or possibly four examples at Mid Shore in Pittenweem, Fife (Haggarty 2006: Word files 43 & 34). The third is from the important assemblage recovered below the Tron Church in Edinburgh (Haggarty & Lawson 2013: 25). Although an example of a similar chafing dish recovered in Amsterdam was in a context dated to 1575–1625 (Hurst et al 1986: 80, illus 36, 106), they almost certainly had a longer lifespan. A few copies are known in local fabrics, including an example recorded during ongoing excavations in the Burgh of Cromarty.

Of the 11 Beauvais earthenware sherds recovered, two can be identified as being from the rim of a monochrome green-glazed dish, decorated with a band of wavy combing (Ceramic 36; Illus 16). One body sherd is from a closed vessel, possibly a large jug covered on its exterior with a lead glaze giving it a brownish colour, of a type that is rare in Scotland. The rest of the sherds are almost certainly from the body and shoulder of what may be as many as three small green-glazed monochrome jugs of a common form, decorated with various applied medallions. Beauvais earthenware was made from a high-quality smooth white fabric, with almost no visible inclusions, throughout the late 15th and 16th centuries, but principally during the first half of the 16th century, when a wide range of wares was produced and extensively traded. For the most recent survey of these high-quality wares in Scotland see (Haggarty 2013).

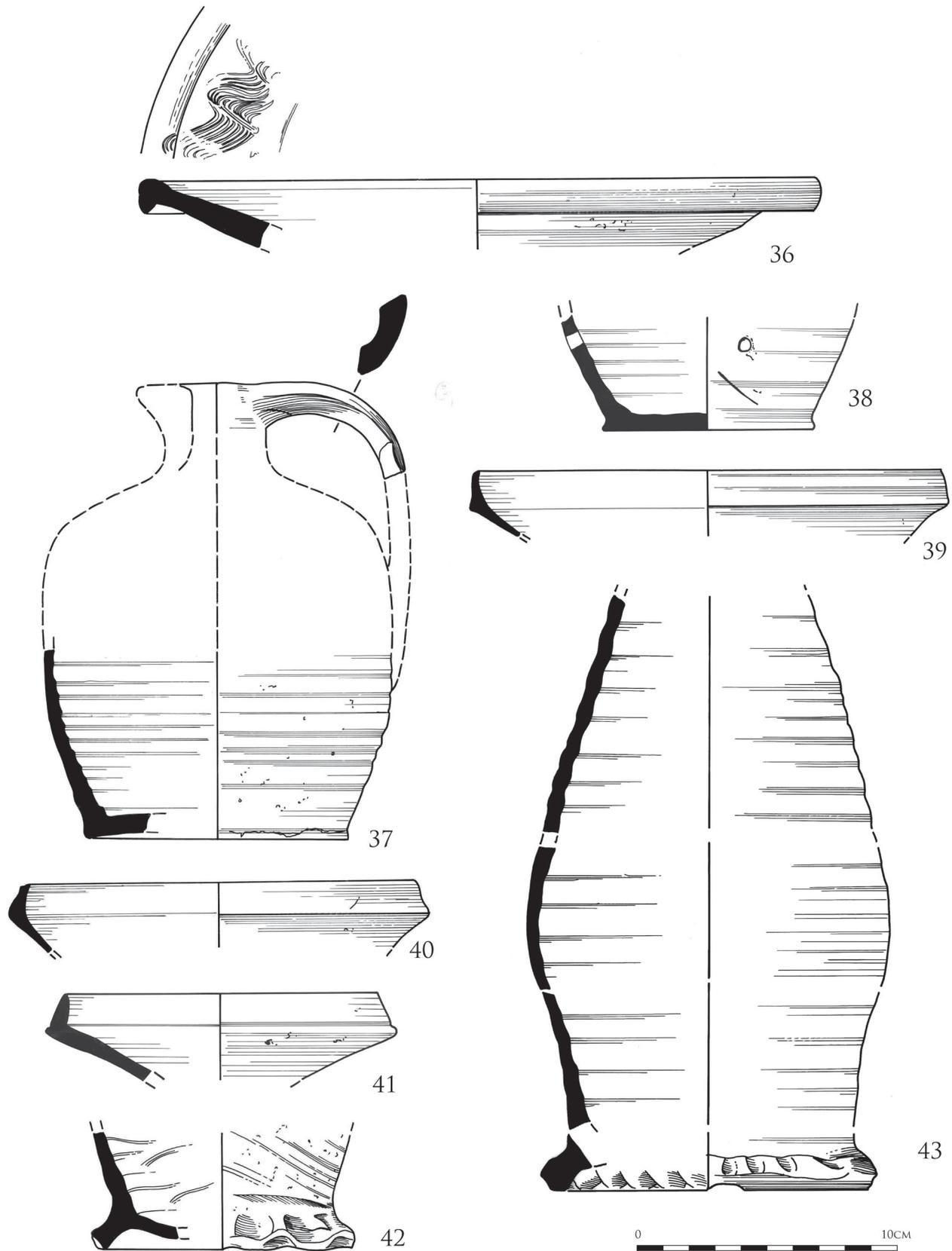
Sherds of so-called Loire Type Narrow-Necked Jugs are common archaeological finds in Scotland, so this site is not exceptional. It produced 15 base, body and handle sherds, from what may be three examples (Ceramic 37; Illus 16). Recovered in 1988 and noted by the author (Haggarty 2006: Word file 41) is another large base sherd with a small hole in its side and traces of a white substance in its interior, which suggests re-use (Ceramic 38; Illus 16). Examples examined by the author from Scotland are in various fabrics, including a hard, off-white slightly micaceous paste with tiny inclusions, possibly flint. Others are softer with abundant mica and small red inclusions, probably of haematite. The jugs come in different sizes but there seems to be no correlation between this and fabric types. The

source of these vessels has yet to be confirmed, and the assumption that they come from the Loire valley should be treated with caution (Hurst et al 1986: 99). At least one French publication suggests that there may be a Seine valley source for jugs in this form, but gives no date (Lecler & Calderoni 1999: 61, illus 184). Presently the most reliable Scottish date is for sherds recovered from a 1594 deposit at Stirling Castle, a *c* 1630–40 deposit in Pittenweem and a pre-1630s deposit from the Tron Kirk. For a recent Scottish survey of these wares in Scotland see Haggarty (2006: Word file 32 & map G). Some of the Advocate's Close sherds have small glaze splashes, which are not unusual on these wares.

A thinly potted sherd in a white fabric with a few tiny spots of glaze is almost certainly from the body of a Type I Martincamp-type flask which has a probable date range of *c* 1475–1550. The village of Martincamp lies just to the west of Neufchâtel-en-Bray between Dieppe and Beauvais, to the north of a pottery-producing area centred at Beauvais. Fragments of wheel-thrown, globular ceramic flasks, now in the British Museum, were found in one of the waster heaps in the village of Martincamp, giving rise to the accepted name for those vessels. These rounded flasks, or bottles, have long necks which were made separately and then joined to the vessel's body by luting into a hole.

Within the 1988 assemblage is another small body sherd, this time in a hard orange fabric from a Type III Martincamp flask. For a discussion of these wares and their distribution in Scotland see Haggarty (2006: Word file 25 & map E).

From Beauvais or Siegburg are two rimsherds, from two finely potted, unglazed, slightly underfired light grey shallow stoneware drinking bowls (Ceramics 39 & 40; Illus 16). These are in addition to a similar rimsherd found in 1988 (Ceramic 41; Illus 16). These are all either from Siegburg in Germany, where they were classified as group IX (Beckmann 1974: 174), or possibly from France. It is known that this type of stoneware was manufactured in a number of villages to the north-west of Beauvais, while kilns have been found at Le Detroit. In a programme of Neutron Activation carried out on Continental stonewares by the British Museum, sherds analysed from Beauvais did not form a particularly tight compositional group, unlike the Siegburg material (Gaimster & Hook 1995). This



Illus 16 Ceramics 36-43

may suggest that the problem of sourcing these now fairly numerous bowls from Scotland could in part be solved by subjecting a group to a programme of ICP chemical analysis, with a view to answering the simple question – Siegburg or not? The looseness of the British Museum's Neutron Activation results may mirror what is seen when examining this material at $\times 20$ magnification, which seems to show a variation in the fabric. The majority of these bowls recovered to date from Scottish sites have been in association with Beauvais earthenwares, which also might imply a French source (Haggarty 2006: Word file 27 & map E).

Langerwehe salt-glazed stoneware is represented by three sherds, one base and two body fragments, from a minimum of two vessels in a grey fabric covered in a brown iron wash (Ceramic 42; Illus 16). True stoneware production had begun at Langerwehe by 1324 and still continues. Most 15th-century urban British sites have produced at least one Langerwehe sherd, and quantities come from most of the British east-coast and south-coast towns. Langerwehe stoneware can be confused with Raeren, though the forms are reasonably distinctive. The grey body and iron wash of Langerwehe separates it from the off-white fabric of Siegburg. Interestingly, another site just off the High Street has produced the largest group of Langerwehe stoneware in Scotland (Clark 1976). It consisted of 313 sherds from 131 different vessels, some of which have subsequently been analysed (Gaimster & Hook 1995: 80). This is presently the only evidence which might imply that German stoneware was being bulk-traded into the capital.

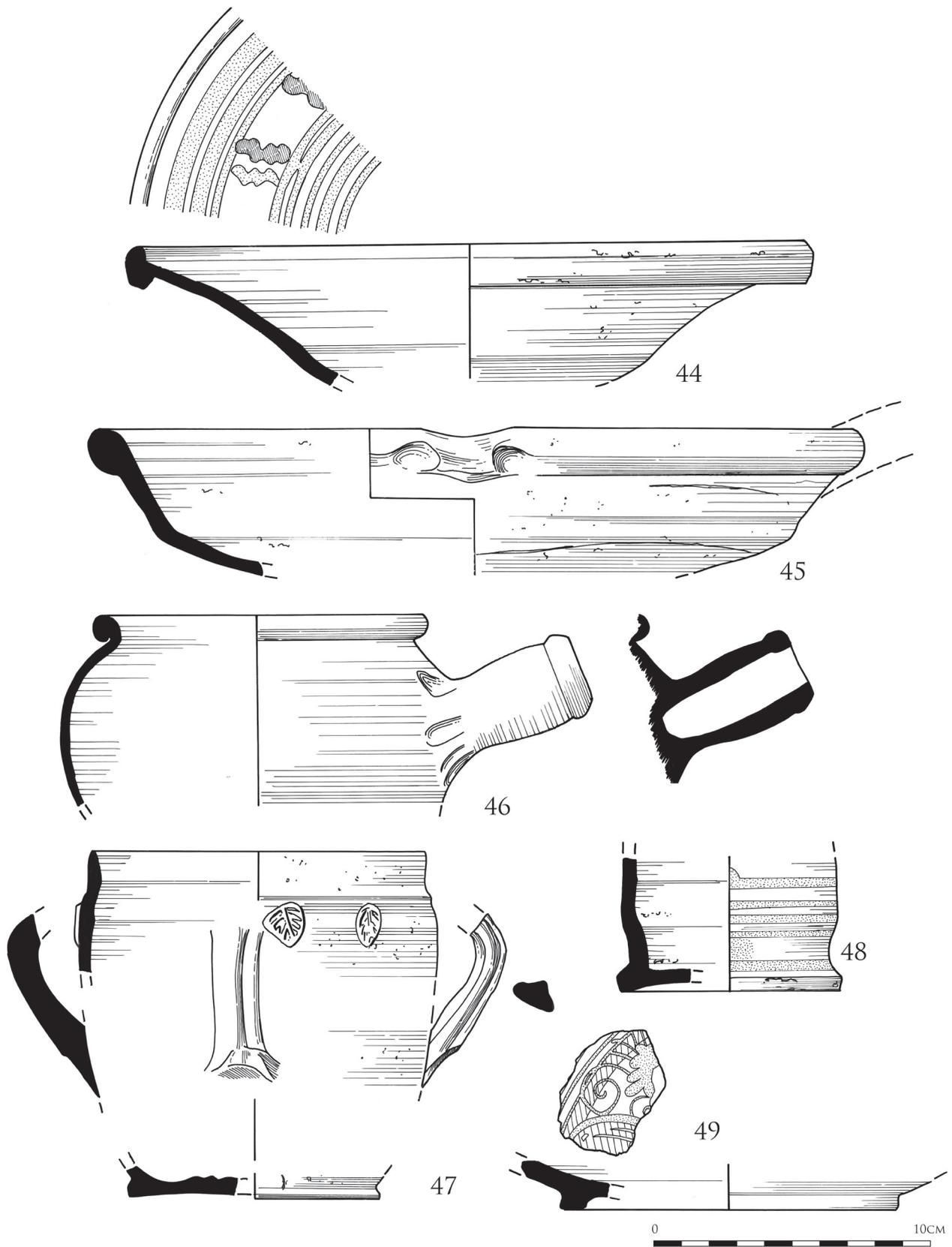
There are 12 sherds from a minimum of three Raeren salt-glazed stoneware vessels, all of which may be largish jugs with base diameters of c 110mm (Ceramic 43; Illus 16). Three of the sherds have traces of an external tan-coloured ash glaze. Raeren, near Aix-la-Chapelle, in the old province of Limburg, became part of Germany in 1814. To date, the earliest salt-glazed stoneware pieces discovered there bear dates of 1539. Examples of Raeren stoneware frequently have a mottled or variegated surface, shading in places from a pale grey through yellow to light brown. The glaze is often smooth and glossy, and fails to show distinctly the granulation or pitting of the surface.

From at least two German Wesser slipware dishes are four rimsherds and a body sherd, all in

a fine buff fabric with moderate small inclusions, including fine rounded quartz sand and larger sparse haematite. The surface has been covered in a white slip under the usual tan and brown trailed slip with patches of green all below a lead glaze (Ceramic 44; Illus 17). Recent excavations in Edinburgh and the Canongate clearly demonstrate that significant numbers of these vessels were being imported, almost certainly through Leith and most likely as an adjunct to the Baltic timber trade (Haggarty & Hall forthcoming).

Interestingly, for an archaeological site in Edinburgh of this date, sherds of Low Countries redware are extremely scarce, being limited to just two. One is a complete profile of a Low Countries redware frying-pan, lead glazed on the bottom of its interior and with a folded rim and pulled spout (Ceramic 45; Illus 17). The second sherd is a dish rim, lead glazed on both surfaces and with what looks like sparse fine chalk in its matrix. Also from the Low Countries are three conjoining sherds forming the rim, the hollow round stubby tube handle and upper body of what was a small socketed whiteware handled tripod vessel in a sandy off-white fabric with quartz, sparse fine haematite and black rock fragments. It has no lid seating and its interior and rolled rim are covered in a thick, crazed, yellow glaze (Ceramic 46; Illus 17).

English imports include five sherds, one handle, one basal angle and three more, which conjoin to form part of the rim and body of a flat-based, thrown vessel (Ceramic 47; Illus 17). It is decorated on both its interior and exterior with a lead-thrown, mottled glaze over a light grey sandy fabric with pale pink oxidised interior. It has been decorated with a horizontally spaced band of stained brown pellets which have been stamped with stylised leaves. Almost certainly it derives from the English Midlands. A Thames valley origin is suggested for a number of small sherds from three vessels. One is a small piece from a rim in a fine white gritty fabric covered on both surfaces with a degraded yellow glaze. The carinated and beaded exterior form with the trace of a handle might suggest a whiteware single-handled bowl (MPRG 1998: 5.2.1 b). There are three sherds, one rim and two body, from an open vessel in a fine white gritty fabric covered on its interior with a thick green glaze with dark brown mottling. A base sherd in a fine white gritty fabric



Illus 17 Ceramics 44-49

covered in a thick green mottled glaze with dark brown mottling has evidence for two *c* 7mm holes and is probably from a colander. One thick, heavily rilled sherd from the shoulder of a globular vessel is in a fine white gritty fabric covered on its exterior with a thick lead glaze. At present this cannot be identified.

As one would expect, there are a number of tin-glazed earthenware sherds in the excavated assemblage, but all seven from five vessels are too small for it to be possible to say whether they are English or Continental. Three sherds conjoin to form the basal angle of an Anglo-Dutch tin-glazed drug jar in an off-white fabric covered on both surfaces with a pinkish tin glaze. The exterior is decorated with horizontal cobalt blue bands (Ceramic 48; Illus 17). There is one tiny tin-glazed earthenware Anglo-Dutch Maiolica sherd, covered on its upper surface with a blue-green glaze and traces of cobalt blue painting and on the reverse in a lead glaze. A base and footrim sherd from a small Anglo-Dutch Maiolica plate/charger in an off-white fabric has probably been decorated with pomegranates and stylised foliage in shades of blue and orange. The base is covered with a lead glaze and could be *c* 1650 (Ceramic 49; Illus 17). A small Low Countries body sherd of so-called Malling type tin-glazed earthenware, with its typical mottled manganese exterior, should be dated to *c* 1600. Two sherds of this ware were recovered during excavations of the old demolished tenements below the Tron Kirk (Haggarty & Lawson 2013: 25, 6.3.8). There is also one badly abraded base and thick footrim sherd from a large Anglo-Dutch Maiolica charger in a pale orange fabric. The exterior is covered with a pinkish lead glaze and the upper surface may have been moulded. Two tin-glazed earthenware sherds were recovered in 1988, one of which is the base from an Anglo-Dutch tin-glazed earthenware drug jar in an off-white crude fabric with both red and white sandstone inclusions. The exterior has been decorated with three cobalt blue painted bands above its base and what may be evidence for vertical lines above them (Ceramic 50; Illus 18).

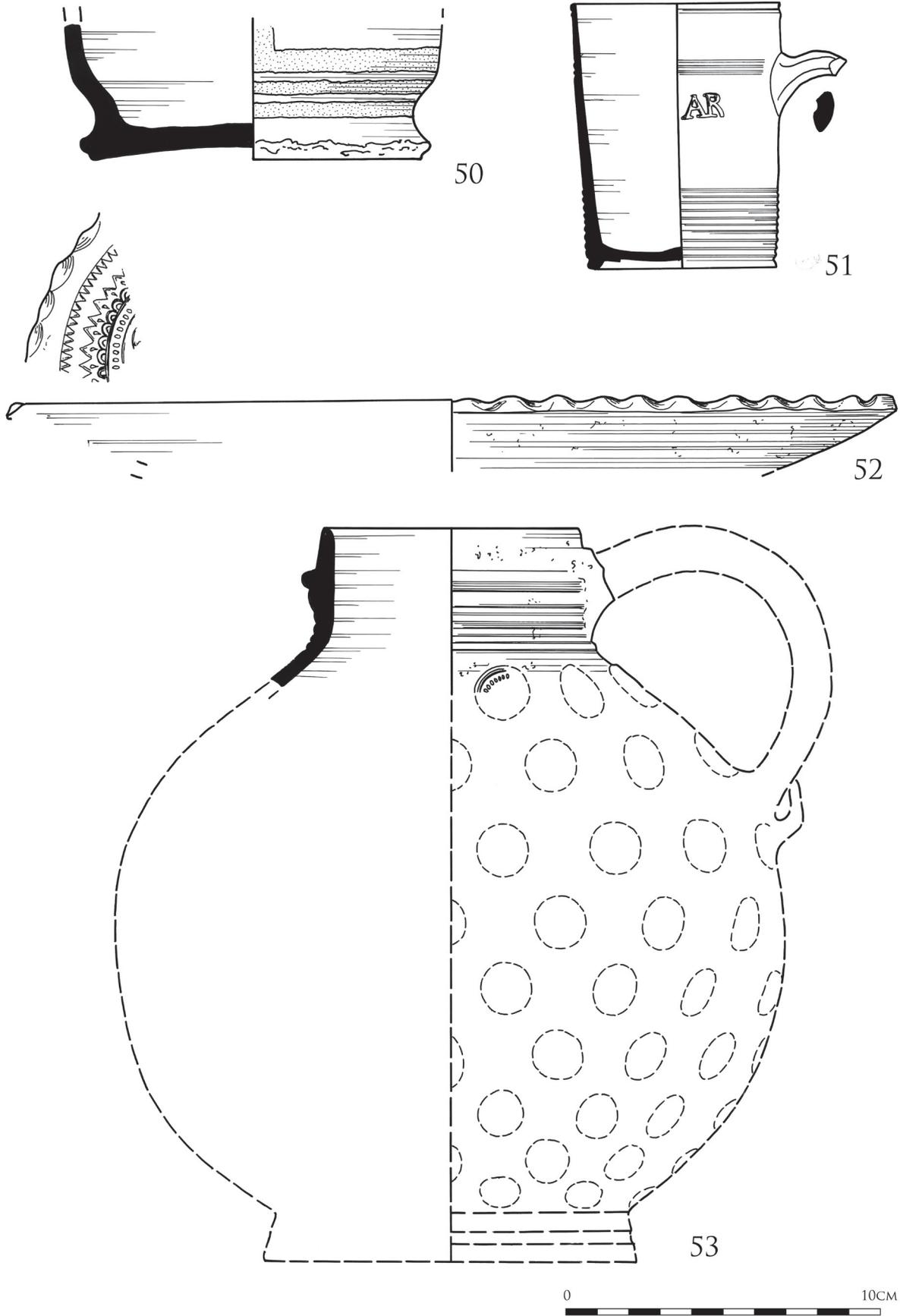
A.1.2 Early 18th-century imports

There are six Staffordshire sherds from [026], of which three are from three different vessels. The

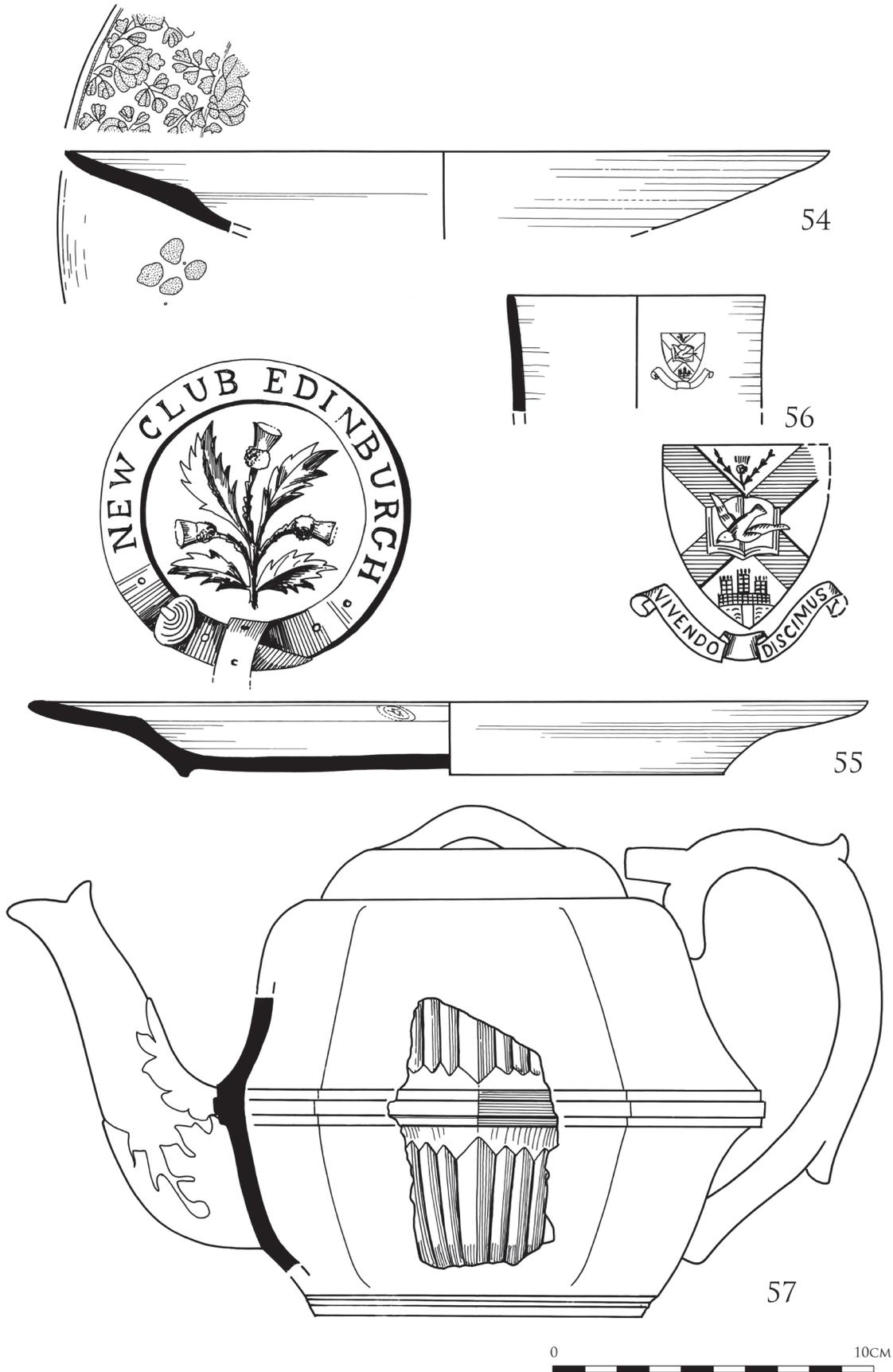
first is a thinly thrown, small, brown dipped stoneware mug, decorated with 12 thin lath-cut bands above its base, four at its handle and one below its rim. It also has part of an impressed crown and AR survives on its body (Ceramic 51; Illus 18). The second is a Staffordshire, Samuel Malkin style, press-moulded dish in an off-white fabric and with piecrust rim (Ceramic 52; Illus 18). Recently, two other sherds from similar moulded dishes but in different fabrics have been identified from excavations in Leith (Haggarty 2014) and Edinburgh Cowgate (Hall & Haggarty forthcoming). The third is two sherds from a handled vessel decorated with feathered slip, but of unknown form. From the same context are two very small sherds from late 17th- or early 18th-century Kangxi Chinese porcelain teabowls, one in Imari colours. There is also a rimsherd from a *c* 1700, German Westerwald stoneware jug with traces of a pressed raised prunt decorated with both cobalt and manganese (Ceramic 53; Illus 18). Tin-glazed earthenware is represented by two sherds; the larger from a plate in an off-white fabric is decorated on its upper surface with stylised cobalt blue flowers and foliage. On its verso are four small blue marks (Ceramic 54; Illus 19).

A.1.3 Late 19th-century ceramics

The majority of the ceramic material of this date is of little significance. However, from [048] there is a fragment from a standard white earthenware plate decorated with a blue band at its rim and a small garter transfer print with 'NEW CLUB EDINBURGH' surrounding a thistle (Ceramic 55; Illus 19). On the reverse there is part of an impressed backstamp '9 / TF / 74' and printed backstamp '..... & Co'. The premises of the New Club when founded in 1787 were Bayle's Tavern in Shakespeare Square at the west end of Princes Street. After a few other homes, it purchased 84 and 85 Princes Street, into which it moved in 1837. There was a major refurbishment in 1908–12 and it is possible the plate dates from this time. It is probable that this plate is not British but was manufactured in France. Amongst the sherds from [200] there are some standard white earthenware sherds from a mug decorated with an oriental transfer print in grey; the rear



Illus 18 Ceramics 50-53



Illus 19 Ceramics 54-57

shows part of a garter, urn and stand backstamp. It seems to read 'CHIANG / NAN? / ..ACTH... / PWLM'. There is also a cup rim and body sherd decorated with a coat of arms in a transfer-print of light cobalt blue. This consists of a St Andrew's cross, thistle, castle and bird within a shield over a ribbon, with 'VIVENDO DISCIMUS' (Ceramic 56; Illus 19). This Latin inscription, 'By living we learn', almost certainly dates to 1889. This is when Sir Patrick Geddes, the important Scottish biologist, sociologist, geographer, philanthropist and town planner held the first Edinburgh summer school. This was in Riddles Court in the Lawnmarket, at which time the building became a student residence and presumably ordered new china.

There are a number of sherds almost certainly from locally produced vessels, including a large sherd from a Rockingham glazed, Bellfield of Prestonpans teapot from [002] (Ceramic 57; Illus 19). From a recently discovered document we know this is the nightingale pattern (Haggarty 2010: Word file 52). There is a cup sherd from [200] with a variant of Minton's Claremont pattern, which was almost certainly produced by Thomas Rathbone at his Portobello pottery (Haggarty 2008: Word file 8).

A.1.4 Summary

This important ceramic assemblage adds to a number which have recently been published from excavations within the medieval burgh of Edinburgh. The most important of these are Julie Franklin's (2011) report on the Jeffrey Street assemblage and the reassessment of the Tron Kirk pottery with its 1630s *terminus anti quem* (Haggarty & Lawson 2013). Together with a few smaller assemblages, these are giving us a substantially enhanced overview of what imported ceramic material was coming into the capital. If one takes into account a number of recent excavations in the Canongate, such as the poorhouse site, there is no doubt that the entire socio-economic dynamic of some classes of ceramic imports are in flux (Haggarty & Hall forthcoming). A good example of this is the mounting evidence from glazed tile fragments for the use of high-status stoves (Haggarty & Hall 2010).

A.1.5 Catalogue

A.1.5.1 Context [026]; sherds 17; first quarter 18th century

- ▶ One small rim yellow-glazed sherd (badly flaked) from a Staffordshire press-moulded Samuel Malkin style dish in an off-white fabric with picrust rim (Ceramic 52; Illus 18).

- ▶ Three sherds: one base, one rim with handle fragment and one body, all from a thinly thrown, small, brown dipped stoneware mug (H: 85mm; Base Diam: 58mm) (Ceramic 51; Illus 18).

- ▶ One tin-glazed earthenware broad rimsherd in an off-white fabric, from a plate decorated with a tight pattern of painted cobalt blue foliage. The tin-glaze reverse also has four large blue dots painted in a lozenge (probably Dutch) (Ceramic 54; Illus 19).

- ▶ One rim and shoulder sherd from a German Westerwald stoneware jug with traces of a pressed prunt decorated with cobalt and manganese (Ceramic 53; Illus 18).

- ▶ Two sherds conjoining to form an almost complete profile of a small SPMOW jug covered with a reddish/brown dipped lead glaze some of which has flaked (Ceramic 8; Illus 11).

A.1.5.2 Context [027], [032] & [044]; sherds 824; 17th century?

- ▶ Eight sherds of which five conjoin from the upper body of a green dipped glaze possibly Central French Type Chafing Dish with its typical rounded knobs (Ceramic 35; Illus 15).

- ▶ Two lion-head lug sherds from a North Italian marbled bichrome standing costrel (Ceramic 34; Illus 15).

- ▶ Fifteen base, body and handle sherds, of which four, three, two and two conjoin from a minimum of two, and probably three, so-called Loire Type Narrow-Necked Jugs (Ceramic 37; Illus 16). Both vessels have small splashes lead glaze and the base diameters are 80 and 85mm.

- ▶ Four rim and shoulder sherds from a minimum of two Wesser dishes in a fine buff fabric with moderate small inclusions including fine rounded quartz sand and sparse larger haematite (Ceramic 44; Illus 17). The surface has been covered in a white slip under the usual tan and brown trailed slip with patches of green all below a lead glaze.
 - ▶ Eleven sherds, two of which are from the rim and body of a green-glazed Beauvais monochrome earthenware dish decorated with a band of wavy combing (Ceramic 36; Illus 16).
 - ▶ Two rimsherds from an underfired stoneware drinking bowl either from Siegburg in Germany or Beauvais in France (Ceramics 39 & 40; Illus 16).
 - ▶ Twelve sherds from a minimum of three Raeren salt-glazed stoneware vessels, all of which may be largish jugs with a base diameter of *c* 110mm (Ceramic 43; Illus 16).
 - ▶ Three Langerwehe salt-glazed stoneware sherds, one base and two body, from a minimum of two vessels in a grey fabric covered in a brown iron wash (Ceramic 42; Illus 16).
 - ▶ Five sherds: one handle, one basal angle and the other three conjoin to form a fragment from the rim and body of a flat-based, thrown vessel (Ceramic 47; Illus 17).
 - ▶ One sherd: complete profile of a Low Countries redware frying-pan, lead-glazed on the bottom of its interior. It also has a folded rim and pulled spout (Ceramic 45; Illus 17).
 - ▶ Low Countries whiteware: three sherds conjoining to form the rim, hollow round stubby tube handle and upper body of what was a small socketed handle tripod pitcher in a sandy off-white fabric with quartz, sparse fine haematite and black rock fragments. It has no lid seating and its interior and rolled rim are covered in a thick, crazed, yellow glaze (Ceramic 46; Illus 17).
 - ▶ Three sherds conjoining to form the basal angle of an Anglo Dutch tin-gazed drug jar in an off-white fabric covered on both surfaces with a pinkish tin glaze (Ceramic 48; Illus 17). The exterior is decorated with horizontal cobalt blue bands.
 - ▶ One base and footrim sherd from a small Anglo-Dutch Maiolica plate/charger in an off-white fabric, possibly decorated with pomegranates and stylised foliage in shades of blue and orange (Ceramic 49; Illus 17).
- SPMOW – drug jars; minimum of five vessels*
- ▶ Three sherds conjoining to form a complete profile of a medium-sized SPMOW apothecary/drug jar with badly pitted glaze on its interior (Ceramic 16; Illus 12).
 - ▶ One complete profile of a small SPMOW apothecary/drug jar with a glazed interior (Ceramic 17; Illus 12).
- SPMOW – piggy-banks*
- ▶ Four sherds of which three conjoin to form a large fragment from an SPMOW piggy-bank (Ceramic 24; Illus 13).
 - ▶ Two sherds conjoining to form a fragment from an SPMOW piggy-bank (Ceramic 23; Illus 13).
- SPMOW – skillets*
- ▶ One folded SPMOW handle sherd from a skillet (Ceramic 13; Illus 11).
 - ▶ One folded SPMOW handle sherd from a skillet (Ceramic 14; Illus 11).
 - ▶ One folded SPMOW handle sherd from a skillet (Ceramic 15; Illus 11).
- SPMOW – dripping dishes*
- ▶ Three conjoining sherds showing the profile of an SPMOW dripping dish (Ceramic 21; Illus 12).
 - ▶ One sherd showing the profile of an SPMOW dripping dish (Ceramic 22; Illus 12).
- SPMOW – handled cooking pots*
- ▶ Sixteen sherds of which eight conjoin to form a large fragment from a two-handled SPMOW crock decorated below its rim with two cut bands (Ceramic 25; Illus 13). Both surfaces covered with a thick green glaze. Traces of carbonising on its exterior.
 - ▶ Sixteen sherds of which six, four and three conjoin to form fragments of a large well-thrown handled

cooking pot with lid seating and internal green glaze. Heavily carbonised exterior (Ceramic 30; Illus 14).

- ▶ Three sherds conjoining to form a fragment from the upper half of an SPMOW handled cooking pot. Internal lead glaze and external carbon (Ceramic 18; Illus 12).

- ▶ One large body and handle sherd from the upper half of an SPMOW cooking pot, lead glazed on its interior and carbonised on its exterior (Ceramic 19; Illus 12).

- ▶ One body and handle sherd from the upper half of an SPMOW cooking pot, lead glazed on its interior and carbonised on its exterior (Ceramic 20; Illus 12).

SPMOW – jars; chamberpots? minimum of five vessels

- ▶ Four sherds conjoining to form a fragment from the upper half of an SPMOW vessel, lead glazed on its inner surface and handle. The interior covered in a whitish coating, urate?, possibly used as a chamberpot (Ceramic 27; Illus 13).

- ▶ One large sherd from the upper half of an SPMOW chamberpot, lead glazed on its inner surface. The interior covered in a whitish coating, urate?, possibly used as a chamberpot (Ceramic 28; Illus 14).

- ▶ Three sherds conjoining to form a fragment from the upper half of an SPMOW vessel, lead glazed on its inner surface and handle. Possibly used as a chamberpot (Ceramic 29; Illus 14).

SPMOW – jugs

- ▶ Twenty sherds of which six and six conjoin forming two large fragments from an SPMOW jug (Ceramic 7; Illus 10). Green-glazed on its exterior, and on its interior are traces of a white substance.

- ▶ Two sherds conjoining to form a large basal angle fragment from a large SPMOW jug with a German-stoneware-inspired frilly base (Ceramic 11; Illus 11). Traces of external green glaze.

- ▶ Eight SPMOW sherds conjoining to form part of the neck and shoulder of a jug in the form of a standing costrel decorated with two deep and a

number of shallow horizontal incised bands on its shoulder (Ceramic 26; Illus 13).

SPMRW – large jugs

- ▶ Five SPMRW sherds of which three and two conjoin to form rim and shoulder fragments of a large green-glazed jug.

A.1.5.3 Context [028]; sherds 13; probably 17th century

- ▶ One SPMOW basal angle sherd with a very unusual foot (Ceramic 33; Illus 15).

A.1.5.4 Context [040]; sherds 11; probably 17th century

- ▶ One SPMOW basal angle sherd from a vessel with stoneware-inspired thumbing (Ceramic 9; Illus 11).

- ▶ Six SPMOW sherds conjoining to form a basal angle fragment of a jug with stoneware-inspired thumbing (Ceramic 10; Illus 11).

- ▶ One SPMOW knife-trimmed basal angle sherd (Ceramic 31; Illus 15).

A.1.5.5 Context [058]; sherds 71; high medieval

- ▶ Two sherds conjoining to form a rim fragment from a whiteware jug decorated on its exterior with a mottled green dipped glaze; French Rouen; 13th century (Ceramic 1; Illus 9).

A.1.5.6 Context [062]; sherds 15; 17th century

- ▶ One SPMOW basal angle sherd from a jug with a foot inspired by German stoneware (Ceramic 12; Illus 11).

A.1.5.7 Context [069]; sherds 3; late 19th century

- ▶ One Low Countries 14th-century greyware jug handle (Ceramic 2; Illus 9).

A.1.5.8 Context [081]; sherds 4; late medieval

- ▶ One large rim, strap handle and body sherd from a thickly potted late medieval jug in a slightly gritty light grey fabric with a white oxidised exterior

surface under a thick green dipped glaze. Distinctive neck cordon (Ceramic 4; Illus 9).

- ▶ Three SPMRW sherds conjoining to form a strap handle and shoulder fragment of a large green-glazed jug (Ceramic 5; Illus 9).

A.1.5.9 1988 workman's trench

In 1988 a small group of 74 ceramic sherds were recovered from a workman's trench in the vicinity of the recent excavations.

- ▶ One rimsherd from a stoneware drinking bowl either from Siegburg in Germany or Beauvais in France (Ceramic 41; Illus 16).
- ▶ One unglazed base sherd from a Siegburg stoneware vessel in a fine light grey fabric dating from the 14th century (Ceramic 3; Illus 9).
- ▶ One base from a Loire Type Narrow-Necked Jug; with basal wire cutting marks and a 5mm hole drilled from its exterior *c* 3cm above its base (Ceramic 38; Illus 16).
- ▶ One base from an Anglo-Dutch tin-glazed earthenware drug jar in an off-white sandy fabric with haematite inclusions; the exterior has three cobalt blue painted bands above its base and what may be vertical lines above them (Ceramic 50; Illus 18).

APPENDIX 2 THE GLASS

Hugh Willmott

A.2.1 Introduction

A small, but important, assemblage of glass has been recovered from Advocate's Close. The glass can be divided into two broad categories: finewares in the form of drinking glasses, and bulk glass, predominantly in the form of bottles and windows. The assemblage is of particular note, as it contains a very good range of what would have been fashionable and not inexpensive tablewares. These would have derived from a higher-status environment, and their presence provides an insight into the wider context in which they were found.

A.2.2 The finewares

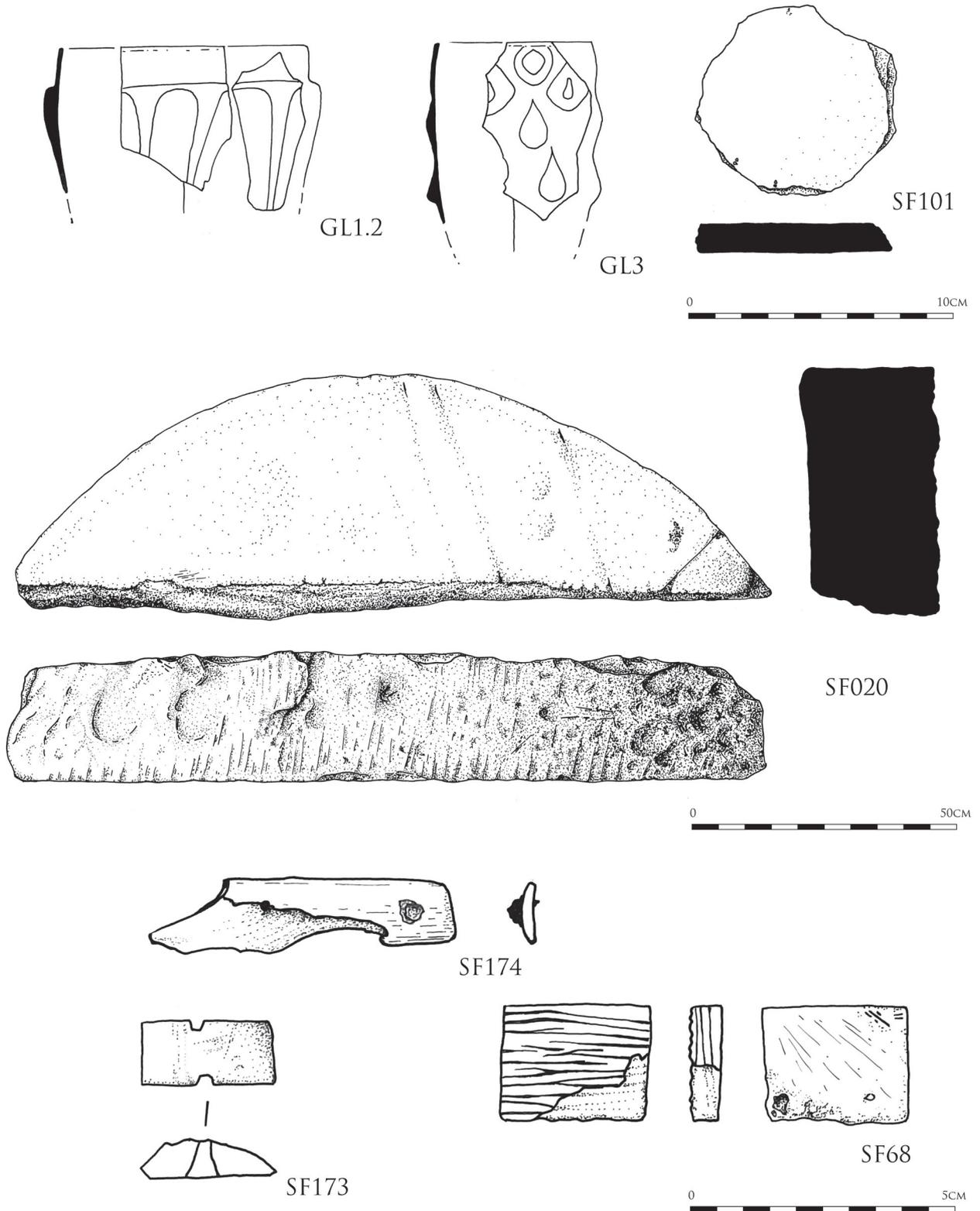
The majority of the finewares are closely associated with midden contexts and result from two distinct periods of discard, the first during the early to mid 17th century and the second during the early to mid 18th century.

A.2.2.1 Phase 2 midden deposits [027], [032] and [044]; early to mid 17th century

Six different vessels come from this first phase of dumping. The earliest and by far the rarest comes from [027] and is a small ribbed beaker, GL1, dating to the late 15th century (Illus 20). These are more usually associated with northern and central continental European sites, and comparable examples have been found at Antwerp, Bruges and Delft (Henkes 1994: 94–5) as well as at Worms and Chur (Baumgartner & Kreuger 1988: 368–72), although they were never common. Examples from Britain are rarer still, the single comparable glass being a blue one from the Austin Friars, Leicester, although this is erroneously identified as a goblet in the report (Tyson 2000: 47).

From the same context, but dating to the first half of the 16th century, GL2 is a small fragment of goblet bowl with a very characteristic opaque white trailing. This type of goblet is a more common find in Britain, but also occurs in large quantities in Northern France and the Low Countries, where it probably originated (Willmott 2002: 70). Also from [027] is the rim from a cylindrical 'bossed beaker', GL3 (Illus 20), a type of drinking glass that also originated in the Low Countries, but was a fairly common import into Britain during the first half of the 17th century (Henkes 1994: 138–9; Willmott 2002: 38). Probably of similar date and origin is a body fragment, GL4, decorated with a single vertical rib, another typical variation of the Low Country cylindrical beaker, although it is too small to identify more precisely.

The remaining vessels come from [044]. The first is the lower bowl and merese from a stemmed goblet, GL5, which probably dates to the early 17th century. The second, GL6, dates to the first half of the 16th century and is part of the base from another pedestal goblet of similar form to GL2. The third is the flat base from a small, earlier



Illus 20 Miscellaneous artefacts: GL1.2 ribbed glass beaker. GL3 cylindrical glass 'bossed beaker'. SF101 pot-lid. SF20 millstone fragment. SF174 ivory knife handle. SF173 perforated antler mount. SF68 bone plaque

17th-century, dish or saucer, one of the few types of flatware to be made in glass at this time (Willmott 2002: 96).

A.2.2.2 Phase 3 midden deposit [026]; early to mid 18th century

Although clearly a mixed context (see the bulk glass below) the majority of the finewares recovered from [026] date firmly to the 18th century. Of these, GL8 is perhaps the earliest, dating to the first decades of the 18th century. It is a moulded base from a small, lead-glass, handled mug, a relatively rare item, although a few similar examples have been found archaeologically (eg Shepherd 1995: 1255 no. 561). Much more common is a fragment from an inverted baluster-stem wine glass, GL9, a form popular throughout the first half of the 18th century, as well as a slightly different version with a baluster set below a prominent knob, a type typically dated to around 1700–20 when found archaeologically (eg Fox & Barton 1986: 229 no. 10). The final fragment from this midden deposit is hard to date precisely, GL11, being the base-ring from a goblet, and it is possible that this is a residual 17th-century find.

A.2.2.3 Sealing deposit [031]; early 18th century

[031] contains a relatively rare lead-glass quatrefoil inverted-baluster stem, GL12, one of the earliest forms of English crystal produced in the last quarter of the 17th century (Charleston 1987: 249 no. 68). Also contained within the deposit was another fragment of fairly undiagnostic 17th-century goblet base-ring, GL13. Although the finewares all date to the 17th century, the presence of onion or bladder-shaped wine bottles in the bulk glass from this context dates its deposition to the early 18th century.

A.2.3 Catalogue of the illustrated finewares

► GL1

Five fragments of rim and upper body from a beaker. Clear soda-rich glass, decorated with applied tapering trains which start 14mm below the rim. Rim Diam: 98mm. Late 15th century. Context [027], SF24.

► GL3

One fragment of rim and upper body from a cylindrical beaker. Clear soda-rich glass, decorated with optic-blown teardrop decoration. Rim Diam uncertain. Early 17th century. Context [027], SF24.

APPENDIX 3 THE STONE, BONE, LEATHER AND METAL ARTEFACTS

Dawn McLaren

A.3.1 Introduction

A large and wide-ranging assemblage of artefacts were recovered from the midden deposits during excavation. These consist of a small group of worked stone, shell and bone, fragments of leather and large quantities of metal objects. The majority of the artefacts are fragmentary, suggesting, rather unsurprisingly considering their recovery from midden layers, that they were broken or damaged at the time of discard. The fragmentary condition of these objects and corrosion of the surfaces, particularly of the iron objects, necessarily places limitations on identification.

As with many urban assemblages, very few individual objects are chronologically distinctive and the date of the majority of objects cited is often necessarily inferred from the context of discovery and associated datable ceramics. The following report summarises the assemblage by material category and focuses on objects where the date or function is considered to be significant.

A.3.2 The stone

A small group of worked stone objects, including a roof tile fragment, pot-lid and whetstone, came from post-medieval midden deposits. With the exception of a possible millstone fragment, all are expediently produced items made from locally sourced and readily available stone and they are all common types with a long currency of use.

A curving-edge fragment of a substantial dressed slab (SF20; Illus 20) was recovered from a layer of ash and coal within Tenement Block 1 [046]. The slab represents approximately 20% of a large, thick, stone disc produced from a fine red sandstone and appears to be a re-used edge fragment from a millstone. The edges are vertical, and distinct linear

chisel marks are clearly visible on the edge and base from manufacture. The former grinding face is worn and abraded from secondary use: the wear is uneven and concentrates towards the centre and one edge of the broken slab, possibly from use as a threshold stone or step. Towards one corner and on the curving edge of the face, where the secondary wear is not so extensive, there are the vestiges of transverse grooves, which may be the last remaining traces of furrows used to help break up the grain between the stones (Beacham 2005: 90). Although not typical, the re-use of millstone fragments in medieval and post-medieval structures is known elsewhere in Scotland, such as at the rural medieval settlement at Springwood, Kelso (Welfare 1998: 722). Where the Advocate's Close millstone originally derives from is unclear but, if the supposition is correct that the millstone was built into the tenement structure at Advocate's Close, the stone could be medieval or early post-medieval in date at the latest.

The whetstone fragment (SF40) has been produced from a naturally bar-shaped stone which has seen little modification to the shape prior to use. Evidence of extensive use in the form of a smoothed and highly polished facet covers the surviving extent of only one face but, notably, the working is distinctively asymmetric, reflecting the idiosyncrasy of wear by the user. The possible pot-lid (SF101; Illus 20) consists of a simple crudely shaped stone disc. A similar example was recovered from a post-medieval context at Holyrood, Edinburgh (Cox 2012: 46). Expedient production is also suggested by the rudimentary shaping that has taken place in the manufacture of the roof tile fragment (SF07), and this implies that the tile may have been a repair to a slate or ceramic tiled roof.

A.3.2.1 Catalogue

► SF20: Millstone fragment

Curving-edge fragment of a large disc-shaped fine red sandstone millstone, representing approximately 20% of the original slab. No central socket or feeder pipe survives. The edges of the slab have been carefully shaped, and vertical chisel or gouge marks remain from manufacture. A series of thick, deep gouges are also present on the basal surface where the slab has been cleaved from a larger block or outcrop. The former grinding face is extensively but

unevenly worn as the result of secondary re-use, the surface rubbed and smoothed towards the centre and one edge of the surviving face, perhaps through use as a threshold stone within paving or a step. This secondary rubbing overlies and has almost obliterated a series of incised diametrically aligned grooves which cross the 'grinding face'. These are likely to be the vestiges of furrows used to break up the grain between the stones. Towards the curving edge of the worn face are small peckmarks, which also represent primary tooling of the grinding surface. The original diameter is estimated as a minimum of 600mm. L: 580mm; W: 175mm; Th: 97mm. Context [046]; Illus 20.

A.3.3 The worked shell

Substantial quantities of shells representing food waste were recovered from midden deposits during excavation (see Appendix 10). One shell, an oyster shell from [204], has been perforated for suspension. Similar examples are known from a 14th-century midden at Kirk Close, Perth (Ford 1987) and from a medieval grave at Leslie (Cox 1998b: 292–3, illus 2.13). The example associated with the medieval grave came from the upper fill of a burial that was not fully excavated, but it was suggested that it had been deliberately deposited and may have held religious or ceremonial significance (ibid: 292).

A.3.4 The worked bone and antler

Despite the restricted quantity of worked bone objects found, the three items form an interesting group, comprising a handle plate from a scale-tanged implement, probably a knife (SF174; Illus 20) and two more enigmatic objects which could plausibly be decorative inlays for items of furniture. This includes a sub-rectangular mount (SF173; Illus 20) which has been produced from antler rather than bone. It is notched on two opposing edges, indicating that it was a fixed component of a larger object, perhaps a decorative insert on a tool handle, casket or item of household furniture. Although this item is not chronologically distinctive, it was recovered from an early midden layer [070] of 12th/13th-century date. Also present, but deriving from a post-medieval deposit [032] of approximately 17th- to 18th-century date, is a small, carefully shaped, rectangular

bone plaque with score marks on all but one edge and one face (SF68; Illus 20). The crudeness of the execution of these scoremarks implies that they were not intended to be decorative but they may have been keying scores to help secure the plaque in place with a resin or other adhesive. The unscored face and edge have been carefully smoothed and a light polish survives, suggesting that this too may have been used as a decorative inlay on a piece of timber furniture.

The perforated handle plate (SF174; Illus 20) is incomplete and is missing the terminal which can often be useful in determining the form, and therefore the date of the object. Similar, but more complete, examples dating to the 17th century at Portchester Castle (Garratt 1994: 112, illus 30) and Aldgate (Thompson et al 1984: 105) are known. This date would be consistent with its recovery from midden deposit [040] in association with 17th-century ceramics (see Appendix 1).

A.3.4.1 Catalogue

► **SF68: Bone plaque**

Small, flat, rectangular plate of bone, carefully shaped and smoothed to finish. One corner of one face, end and long edge are damaged, possibly the result of gnawing or rodent activity. Both ends, one long edge and one face are covered in a series of closely spaced parallel and often overlapping fine linear scoremarks made with a fine metal point or knife. L: 27.5mm; W: 22.5mm; Th: 6mm. Context [032]; Illus 20.

► **SF173: Perforated antler mount**

Small rectangular plate of antler, plano-convex in section, cut or sawn from the branch of an antler tine and split, preserving the natural rounded articular surface of the antler on one face. Both short edges are bevelled, one more pronounced than the other. Off-centre on both long edges is an angular sub-square notch. They are slightly offset and expand from the rounded face (W: 3mm) to the flat interior surface (W: 5mm). L: 25mm; W: 12.5mm; Th: 7mm. Context [070]; Illus 20.

► **SF174: Ivory knife handle**

Fragment of a thin, elongated sub-rectangular plate of bone, plano-convex in section, broken across a

small, cylindrical rivet hole. The surviving end of the plate is bevelled with two widely spaced rivet holes: one 6mm from the cut end with the corroded iron rivet head in situ. A second, broken, drilled hole is present 25mm from that just described. Surviving L: 58mm; W: 11–14mm; Th: 3mm. Context [040]; Illus 20.

A.3.5 Leather

Two pieces of leather are present amongst the assemblage: a shoe sole fragment of riveted construction (SF150a) which was recovered in association with wall [201] and a small cut leather fragment which may derive from the vamp of a shoe or clog (SF49). The former represents Early Modern production technique (Thomas 2012) and may have become incorporated into demolition rubble of the late 16th-century tenement building when it was demolished in the late 19th century. The latter piece survived amongst midden material containing late 17th- and early 18th-century ceramics (see Appendix 1).

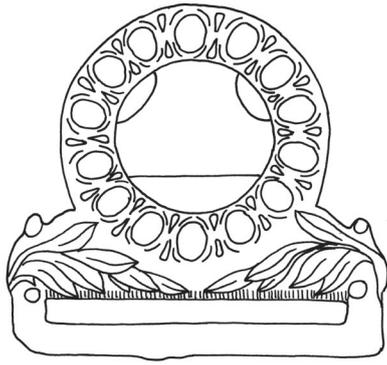
A.3.6 The iron objects

Over 70 iron objects were recovered from contexts spanning the medieval to Victorian periods. As would be anticipated of an urban excavation investigating post-medieval and Early Modern structures, the iron assemblage is dominated by nails and other fixtures which are likely to have been used as building and furniture fittings as well as a range of internal household fixtures.

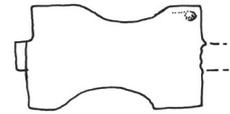
The majority of the iron objects from Advocate's Close derive from midden deposits and demolition layers and appear to have been incomplete or damaged prior to disposal. The severe corrosion of the surfaces and the deterioration of the objects in the post-deposition environment mean that a large number of the metal objects recovered during excavation cannot be identified from the surviving fragments.

A.3.6.1 Medieval

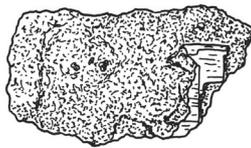
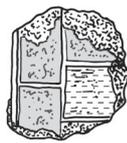
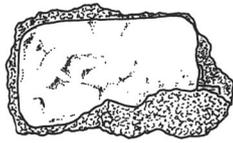
Four fragmentary objects came from contexts associated with 12th- and 13th-century ceramics and are probably medieval in date. Their incomplete condition has prevented close identification but



SF04



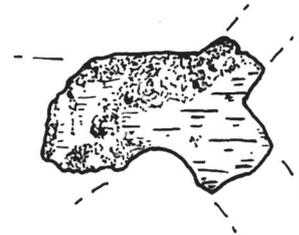
SF61



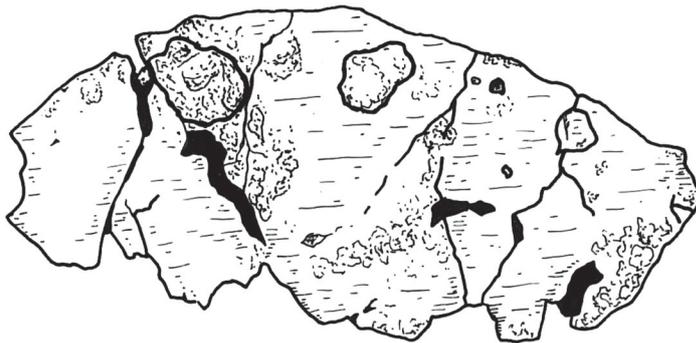
SF80E

■ IRON

▨ COPPER



SF92



SF96



SF164



Illus 21 Iron and copper alloy: SF04 decorative brass buckle frame. SF61 decorated clog clasp. SF164 decorative looped pin. SF92 clasp or mount fragment. SF96 repair patch. SF80e unidentified composite object

includes a possible fragmentary structural fitting or tool fragment (SF91f, [066]) and a small fragment of an intricate composite iron and copper alloy object (SF80e; Illus 21) which was recovered from [058].

A.3.6.2 Post-medieval

Very few of the 14 objects recovered from post-medieval contexts were identifiable due to their incomplete condition but they include a possible joiner's dog or small clamp (SF23b), a very fragmentary and damaged socketed tool head (SF54), fragments of a round-bodied sheet-metal vessel (SF167) and the branch of a 17th-century horseshoe (SF59b).

A.3.6.3 Victorian

Amongst the heavily corroded, fragmentary medieval and post-medieval iron assemblage, a small group of damaged but substantially complete structural fittings of Victorian date were identified. All of these items display damage consistent with deliberate removal from their fixtures. These consist of a simple wall anchor (SF150c), a robust pintle, probably from a door (SF150d), a hooked wall bracket (SF150e) and a silvered steel dress pin (SF152c). The function of a composite object in two pieces (SF150b & SF153) is not clear but it may be a further structural fitting or item of household equipment discarded at the time of the demolition of the tenement.

A.3.6.4 Nails

The iron assemblage from Advocate's Close is dominated by iron nails, represented by a minimum of 48 examples. The majority are hand-forged nails with square-sectioned shanks and are present in a variety of sizes and forms that reflects the range of possible functions that such fittings were put to, such as to secure roof tiles, as internal household timber fixtures and as items of furniture. Despite the substantial number of nails recovered, only 13 examples (27%) were intact or substantially intact. A small number of nails were clenched or had timber remaining around the shank, suggesting that they had been deposited within their wooden fixture, but the majority of examples displayed damage consistent with use or removal.

A.3.6.5 Catalogue

► **SF80e: Unidentified composite object**

Rectangular bar-shaped, square-sectioned fragment comprising an offset cluster of three square-sectioned rectangular bars (Diam: 7.5mm), two of iron, one of copper, surrounded by copper alloy sheet and iron. No original edges survive. Remaining L: 30.5mm; W: 17mm; Th: 15.5mm. Context [058]; Illus 21.

► **SF150b: Possible structural fitting**

Tall, cylindrical, open ferrule (H: 42mm; Diam: 29mm; Th: 2mm) made from sheet metal projects from the centre of a thin iron disc (Diam: 63.5mm; Th: 2mm), convex in profile. The cylindrical ferrule is perforated on two opposing rounded edges: one (Diam: 3mm) only 6mm from where the ferrule has been welded to the disc-shaped base, the second (Diam: 4.5mm) 22mm from the rim of the cylinder. A short, narrow, oval slot (W: 15mm) has been made on opposing edges of the disc-shaped base through which two narrow, flat strips of iron (W: 6mm) have been looped. These loops appear to attach a second, flat, disc (Diam: 57mm; Th: 1mm) to the underside of the base. SF153, a perforated disc with broken clasps at opposing edges, may be a further fragment of this object. Context [200].

► **SF150c: Wall anchor**

Tapering rectangular-sectioned spike (H: 20mm; W: 6mm), flattened at one end into a flat expanding oval head (L: 35mm; W: 20mm; Th: 3mm), perforated (Diam: 5mm) at the centre. L: 148mm. Context [200].

► **SF150d: Hinge pivot**

Robust, L-shaped iron fitting with short, circular-sectioned guide arm (H: 33mm; Diam: 11mm) and straight, square-sectioned, tapering iron shank (Diam: 11mm). Context [200].

A.3.7 The copper alloy

Fifteen copper alloy objects, dominated by dress accessories, were recovered during excavation. Many items are fragmentary and little can be said about their possible function and date but where recognisable forms survive they comprise a group that spans the medieval to Early Modern periods.

A.3.7.1 Medieval

Three objects of possible medieval date came from [066] alongside fragments of 12th- and 13th-century ceramics (Appendix 1): a clasp or mount fragment (SF92; Illus 21), fragments of an unidentified sheet metal object (SF93) and a repair patch, possibly for a vessel or bowl (SF96; Illus 21).

The clasp or mount fragment (SF92) consists of a flat sheet-metal plate of a clasp with a bifurcated terminal at one end, narrowing towards the centre. It is assumed that the shape of the clasp was symmetrical but the opposite end was lost in antiquity. The surface of the clasp or mount is plain and undecorated but in form shares some similarities with book fittings, such as those from Linlithgow and Jedburgh Abbey, but lacks surviving rivet holes (Stones et al 1989: 154, illus 96, nos 192 & 193; Caldwell 1995a: 85, nos 45 & 47). Book clasps of this form had a long currency of use (Cuddeford 1994: 20, nos 13–15) but the association of this possible example from Advocate's Close with 12th- and 13th-century ceramics is suggestive of a medieval date.

The possible vessel repair patch (SF96) consists of a damaged and incomplete curving sheet fragment with a row of rivets around one edge to allow the patch to be secured in place. The shape and size of the sheet is reminiscent of palm protectors for leather working, but the rivet heads, which appear to be of 'paper clip' form, would be unusual in this context and such a method of securing the sheet is more consistent with a repair patch for a round-bodied or round-based domestic vessel. Similar repair patches are known from Linlithgow (Stones et al 1989: 160, illus 101, no. 236).

A.3.7.2 Post-medieval

The majority of the copper alloy objects from Advocate's Close came from midden deposits of post-medieval date. These include several sheet fragments from incomplete and unidentified objects, a fragment of wire or pin shank and an offcut. The remaining objects are all small dress accessories typical of the 16th to 18th centuries, such as a single wire-wound headed pin which was commonly used to pin together fabric garments (Caple 1992) and a decorative looped pin (SF164; Illus 21).

Several small wire-wound headed pins of late post-medieval/Early Modern date were recovered from excavations in Aberdeen (Goodall 2001: 196). A disc-shaped 'silvered' button (SF01d) came from demolition material [005] within the tenement and is almost certainly 18th century in date (Bailey 2004).

Also present is a small broken clog clasp (SF61; Illus 21) which has been decorated on the external face with simple zig-zag scores produced by hand. These small clasps typically comprise two parts: an external clasp plate with flat, often wide, hooks or lugs at opposing long ends which fasten into rectangular slots on a separate hasp plate (Bailey 1992: 13). Both the clasp and hasp plates could be highly decorated and survive in a variety of shapes, including those with scalloped or lobate edges. As the name suggests, these clasps were used to fasten shoes as an alternative to buckles or laces and their use spans several centuries, from the 18th to mid 20th centuries. The form of this simple clasp and its pottery associations suggest an early 18th-century date.

Also of note is a highly decorated ring-shaped buckle frame (SF04; Illus 21) which came from [016]. A leather or fabric belt would have been looped around the bar at one end of the buckle frame and a disc-shaped strap-end, attached to the opposing end of the belt, would have been inserted through and clasped into the ring-shaped frame. The frame is cast in brass with high-relief decoration consisting of neoclassical motifs, including sweeping olive branches, and would originally have been highly polished and may even have been gilded. The neoclassical motifs suggest a mid-to-late 18th-century date but it could be later as this is a belt buckle type still used today as part of dress uniform of units of both the British and American military.

A.3.7.3 19th century

Two dress fittings, a short, crimped wire-wound headed pin (SF159) and a dress hook (SF160) were recovered from a rubbish pit [038] associated with early 19th-century ceramics. Both are typical dress fasteners of the period.

A.3.7.4 Catalogue

► **SF04: Decorative brass buckle frame**

A ring-shaped buckle frame with bar strap fitting which would have allowed attachment to a fabric or leather belt. This frame would have been used in conjunction with a disc-shaped strap-end attached to the opposite end of the belt. The buckle frame is very fine and features elaborate cast decoration on the external face, consisting of a symmetrical design of sweeping olive branches and berries which flank the underside of a rectangular slot and bar. Beneath this the ring-shaped frame is decorated in relief with a closely spaced series of egg-shaped motifs. L: 45.5mm; W: 48.5mm; Th: 4mm. Context [016]; Illus 21.

► **SF61: Decorated clog clasp**

Small, sheet-metal, sub-rectangular in shape with a narrow waist at mid-length. A short integral hook (W: 3.5mm) projects from one end; a similar fitting has been lost from the opposite end of the clasp. Four scratched zig-zag lines decorate the external face. L: 24mm; W: 8–13.5mm; Th: 0.3mm. Context [060]; Illus 21.

► **SF92: Clasp or mount fragment**

Fragment of a sheet-metal clasp with bifurcated tips (W: 10mm) at one end, the sheet tapering towards a narrow waist; the opposite end is lost. Remaining L: 29.5mm; W: 12–19.5mm; Th: 1mm. Context [066]; Illus 21.

► **SF96: Repair patch**

Thin, slightly convex sheet of copper alloy with one long curving edge surviving; all other edges are broken. Parallel to the surviving edge of the sheet is a row of slightly irregularly spaced circular perforations (Diam: 4mm), three of which still hold the flat head and stub of the shank of handmade copper rivets. Remaining L: 87; W: 41; Th: 1mm. Context [066]; Illus 21.

► **SF164: Decorative looped pin**

Short circular-sectioned pin with integral looped head (Diam: 3.5) at one end tapering to a narrow point at the other. The shank of the pin is decorated with a 'rope' effect, cast motif. The pin has been bent at an acute angle mid-length. L: 32.5mm; Diam: 1mm. Context [064]; Illus 21.

A.3.8 The lead objects

Five objects of lead were recovered from post-medieval midden deposits and include repair patches and washers, a lead tube fragment and a fragment of window came. The window came (SF152b), which was recovered from [200] in association with 17th-century pottery, represents the junction between four small panes of glass. A tooled and perforated lead strip (SF57) from [062] is likely to be a roof fitting or repair patch relating to the tenement, but its damaged condition implies that it was ripped from its fitting. The patch is similar in form to a lead strip from Jedburgh Abbey (Caldwell 1995b: 89, no. 95). The Advocate's Close example is almost certainly 17th century in date.

A.3.9 Conclusions

Despite the large quantity of non-ceramic artefacts recovered during excavations at Advocate's Close, very few of the items of bone, stone, leather or metal are complete, reinforcing the interpretation that they were deliberately discarded items that were no longer functional at the time of deposition. A range of dress accessories, household equipment and structural fittings are present, most of which appear to be fairly prosaic, everyday items, which one would expect to find within the detritus discarded from a series of post-medieval households. Yet a few items stand out and hint at earlier activity, the most significant of which is a possible millstone fragment which may have been built into the demolished post-medieval tenement building, and a metal clasp or mount which may be a heavily damaged and undecorated book fitting or clasp.

APPENDIX 4 CLAY TOBACCO PIPES

Dennis Gallagher

A total of 92 fragments of clay tobacco pipe were recovered from the excavations, plus one ceramic hair curler. The pipes range in date from the mid 17th century to the early 18th century. The assemblage, although small, is remarkable for its high quality, with a total of 44 (48%) burnished, this additional stage in production increasing the cost to the smoker. The pipes are diverse in origin,

with examples from the Edinburgh/Leith area, Glasgow, Tyneside and the Netherlands.

A.4.1 Edinburgh pipes

The assemblage includes four W/B pipes (Illus 22.1), identifiable as products of William Banks. Banks held a monopoly in pipe-making in Scotland and his pipes are very common in Lowland contexts of an early to mid 17th-century date. One example has a recut maker's mark, a restoration necessary after long use. There is also one bowl of a slightly earlier date, *c* 1620–40, which also may be a Banks product. From later in the century there are also pipes from Thomas Banks, a son of William Banks, active as a maker 1647–65 (Illus 22.2). There was one bowl identifiable as a product of Patrick Crawford, perhaps the most prominent maker in Edinburgh in the later 17th century; he is recorded as a maker 1671–96, his wife continuing the business after his death. This bowl had a mould-imparted P/*CIRCA* and a basal stamp with the initials PC alongside a castle (Illus 22.3).

The assemblage contained at least four pipes marked I/A. The precise identification of the maker is uncertain (Illus 22.4 & 22.5). John Aiken, and his son of the same name, are documented as pipe-makers in Glasgow 1700–14. Andrew Aiken is also recorded as a pipe-maker in Glasgow around the same time (Gallagher 1987a: 41–2). However, Alexander Aiken, pipe-maker, is recorded in Edinburgh in 1680 when he was married (Paton 1905: 11) and he appears as a pipe-maker in the 1690 hearth tax records for Edinburgh and Canongate (NAS E69/16/3, 16). The I/A pipes have stamps of the 'portcullis' type that is thought to be a derivative of the Edinburgh Castle stamp. It is therefore thought that I/A pipes are a product of the Edinburgh/Leith area.

The assemblage contains a number of stems decorated with roller stamps, a form of decoration applied to the stem of the pipe with a flat plate. This is now uncommon on Dutch and Glasgow pipes, but has not hitherto been recorded on Edinburgh products. One is marked EDINBURGH within a triple-ring border, the first example of such a stamp (Illus 22.6). It is similar in quality and general style to the Glasgow examples and may be dated 1680–1720.

Another roller stamp that occurs in the present assemblage is one of seven relief bands with a ring of pearls border (Illus 22.7), a crude version of designs found on Dutch pipes. Only one previous example has been recorded, from Kelso, in a group that contained pipes from Edinburgh, Glasgow and the Netherlands, which was thought to be a Glasgow product (Gallagher 1987b: 287–8). Such stems are usually found separate from bowls but the present group has a roller type of this kind that adjoins an I/A bowl (no. 14), so an Edinburgh maker is likely.

A.4.2 Glasgow pipes

Three stems have part of a roller stamp with marked COLHOWN within triple-ring borders (cf Gallagher 1987a: 53, no. 1). These are products of James Colquhoun II of Glasgow, one of three pipe-makers of that name (nos 23–5). He was married in 1695 and died in 1730. Colquhoun supplied pipes in large quantities for the abortive Scottish colony at Darien, Panama (Gallagher 1987c: 236–7; Horton et al 1987). Colquhoun pipes with roller stamps were recovered from the 1690 wreck of HMS *Dartmouth* (Martin 1987: 227, no. 4).

A.4.3 Tyneside imports

The pipes include four large spurred bowls, Edwards Type 9, *c* 1680–1710, and Edwards Type 10, *c* 1680–1720 (Edwards 1988: 10, 16). These pipes, remarkably different in both size and style from Edinburgh products, were produced on Tyneside *c* 1680–1720 (Illus 22.8). There are also stems with the marks of Roger Rain of Newcastle and Michael Parke of Gateshead (nos 31–2). Roger Rain is recorded as a pipe-maker in 1698; the oval stamp has [R]OGE[R]/[R]AIN with foliage above and below and is an Edwards Type D dated to *c* 1675–1710 (Edwards 1988: 21, 29, 70). The Parke stamp is oval with ..CHA../PARK and foliage. Michael Parke is recorded as a pipe-maker 1691–1739 (Edwards 1988: 48, 93–4). Tyneside pipes are not unknown in a Scottish context but are unusual. Pipes by Parke, for example, were recovered from excavations in Edinburgh Castle (Gallagher 1997: 181).

A limited trade with England in pipes is known from the small amount of documentary sources that have been published. Pipes were traded in



1a



1b



2a



2b



3a



3b



4a



4b



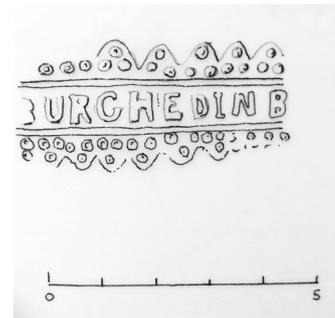
5a



5b



6a



6b



7



8



9

Illus 22 Clay pipes. Bowls and stems shown at 1:1, basal stamps at 2:1

both directions. One consignment of pipes, 2,280 in all, was exported to England through the small border town of Ayton in the period November 1680–July 1681 (Greenhall 2011: 232). In 1713–14 imports from Newcastle to Scotland included 145 barrels of pipes, but in 1714–15 the number had fallen to only 274 loose pipes (Greenhall 2011: 354).

A.4.4 Dutch imports

Scottish imports in the 17th century included a wide range of manufactured goods from the Netherlands, and Dutch pipes are common finds in assemblages of *c* 1620–60 in Lowland Scotland. Later in the century, Dutch pipes continue in northern Scotland but they are rare in the Lowlands, when the market was dominated by local makers (Davey 1992: 283). The Dutch pipe in the present assemblage may be dated to *c* 1680–1730. It is highly burnished and has a circular basal stamp with lapwing (Illus 22.9). This is possibly a product of Jan Jacobse Luijnenburgh of Gouda, *c* 1675–9 (Duco 2003: 132, no. 125; Meulen 2003: 40). Dutch pipes of the later 17th century are unusual in a Lowland Scottish context, although they continued to be imported into northern Scotland. There is also a stem fragment with roller stamp with central line of rouletting bordered by ring of pearls and notched ribs (W: 22mm), which is likely to be a Dutch product.

A.4.5 The hair curler

The assemblage contains a fragment of a pipe clay hair curler. It is burnished with hand-shaped ends (W: 11mm < 18mm), *c* 1690 (cf Le Cheminant 1982: 348, nos 4 & 6). Wigs for men became fashionable after the Restoration. Curls were created by winding the hair, steeped in boiling water, around a clay curler and then baking the wig (Grew 1984: 113).

A.4.6 Catalogue of illustrated pipes

► No. 1

Heeled bowl, milled and bottered, mould-imparted W/B and portcullis-style basal stamp, the detail of the actual stamp faintly impressed, burnished;

William Banks, 1650–70; context [026]/SF85b; Illus 22.1.

► No. 2

Bowl, bottered and slightly milled, with mould-imparted T/B and portcullis-style basal stamp, burnished; possibly Thomas Banks; context [069]/SF72b; Illus 22.2.

► No. 3

Heeled bowl, bottered but not milled, burnished, mould-imparted P/*CIRCA* and castle type basal stamp with PC; Patrick Crawford of Edinburgh, 1680–1710; context [200]; Illus 22.3.

► No. 4

Bowl, bottered, burnished and with slight milling facing smoker, mould-imparted I/A and poor impression of a portcullis-style basal stamp; possibly John Aiken; context [031]/SF16c; Illus 22.4.

► No. 5

Heeled bowl, bottered and short length of milling facing smoker, polished, mould-imparted I/A and portcullis style basal stamp; possibly John Aiken; 1680–1720; US/SF05c; Illus 22.5.

► No. 6

Stem fragment with a roller stamp with EDINBURGH within a triple-ring border (W: 12mm); 1680–1720; US/SF05c; Illus 22.6.

► No. 7

Two stem fragments with crude roller stamp of linear bands with ring of pearls border (W: 15mm), burnished; 1680–1720; context [026]/SF85b; Illus 22.7.

► No. 8

Large spurred bowl and stem, bottered; Tyneside, Edwards Type 9, *c* 1680–1710 (Edwards 1988: 10, 16); US/SF05c; Illus 22.8.

► No. 9

Dutch bowl, Duco Type 2, 1680–1730, bottered, milled and highly burnished, circular basal stamp with lapwing, possibly Jan Jacobse Luijnenburgh of Gouda, *c* 1675–9 (Duco 2003: 132, no. 125; Meulen 2003: 40); Illus 22.9.

APPENDIX 5 BRICKS AND TILES

George Haggarty & Dawn McLaren

In areas of England where suitable clays were at hand and little useful stone was available, bricks started to become common in the mid 1400s, but this was not the case in Scotland, due in the most part to abundance of good building stone. We know of no documentary evidence for the production of bricks in Scotland prior to 1610, when Nathaniel Udward, an important Edinburgh merchant burgess made application with others to produce both bricks and tiles. This may not have come to anything, but it is worth noting that his request also states that they have 'nevir heirtofoir maid in ony sufficient quantitie for building of houses' (RPC xiv fol 151a). Later and sometime prior to 1643, one Tobaccos Knowes (Tobias Knox?) received a Scottish patent for 'the making of bricks under various conditions' (Anderson 2000: 25). The first reference to the actual production and supply of bricks, rather than tiles, in the upper Forth area, may be at Throsk, where 600 bricks were supplied by John Matson in 1721 for building a chimney in Stirling (Harrison 2002: 465). Presently we have no evidence for a standardised Scottish brick size at this period.

The three fairly crude handmade redware brick fragments from [026] are 80mm broad, 31mm thick and 125mm long to a broken edge. The two largest fragments are very heavily burnt along one of their narrow edges, while the third piece is sooted, which may suggest some industrial use rather than a domestic fireplace or oven. The fabric contains abundant inclusions of sub-rounded and angular red sandstone, many of which are in excess of 10mm across. Although the majority of the pottery in [026] is of 18th/19th-century date there are a few residual sherds of 17th-century date and it is likely that the brick fragments are also residual. A programme of ICP chemical analysis carried out on Scottish redware pottery, bricks and tiles has recently been published (Haggarty et al 2011). This work, along with a number of new projects, has created a large national redware fabric database and it is imperative that at some time this material is added to it.

There is a redware sherd from [056] which is probably from a floor tile of which only one edge remains. It is 31mm thick and 100mm × 95mm, with no evidence of glazing, and the sandy fabric contains small sparse sub-rounded sandstone inclusions. It is a bit small to do much with without some form of analysis and under ×20 magnification. However, it does not look like a common Dutch tile and it may be of local manufacture. From the same context there are two very small abraded redware sherds in a slightly gritty fabric and, as one seems to be 15mm thick, it is probably from a roof tile. In [080], in what looks like the same fabric, are seven small abraded sherds, the thickness of which varies between 13mm and 18mm. The largest piece has striation lines on one surface. These two contexts, which contain some late medieval material, are hard to date, but the 17th century is thought most likely.

Published evidence for the use of ceramic roof tiles in medieval Scotland is not that common, implying other forms of hard roofing were used, and given Scotland's geology, slate was an obvious alternative. Probably the largest group of stratified medieval roof tile fragments recovered in Scotland from an urban excavation was at Abbey Street, St Andrews (Cox 1998a). Other Scottish burghs which have produced evidence for their use include Perth (di Folco 1981: 524), Dumfries (Haggarty 1994) and Aberdeen (Murray 1984: mf 3 F7–4 A10). John Dunbar also noted the use of roof tiles on Scottish ecclesiastical structures, and drew attention to flat roofing tiles, thought to be of 12th- and 13th-century date, surviving from a number of such sites (Dunbar 1966). It not known when the importation of Dutch pantiles began, but in the 1680s there is a reference to Richard Drury, a skipper at Bo'ness, carrying a consignment of Dutch 'leaded tyll' for the roof of Kinneil House (HAL). There is as yet no archaeological evidence to suggest that pantiles were being produced in Scotland until the beginning of the 18th century. This may be borne out by John Clark of Eldin, who in writing about his father-in-law, the architect William Adam, claimed that it was he who 'introduced the making of Dutch Pantiles in Scotland' (Gifford 1989: 73).

APPENDIX 6 THE ANIMAL BONE ASSEMBLAGE

*Jackaline Robertson***A.6.1 Introduction**

A total of 5,436 animal bone fragments (31.9kg) were recovered from the excavation. The bulk of the animal bone assemblage came from the midden deposits and derived mainly from three sources: butchery waste, domestic food refuse and a smaller concentration of bone-working debris in the form of horn cores.

The stratified nature of the midden deposits at Advocate's Close has created an excellent opportunity to analyse the diet of urban Edinburgh over an archaeologically secure period of time. This has made it possible to establish if exploitation of species, animal husbandry methods, the cuts of meat utilised and butchery methods changed over a specific time period.

The methodology employed in the analysis of this assemblage is presented in the full report in the site archive. Metric analysis, non-metric traits and

health were all recorded but are not presented here because space did not allow it.

The species and number of fragments recovered are listed in Table 2 by phase. The remains were dominated by domestic species, in particular sheep/goat. While all skeletal elements were represented, the most common finds were ribs, vertebrae, skull fragments and foot bones alongside smaller quantities of long bones, scapulae and pelvises. The results are briefly summarised below in chronological order and by context.

A.6.2 Phase 1

A.6.2.1 Midden contexts [058], [070], [081]

A total of 655 bone fragments were recovered from the medieval contexts, 95% of which came from [058]. Contexts [070] and [081] belong to the initial formation of the midden and the bone recovered from these layers is probably reworked remains from the upper layers rather than representing the deliberate and continuous dumping of material seen in [058]. The species present were sheep/goat,

Table 2 The animal bone: NISP count of the main domesticates and wild species presented by phase (L/M large mammal; M/M medium mammal; S/M small mammal; I/M indeterminate mammal).

Species	Phase 1	Phase 2	Phase 3	Phase 4
Cattle	49	201	4	–
Horse	1	2	–	–
Red deer	–	4	–	1
Roe deer	3	4	–	–
Sheep/goat	122	397	15	1
Sheep	1	10	–	–
Goat	–	1	4	–
Pig	6	12	–	–
Dog	–	8	–	–
Cat	4	17	3	–
Rabbit	1	2	4	–
Rodent	25	87	29	5
L/M	599	1260	49	8
M/M	285	517	26	3
S/M	16	44	6	5
I/M	328	1046	42	43
Total count	1440	3612	178	66

sheep, cattle, pig, roe deer, cat and rodent. Sheep/goat were the dominant species present followed by cattle. The cattle remains were dominated by foot bones, whereas the sheep/goat remains were more varied, with foot bones, long bones, scapulae and pelvises. There was a small quantity of horn core, most of which was poorly preserved and degraded. These remains derived from butchery waste and domestic food debris, alongside a small quantity of horn core which was only a minor component of the medieval deposits.

A.6.2.2 The ditch fills [066], [080]

The ditch fills contained 785 bone fragments. The species were sheep/goat, cattle, horse, pig, rabbit, cat and rodent. The elements recovered were mixed but there were also a significant number of mandibles, vertebrae, ribs and phalanges, which indicates that some primary butchery waste was disposed of within this ditch alongside domestic refuse. The vertebrae and ribs had been detached from the carcass by a professional butcher and a large proportion of the cattle phalanges were disposed of while still in an articulated form. This normally occurs when the bone is disposed of while some of the meat, muscles or tendons are still attached. The implication is that the foot bones were not completely stripped of meat prior to being disposed of and are butchery waste rather than food debris. The material recovered from this deposit accumulated from two sources: primary butchery waste and domestic food waste. There is no evidence to argue that this feature was ever used extensively for the disposal of horn core.

A.6.3 Phase 2

A.6.3.1 Midden contexts [027], [028], [030], [032], [039], [040], [043], [044], [062], [063]

Some 2,962 bone fragments were recovered from ten contexts but most were concentrated in contexts [027], [032], [040] and [044], indicating that these represented the main episodes of rubbish disposal. The species identified were sheep/goat, sheep, goat, cattle, horse, pig, red deer, roe deer, dog, cat and rodent. All skeletal elements were represented, and partially articulated foot bones in the form of the first, second and third phalange from both

cattle and sheep/goat were present. This typically occurs when the bones are disposed of prior to the connecting soft tissue decomposing. This indicates that these remains were not fully skinned and were not intended for human consumption. There were also a large number of skulls, ribs and vertebrae present alongside a smaller number of long bones. A relatively large concentration of horn core was recovered, some of which had chop and saw marks from where they had been detached from the skull.

A.6.3.2 Rubble layers [056], [057]

A total of 178 fragments were recovered from [056] and only two from [057]. The species recovered were sheep/goat, cattle, pig and horse. There was no evidence that specific species or elements were disposed of and this appears to represent a random accumulation of material which was probably accidentally included within the formation of the rubble surface.

A.6.3.3 Pit [059]

This pit contained 338 fragments. Identifiable species included sheep/goat, cow, pig and rodent bones, but much of the assemblage could only be described as large, medium or small mammal, or indeterminate. The elements were varied and included both high meat value and low meat value bones. There were signs of butchery on large mammal ribs and vertebrae which are consistent with the initial dismemberment of the carcass. These initial butchery marks were in all likelihood carried out by a professional butcher. Other butchery marks appear less skilled and were probably undertaken in a domestic setting by an amateur. This pit was left open to the elements for a sustained period of time, as these bones had suffered a greater degree of surface staining and weathering as well as damage attributable to rodents.

A.6.3.4 Boundary wall [041]

This context produced 134 fragments and the species were sheep/goat, cat and rodent. The assemblage represents an accidental accumulation of domestic food and scavengers which were remixed into the wall structure.

A.6.4 Phase 3

A.6.4.1 Midden context [026]

A total of 71 fragments were recovered from this deposit and the species present were sheep/goat, cattle, cat, rabbit and rodent. The bone was dominated by rib and vertebrae, identified as large and medium mammal. This assemblage appears to represent a relatively small dump of butchery and domestic waste. The small size of the assemblage in comparison to the assemblages from the previous phases suggests that by the 18th century the volume of material being disposed of was reduced and that the midden features were more rapidly sealed, probably due to health regulations.

A.6.4.2 Sealing deposits [031], [064]

Context [031] contained 40 fragments and [064] contained 67. The generally poor preservation of these remains resulted in most of the fragments being described as large or medium mammal. The species identified were sheep/goat, cattle, cat, rabbit and rodent. These remains are representative of domestic food waste only.

A.6.5 Phase 4

A.6.5.1 Pit [037]

This pit produced a small assemblage of 66 fragments. The species identified were sheep/goat, red deer and rodent. This pit appears to have been used to dump a small quantity of domestic food and butchery waste. Given the small concentration recovered, it is likely that the pit was sealed shortly after the bone was disposed of. This is confirmed by the relatively small amount of surface staining, the absence of any scavenging affecting the bone surface, and the presence of only a small number of rodent bones.

A.6.6 Discussion

A.6.6.1 Species exploitation

The assemblage is dominated by domestic species, and analysis of both NISP and MNI revealed that sheep/goat were the most economically important species followed by cattle and pig. This pattern of species exploitation remains true throughout the

use of the site. The other domestic species were horse, dog and cat, which were present only in small numbers. Wild species were represented by red deer, roe deer and rabbit but again only in small quantities. There were a large number of highly fragmented rodent bones but it was not possible to identify these as to species.

Sheep/goat was the most economically important source of meat and this did not alter from the medieval to the post-medieval period. All of the skeletal elements were represented and this included both high-quality and low-quality cuts of meat. Traditionally the mandible and skull fragments are viewed as low bearing meat bones whereas the long bones and scapula retain more meat. The quality of the cuts of lamb and mutton varied, with skull fragments dominating the assemblage which were probably butchery waste, followed by long bones such as the tibia and humerus representing domestic food debris. Both sheep and goat were identified, but goat appears to be a relatively minor component of the diet. Lamb and mutton remained the most important source of meat, and skeletal elements from this species were recovered from all features.

Beef played a secondary role in the diet of Advocate's Close throughout the medieval to the post-medieval period and was recovered in relatively small quantities. The cattle remains were dominated by foot bones, which are typically low-value cuts of meat, alongside smaller numbers of long bones such as the tibia, ulna and radius, which have a higher meat ratio. A large proportion of the cattle feet had clearly been deposited while still articulated and this suggests that the foot bones are not in fact cooking debris but are butchery waste and were never intended to be consumed. The cattle remains which did form part of the diet appear to be dominated by high-value cuts of meat, but were only ever recovered in small quantities, especially when compared to the sheep/goat skeletal remains.

Only a small number of pig bones were recovered from the medieval period onwards. These were dominated by foot bones and are not typically regarded as high-value cuts of meat. This could be butchery waste but equally they could represent the insignificant role pork had within the local population's diet.

A small number of horse remains were found in the Phase 1 ditch and the Phase 2 midden layer

and rubble deposit. These remains are unlikely to have derived from domestic food refuse. Instead, horsemeat was typically used as animal feed for dogs, or it could perhaps represent the disposal of small-scale industrial waste.

Red deer, roe deer and rabbit were exploited but they played only a minor dietary role. The roe deer was present in the Phase 1 and Phase 2 middens and the red deer was recovered in the Phase 2 midden and Phase 4 Pit [037]. There were restrictions on hunting in the early medieval period and it is highly unlikely that the inhabitants occupying Advocate's Close in the 13th/14th century would have been able to legally hunt this species. The venison was probably purchased as cuts of meat.

Butchered rabbit was recovered from the Phase 1 ditch. Unlike venison it would have been easily available and much more affordable. It could equally have been hunted by the local population or bought from nearby butchers and flesh markets. If obtained from a meat market, the rabbit was probably disjointed and skinned after purchase within a domestic setting.

Other wild species which formed part of the diet were fish and bird. This material has been reported on separately (see Appendices 7 and 8).

Cat remains were found in the Phase 1 midden and Phase 2 deposits, and dog remains were found only in the Phase 2 midden. There is no evidence that either of these species was ever exploited for food or fur, and it is more likely they represent working animals, pets or semi-feral scavengers. These animals would either have been deliberately disposed of or were accidentally reworked into the contexts. The rodents were undoubtedly opportunistic scavengers which exploited the deposits on site to obtain food.

A.6.6.2 Health and mortality profile

The general health of the main domestic species appears to have been relatively good throughout the use of the site, as evidence of pathological conditions was minimal. Three conditions were noted: osteoarthritis, enamel hypoplasia and signs of a bone infection.

To establish slaughter patterns and thereby the age of death of individual animals, tooth wear and epiphyseal fusion were analysed together. Identifying the presence of females, males and castrates within

the assemblage was reliant in part on metrical data. By considering these datasets in conjunction with each other it has proved possible to establish a clearer idea of the animal husbandry techniques practised at Advocate's Close.

The age data available for 46 sheep/goat mandibles and 364 bones suggest that there were two peak times at which slaughter occurred. The first significant event occurred before the animals reached the age of 10 months and the second was between the ages of 2 and 3 years. Six individuals were culled before the age of 10 months. A further 27 were slaughtered between the ages of 2 and 3.5 years. Certainly no individuals appear to have survived beyond the age of 3.5 years. The presence of both juveniles and young adults strongly indicates that this was a meat economy. These animals were deliberately selected for their meat rather than being exploited long-term for their secondary products such as wool and milk. This mortality profile is typical of most urban sites, where animals were regularly slaughtered primarily for their meat. Sheep/goats generally attain their optimum weight/meat size around the ages of 2 and 3. Animals destined to satisfy a meat economy will almost certainly be slaughtered prior to the age of 3. This pattern remained in force through the medieval to post-medieval period.

A single pelvis was identified as male but this is not enough to confidently state that the majority of the sheep/goat disposed of at Advocate's Close were male or castrates. It is feasible that the individuals culled at 10 months were surplus males slaughtered before winter set in. Given the age distribution of these animals and the similarity of this evidence when compared with other Edinburgh sites such as Giles Street and Jeffrey Street, it is likely that the majority of these animals were in fact males deliberately selected for their meat (Masser et al 2014: 43–5).

The cattle assemblage was small but it was still possible to establish three peaks at which death occurred. Two individuals died before the age of 1.5 years. Four animals survived beyond the age of 3.5 years and the remainder were slaughtered between the ages of 1.5 and 3.5 years. As with the sheep/goat, the slaughter pattern is representative of a meat economy. It was possible to identify two males within the assemblage, but this dataset was too small to categorically state that the majority of

the cattle were male.

The available evidence for the pig remains is based on three individuals. The youngest individual died between the ages of 18 and 22 months and the oldest was approximately 2.5 years. It was not possible to determine the sex of these individuals. Pigs are normally slaughtered as soon as possible as they have no secondary products to exploit, so these animals were deliberately fattened until they reached their optimum weight size. In all likelihood they would also have been used for breeding until they reached the desired size.

A.6.6.3 Butchery

The butchery techniques identified at Advocate's Close fell into two distinct categories, those by professional butchers who killed, halved and quartered the carcasses, while the rest of the butchery was undertaken within a domestic setting by unskilled individuals. There was evidence of how the animals were slaughtered, dismembered and jointed in the form of poleaxing, chop marks, and cut, saw and skinning marks.

Only 8% of the sheep/goat had signs of butchery. These were dominated by chop marks along with smaller numbers of cut, saw and skinning marks and marrow cracking. Most of these appeared to have been undertaken by individuals with little skill, suggesting that this was done in a domestic setting. It is likely that the sheep/goat cuts of meat were bought not fully butchered and it was left to the individual to prepare the meat before cooking.

A total of 28% of the cattle bone had been butchered. A single cattle skull had prominent signs of poleaxing to either stun or kill the animal outright. Other processes in evidence include the skinning and dismemberment of the carcass by either splitting the vertebral column in two or by cutting through the long bone joints. The butchery marks on the cattle remains had been undertaken with a greater degree of skill and this indicates that the beef destined to be eaten by the inhabitants of the tenements was bought already fully prepared or it required little further butchery at home.

Evidence of butchery marks was observed on a single pig metapodial which had three small chop marks on the shaft. These marks were clumsy and were probably done in a domestic setting.

A single horse metapodial had been marrow-cracked. This had not been undertaken with any great care and could represent industrial waste. Alternatively, given the presence of dogs on the site, these horse remains could have derived from waste animal feed.

A single red deer metacarpal had evidence of skinning marks along the proximal surface. Unlike most of the skinning marks on the sheep/goat bones, these appeared to have been accomplished with a higher degree of skill. The deer remains were probably purchased as cuts of meat from professional butchers that required no further preparation prior to cooking.

A rabbit pelvis had three shallow skinning marks on the surface, none of which looked particularly skilful. The rabbit was probably obtained as an intact carcass and was skinned and disjointed at home.

Some 16% of the large mammal elements had been butchered, along with 18% of the medium mammal fragments. These were dominated by ribs and vertebrae, which were probably cattle and sheep/goat in origin. All of the vertebrae displayed similar chop marks, which occurred during the initial dismemberment of the carcass when the cerebral column was split. There were chop, cut and saw marks on the ribs, which were the result of skinning and being detached from the body. These butchery techniques all follow the same pattern and were undertaken by professional butchers.

A.6.6.4 Horn working

A number of the horn cores had chop or saw marks at the base to deliberately detach them from the skull. These were concentrated in the Phase 2 midden deposits but there were also a few in the Phase 1 midden. This suggests that horn working was occurring somewhere in the vicinity of the midden but stopped in the 17th century.

A.6.7 The assemblage in context

The faunal assemblage recovered from Advocate's Close is similar to those found at other Edinburgh sites such as Jeffrey Street, Giles Street, Water Street (Masser et al 2014: 44), Parliament House (Thoms & Smith forthcoming), and Holyrood Parliament site (Smith 2010), as well as Bridgegate, Peebles

(Smith & Henderson 2002). Sheep/goat was the most economically important species on all these sites, followed by smaller numbers of cattle and pig. This contrasts with other Scottish urban sites such as Perth High Street (Hodgson et al 2011) and Bon Accord, Aberdeen (Thoms forthcoming), where cattle is the most important species, and suggests that there may be some regional patterns in animal exploitation in urban medieval and post-medieval Scotland (Smith 2010: 93).

The age at which these animals were slaughtered was also broadly comparable with Jeffrey Street and the Parliament site, in that both juveniles and relatively young adults were culled specifically for their meat rather than being primarily exploited for their secondary products (Smith 2010: 84; Masser et al 2014: 44). In the later phases at Bridgegate, Peebles there also appears to be a move away from a dairy to a meat economy, with younger animals slaughtered (Smith & Henderson 2002: 128).

Like Advocate's Close, the Parliament site also had evidence of butchery waste, domestic rubbish and industrial refuse (Smith 2010). In contrast, other Edinburgh sites such as Jeffrey Street (Masser et al 2014) and Parliament House (Thoms & Smith forthcoming) tended to be almost exclusively domestic in nature.

Wild species such as red deer, roe deer and wild boar tend to be rare finds on urban Scottish medieval sites, as there were strict hunting laws limiting the type of wild species which commoners could legally hunt (Smith 2011: 34–5). Certainly no evidence of deer was recorded at either Jeffrey Street (Masser et al 2014) or Parliament House (Thoms & Smith forthcoming).

A.6.8 Conclusion

The animal bone assemblage from Advocate's Close has provided evidence on the diet and status of the occupants of the neighbouring tenement and the changes in the nature of use of the backland from the medieval to modern periods. The faunal remains derived from three distinct and recognisable sources. Within the Phase 1 midden and ditch there is evidence that primary butchery waste in the form of rib, vertebrae, skull and phalanges were regularly deposited, some of which were still articulated. A butcher working on or near the site or any nearby

flesh market may have used this backland to dispose of some of their waste offcuts. The presence of specific bones such as phalanges has previously been used to identify industrial processes like tanning, but given the site's location it is highly unlikely that such an unpleasant industry took place there. Rather, these remains are more representative of butchery and domestic food waste.

The disposal of both butchery and domestic food waste continued until at least the 17th century and there is also a noticeable increase in the quantity of horn core being deposited during this period. From the 18th century the midden is being used primarily for domestic food waste alongside a smaller quantity of butchery waste and the disposal of horn core stops. This could reflect a change in how the site was used in terms of what businesses were practised in the locality, or new legislation determining what types of waste could be disposed of within urban locations.

The quality of the meat eaten included both high meat value and low meat value and this suggests that the population living at Advocate's Close varied in terms of financial resources. There is also evidence that the inhabitants were not dependent on buying ready-prepared meat but also purchased cuts which required further butchery and preparation at home. Sheep/goat in the form of lamb and mutton remained the most popular source of meat from the medieval to post-medieval period. Beef and particularly pork were a minor component of the local population's diet. Exploitation of wild species such as red deer and roe deer demonstrates that the status of at least some of the inhabitants was sufficient to allow them to purchase these items.

APPENDIX 7 THE FISH BONE ASSEMBLAGE

Jen Harland

A.7.1 Introduction

Excavation prior to development at the site of Advocate's Close, Edinburgh revealed a small but significant assemblage of fish remains. From the total assemblage of just over 1,000 fragments, 334 were identified as to species or taxonomic grouping from sieving, with 53 identified from hand collection. The fish remains have been separated into four main

phases: Phase 1 (12th/13th century); Phase 2 (late 16th/17th century); Phase 3 (18th century) and Phase 4 (19th century). Almost all of the material was derived from midden deposits in Phases 1 and 2.

A.7.1.1 Preservation

Percentage completeness and bone surface textures were recorded and can be used to investigate the preservation of the assemblage. Only about a third of the assemblage comprised complete or near-complete bones; fragmentation was therefore moderately high. About two-thirds of the bone surface textures were classed as 'good' and about a third as 'fair', which again indicates that the assemblage is not in pristine condition. Little difference was observed between phases: the assemblage was therefore in moderate condition throughout. No evidence of recent breakage was observed, indicating great care was taken during excavation and subsequent processing.

Taphonomic modifications were few. Carnivore gnawing was identified on a single fragment from the earliest phase, but crushing was noted in both major phases with about 2% of all fragments showing some indication of this modification. Chewing by humans or animals can cause the bone to appear crushed; smaller bones from eel and herring found in cesspits with this type of crushing are generally interpreted as having passed through the human gut (Wheeler & Jones 1989: 75). In this case, a fair few of the bones were too large to have been eaten comfortably by humans, so they might have been chewed by opportunistic scavengers. Burning was observed on a single fragment from the first phase and five fragments from the second phase, suggesting that few fish were disposed of in fires or cooked over open fires.

A.7.2 Results

A.7.2.1 Species and recovery

A total of 334 fragments were identified as to species or broader taxonomic grouping from the sieved material, with another 54 identified from hand collection (Table 3). No one species dominated, though the cod family and herring accounted for about 90% of the identifications from the sieved subset. Looking solely at the sieved material, in Phase 1, haddock was most common at 40%,

followed by herring at 19% and whiting at 16%. In Phase 2, haddock had decreased slightly to 32%, herring had slightly increased to 23% and whiting remained similar at 17%. The final two phases are broadly consistent with general trends, but as they are both very small it is difficult to say anything in detail.

Other cod-family fish were also present in moderate quantities. This included cod, which was consistently present at 6% in both major sieved phases, as well as single identifications of ling and pollack. Several other bones could only be attributed to the cod family or to cod, saithe or pollack. Looking at the cod family as a whole, this group of taxa represented 71% in Phase 1 and 69% in Phase 2; the cod-family fish were undoubtedly of great importance to the diet, particularly when one considers the larger size of these fish (see below) compared to the naturally smaller herring.

Numerous other taxa were present in the sieved subset in small numbers, including the ray family, eel, the salmon and trout family, a potential perch, Atlantic mackerel and various flatfish. A few mackerel were found in the first phase, and a few eels were found in the second phase. Flatfish were present in both major phases, including several fragments identified as plaice or halibut family. The single putative perch identification was a small fish scale. Fish scales are rarely found and recovered in quantity, and even if found they can be difficult to identify as to species or to quantify because one fish has many scales of varying size. Perch was certainly present in freshwater river systems around Edinburgh in the past (Wheeler 1977: fig 5). However, the lack of bones to corroborate this identification plus the lack of other small freshwater fish makes the presence of this species somewhat questionable.

The hand-collected subset had fewer fragments and was naturally biased towards larger taxa that are easy to recognise and extract by hand, although some finds of small bones like herring indicate a degree of vigilance in collection. Of the 54 bones identified from hand collection, about two-thirds were from the cod family, including haddock, cod, ling, whiting and saithe. Seven herring fragments were recovered; other taxa included the salmon and trout family, the turbot family, the ray family, the gurnard family and the halibut family. It is difficult

Table 3 The fish bone: NISP by taxa, recovery and phase.

Taxa	Scientific names	Sieved				Hand collected			
		Phase 1	Phase 2	Phases 3 & 4	Total	Phase 1	Phase 2	Phases 3 & 4	Total
		No.	%	No.	%	No.	%	No.	%
Ray family	Rajidae	4	3	3	2	7	2	1	2
Eel	<i>Anguilla anguilla</i>	27	19	42	23	3	2	3	1
Atlantic herring	<i>Clupea harengus</i>	1	1	1	1	72	22	6	1
Salmon & trout family	Salmonidae	57	40	60	32	1	0	1	0
Cod family	Gadidae	11	8	19	10	30	9	4	5
Cod/Saithe/Pollack	<i>Gadus/Pollachius</i>	1	1	2	1	3	1	3	1
Cod	<i>Gadus morhua</i>	9	6	11	6	20	6	4	5
Haddock	<i>Melanogrammus aeglefinus</i>	57	40	60	32	1	0	1	0
Ling	<i>Molva molva</i>	1	1	1	1	1	0	6	11
Pollack	<i>Pollachius pollachius</i>	1	1	1	2	1	0	1	0
Saithe	<i>Pollachius virens</i>	23	16	31	17	56	17	4	9
Whiting	<i>Merlangius merlangus</i>	23	16	31	17	2	0	1	2
Gurnard family	Triglidae	1	1	1	1	1	0	1	0
Perch?	<i>Perca fluviatilis?</i>	2	1	2	1	2	1	2	1
Atlantic mackerel	<i>Scomber scombrus</i>	2	1	2	1	2	1	2	1
Flatfish order	Heterosomata (Pleuronectiformes)	1	1	1	1	1	0	1	0
Turbot family	Bothidae	8	6	7	4	15	4	2	4
Halibut family	Pleuronectidae	1	1	2	1	3	1	1	2
Plaice	<i>Pleuronectes platessa</i>	143	100	185	100	6	100	37	100
Total identified		210		349		577		46	56
Unidentified fish		353		534		911		83	110
Grand total									

to say much about trends through time, given the small quantity of bones recovered; however, there was no single focus on any particular taxon.

At least three of the very large ling bones from Phase 2 were likely to be from the same individual, as they were in the same context, from fish of the same length, and they were adjacent elements that readily articulated with each other.

Overall the inhabitants clearly favoured fish that came from the sea, with only very occasional finds of migratory or freshwater fish. The lack of eels is surprising, given that they are normally found in substantial quantities (even if not the dominant taxon) in most medieval urban assemblages in the British Isles (Barrett et al 2004; Harland et al 2008: fig 2), and they should naturally be present in all of the freshwater river systems in the UK. Eel bones were not present in the medieval and later assemblage from Bon Accord, Aberdeen (Harland forthcoming), indicating either that they were not available or that they were not a desirable foodstuff. At Advocate's Close, the three eel bones and the three salmon and trout family identifications were all found only in Phase 2, so it is possible that local rivers were only accessible during this time and not earlier. Edinburgh's local river, the Water of Leith, is not a very large river, so it may have struggled to supply the urban population with sufficient freshwater fish.

A.7.2.2 Sizes

Fish sizes were recorded for as many elements as possible, in order to maximise the potential results. Fish were sized into five ordinal categories based on comparison with reference skeletons of known length. Total lengths were recorded for the cod-family fish (Table 4). Although the assemblage was quite small, it is apparent that a wide variety of fish was exploited without any particular focus. The smallest members of the cod family tend to be the most difficult to identify, which is why the fish of less than 15cm total length were only identified as to family; these were most likely stomach contents from larger fish rather than ones deliberately targeted for human consumption. A variety of sizes was present for cod, haddock and whiting, the three main cod-family fish exploited here. The full range of sizes was present for cod in the Phase 1 sieved material,

and Phase 2 was similar, with the exception of the largest size of cod. It is worth noting that two of the cod bones were from exceptionally large individuals, probably of 120cm total length or longer. Both of these were vertebrae, one from Phase 1 and one from Phase 2. It is very difficult to size these archaeological specimens accurately, because reference collections are not able to source such large, mature fish today.

The sieved haddock were variable in size, with the majority between 30cm and 50cm total length. In Phase 1, just under half of the sieved haddock were 15–30cm total length with only a few found that were between 50cm and 80cm total length, but in Phase 2 the haddock tended to be slightly bigger with fewer of the 15–30cm size category recorded. Whiting are naturally smaller than cod or haddock, and the ones recovered by sieving here tend to be less than 50cm total length. About two-thirds of the whiting found in Phase 2 were from smaller fish of 15–30cm total length, whereas Phase 1 had approximately equal proportions of both 15–30cm and 30–50cm size categories. The hand-collected subset tended towards larger individuals for both haddock and whiting, as is to be expected given recovery biases, but the small quantity of bones makes it difficult to say much regarding fish sizes.

Fish sizes were also recorded for taxa outside of the cod family. Eel from Phase 2 included at least one of 30–50cm total length and one of 50–80cm total length. Salmon and trout family included a fragment from a fish of 30–50cm total length and two from a fish of 80–100cm total length in Phase 2. Two fragments of turbot family fish were from fish of 50–80cm total length in Phase 2 also. The halibut family was represented by several fragments from fish of 30–50cm total length in both Phases 1 and 2, while plaice was positively identified from a single fragment of 15–30cm sized fish and two fragments of 30–50cm total length fish in Phase 2.

The assemblage was too small to produce an accurate count of minimum numbers of individuals, but given the range of species and sizes present, it is clear that several dozen fish are represented by this assemblage.

A.7.2.3 Butchery and processing

Five specimens were butchered in some way. Three classic butchery marks are indicative of a trade in

Table 4 The fish bone: cod family sizes.

Taxa	Total length (cm)	Sieved			Hand collected				
		Phase 1	Phase 2	Phases 3 & 4	Total	Phase 1	Phase 2	Phases 3 & 4	Total
Cod family	<15	1	2		3				
	15-30		7		7	1	3		4
	30-50	10	10		20		1		1
Cod/Saithe/ Pollack	15-30	1			1				
	30-50		2		2				
Cod	15-30	3	1		4		1		1
	30-50	2	5		7	1	1		2
	50-80	2	3		5				
	80-100	1	2		3				
	>100	1			1	3	3	1	7
Haddock	15-30	20	11	1	32		1		1
	30-50	34	39		73	7	4	1	12
	50-80	3	10		13				
Ling	80-100		1		1				
	>100						6		6
Pollack	15-30		1		1				
Saithe	15-30						1		1
Whiting	15-30	13	20	1	34		1		1
	30-50	10	10	1	21	1	3		4
	50-80		1		1				1

preserved fish. These comprised a cod vertebra from Phase 1 (Illus 23a), a cod supracleithrum from Phase 2 (Illus 23b), and a ling supracleithrum also from Phase 2. Both cod were fish of greater than 100cm total length, while the ling was also large at 80–100cm total length. When cod and related species, like ling and haddock, are preserved for long-term storage and trade, the preservation process leaves distinctive signatures in the zooarchaeological record (Barrett 1997). Heads are commonly left at the production site, while the appendicular elements (including the large and robust cleithra and the smaller but readily identifiable supracleithra) and the vertebrae appear at the consumption site. On occasion, these can be far apart. Butchery marks are relatively common on preserved fish, and although their patterning is not yet fully understood, it is likely the initial process of preservation and then the subsequent preparation for the table leaves these butchery marks. The butchered vertebra from Advocate's Close was from the abdominal group 2, and was chopped twice in the sagittal plane (as though to divide right and left sides), from the ventral (underside) towards the dorsal (back) and on the right-hand side of the fish. This may have taken place during preservation, to split the fish open and thus ensure it was fully dried or cured. The cod supracleithrum displayed two fine knife marks, most likely caused during removal and discarding of the head just anterior to this element. The ling supracleithrum was unfortunately in very poor condition, but it appeared to contain a slight chop mark, again consistent with preservation.

One ling articular displayed two fine knife marks on the lateral surface, from a fish of over 100cm total length in Phase 2. This articular was found in conjunction with two other cranial bones that were probably from the same fish, because they could be articulated together; this was clearly not a fish that had been imported as a preserved food without its head.

One final butchery mark was much more unusual: this was a large dermal denticle (a rounded sturdy structure with a hook that extends from the skin) from a ray-family fish dating to Phase 1. A series of four knife marks and a single chop were noted on the underside of the denticle, perhaps caused when skinning the fish. It is possible that this large denticle was used for some craft purpose, although parallels are not known in the literature.



Illus 23 a) Butchered cod vertebra, Phase 1 [066] (SF77) hand collection, scale bar 1cm
b) Butchered cod supracleithrum, Phase 2 [032] (SF70) hand collection, scale bar 1cm

In addition to investigating butchery marks, the proportions of heads to bodies can indicate whether or not the larger cod-family fish were arriving on site fresh – and whole – or as a preserved and incomplete product (Harland et al 2008). Contemporary sites often display a combination of imports and locally caught fish, so disentangling the evidence is not always straightforward. The sample size for Advocate's Close is rather small, but some general trends can be observed. The larger cod of greater than 80cm total length (the size commonly used for preservation) from both Phase 1 and Phase 2 are mostly only those elements expected from imports of preserved fish, in both sieved and hand-collected subsets; this suggests that *most* of the large cod were imported as a preserved foodstuff. Sample sizes are very small, however. The ling show a similarly mixed picture for Phase 2, with some larger fish eaten when freshly landed and with some potentially imported

as a preserved food. Haddock tend not to get as big as cod and ling, but the larger haddock of more than 50cm total length could similarly have been imported as a preserved food without their heads, or they could have been eaten freshly landed and thus whole. However, most of the haddock were less than 50cm total length and, as expected, these are represented by all body parts. The very few bones from larger haddock include both cranial and vertebral elements and thus conclusions cannot be drawn regarding the origin of these haddock.

Preserved herring can display distinctive element proportions, if well preserved and found in sufficient quantities. Many barrels of preserved herring from a 16th-century shipwreck in Drogheda harbour contained beautifully preserved skeletons that were 'missing' a suite of appendicular bones removed during preservation (Harland 2009); in contrast, a unique deposit of bones corresponds nicely to these 'missing' elements in a Danish deposit interpreted as waste from herring processing (Enghoff 1996). The herring from Advocate's Close were not numerous, nor were they well preserved. It is worth noting that none of the suite of elements typically removed during preservation were recorded here, which could imply these were preserved herring that had been imported. That said, a larger assemblage would be required to test this hypothesis.

A.7.3 Discussion and conclusions

This small, diverse assemblage of fish remains from Edinburgh was divided into two main phases of 12th/13th-century date and late 16th/17th-century date, with a small quantity of 18th- and 19th-century material bringing the assemblage into the Early Modern period. The assemblage was only in moderate condition, displaying fairly high levels of fragmentation, but most fragments were readily identifiable as to taxonomic grouping or species. Almost all of the fish recovered were caught in the sea, indicating either a preference for these fish or that sea fish were more readily accessible compared to freshwater or migratory taxa. A few eels and salmon-family fish were present in the late 16th/17th-century phase, which could suggest some limited access to fish caught in local rivers during this time. One putative perch scale is the only freshwater fish identification, and this dates

from the late 16th/17th-century phase too.

Cod-family and herring remains accounted for about 90% of the sieved identifications, comparable with contemporary deposits from the British Isles. No one species dominated: haddock, whiting and herring were the most common. There were no substantial changes in proportions of these major taxa between the first and second phase: haddock decreased from 40% in Phase 1 to about a third in Phase 2, herring remained constant at about a fifth, and whiting at about a sixth. The very small quantities of bones from the Early Modern period were consistent with these trends. Numerous other taxa were present, including other members of the cod family as well as rays, mackerel and flatfish, all of which suggest a thriving market for sea fish to feed diverse tastes.

Fish sizes were similarly diverse. Some of the cod were exceptionally large at well over 100cm in length, while most of the haddock, whiting and herring tended to be much smaller at less than 50cm total length. The food value from a large fish is substantial: a cod of 120cm in length should weigh between 16kg and 19kg (Froese & Pauly 2014), enough for many meals, but many of the smaller fish would each feed only a few people or a single person. The smallest bones came from cod-family fish of less than 15cm total length: these tiny fish were most likely stomach contents from larger fish or from seabirds, rather than species targeted for human consumption in their own right. Their presence, along with numerous cranial and vertebral elements, suggests that *most* of the remains at Advocate's Close are from fish that were bought fresh and consumed quickly. However, there are a few hints that some preserved fish were also consumed. The fish sizes, element patterning and butchery marks present on a few fish bones imply that a moderate amount of preserved cod and ling was consumed alongside the freshly caught fish in both the 12th/13th-century and the late 16th/17th-century phases.

The varied fish sizes and species present at Advocate's Close indicate that diverse fishing grounds were exploited, from inshore grounds to catch the smaller cod-family fish like whiting, to deeper, open-water fishing for the very large ling that prefer offshore deep waters (Froese & Pauly 2014). Although this is not the place for a detailed study of Edinburgh's fish markets, it would appear

that these markets were supplied by numerous fishing vessels, able to land, probably at Leith, and quickly distribute their catches. The preserved large cod-family fish may have been caught and processed locally around Edinburgh, or they may have been imported from anywhere around the North Sea or the North Atlantic (Barrett et al 2011). Future work could be undertaken to ascertain the sources of preserved cod found here.

APPENDIX 8 THE BIRD BONE ASSEMBLAGE

Jackaline Robertson

A.8.1 Introduction

A total of 140 bird bone fragments were recovered from the excavation. Some 33% of the bird bone came from the Phase 1 midden contexts and 57% from the Phase 2 midden contexts. Of the species that could be identified, domestic fowl comprised 39%, goose 13%, bantam 10% and grouse 3.5%. A single example each of a duck and a crow/rook were also present. There was no evidence for selective disposal of particular body parts or species within either phase.

A.8.1.1 Domestic fowl and bantams

The presence of both domestic fowl and bantam was established by analysing the size and morphological characteristics of the elements, although it should be noted that differences in size may be due to sex rather than species. However, the size difference within this assemblage is such that it was possible to confidently identify 55 fragments as domestic fowl and 14 as bantam. Determining sex was more difficult but it was possible to identify one female and one male domestic fowl.

All of the epiphyses of the surviving long bones from both species were completely fused, demonstrating that all of these individuals were at least six months or probably older at time of death (Silver 1969: 300). The absence of any juveniles and the dominance of older birds suggest that the production of eggs was of greater importance than eating young birds. However, it is possible that juvenile bones did not survive due to their small size and fragile condition; there is evidence of scavenging on other animal bones which could

have permanently removed these fragile bones from the archaeological record.

A.8.1.2 Geese

It was not possible to determine whether the geese were a wild or domesticated breed, but as goose was second in importance to domestic fowl this does suggest that they were more likely to be from a domesticated breed rather than a wild variety. This is because the number of truly wild species such as duck and grouse were much smaller in comparison to the domestic breeds. All of the geese were adult and this suggests that the birds were exploited first for their eggs then later slaughtered once they had obtained a higher meat yield for their meat, feathers and goose grease (Smith & Clarke 2011: 50).

A.8.1.3 Wild edible species

Grouse and duck were the only wild edible species present and the small number in which they occurred suggests that neither species played a major role in the diet of the inhabitants.

A.8.2 Butchery

Two geese bones and one domestic fowl all displayed signs of skinning marks. A single bantam tibia-tarsus had been inexpertly chopped along the distal end. None of the butchery marks displayed any obvious sign of skill and butchery was probably undertaken in a domestic setting within the tenements rather than by a professional butcher.

A.8.3 Summary

In terms of species present, the bird bone assemblage from Advocate's Close is comparable to that recovered from other urban sites such as Jeffrey Street (Masser et al 2014) and Perth High Street (Smith & Clarke 2011). Despite differences in the size of assemblage, domestic fowl was the most economically important species, followed by goose, on all three sites (Smith & Clarke 2011: 46; Masser et al 2014: 43).

It is likely that any of the domestic breeds, such as the domestic fowl and bantam, were kept on or near the site and exploited first for their eggs and only later for their meat and feathers. It is also possible

that the geese were of the domesticated species and these too may have been kept on site, but in much smaller numbers. The unskilled butchery techniques suggest that these birds were probably slaughtered and butchered within a domestic setting rather than bought as cuts of meat from a professional butcher. Wild birds such as the grouse and duck formed a minor component of the diet.

APPENDIX 9 THE MACROPLANT ASSEMBLAGE

Jackaline Robertson

A total of only 87 plant remains were recovered from the 12 contexts examined, and the assemblage was dominated by poorly preserved cereal caryopses. The charcoal assemblage was very small and only 27 fragments were suitable for species identification. Species present included oak (70%), elm (15%), pine (11%) and hazel (4%). There was no evidence of any woodworking debris and it is assumed that the charcoal represents fuel debris.

The macroplant remains came primarily from the Phase 1 midden deposit [058], which contained 56% of the total assemblage. These were 43 cereal caryopses, one hazelnut shell fragment and five dock seeds. The remainder of the assemblage was scattered throughout the other midden deposits with no obvious evidence of deliberate or selective disposal. The macroplant assemblage from the fills ([066] & [080]) of the linear ditch feature [067] was so small as to suggest that this feature was never deliberately used for the disposal of domestic debris cleaned from the floors and fireplaces in the nearby tenements.

The small size and poor preservation of the macroplant and charcoal assemblages limit any attempts at interpretation. There was no evidence of deliberate or selective disposal. The small quantities of grain and charcoal within the midden and ditch suggest that these features were not regularly used for the disposal of domestic food and fuel debris. The cereal species are all common finds throughout the late medieval to post-medieval period but the inhabitants probably used flour rather than grain for baking, with cereals instead used to make porridge and soups, which are less likely to leave visible evidence within the archaeological record. Coal fragments were present in large quantities in all the bulk samples, so it is likely that other fuels were used

in preference to wood.

The small size and poor preservation of the environmental assemblages is similar to that reported at other sites in 16th- to 19th-century Edinburgh. Recent environmental work at Caltongate (Robertson forthcoming) and Jeffrey Street (Masser et al 2014: 46) has found that the carbonised macroplant assemblages were generally small and poorly preserved and of limited potential. The finds were dominated by cereal caryopses, with the exception of two grape pips from Jeffrey Street. The only potential exotic from Advocate's Close was a fruit stone.

APPENDIX 10 THE SHELL

Jackaline Robertson

Some 8.5kg of marine shell was recovered, primarily from the Phase 1 and Phase 2 midden deposits. The species present included the common oyster (*Ostrea edulis* L) (87%), common periwinkle (*Littorina littorea*) (4%), common whelk (*Buccinum undatum* L) (4%), common cockle (*Cerastoderma edule* L) (2%), common mussel (*Mytilus edulis* L) (2%), scallop (Pectinidae) (0.8%), sea urchin (Echinidae) (0.2%) and a single example of the common limpet (*Patella vulgata* L).

The common oyster was by far the dominant species present throughout the lifetime of the site. This is perhaps unsurprising, given the presence of a hugely successful oyster industry in the Forth until the 19th century (Yonge 1960: 156). Oyster was also the most common species in a small shell assemblage from the Caltongate, Edinburgh, a poorer neighbourhood than Advocate's Close (Robertson forthcoming). Regardless of the difference in economic status between the two sites, the assemblages are similar and show that oysters were highly regarded as a food source, easily available and consumed in large numbers by people of all economic backgrounds.

The small numbers of the other species present mean that it was not possible to detect any changes in the exploitation of marine foodstuffs over time. The presence of scallops shows that the occupants had access to imported foodstuffs but favoured more locally available shellfish in the form of oyster, periwinkle, whelk, mussel and cockle.

6. ACKNOWLEDGEMENTS

Very special thanks go to the excavation team, who as usual provided hard work and attention to detail: Kevin Paton, Nick Johnstone, Alan Duffy, Stuart Wilson, Mike Roy, Diane Sproat & James Streatfield-James. The staff of Interserve made the excavation possible under particularly constrained circumstances. Mike Roy carried out the documentary research for the site, Anne Crone edited the text, while Jamie Humble prepared

the site plans and sections, Alan Braby drew all the ceramic material and Nick Johnstone drew all the other, non-ceramic, material artefacts. Finally, the two anonymous referees must be thanked for their very useful comments on land ownership and waste management, many of which have been incorporated into the final report.

George Haggarty would like to thank John Lawson for support with the ceramics from the 1988 trench.

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