

Pits and Boots

Excavation of medieval and post-medieval
backlands under the Bon Accord Centre,
Aberdeen

Michael Roy



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Front cover: Boxwood knife handle SF3134A, decorated with a monocerus, a mythical beast, a hybrid of several animals in particular a rhinoceros and a unicorn.

Back cover: Gordon of Rothiemay's map of Aberdeen, 1661 (Reproduced with the permission of the National Library of Scotland and under Creative Commons (CC BY 4.0) <https://creativecommons.org/licenses/by/4.0/>)



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4 Specialist Reports – Summaries of the Evidence

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Preface

The excavation took place in 2007-08, in advance of an extension to the Bon Accord Centre in Aberdeen, and uncovered the backlands of an area that would have formed part of the industrial quarter of the medieval town. The site is well-dated by dendrochronology, augmented by artefactual evidence, and indicates activity from the late 12th century AD into the early modern period, with a particularly intensive period in the 13th century. Structural evidence consists primarily of the backland boundaries, hearth/ovens, several wood-lined wells and many large pits. It is the contents of these pits and wells which forms the core of this monograph.

The waterlogged conditions within the pits and wells has meant that a remarkable assemblage of organic remains, including leather, wooden artefacts, textiles, animal pelts, fibres and cordage, has survived. The leather assemblage is the largest ever to be found in Scotland and has revealed a range of activities associated with the use of animal hides, from hide processing to tanning and shoemaking. The wood assemblage is also extensive and includes bowls, platters, coopered vessels and tools. Metalwork, crucibles, clay mould fragments and ceramics all testify to the industrial nature of the area, while the large quantities of animal and fishbone demonstrate that butchery on an industrial scale took place there.

The excavation charts the changing nature of this once-peripheral area of Aberdeen, from an industrial zone in the medieval period, to horticultural and domestic spaces in post-medieval times, and has thus greatly enhanced our knowledge of Scottish urban development.

1 Introduction

The archaeological works at the Bon Accord Centre, Aberdeen, have identified the changing nature of this area of the medieval and post-medieval city at the junction of the two major thoroughfares of Upperkirkgate and Gallowgate. In the earliest centuries of the medieval burgh's existence, the site formed part of an industrial quarter, peripheral to the core of the medieval town, where odoriferous activities such as tanning, shoemaking and dyeing were undertaken behind the Upperkirkgate. One of the most significant assemblages of leather and leatherworking waste from a European urban medieval site was recovered, consolidating the evidence for such activity in this part of the burgh.

Also identified was evidence for non-ferrous metalworking, while in the later medieval period, there is evidence for continued industrial activity, including smithing. In the early post-medieval period, the area largely formed relatively open gardens associated with properties on the Gallowgate and Upperkirkgate, including those of provosts of the city. By the 19th century the area was again associated largely with commercial and industrial activity, culminating in the construction of the offices and printworks of Aberdeen University Press.

1.1 Background to the archaeological works

In advance of the extension of the existing Bon Accord Centre in Aberdeen, archaeological works were undertaken by AOC Archaeology Group on this retail development site in the heart of medieval Aberdeen. The archaeological programme was commissioned and sponsored by Land Securities, and its extent was determined by the then Keeper of Archaeology for Aberdeen City Council, Judith Stones.

1.2 The site and its setting

The development area, centred at NGR: NJ 941 064, was located at the corner of Gallowgate and Upperkirkgate. It was bounded to the east by Gallowgate, to the north by St Paul Street and the Portland Club, to the west by the service yard of the Bon Accord Centre, and to the south by the Marischal Bar and other premises along the Upperkirkgate. Apart from the north-west of the excavation area, the site had previously been occupied by 20th century buildings. The site is referred to in the text as 'Bon Accord', as the greater part of the area of archaeological works was contained within service areas associated with the shopping centre.

The excavation area sloped down gently from the north and east, where the existing surface height was c. 20.2–20.7m above O.D. and towards the west and south, c. 19.5m above O.D. The location and extent of the site is shown in Figure 1.1.

The medieval settlement stood on fluvio-glacial sand and gravel deposits over stony glacial till and Old Red Sandstone Conglomerates. There were estuarine clay deposits along the Dee and Don rivers, to the south and north of Bon Accord. The present site lies on the west side of a sand and gravel ridge running northwards along the Gallowgate and the Spital, connecting the historic centres of New Aberdeen and Old Aberdeen. To the north-west of Bon Accord formerly lay one of the major sources of fresh water for the medieval and early post-medieval town, the Loch of New Aberdeen, with an original extent of c. 100 acres (Dennison and Stones 1997: 5–6).

1.3 The archaeological works of 2007–08

In tandem with a watching brief on the removal of foundations, evaluation works were undertaken in 2007 over the zones of the development area most likely to be disturbed by ground works, which covered c. 2000m². Over most of this area, this involved the opening of trial trenches by machine to provide an initial 10% sample. It was, however, possible to characterise the extent of archaeological deposits near the Gallowgate frontage with a smaller proportion of evaluation. A total of 16 trenches, with a total area of 192m² was therefore excavated (Figure 1.2). Additionally, a series of five test pits were excavated in the service yard of the existing Bon Accord Centre, which identified only very limited archaeological deposits, and thus no further evaluation was undertaken in this area.

The trial trenches revealed significant archaeological remains towards the Gallowgate and in the north of the development area and limited remains to the south, where buildings of the Aberdeen University Press formerly stood. This led to the archaeological excavation of those areas of the site that would be disturbed by development.

The archaeological excavation lay to the immediate west of the Gallowgate, and followed the demolition of buildings associated with the Student Union (covering 19–29 Gallowgate) and the Aberdeen University Press (behind 6–8 Upperkirkgate). During the archaeological works the area was divided into different zones, which



Figure 1.1 Location of Bon Accord Centre archaeological works, and previous archaeological works in the Gallowgate/Upperkirkgate area

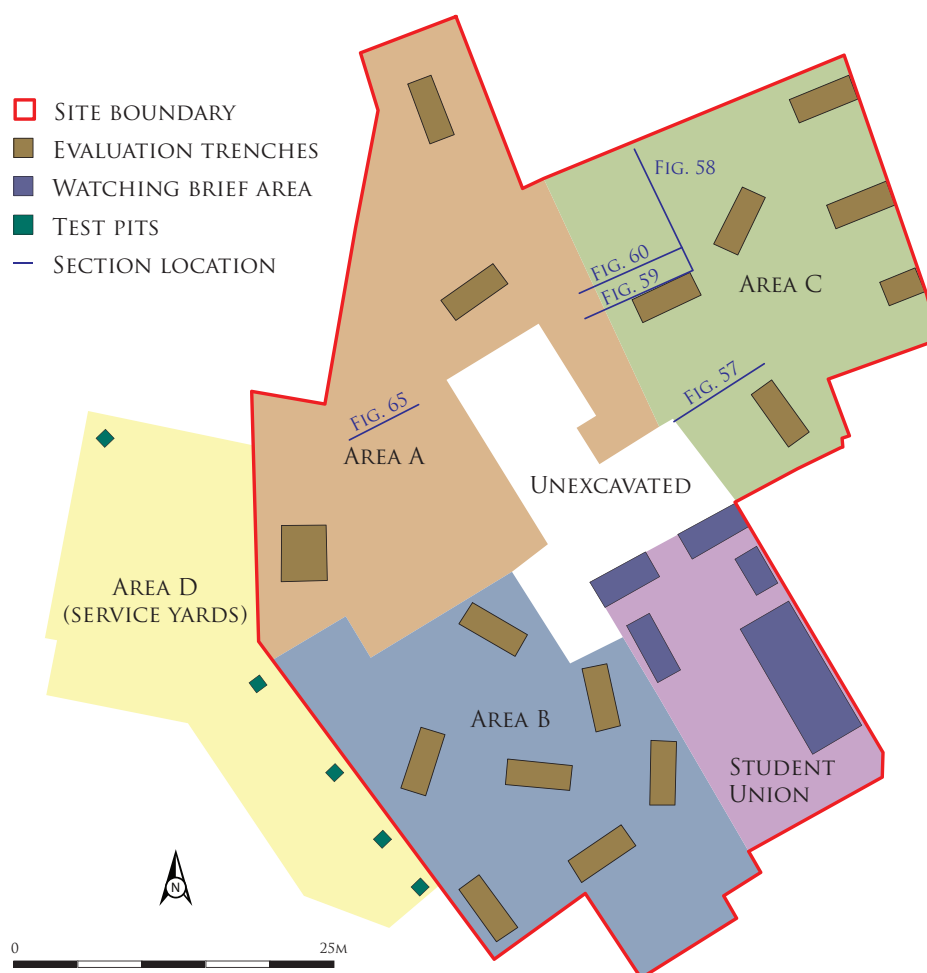


Figure 1.2 Excavation area, showing evaluation trenches and location of long sections

is reflected in the labelling of archaeological features and deposits. There were three main areas: Area A covered approximately 500m² to the north-west, and comprised an open yard area adjacent to the Portland Club; Area B (c. 190m²) lay under the former 'works' building to the north of 6 Upperkirkgate, formerly part of Aberdeen University Press; Area C (c. 750m²) was adjacent the Gallowgate, and had formerly been covered by 19–29 Gallowgate and a building associated with Aberdeen University Student Union. The Bon Accord Centre Service Yard, where a watching brief was undertaken, was labelled Area D. Contamination from a modern diesel tank limited excavation in a large part of the development site, in particular between Areas A and C.

Watching briefs were also undertaken at various stages in the development process, including the clearance of existing building foundations prior to evaluation and excavation; the opening of five trenches on the ground floor of the former Aberdeen University Student Union and excavation of an area to the west of the Portland Club, following foundation consolidation works. While works within the Student Union identified only made

ground, the works adjacent the Portland Club recorded a late medieval timber-lined well.

1.4 Previous archaeological investigations around Gallowgate and Upperkirkgate

Previous archaeological investigations cover a wide area of the medieval burgh, including sites in close proximity to Bon Accord (Figure 1.1) on Gallowgate (Cameron 2001: 73–77, 80), Broad Street (Dent 1982: 26–29, 33); Queen Street (Greig 1982: 20–25) and Upperkirkgate (Stones and Cameron 2001: 60–61, 70). These have produced evidence for occupation from the late 12th century, including the laying out of burgage plot boundaries around the mid 12th century on the Upperkirkgate (Dennison and Stones 1997: 15) (Figure 1.3). Work on the eastern side of the Gallowgate suggests that the thoroughfare was widened in the 20th century and that the original east frontage lies under the present road surface (*ibid* 36).

The area around the Loch near the Gallowgate appears likely to have been a zone of craft concentration in the 13th and 14th centuries. Evidence for such industrial



- 13TH CENTURY BOUNDARIES AT ST PAUL STREET
- 15-17TH CENTURY BOUNDARIES AT 42 ST PAUL STREET
- PLOTS FROM 1871 AND 1902 OS MAPPING
- STAKES C002, C003 & C004 PLOT BOUNDARY LINES
- GULLIES C001 & C002

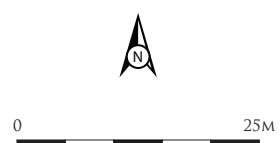


Figure 1.3 Schematic reconstruction of putative early plot layout at Upperkirkgate/Gallowgate corner (reproduced with the permission of the National Library of Scotland and under Creative Commons (CC BY 4.0) <https://creativecommons.org/licenses/by/4.0/>)

activity was identified by Evans (2001) at 45–75 Gallowgate, to the north-west of the present works. The mid 13th century saw that site used for gravel quarrying, while in the later 14th century a short-lived tannery or skin yard was present, evidenced by a complex of pits to the north and a yard surface with ovens to the south (*ibid* 83, 90–94). The tanning and skinning industries were foul-smelling activities and were generally undertaken at a distance from town centres (Spearman 1988: 139). Evidence for shoemaking, cobbling and textile working, in the form of leatherworking waste, including shoe soles and offcuts, and a scutching knife associated with the processing of flax, was located within late 12th to

early 13th century pit and midden deposits recorded during excavations in 1991, on the east side of the Gallowgate at the Gallowgate Middle School Site. At the Middle School site there was evidence for wooden and, later, stone structures from the 12th century onwards (Cameron 2001: 73, 75–77, 80–81).

The 45–47 Gallowgate excavation, to the north of the present works, revealed evidence for the medieval frontage. An episode of dumping around the early 13th century was followed by construction of a building with a grooved sill-beam on a stone foundation (Murray 1984: 305–06). Murray remarks on the lack of frontage

buildings in the late 12th century, and notes that until the early 14th century, although there were frontage buildings, occupation was at a relatively low density (in comparison with the Upperkirkgate), with yards and even cess pits extending to the frontage (*ibid* 311). This period was associated with industrial activity, evidenced by the presence of leather-working waste, cattle hair from preparation of hides and fragments of clay moulds. Property boundaries were defined by ditches, latterly wattle-lined. In the 14th century the frontage was still not fully developed, with open yards on either side of a wattle fence acting as a property boundary (*ibid* 306–10).

Evidence for medieval frontage structures was also identified during the excavations at 12–26 Broad Street, formerly the southern end of the medieval Gallowgate, to the south-east of the present works. Wooden buildings representing five phases of occupation from the late 12th to 14th centuries were recorded, alongside evidence of plot division (Dennison and Stones 1997: 66). A rise in ground level in the 13th and early 14th centuries was associated with changes in boundaries. The boundaries became fixed with the stabilisation of ground levels in the 14th century, interpreted by Dent as related to improvements in the removal of rubbish around buildings (Dent 1982: 33). Behind the Broad Street frontage, at the Queen Street Midden site, evidence for early 13th century domestic settlement was recorded, including an unkerbed hearth. The backland of the Broad Street area was used for waste disposal in the later 13th century and early 14th century, suggesting the existence of formal frontage properties at that time (Greig 1982: 20, 25). The process of greater efficiency in rubbish disposal is also evidenced, though perhaps at a later date (around 1400) at the 45–75 Gallowgate site, where the cessation of disposal of refuse on yard surfaces would have been associated with periodic clearing of refuse off site (Cameron 2001: 94).

Evidence for the eastern edge of the Loch, located to the north-west of the present site, was encountered during archaeological works at 45–75 Gallowgate site (Evans 2001: 85; Dennison and Stones 1997: 43).

Archaeological evidence for medieval burgage plot divisions, with a series of changes from the early 13th century to the present day, has also been recorded to the west of Bon Accord in a backland area off the Upperkirkgate, at 42 St Paul Street (Murray 1982: 77–81). Properties were laid out at right angles to the Upperkirkgate from around AD 1200. Initially the properties were irregular in size but in the early 14th century the boundaries were reorganised to create more regular rigs. Between the 15th and 17th centuries a large stone building was constructed on two adjacent properties but, in general, boundaries were not altered after the 15th century (Dennison and Stones 1997: 43).

Evidence for an oven, probably a bread oven, was found during the excavations at the 42 St Paul Street site. This feature was of fairly large capacity and situated in the open air away from frontage buildings, to reduce the risk of fire. Murray interprets the feature as belonging to a burgess family living on the frontage, rather than that of a baker (Murray 1982: 53, 55, 81).

A large excavation of a backland area at 30–46 Upperkirkgate revealed that this area appeared to have developed later or less intensively than the 42 St Paul Street to its east, which might be indicative of the medieval settlement developing gradually downhill and westwards from the Broad Street/Castle Street centre (Dennison and Stones 1997: 44). At this site, further evidence for burgage plot division was encountered, in the form of parallel ditches, aligned north-west/south-east, giving a plot width of c. 4.5m. These probably represented the remains of 13th to 14th century boundaries (Stones and Cameron 2001: 71). Murray (1984: 309), discussing the site of 45–47 Gallowgate, suggests that the width of rigs was generally between 5m and 6m.

Water for medieval and early post-medieval properties would have been derived from wells or barrels used to collect rainwater (Stell 2002: 107–08). Such features have been encountered nearby: an unlined 17th century well was recorded at 45–75 Gallowgate (Evans 2001: 95) and a late 14th/early 15th century barrel well or water-butt was found at Gallowgate Middle School (Cameron 2001: 77).

1.5 Dating and the chronology of the site

activity on the site has been divided into six main phases (1–6), from the late 12th century to the late 19th/early 20th century (Table 1.1). However, it became clear during excavation, and subsequently following works on the artefact assemblages, that the phasing of the site was more straightforward in some areas than in others. The eastern part of the site, close to the Gallowgate frontage, had seen substantial activity during Phases 1 to 3 (later 12th to 13th centuries), with the laying down of occupation deposits with clear boundaries, and a recognisable sequence of cut features (though with some difficulties in discerning where features were recut or replaced), so that the three initial phases could thus be clearly identified in this area. However, at a distance from the frontage the identification of three separate phases during the 12th and 13th centuries was more problematic and some of the deposits and features from this period cannot be confidently placed within a particular phase. In addition, the truncation of large parts of the site, whether by post-medieval frontage structures or by later construction, also rendered the understanding of the later stratigraphic sequence difficult, in particular those deposits identified in the

Table 1.1 Phases 1-6; key dating evidence

Phase 1 (mid-to-late 12th century)	
<i>Dendrochronology</i>	/
<i>Ceramics</i>	Layer A001/C001; 12th–13th century date (Aberdeen Fabric 8, Scottish White Gritty Ware, Stamford Ware, Yorkshire-type Ware, East Anglian Ware & London Sandy Ware)
	Pits A027 & A030; 12th–13th century date (Local Redware, Scottish White Gritty Ware, Stamford Ware, Yorkshire-type Ware & London Sandy Ware)
	Pits C001, C003, C004, C005, C006, C007, C008 and C009; second quarter 12th century (i.e. Scottish White Gritty Ware & London Sandy Ware)
<i>Other artefacts</i>	Pits C004 and C009; shoe components & leather working waste dating to 12th–13th centuries
Phase 2 (late 12th to mid 13th century)	
<i>Dendrochronology</i>	Gully C001 SF3602; discarded oak timber, felled <i>tpq</i> AD 1184. Gully probably out of use by mid-13th century at earliest
	Pit C025; discarded oak timbers, felled winter/spring AD 1209/10. Pit probably backfilled sometime in first half of the 13th century at the earliest
	Pit C027; two discarded oak timbers felled <i>tpq</i> AD 1133 and AD 1149. Pit probably backfilled around the turn of the 12th/13th century at the earliest
	Pit C033; SF3201 felled winter/spring AD 1200/01. SF3719 & SF3717 felled <i>tpq</i> AD 1226 and AD 1233 respectively. If discarded, it is unlikely that the pit began to be backfilled until the later 13th century at the earliest
	Pit C099; oak timber felled sometime between AD 1152–AD 1190. Pit would have been backfilled around the turn of the 12th/13th century at the earliest.
	Ph C018; <i>in situ</i> oak post felled sometime between AD 1204–AD 1240, so the structure probably erected sometime first half of 13th century
	Stakeline Stakes C002; oak stake felled c. AD 1197
	Wall C001; SF4260 felled <i>tpq</i> AD 1221. Wall was probably built around the middle of 13th century
<i>Ceramics</i>	Spreads A018 and A019; 12th or 13th century date (Local Redware)
<i>Other artefacts</i>	Layer A002; SF2391, silver halfpenny dated between AD 1205 & AD 1207
	Pit C025; leather shoe sole of mainly 13th century date
	Pit C036; SF3490, fragment of late medieval plain window glass
Phase 3 (mid-to-late 13th century)	
<i>Dendrochronology</i>	Well A002; felling dates of AD 1242, AD 1243 & AD 1246. The range of felling dates suggests either stockpiling or re-use of old timber, although there was no visible evidence of re-use
	Pit C069; SF2378 felled in the winter/spring of AD 1281/2. Pit probably backfilled around the turn of the 13th/14th century at the earliest
	Posthole C011; post probably felled sometime between AD 1262–AD 1294 so the associated structure was probably constructed in the latter half of the 13th century
<i>Ceramics</i>	/
<i>Other artefacts</i>	Pit C044 and Pit C048 (both Phase 3 or 4); leather shoe parts with forms predominantly of 13th century date
Early Phase 4 (late 13th to 14th century)	

<i>Dendrochronology</i>	Layer C075; SF4239 probably felled sometime between AD 1245–AD 1260; the layer probably accumulated in the latter half of the 13th century at the earliest
<i>Ceramics</i>	Layer A003; 14th century (Local Redware, Aberdeen Fabric 8, Scottish White Gritty Ware, Scarborough-type Ware, Stamford Ware, Yorkshire-type Ware, London Sandy Ware, Low Countries Greyware & North French-type Ware).
	Spread A027; 14th century (Local Redware, Scarborough-type Ware Fabric 1 & Low Countries Greyware).
<i>Other artefacts</i>	/
Late Phase 4 (14th to early 15th century)	
<i>Dendrochronology</i>	A single oak timber discarded in a fill of Pit C064, SF3753, was probably felled sometime between AD 1266 and AD 1302; the pit could have been backfilled as early as late 13th century
<i>Ceramics</i>	Layer C020; likely 15th century (and perhaps later) date (Local Redware, Aberdeen Fabric 8, Scarborough-type Ware, Yorkshire-type Ware, Low Countries Redware, Low Countries Greyware, Rouen-type Ware, Siegburg Stoneware & Raeren Stoneware.
	Pit A024; 14th century date (Local Redware, Scarborough-type Ware & Langerwehe-type Stoneware)
	Pit C085; 14th century (Local Redware, Scottish White Gritty Ware, Scarborough-type Ware Fabric 1, Yorkshire-type Ware, Normandy Gritty Ware & Low Countries Greyware)
<i>Other artefacts</i>	/
Early Phase 5 (15th to 16th century)	
<i>Dendrochronology</i>	/
<i>Ceramics</i>	Layer A005; 15th century or later date (Low Countries Greyware, North French-type Ware, Siegburg Stoneware, Langerwehe-type Stoneware & Raeren Stoneware)
	Layers A033, A034 & C034; 15th century or later pottery (Valencian Lustreware, Siegburg Stoneware, Langerwehe-type Stoneware & Raeren Stoneware)
	Spreads A020 & C058; 15th century or later pottery (Local Redware, Langerwehe-type Stoneware & Raeren Stoneware)
<i>Other artefacts</i>	/
Mid Phase 5 (15th to 16th century)	
<i>Dendrochronology</i>	Well A001; barrel constructed <i>tpq</i> AD 1365. Allowing for long working life the well could have been constructed at any time from the early 15th century onwards
<i>Ceramics</i>	Layer A006, Spreads C021/C022 & C149, & Pit C070; Scottish Post-Medieval Oxidised Ware
	Layer A013; 15th century or later date (Low Countries Greyware, Iberian Redware, Langerwehe-type Stoneware & Raeren Stoneware)
	Layer A025; 15th century or later (Langerwehe-type Stoneware & Raeren Stoneware)
	Layer C009/C010/C031; 15th/16th century (Saintonge Ware, Siegburg Stoneware, Langerwehe-type Stoneware & Raeren Stoneware)
	Spread A013; Raeren Stoneware
	Surface C009; Raeren Stoneware

	Well A001; 15th century or later (Langerwehe-type Stoneware & Raeren Stoneware)
<i>Other artefacts</i>	Spread A013; SF1888, copper farthing of James III
	Spread C021/C022; SF1090, fragment of 15th-early 17th century window glass
Late Phase 5 (15th/16th century to mid-to-late 18th century)	
<i>Dendrochronology</i>	/
<i>Ceramics</i>	Layer A007/A008; Scottish Post-Medieval Oxidised Ware
	Layer A010/A011; 15th century or later (Iberian Redware, Siegburg Stoneware, Langerwehe-type Stoneware, Raeren Stoneware & Frechen Stoneware)
	Layer C039; 15th century or later (Raeren Stoneware)
	Pits C028 & C101; 15th century or later (Local Redware, Raeren Stoneware & Scottish Post-Medieval Oxidised Ware)
	Pit C080; 15th century or later (Local Redware and Frechen Stoneware)
<i>Other artefacts</i>	Layer A007/A008; SF837B, James III copper farthing, 17th century clay tobacco pipe fragments including fragment of a Dutch pipe dated to between 1660 and 1680
	Layer C052; clay tobacco pipe of possible 17th century date
	Pit B001; fragment of mid-17th century Dutch clay tobacco pipe
	Pit C080; SF402, fragment of 15th to early 17th century window glass
Phase 6 (mid-to-late 18th century to 20th century)	
<i>Dendrochronology</i>	/
<i>Ceramics</i>	Layer C011; mixed pottery assemblage including porcelain
	Pit C078; modern earthenware and porcelain
	Surface C017; modern earthenware
	Well C002; Joggled Redware, modern earthenware, White Salt Glaze Ware & porcelain
<i>Other artefacts</i>	Layer C011; clay tobacco pipe fragments, predominantly of likely 19th century date
	Layer C028; fragments of 19th century clay tobacco pipe
	Pit C078; SF 2122D, copper penny AD 1806 – AD 1860. SF 2122C, bronze farthing AD 1865. SF 2118, late 18th to mid 19th century wine or cordial glass & a machine-produced spoon. Clay tobacco pipe fragments from the 17th to the 19th century
	Pit C081; SF 374B, G rim of a wine glass of possible 18th century date. SF 348, fragments of a mid-late 18th century wide-flanged glass bowl. Clay tobacco pipe fragments of 19th century date. Riveted leather sole – construction dates to the mid 19th century to the early 20th century
	Structure C012; SF 2433A, late 19th-century press-moulded boat-shaped glass salt. SF 2433B, late 19th-century press-moulded octagonal tumbler. SF 2433C, late 19th century oil lamp globe
	Well C002; fragments of 19th century clay tobacco pipe

text as belonging to Phase 4 (late 13th/14th century to early 15th century) onwards.

The surface revealed by the initial watching brief had undergone significant disturbance and truncation, and much of the site had undergone processes such as the excavation of service trenches and piling, which will have moved material through the site stratigraphy; in expansive deposits and features such as Pit C025, excavation work had to be undertaken around substantial concrete piles. There were also areas on the edge of the site that could not be fully investigated due to the danger of disturbing or undermining walls of buildings that stood to the north and south on the Gallowgate frontage. This led to the cut for Well A002 being excavated in two separate exercises; indeed, it was not identified as the construction cut for a well until a watching brief after the main excavation had ceased. Elsewhere, some cut features and the surrounding features could not be fully excavated, and their stratigraphic interpretation and place in the site chronology remains problematic. For example, Pit C085, which on excavation appeared to belong to either Phase 5 or 6 (i.e. 15th century or later) contained an assemblage of pottery including 14th century material that pointed to a Phase 4 origin. The chronology of such features remains enigmatic.

As described above the stratigraphic relationships of Phase 1 to 3 deposits and features were reasonably clearly visible, at least in the east of the site, while Phase 6 (later post-medieval) and modern deposits and features could also be reasonably defined, with Phase 6 comprising structural elements of buildings, floor surfaces and drainage features behind the Upperkirkgate and Gallowgate frontages, and stratigraphically associated features and deposits. However, the sequence of intervening Phase 4 to 5 deposits and associated features was difficult to discern, with deposits being separated by truncation by walls, service trenches and construction disturbance. Here, it was the sequence of occupation deposits and garden soils in the west of the site that was most clearly discernible. While Phases 4 and 5 have been subdivided stratigraphically, the sequence from early Phase 4 to late Phase 5 is therefore clearest in this part of the site, with deposits further east representing a patchwork of remains.

There were changes in the artefact, and in particular the pottery, assemblages which aided understanding of the chronological sequence of activity across the site and across the phases (Table 1.1), and this was of particular importance in understanding Phases 4 and 5, with spot dating of pottery leading, for example, to differentiation of deposits and features from around the 14th century to 15th/16th century. The common disturbance of deposits, e.g. by infilling of pits with

material containing earlier artefacts, and the potential for residual and intrusive artefacts, means that elements of this sequence are problematic, for example in Pit C085, with its 14th century (Phase 4) pottery assemblage appearing to lie in a later part of the site stratigraphy (see above). It is accepted that this feature and some other elements of the Phase 4 and 5 sequence cannot be confidently asserted as being accurately located in the site stratigraphy.

The absolute chronology of the excavated remains at Bon Accord has depended heavily on the recovery of a significant quantity of structural timbers which had survived within waterlogged medieval features and deposits. The dendrochronological analysis of 42 timbers from four large features, Well A001, Well A002, Pit C025 and Pit C033 suggests an intense period of building activity throughout the 13th century, which continued into the 14th century (Chapter 4.1). However, the absence of dendrochronological data beyond the late 13th century suggests that building activity in and around the site may have petered out during the 14th century. The only dendrochronological evidence for later activity was derived from Well A001, which suggests that the well was probably not constructed until the 15th century at the earliest.

Some radiocarbon dates were obtained, primarily to address issues relating to the ceramic assemblage (see below). Dates were obtained for pottery residues and leather offcuts from the same context (Appendix 1). While the residues produced some very anomalous early dates, the leather offcuts produced dates which accord with the phase dating (Appendix 1).

1.6 Structure of the monograph

this monograph is divided into a number of sections, leading to a summary of the significance of the excavation within the context of medieval and post-medieval Aberdeen.

Following this introduction, the excavated evidence will be presented in Chapter 2 by phase, identifying significant elements in the site stratigraphy. Deposits and features have been labelled with single letter prefixes (A, B, C and D) to indicate the separate areas in which they were located. For example, Layer A001 and Pit A001 were to be found in Area A, while Layer C001 and Pit C001 were in Area C. On occasion, a deposit or feature crossed more than one excavation area; where this is relevant it is noted in the text.

In Chapter 3 the artefactual and ecofactual evidence is presented by phase and feature. The contents of the key features and deposits, as well as those with significant assemblages, are summarised so that the full range of evidence deriving from each feature and deposit can be

appreciated. This has facilitated the interpretation of the features and deposits and has helped to elucidate the various and changing activities undertaken on the site. However, only evidence derived from the medieval and early post-medieval Phases 1 to 5 is included. The artefactual and ecofactual evidence for Phase 6 (mid-to-late 18th to 20th century) is not included within this volume, for want of space, unless they are of particular interest or are relict and belong to one of the previous phases. Full cataloguing and reporting of the Phase 6 evidence can be found in the site archive.

Chapter 4 consists of assemblage-based presentations of each artefact and ecofact type, with more detailed descriptions of the data where necessary and discussion of the evidence in terms of regional/national significance, contribution to field of study, etc. Full copies of the specialist reports, including methodologies, can be found in the site archive.

The monograph concludes with a discussion of the site in its immediate context (Chapter 5) which will refer to the historical setting of the site and discuss the significance of the excavation for the understanding of medieval and post-medieval Aberdeen.

Finally, Chapter 6 examines the contribution of the Bon Accord excavation to both regional and European studies of urban medieval economies.

1.7 The ceramic assemblage

the ceramic assemblage from Bon Accord is the largest such assemblage ever retrieved from an urban excavation in Scotland, amounting to some

20,000 sherds. The assemblage was fully recorded by George Haggarty and Derek Hall, and chemical and petrographic analyses were undertaken to study source area (Jones, R 2012). A programme of radiocarbon dating, of residues on the pottery and associated organic finds, was undertaken to address questions of early local ceramic manufacture and longevity of use (Appendix 1). Fourier-transform infrared spectroscopy (FTIR) analysis was also undertaken on residues in one Redware vessel (Jones, J 2012).

Unfortunately, a comprehensive overview of the ceramic assemblage, which would have drawn together these strands of evidence, was not completed, and it has therefore not been possible to fully integrate the ceramic evidence into the narrative of the site. The primary record consists of a spreadsheet in which the fabric types have been tabulated by context and form (i.e. bowl, mug, jug etc.), and the number of sherds present in each context are recorded. As described above, the ceramic assemblage has been vital in understanding the sequence of activity across the site, in particular during Phases 4 and 5. The key chronologically diagnostic fabrics, drawn from this spreadsheet, are referred to throughout the text and key assemblages are listed in Table 1.1. Illustrations of a representative sample of the ceramics were also prepared and these are presented in Appendix 5 so that the great range of fabrics and forms found on the site can be appreciated.

The primary record, the fabric/context spreadsheet, is too unwieldy for publication but it is available in the site archive, along with the unpublished analytical reports and other documentation, for future researchers to interrogate.