

# Excavations at 46–54 The Close, Newcastle upon Tyne

A. C. Platell, from a draft by J. L. Mole

with contributions by C. G. Cumberpatch, A. Gutierrez, T. S. Martin,  
Q. Mould, H. Wilmott and C. O'Brien

## SUMMARY

*Archaeological investigations were conducted at 46–54 The Close, Newcastle prior to reconstruction of the site. Residual Roman materials were recovered. Evidence was found to suggest that the site had been levelled by being terraced into the natural slope; for part of the site at least, this terracing has been radiocarbon dated to before AD 1030. Tanning was present at around AD 1200 and evidence was found for phases of both medieval and post-medieval construction on the site.*

## INTRODUCTION

**D**URING 2003 AND 2004 A SERIES OF ARCHAEOLOGICAL INVESTIGATIONS was conducted at 46–54 The Close, Newcastle upon Tyne (NGR: NZ 2499 6347), on behalf of Monaghans (fig. 1). The work was in advance of the construction of a multi-storey development incorporating flats, a restaurant and car parking. The site, immediately to the west of The Cooperage public house, was formerly occupied by the building of the Tyne Television Company. It lay at the foot of a very steep slope known as 'The Heugh', approximately 85 m north of the current bank of the River Tyne. Following a site evaluation, six trenches were opened in February and in June–July 2004 by Archaeological Services Durham University. These were followed, during construction work, by a programme of archaeological monitoring and recording. All the excavations were limited in scope as the new development was to have shallow foundations that would only partly disturb archaeological deposits. Weather conditions were generally poor, with much of the site being constantly waterlogged. In addition, significant personnel involved in the excavation have since left the employment of Archaeological Services. This report has been prepared for publication from an earlier draft prepared by the site supervisor. The current author was not directly involved in the excavations.

## HISTORICAL AND ARCHAEOLOGICAL BACKGROUND

The civil settlement outside the Roman fort was located around Hanover Street and Clavering Place, about 50 m to the north west of the site and on top of the Heugh. It is probable that the riverside was exploited at this time, and the Roman bridge is thought to have been in the vicinity of the current Swing Bridge; however the only evidence for Roman riverside activity found so far has been a deposit containing Roman materials identified during excavations at the Castle Stairs, Sandhill (Passmore *et al.* 1991). With this exception, the earliest evidence for activity on the Quayside comes from a pottery kiln excavated at Dog Bank towards the eastern end. Archaeomagnetic dating suggested that the kiln was in use in the second half of the twelfth century (O'Brien *et al.* 1988, 31).



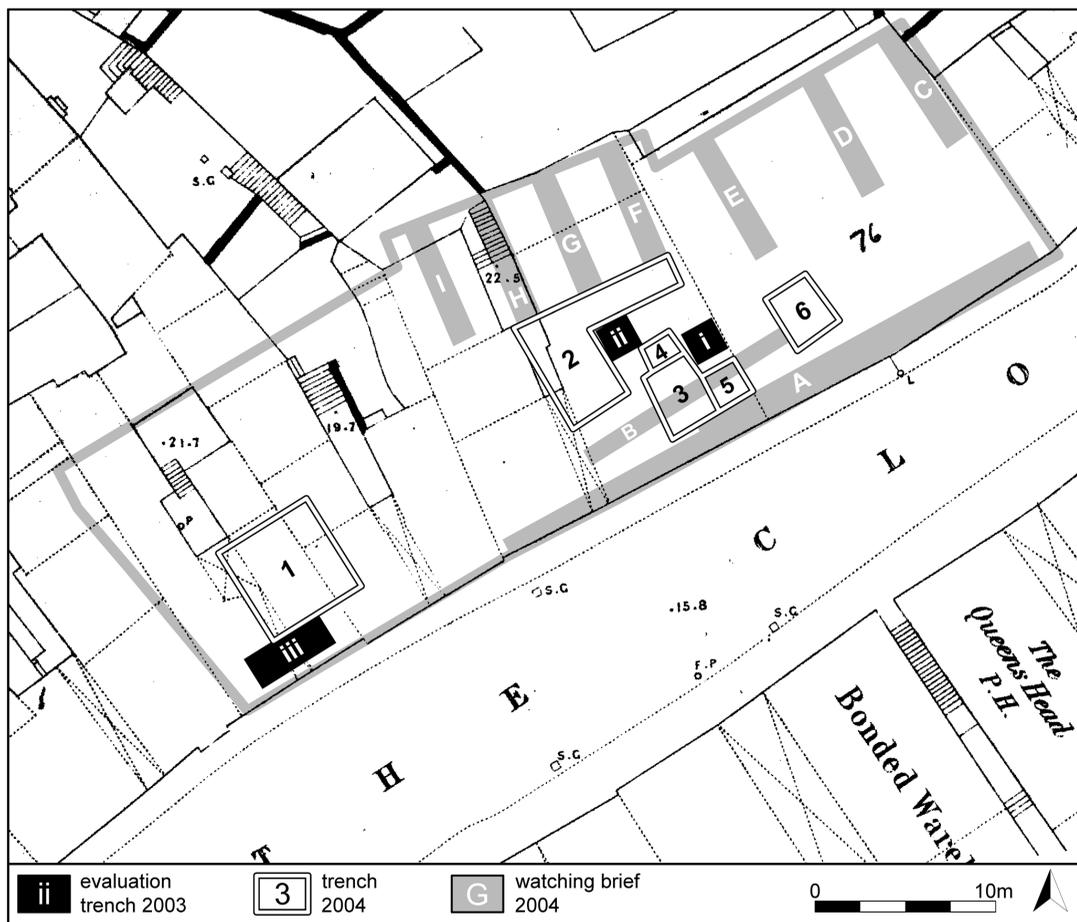


Fig. 2 Location of trenches superimposed on OS town plan of 1862.

The Close itself is one of the oldest streets in Newcastle. Early references date from the period 1260–90, when the street was referred to as the King's Road or High Road. In 1291 the road is called *Le Clos* for the first time (Fraser *et al.* 1994, 87). The properties under 46–54 The Close appear to have included those numbered as 71–72 on Oliver's 1831 reference to his plan of 1830. These paid an annual rent to the Virgin Mary Hospital (Oliver 1831, 2 and n.). Deeds relating to various properties held by the Virgin Mary Hospital on The Close survive from the early thirteenth century onwards (Oliver 1924, 11–29).

The 1862 first edition Ordnance Survey 1:500 town plan shows a number of long narrow buildings running back from the road frontage. Trench 1, towards the west end of the site, appears to overlie two of these building plots; trenches 2–5 all lie within a larger plot and trench 6 lies within the largest of all, at the eastern end of the site (figs. 2 and 3). The building that stood on this plot has been identified on the town plan of 1896 as a granary.

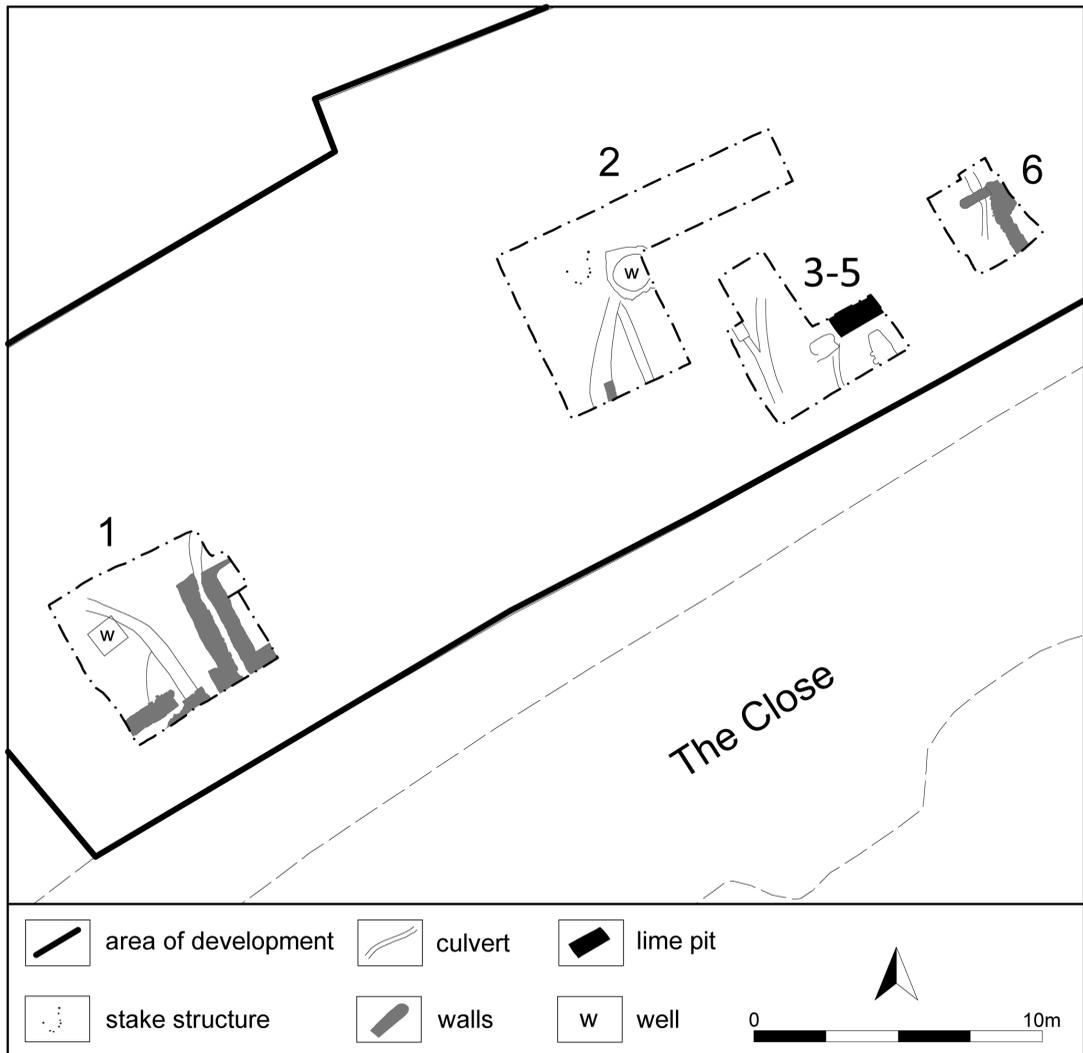


Fig. 3 Location of main features.

### THE EXCAVATION

Three evaluation trenches (i to iii) were excavated by Brigantia Archaeological Practice in 2003 (Turnbull 2003). Trench ii was entirely filled by a large pit or soakaway that was not fully excavated due to waterlogging. The other two trenches were excavated down to a layer of yellow-brown clay that was interpreted as natural glacial till. With hindsight this may have been part of a thick deposit of post-medieval clay that covered much of the 2004 excavation. An undated gully and a culvert, together with modern intrusions, cut this deposit.

Following on from this evaluation, in 2004 six trenches were excavated by Archaeological Services Durham University (Archaeological Services 2005). Trench 1 was excavated several months earlier than the remaining trenches and, throughout, has been treated as a separate site from the later archaeological monitoring. The results from all three interventions are presented below; where the text might otherwise be ambiguous as to which site is being referred to, context numbers in each trench (identifiable on the plans) are given.

#### TRENCH 1 (fig. 4)

Trench 1 measured 6 m by 6 m; it was at the western end of the development area and divided in two by a modern brick wall [2].

##### *Phase 1: Terracing of slope*

Natural glacial till [43] was identified at a depth of 0.8 m at the northern end of the trench, sloping to a depth of 1 m at its southern end. This was a yellow sand with occasional patches of stiff brown clay. Above was a layer of laminated sand and silt [42] containing traces of organic material, interpreted as an alluvial deposit. This material had at some time been reduced to a slightly uneven level and all demonstrably archaeological deposits overlay it.

##### *Phase 2:*

In the northeast corner of the trench, a clay deposit [61] up to 0.2 m thick filled a slight cut into the alluvial material. Stones set into it may have formed a rough cobble surface. A line of four sandstone blocks [56] was set into the clay to the south of this on an east-west alignment. These may have formed the base for a timber wall. The westernmost block was overlain by a north-south wall [6] which extended south from here. This was three courses high, 4 m long by 0.5 m wide; the space between the faces of the clay-bonded undressed sandstone blocks were filled with rubble. Although this wall was later than the four sandstone blocks [56], it ended directly over one of them and is therefore likely to have been almost contemporary and constructed at a time when feature [56] was still in use. At the southern end of the trench a similar east-west wall [41] was partially exposed and may have been a southern return to the main wall. The area enclosed by these three walls contained a burnt deposit [59], partly overlain with white mortar [60]; this is interpreted as part of a floor surface. Buff/white ware pottery of the early thirteenth to mid fourteenth centuries was recovered from the burnt deposit, including a hand-made sherd that was early in the production of pottery of this fabric type (see below). A couple more sherds of similar hand-made pottery were recovered from this trench, although all were residual in later contexts. Parallel with wall [6] was another wall [7] of very similar construction, which ended at the same point. A stone culvert [62] ran between these two walls; wall [7] formed its western side, although it was built against wall [6] to the east, showing that the culvert was later than that wall. The culvert curved to the east immediately beyond the northern terminus of the two walls, demonstrating that this was a true terminal rather than a chance product of survival. The fill of the culvert contained a sherd of reduced greenware of fourteenth to fifteenth century date. At the southwest end of the trench the alluvium was overlain by a thin deposit of charcoal and grit containing a sherd of buff/white ware pottery dating from the early thirteenth to mid fourteenth century. A cobble



Fig. 4 Plan of Trench 1.

and slab surface [44] was set into this deposit, and this was overlain by a clay silt approximately 0.1m deep which contained several sherds of similar pottery. (A sherd of purple glazed ware of fifteenth-sixteenth century date was also recovered; this is thought to have been intrusive.). At the north-western end of the trench the alluvium was overlain by a dark sandy clay and stone surface [70], which was probably a continuation of surface [44] to the south.

### *Phase 3: stone-lined culverts*

The clay silt was cut by a culvert [36] constructed from irregular sandstone slabs. After this had collapsed, a stiff clay had been deposited over the top of it with small sandstone

fragments blocking up gaps. This was cut by a second culvert [32] which ran through the trench on a north-south alignment. The culvert appeared to continue (as culvert [49]), beyond a later intrusion towards the north edge of the excavation. Culvert [32] ran under an east-west stone wall [29] at its southern end. One course of stone survived of this wall in a shallow foundation cut [F31]. It was succeeded by a parallel wall [26] in a larger foundation cut [F27]. To the east of the modern brick wall [2] these walls (here recorded as a single undifferentiated one [10]) abutted wall [7]. A sherd of purple glazed ware (sixteenth to seventeenth century) was recovered from the construction cut. In the north-western corner of the trench, culvert [49] was truncated by a shallow pit [F46]. The edges of this pit were truncated by later intrusions so only the base survived. It was filled with a silty clay [45] containing fifteenth to sixteenth century pottery. Overlying all the walls on the east side of the trench was 0.3m of yellow clay [25]. This deposit is possibly the same as that found in Trench 3–5 [Context 32 in that trench], where it separates Phase 3 from Phase 4 features.

#### *Phase 4: Late post-medieval*

In the northwest corner of the trench the construction of a square tapered well [17], its faces built of sandstone blocks, had disturbed culvert [32] and cut surface [44] and pit [46]. The internal dimensions of the well were 1 m by 1 m, with a depth of at least 2 m, although excavation was ended at a depth of 1.2 m as the well became waterlogged. The well was at the north-east side of a circular construction cut [F18], 2.4 m in diameter, backfilled with firm clay [19]. The well contained a lower fill of waterlogged sandy silt at least 0.7 m thick, overlain by mixed clay and rubble. No finds were recovered from this deposit.

#### *Phase 5: Modern*

The well, culverts and walls in the western half of the trench were overlain by a rough surface of large angular sandstone blocks patched in places with edge-set bricks. This was cut by the foundation trench [F3] and footing [4] for the brick wall [2]. Where this overlay the east-west wall [10], a lower course of dressed sandstone blocks bonded with white mortar [22] was present in its foundations. Overlying the entire eastern side of Trench 1 was a mixed deposit of clay, silt and rubble, containing modern ceramics and brick, laid as levelling for a concrete slab which covered the entire trench.

#### TRENCH 2 (fig. 5)

This L-shaped Trench lay some 13 m to the east of Trench 1 and measured 10.5 m by 2 m from east to west and 6 m by 4.5 m from north to south. The eastern arm of the trench exposed only natural glacial clay and is omitted from fig. 5.

#### *Phase 1: Terracing*

Natural glacial clay [2] was identified at around 0.3 m below ground level and was at a fairly constant level throughout the trench. Since the natural ground surface slopes steeply downwards from the Heugh to the river, this implies that this part of the site has been terraced into the slope.

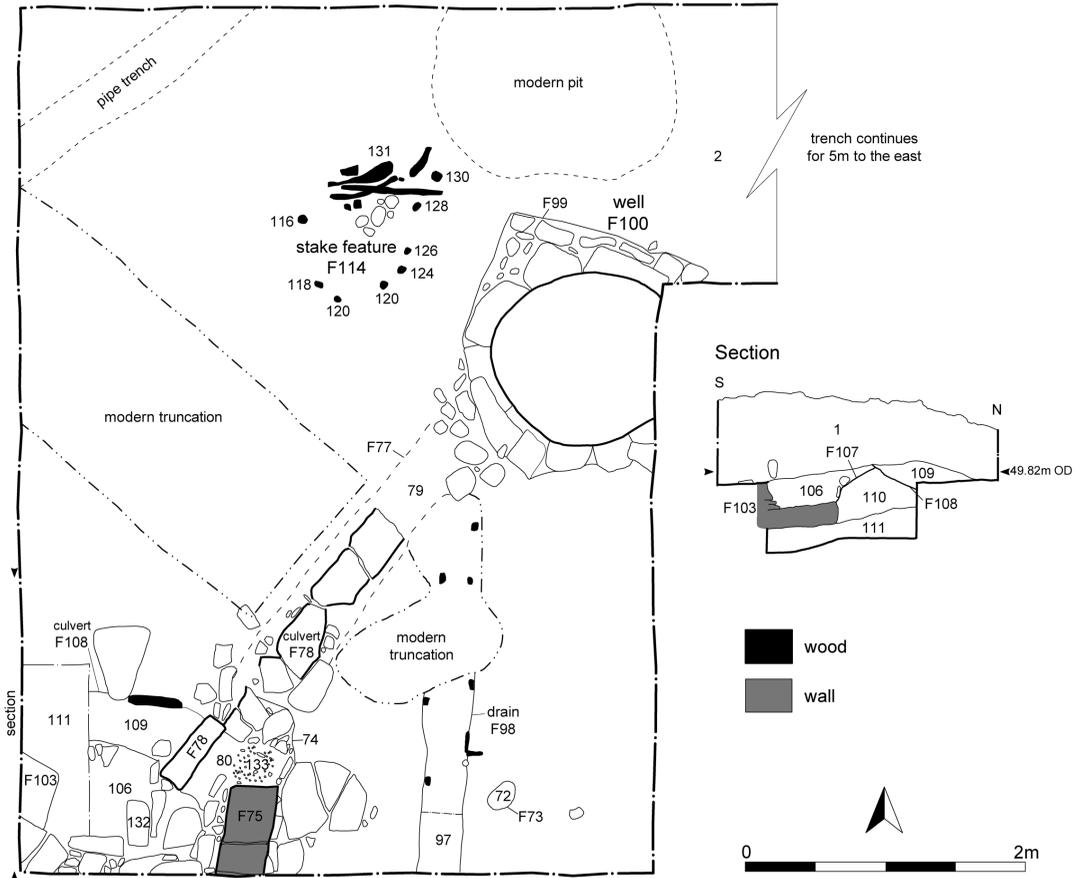


Fig. 5 Plan of Trench 2, and the section (bottom left).

A 'U'-shaped arrangement of timber stakes [F114] had been driven into this natural clay in the north of the trench. This arrangement was around 1 m across, and was open to the north (i.e. away from the river); its eastern side extended 0.4 m further inland than the western. Eight stakes [116, 118, 120, 122, 124, 126, 128 and 130] were present; all were circular and unworked, except for [116] which was halved and roughly dressed. Fragments of wickerwork were wound round the stakes on the eastern side of the structure. These proved too fragile to recover. An irregular deposit of mixed clay, silt and timber fragments [131] — thought to post-date the feature — was inside it. Three stakes were removed (fig. 6), two of which, [116] and [124], proved to be oak. The other [130], either alder or hazel, had bark still attached and produced a calibrated AMS radiocarbon date of between Cal AD 910 to 920 or Cal AD 960 to 1030 at the 95% confidence level (Beta-205871). Two circular arrangements of stakes of similar dimensions were identified during the later monitoring of a foundation-pile trench around 10 m to the south-east (see below). These two stake arrangements are undated so it is not known if they are related. The structure excavated has been tentatively interpreted as the base of a heavily truncated wattle-lined pit.

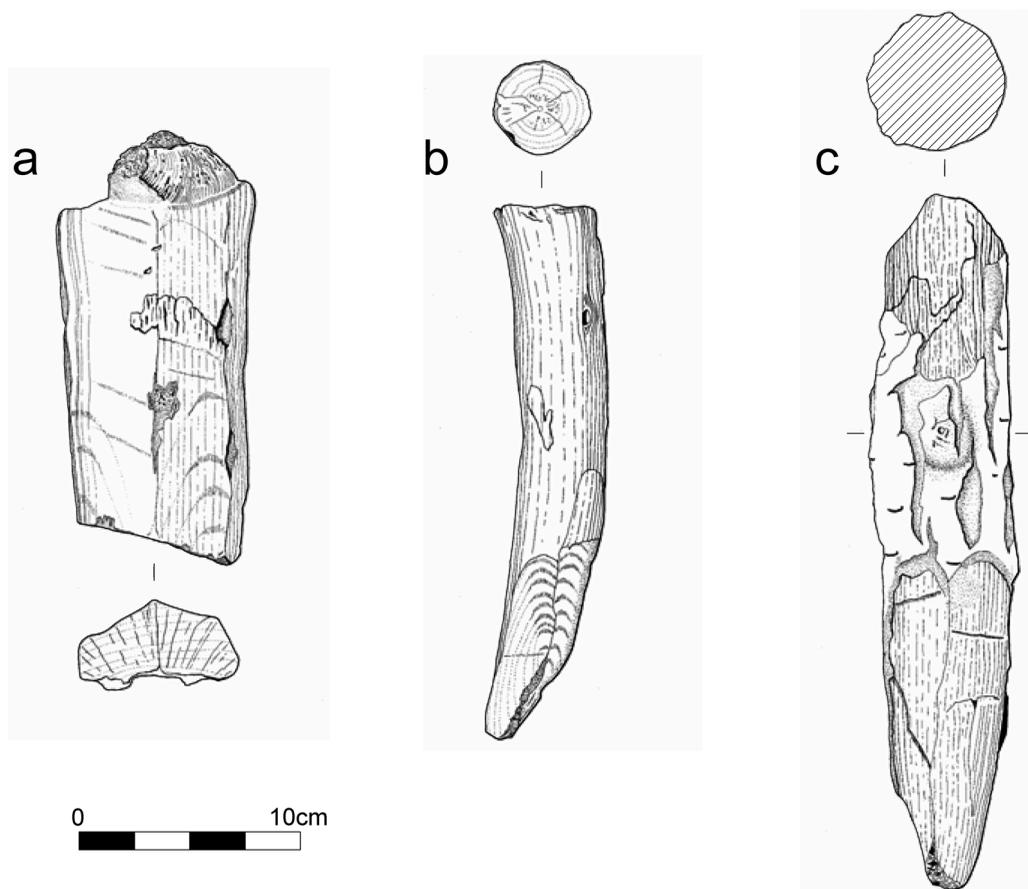


Fig. 6 Stakes, a [116], b [124] and c [130] from the wattle-lined pit.

#### *Phase 2: Timber-lined drains*

A timber-lined drain [F98] was found in the south of the trench. Aligned north-south, it was truncated by later intrusions at its northern end, but ran for at least 2.7 m. It was 0.38 m wide by 0.2 m deep, becoming shallower towards the north; it had almost vertical sides and a flat base, and was lined with planks set on edge and secured by nine stakes. The fill [97] had a high organic content and contained two fragments of Roman tegula and a sherd of Roman pottery. However, these were residual; a wood sample from the drain produced a calibrated AMS radiocarbon date of between Cal AD 1056 to 1076 or Cal AD 1154 to 1258 at the 95% confidence level (UB-6837), with the greater probability lying in the second range. Immediately to the east was a post-hole [F73] containing a sherd from a Roman mortarium but no other finds. The presence of residual Roman material in the drain immediately to the west makes any date for the posthole based on this single sherd unreliable.

In the south-western corner of the trench a stiff grey clay [111], rich in organic matter, overlies the natural clay. It contained a sherd of Roman colour-coated ware that had been fashioned into a counter. The corner of a wall [F103] of two courses of roughly-laid stone had been

built on top of this grey clay and a yellow-brown clay with sand lenses [110] had built up against the wall. This clay was truncated by a culvert [F108], aligned east-west, which was 0.7m wide by 0.21 m deep. Fragments of a timber, set on edge, were found along its northern edge, suggesting a relationship with the wood-lined drain [F98]. Wall [F103] was cut by a robber trench [F107] filled with a mixed deposit of sandy clay and silt [106] containing thirteenth- to fourteenth-century pottery; the culvert [F108] is recorded as truncating the fill of this robber trench. If this is true, it which would stretch any relationship between the two culverts to the limits of the radiocarbon date range. However, the section that was recorded (fig. 5) shows these two features coming almost to a point so the relationship between the robber trench and the culvert is questionable.

#### *Phase 3: Stone-lined culverts*

A stone-lined culvert [F78] cut both of the wood-lined culverts. It ran for 3.5m on a northeast-southwest line and was 0.32m wide by 0.41 m deep. The culvert had a fill [80] containing sherds of fourteenth- to fifteenth-century pottery and was partly covered by a spread of tightly-packed sandstone fragments [132]. At the southern end of the trench, this culvert [F78] was cut by a wall [F75], the clay-bonded rubble foundation of which carried one course of unbonded, finely dressed stonework, including architectural fragments re-used from a substantial building.

#### *Phase 4: Late post-medieval*

The north end of culvert [F78] was truncated by a circular well [F99] faced with dressed sandstone blocks [F100]; its fill [101] produced sherds of late nineteenth-century bottle glass and a wooden bucket.

### TRENCHES 3, 4 AND 5

Trenches 3, 4 and 5 adjoined each other and were located 1.5m -east of Trench 2. They are treated as a single trench in this report.

#### *Phase 1: Terracing*

Glacial clay was found at 0.18m below ground level at the northern end of the trench and at 0.37 m towards the south. Again, this almost level surface indicates levelling of the area.

#### *Phase 2 (fig. 7): Tanning pits*

A vertical-sided and flat-bottomed pit [F71] was cut into the natural in the south-eastern corner of the trench; it was 0.45 m deep and extended beyond the limits of the excavation to the north, east and south. On the base of this pit was a white lime-rich deposit that contained much organic matter [70]. Preservation within this layer was exceptional; two thirteenth-century leather randed turnshoes with plaited grass insoles were recovered from it (see below). The pit had been periodically cleaned out [F62] leaving a rising lip of lime-rich material around its edges. The pit was then filled with deposits [69, 65, 60, 59 and 58]

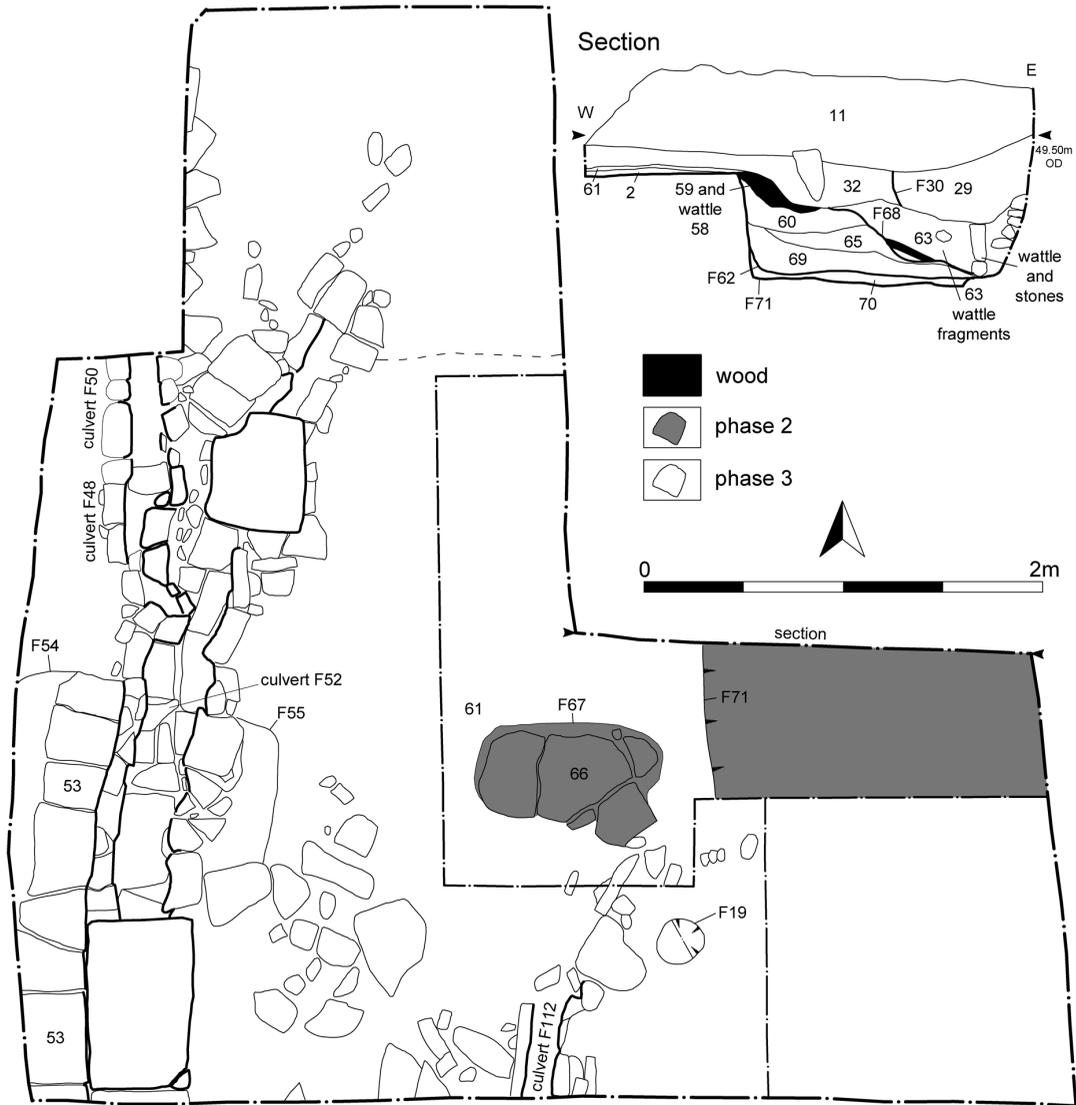


Fig. 7 Phase 2 and 3 features in Trenches 3-5.

respectively. These were all interpreted as dump deposits, of varying depths and colour, which were rich in organic material such as hazelnut shell and bone.

These deposits had been truncated by a later, more irregular pit [F68], 0.25 m deep by more than 0.95 m wide, lined with wattle. This wattle proved too fragile to lift. More wattle was present around a deposit of large tightly packed stones. Wood collected from here provided a calibrated AMS radiocarbon date of Cal AD 1030 to 1230 (Beta-205870) at the 95% confidence level. Since wattle is unlikely to be reused from earlier structures and therefore will not be 'old wood', the leather shoes from the stratigraphically earlier pit were of thirteenth-century

date, and pot sherds dating from the thirteenth to early fourteenth centuries were found in both pit fills, a date of construction towards the end of this radiocarbon range is the only plausible option. A number of sherds of reduced greenware of fourteenth- to fifteenth-century date were recorded as being in contexts [59] and [60], at the top of the fills of the earlier pit. This date contradicts that of the radiocarbon sample and of the remaining artefacts in the two pits. Since they were recorded in the upper fills of the pit, the most plausible explanation is that they were intrusive in a later cut that was not recognised by the excavator.

In the centre of the trench a possible post-pad [F67], made up of four large flat stone slabs [66], was cut into the natural subsoil. Around these was a dark brown sandy-silt containing a sherd of early thirteenth- to mid fourteenth-century pottery. This feature and the whole of the trench, apart from a narrow strip at the northern end, were covered by a friable red and black deposit [61] made up of burnt sand and charcoal between 20 and 60mm thick. Charred oat and wheat grains were common in this distinctive deposit (see environmental report, below). which conveniently divided the Phase 2 from the Phase 3 features in this trench.

#### *Phase 3 (fig. 7): Stone-lined culverts*

Cut into the burnt sand close to the southern side of the trench was a small posthole [F19] and a short section of stone culvert [F112], both heavily truncated. The fills of these features produced no finds. On the western side of the excavated area there were two culverts, aligned north-south, the longest of which [F52] curved slightly to the east; it was 4.48m long, and was covered with stone flags [53]. The construction cut [F54/F55] was noticeably wider than the culvert itself. A smaller culvert [F48] drained into it. The fills of these culverts appeared identical and they contained pottery dating up to the fifteenth century.

#### *Phase 4 (fig. 8): Late post-medieval*

Covering the entire trench was a thick, mid yellow-brown clay [32] containing a sherd of sixteenth- or seventeenth-century pottery. Cut through this, and built over the top of culvert [F48] were the remains of a brick-sided culvert [50]. Only a short section survived; its fill was indistinguishable from the surrounding clay. A sub-rectangular pit [F17] was found in the south-eastern corner of the trench. It was 0.57m wide and 0.28m deep, with almost vertical sides and a flat even base. At its northern end was a large posthole [F16], 0.42m in diameter, packed with large stones. On the western edge of the pit were two smaller postholes [F24] and [F26]. This large well-supported post may be the remains of a large industrial mechanism such as a crane.

#### *Phase 5 (fig. 8): Modern*

At the eastern edge of the trench were two pits [F27 and F30] both of which contained modern building materials. Two pits in the northern end of the trench [F22 and F10] also contained fills with modern inclusions.

#### TRENCH 6 (fig. 9)

Trench 6 lay 3m to the east of Trench 3–5. It was excavated to a depth of 0.6m, and covered a surface area of 7.5sqm.

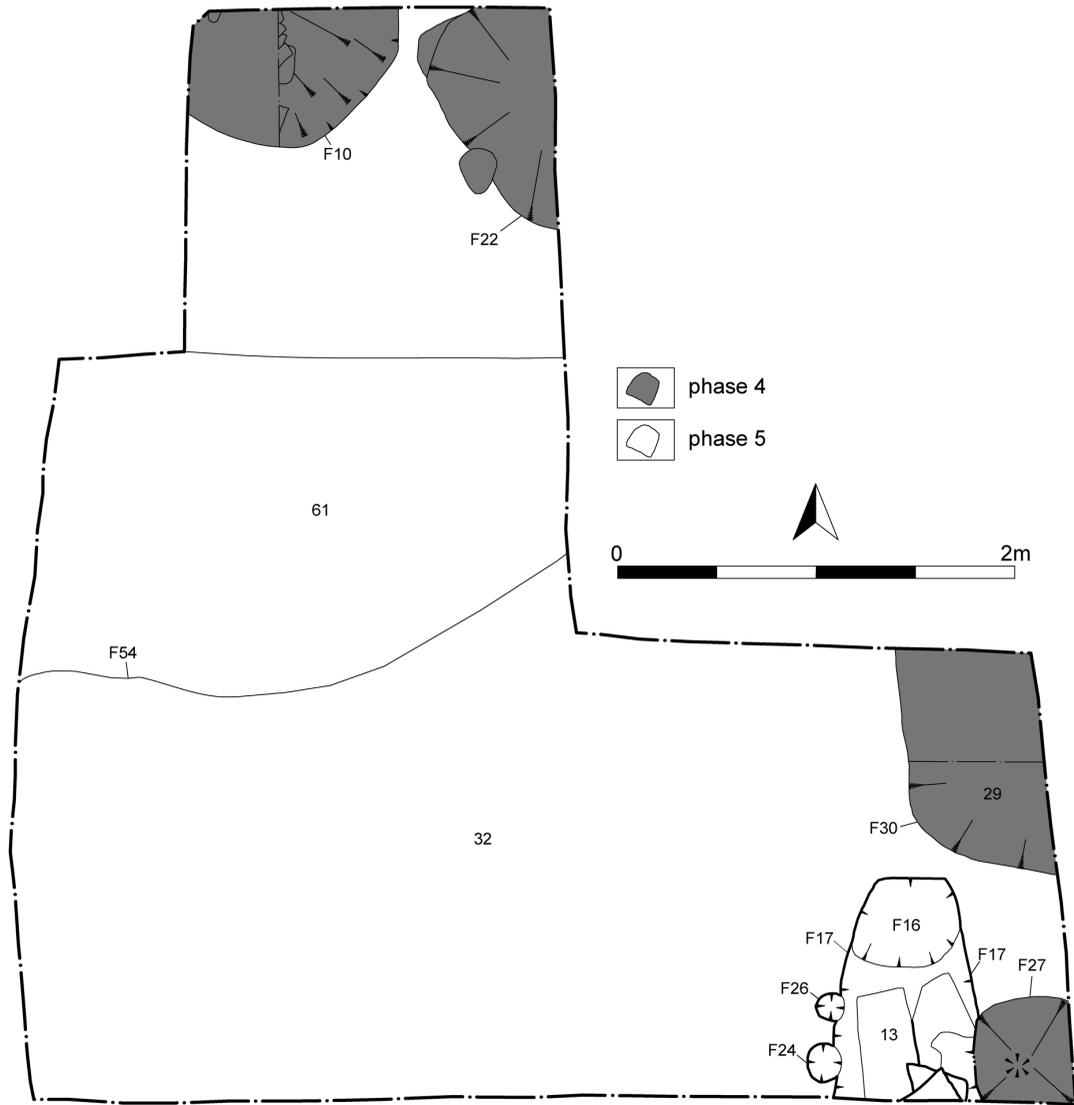


Fig. 8 Phase 4 and 5 features in Trenches 3-5.

*Phase 3: Stone-lined culvert and wall*

A sterile orange brown clay [37] was present at the maximum depth of excavation. This differed from the subsoil encountered in the other trenches and is not thought to have been a natural deposit. It was cut by the construction trench [F41] for a stone culvert [F42]. This ran from north to south but curved westwards. It was 0.37m deep and contained fourteenth- to fifteenth-century pottery, indicating a later date here than that found for the earliest features in all the other trenches. The channel was partly filled with broken cap-stones. Towards the south, the culvert was cut by the construction trench [F40] for a wall [F39]. This ran north-

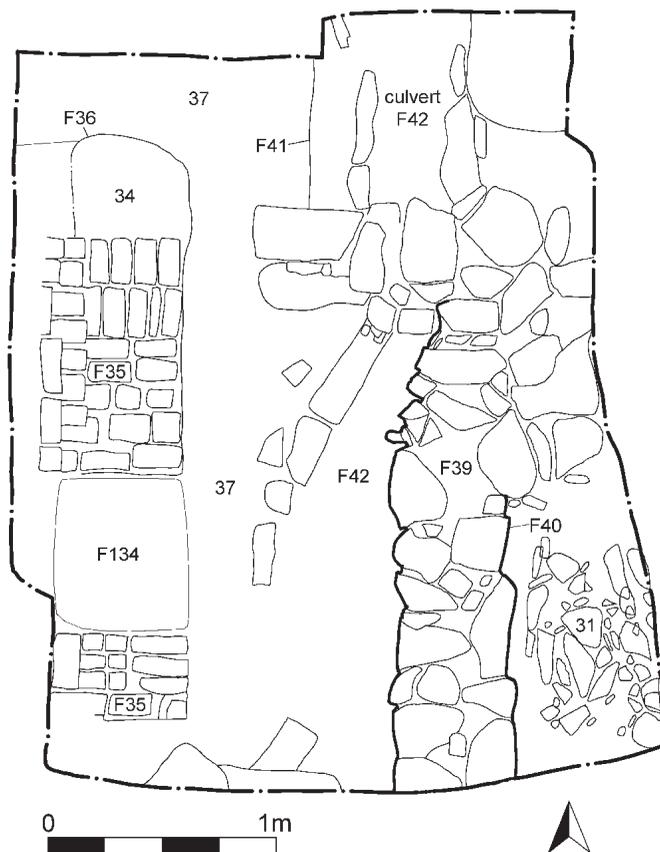


Fig. 9 Plan of Trench 6.

south with a return to the west at its northern end (and possibly also to the east, although this extended beyond the limits of excavation and could not be properly investigated). The wall was 0.52 m wide and 0.3 m high, and was constructed from two courses of roughly-dressed sandstone blocks, bonded with a lime mortar. A cobbled surface [F31] was found to its east, overlying the foundation-trench for the wall.

*Phase 4: Late post-medieval*

In the western part of the trench there were two substantial brick foundations [F35] separated by a large stone slab [F134]. It is probable that these structures were part of the foundations for the building that stood here prior to demolition; last used as the Tyne Tees Television studios, it was identified on the Ordnance Survey town plan of 1896 as a granary.

*Phase 5: Modern*

Overlying the entire trench was a deposit of modern building rubble and then a concrete surface [F1].

## ARCHAEOLOGICAL MONITORING IN 2004

Archaeological monitoring was carried out during the excavation of nine foundation trenches (fig. 2, A–I) for the new development. The only significant findings came from Trench A. Here, two settings of timber stakes were present in the centre of the trench, close to the southern edge of Trench 3–5. Both were about 1 m to 1.5 m in diameter and consisted of stakes around 30–50 mm in diameter. These dimensions are similar to those for the stake feature in Trench 2. They are undated although a sherd of early thirteenth- to mid fourteenth-century pottery was recovered from silt in the centre of one of them. In addition, a row of four large timbers was driven vertically into the natural clay in the southern portion of Trench A. These were made of adze-squared oak and spaced between 1 m and 3 m apart. They were in good condition, and measured up to 0.35 m by 0.5 m, and up to 0.7 m long; photographs show one extending into this modern demolition rubble. They were interpreted as part of a timber framework for the previous building on the site. A number of other post-medieval and modern features were also recorded; see the archive report (Archaeological Services 2005a).

## THE FINDS

## ROMAN POTTERY

*T. S. Martin*

Five sherds of Roman pottery were recovered. They came from four contexts and have a late first- to late third-century date range. The assemblage is unusual in that no standard grey wares are present. The only piece of note is a base of a Nene Valley colour-coat beaker which appears to have been fashioned into a counter.

## MEDIEVAL POTTERY

*C. G. Cumberpatch*

*Type series*

There has been a considerable amount of work on pottery from Newcastle and from the waterfront area in particular and the main outlines of the pottery sequence have been published in a number of reports (e.g. Ellison 1981, O'Brien *et al.* 1988, Fraser *et al.* 1995, Vaughan 1994). This obviates the need for a complete type series here and every effort has been made to link the wares described with the published type series. The following notes are intended to clarify the issues arising from the material from the site rather than to repeat information that has already been placed in the public domain. A small number of additional types — unrecognised or unidentified — were recorded. The majority of these have been given generic names. Amongst those that are worthy of individual note are the following.

Four sherds of gritty ware were identified in Trench 3, context [45]. These were unusual in being hand-made and it is possible that they are of early post-Conquest date. The sherds were characterised by their dull orange to dark buff-grey colour (which varied across individual sherds) and their coarse texture. The range of inclusions included moderate to abundant rounded to sub-rounded quartz grit (0.5 mm–1.00 mm, occasionally larger) and non-crystalline inclusions of a similar size, although not as common. The impression gained from published assemblages is that earlier medieval material is rare in Newcastle and this may be an issue

that requires further work. Other hand-made sherds were noted in Trench 1, contexts [52] and [59] and in context [63]. All of these were in the familiar buff/white ware fabrics and probably represent an earlier phase of production using similar clays to those exploited in the thirteenth and fourteenth centuries. A number of contexts produced sherds of water-worn pottery [41, 45, 51 and 97]. These come from drains and culverts and the condition of the pottery suggests that these had been highly active as water-courses. It is probable that the pottery was derived from locations upstream of the positions in which they were found.

#### *Trench 1*

The pottery assemblage from Trench 1 consisted of 290 sherds of pottery weighing 5388 grams and represented a maximum of 260 vessels. Context [9] was of recent date and included eighteenth- and nineteenth-century pottery together with fragments of a clay tobacco pipe and a slate pencil. Medieval pottery from this context should be regarded as residual, the result of the disturbance of earlier deposits during the eighteenth or, more probably, the early nineteenth century. Context [71] produced only one sherd, part of the base of a tin glazed earthenware vessel of later seventeenth- or eighteenth-century date (fig. 10a). It is of Anglo-Dutch type, but no direct parallel for the distinctive decoration has been identified.

Although the bulk of the pottery was of thirteenth- to early fourteenth-century date (buff/white wares and reduced green wares 1–3), a number of contexts also included material of fourteenth- to fifteenth- or, in some cases, sixteenth-century date. On the basis of the pottery data a series of phases can be proposed, although it should be noted that some contexts produced very little pottery and issues of residuality and intrusivity may need to be considered when relating these proposed phases to the stratigraphic sequence. The earliest group of contexts, which contained exclusively buff/white wares and reduced green wares of types 1 to 3 were numbers [11, 25, 33, 48, 59, 63 and 72]. The pottery from these contexts dates to the earlier thirteenth to the mid fourteenth century.

A second phase can be defined which includes reduced green wares of type 4 and above and might be dated to the fourteenth to early/mid fifteenth century. This group consists of contexts [8, 20, 24 and possibly 13] although the latter included only a single sherd of later pottery and, if this is judged to be intrusive, then context [13] should perhaps be considered as part of the earlier phase. The third ceramic phase consists of contexts [16, 21, 28, 40, 45 and 52]. The pottery included purple glazed wares and examples of later reduced green ware types and can be most plausibly dated to the fifteenth and early sixteenth centuries. A number of sherds from European vessels were found in Trench 1, including Low Countries grey and red ware from contexts [9 and 45], respectively.

#### *Trenches 2–6 and the watching brief*

The pottery assemblage from Trenches 2–6 consisted of 161 sherds of pottery weighing 2461 grams and represented a maximum of 147 vessels. In terms of phasing it should be noted that quantities of pottery from individual contexts were considerably smaller than in Trench 1 and the degree of reliability should not be over-estimated.

Two contexts in Trench 2 produced pottery. Context [106] appears to date to the early thirteenth to mid fourteenth century while context 80 is somewhat later, probably the fourteenth to fifteenth century. Context [80] produced only three sherds of pottery, one of

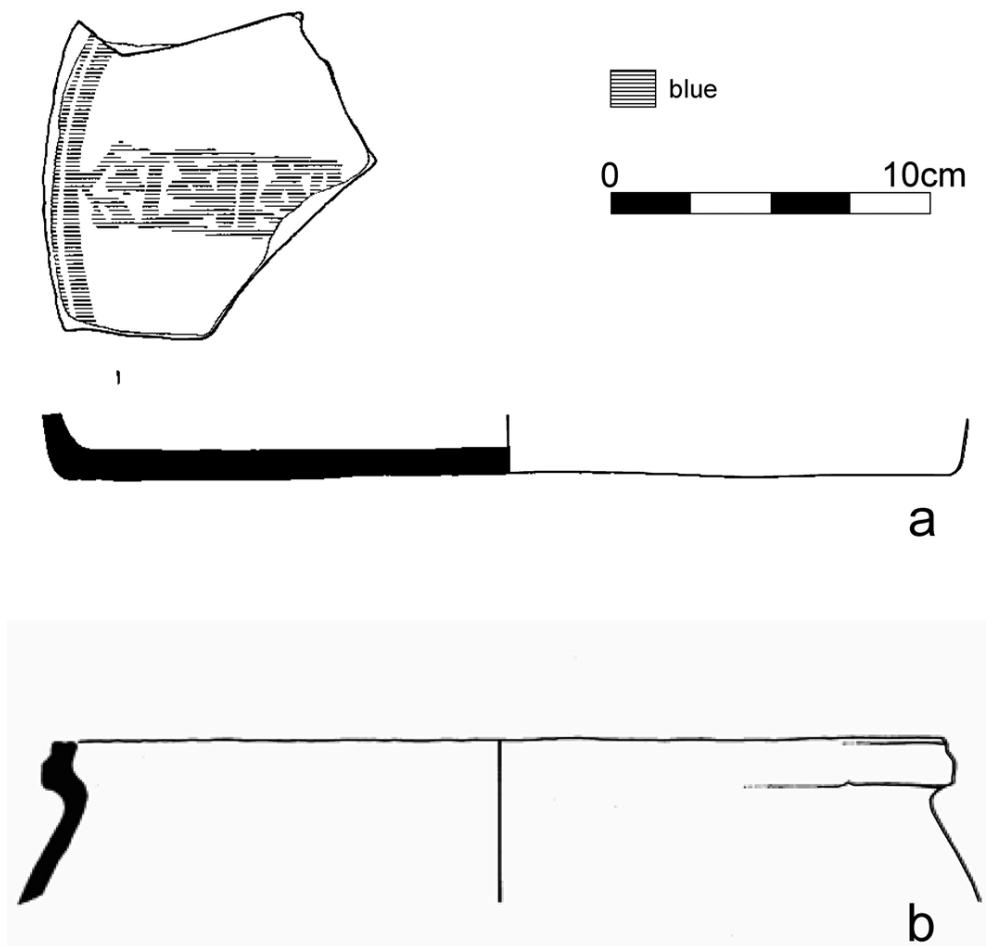


Fig. 10 a: a sherd of tin-glazed ware, of later seventeenth- or eighteenth-century date, from Trench 1; b: the rim of a jar in local buff/white ware from Trench 5.

them a piece of German stoneware. A second sherd, part of a pinched rim, was from an unusual vessel, possibly a candlestick. Seven contexts in Trench 3 produced pottery. Context [45] was distinguished by producing the sherds of hand-made gritty ware described above, alongside an unusual sherd of reduced green ware type which could not be closely identified and which was possibly water-worn. Contexts [61, 67 and 69] were all dominated by buff/white wares dating to the earlier thirteenth to mid fourteenth century, whilst the remaining contexts [51, 59 and 60] were all somewhat later and included material of fourteenth- to fifteenth-century date (later reduced green wares). Only two contexts, [9 and 20], in Trench 4 produced pottery. Only one sherd of pottery was recovered from context [9] but context [20] included substantial parts of a small number of reduced green ware jugs and sherds of German stonewares and Low Countries red wares dating to the fourteenth- to fifteenth-centuries. Four contexts [12, 18, 27 and 32] in Trench 5 produced small quantities of pottery. The number of sherds from these contexts was so low that care must be exercised in

interpreting the information. Context [32] produced a sherd of fifteenth- to sixteenth-century purple glazed ware but other contexts appeared to be of an earlier date (thirteenth to mid fourteenth century). Figure 10b shows the rim of a jar in a local buff/white ware from context [27]. Trench 6 produced small groups of pottery. Two of these, contexts [41 and 64], included sherds of post-medieval wares, context [4] was entirely of post-medieval date. Only context [31] produced medieval pottery alone, and this was limited to a single sherd of buff/white ware. Contexts [63, 70 and 97], which were not assigned to a specific trench, produced a mixed group of medieval pottery. Context [63] included a sherd of earlier medieval hand-made pottery, presumably residual in a later context. Unstratified pottery consisted of sherds of wares familiar from the stratified pottery. Four sherds of Scarborough ware probably represented a highly decorated jug and were decorated with applied strips and scales under dark green glaze.

### *Discussion*

In comparison to other assemblages from The Close and neighbouring sites, that from this site is small in size and not highly informative. It consists principally of wares that are familiar from elsewhere in Newcastle and includes only a small quantity of imported pottery. Its chief importance will perhaps be recognised in the future when it becomes possible to undertake a comprehensive review of medieval and post-medieval pottery from Newcastle and particularly from the waterfront area. This report should therefore be regarded as an interim statement.

## THE LEATHER

### *Q. Mould*

Two shoes (figs. 11a and 11b) and a triangular panel (fig. 11c) were found in a white lime-rich deposit [70] in Trench 3–5, thought to be a liming pit for a tannery. They are left foot side-lacing ankle shoes of randed turnshoe construction. Each consists of a one-piece upper of calfskin with additional inserts, but their cutting patterns vary. They fasten on the inner (medial) side of the foot through multiple lace holes; no lace impression was noted so the method of lacing is uncertain. One (SF1), an adult size 4 (37), is a high shoe with the upper extending just above the ankle and fastening through at least six pairs of lace holes. The other (SF2.1), an adult size 7 (41), has the upper cut to lie just below the ankle and fastens through seven pairs of lace holes. A triangular, seamed panel with vertical thonging (SF2.2) from an unidentified object was found in close proximity.

Side-lacing shoes first occur in the late twelfth century, became popular in the thirteenth century and continued in use to the end of the medieval period (Grew and de Neergaard 1988, 18; Mould, Carlisle and Cameron 2003, 3328). The side-lacing shoes from The Close, being principally of one-piece upper construction, date to the beginning of this period; the cutting patterns and the shape of the sole suggest a date in the thirteenth century. At least one side-lacing shoe has been found previously near the site; a rectangular insert with four lace holes was found at Queen Street, in dumped material associated with mid-thirteenth- to mid-fourteenth-century pottery (Dixon 1988, 96–7 and fig. 34, 199).

Of particular interest is the recovery of organic material from inside both shoes, lying beneath the upper and on top of the sole in each case. The material appears to be of woven, or possibly plaited, matting. A thick layer of the material was preserved in SF1. A sample was

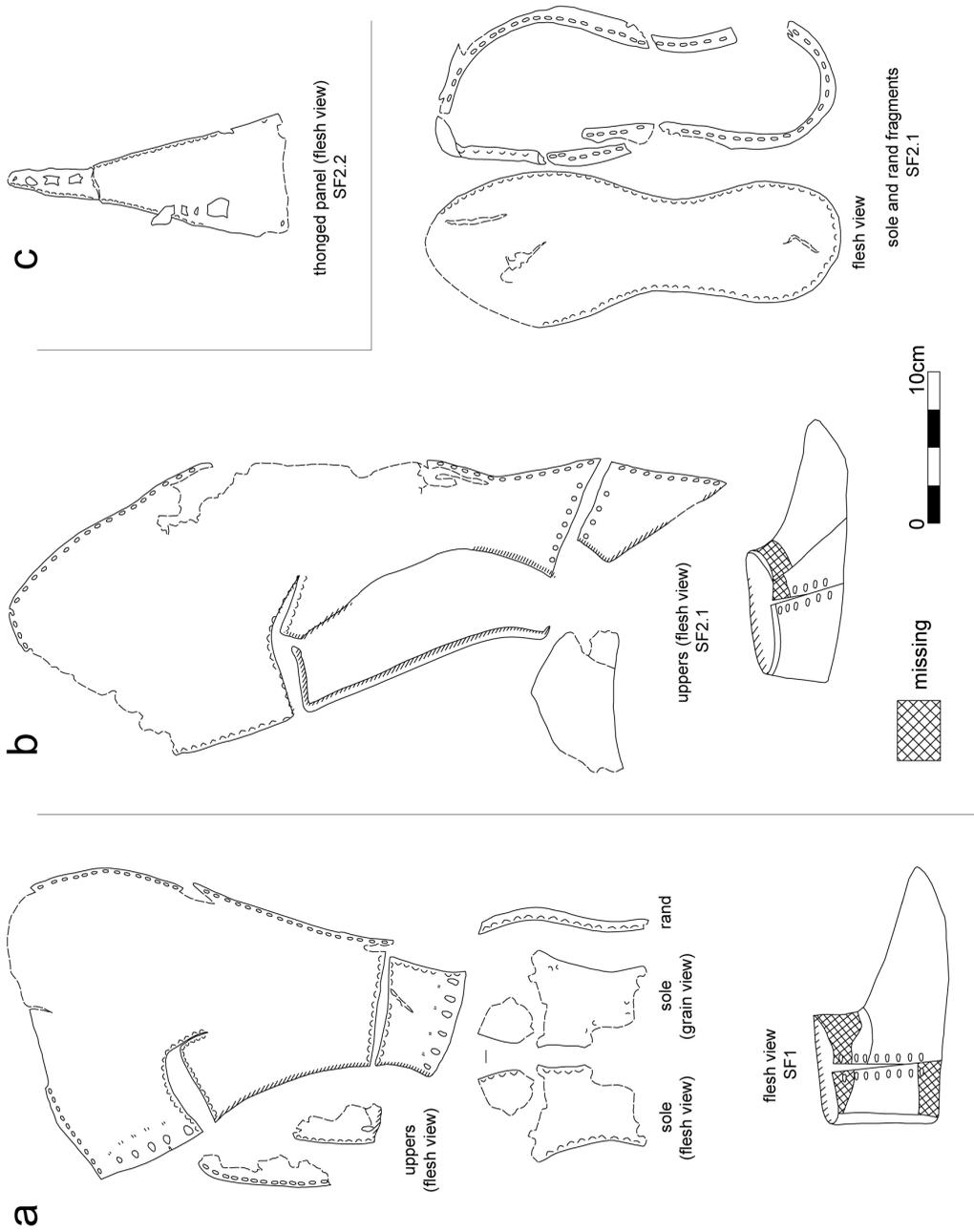


Fig. 11 Leather material: a, shoe (SF1); b, shoe (SF2.1); c, side panel (SF2.2).

identified as grass; that from SF2 was not so thick and was left *in situ*. Organic matting placed in shoes for insulation has been noted in shoes and boots from ships, though the examples known to this author date to the sixteenth century. A layer of straw was found within a pair of thigh boots from the *Mary Rose*, which sank in 1545 (Evans and Mould 2005). Straw was found in sediment within an early sixteenth-century slip-on shoe from the Studland Bay wreck (Mould 1993, SF683). Pieces of reed matting were used as insoles in two welled shoes from the *San Juan*, a Spanish Basque whaling ship wrecked in Red Bay on the south coast of Labrador in 1565 (Davis 1991, 7). Sailors and those working on the quayside, indeed anywhere cold and wet underfoot, would appreciate the insulating properties of a layer of straw, grass or reeds placed within footwear to help to keep the feet warm and dry.

#### MISCELLANEOUS SMALL FINDS

##### A. Gutierrez

##### Wooden objects

Waterlogged contexts favoured the preservation of several wooden objects (described in the archive report), including a coopered bucket that came from a nineteenth-century well fill,

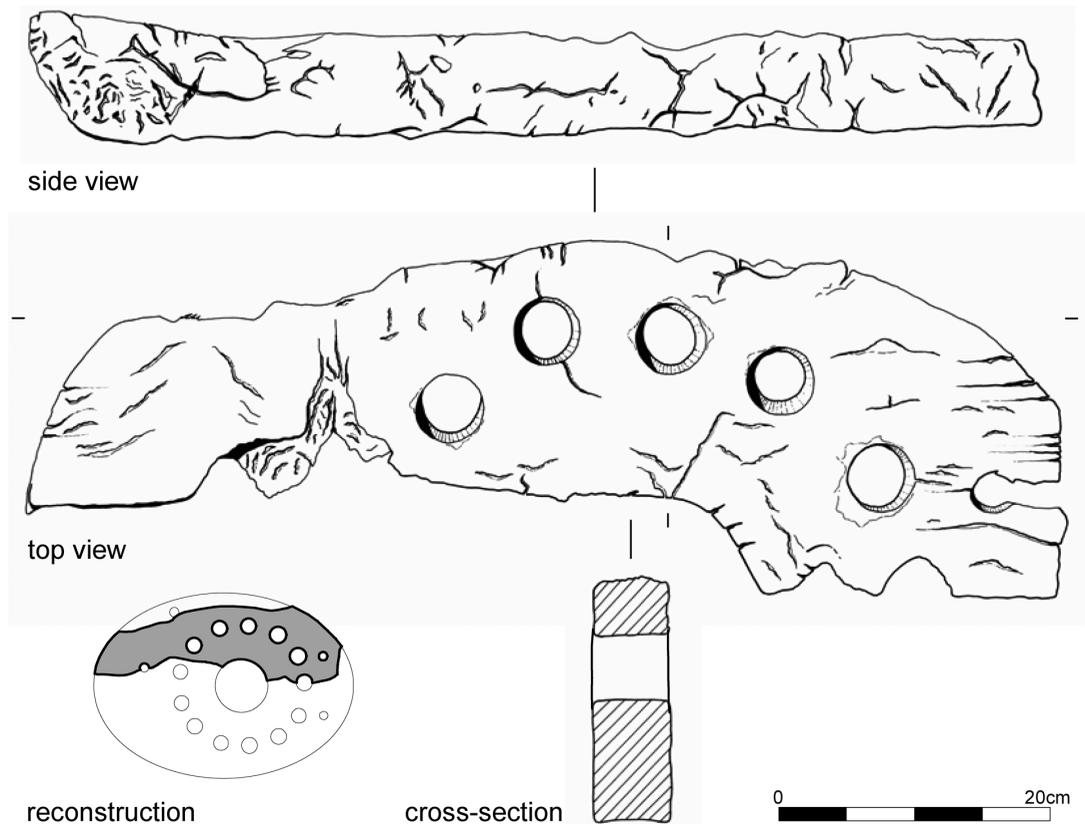


Fig. 12 Perforated wooden object.

and several barrel parts, presumably derived from the neighbouring cooperage. One object is noteworthy and is discussed here. This was made out of an oak plank, between 60 and 80 mm thick. Incomplete, but the maximum surviving width is 0.83 m (fig. 12). A couple of original edges are present and suggest an elliptical rather than a circular shape. The plank is pierced with a central hole (180 mm diameter), surrounded by a ring of smaller holes (each around 45–50 mm in diameter), symmetrically placed and concentric around the central hole. Another line of smaller holes (3 cm diameter), more widely spaced, can be seen in an outer line. Found in a soakaway which entirely filled evaluation trench ii, it is undated but was associated with (possibly residual) fifteenth-century pottery.

The fact that this object seems to have an elliptical shape makes it hard to determine its possible function. Wooden objects with concentric rings of peg or dowel holes were required in pulleys and cranes, or in machinery related to the elevation of water, for example, in mines and mills (for illustrated examples see Matthies 1992). The rotating mechanism of any these systems, however, requires the wheels to be of circular shape in order to engage with the rest of the mechanism. A different type of movement — reciprocal motion rather than rotary — was required by certain types of mills, such as fulling mills and also those used to forge iron. These needed cams projecting from the axle of a waterwheel, which raised and then released the pivoting hammer. In fulling, the double hammers were dropped alternately on the cloth, beating it in water (Gimpel 1977, 13–15). It is most likely that the wooden object described here was part of such mechanism, although too little survives to be completely certain.

#### *Other artefacts*

Full descriptions of the objects in this general category are provided in the archive report (Archaeological Services 2005a). It is worth saying, however, that remarkably few metal objects were recovered and these were almost exclusively iron nails. The lack of domestic and household utensils is apparent. Two fragments of slag came from context [106], one being tap slag and the other fuel ash slag. Three further fragments of slag-like material were found in context [80]; these are very light and laminar in texture. The numbers are too low to confirm any metalworking in the immediate vicinity of the site. Three fragments of Roman tegulae were found in residual contexts. A whetstone was recovered from a post-medieval context [32] and two cylindrical pieces of chalk were found in medieval context [69]. Chalk was used by coopers for helping hoops to stick when being driven (Kilby 2004, 36). However, since these pieces came from a medieval context, they do not derive from the cooperage adjacent which was in use between 1863 and 1974 (Heslop and Truman, 1993, 4). Twelve fragments of glass (reported on by H. Wilmott) were recovered. All belonged to the late nineteenth or twentieth century.

## THE ENVIRONMENTAL EVIDENCE

*Charlotte O'Brien*

Plant macrofossil assessments were carried out on 27 samples (Archaeological Services 2005a). A wide range of waterlogged seeds occurred in many of the contexts. They were particularly abundant in context [16], the fill of well [17] in Trench 1, and in a number of the organic deposits in Trench 2 including [59, 60, 61, 69, 70 and 97]. These included species from arable, ruderal, woodland and wetland habitats. Charred plant remains were absent from

most of the contexts assessed, however they were present in a clay deposit [51] and a burnt deposit [59] in Trench 1, and a black surface layer [61] in Trench 2. Oat grains were the most abundant charred remains, with grains of wheat, barley, rye chaff and hazelnut fragments present in lower numbers. Coal, charcoal, bone, shell, pot, mortar and wood were also present in the samples. Following the assessments, full analysis was undertaken on contexts [53] and [59] from Trench 1, and [61] from Trench 2. This provided a larger assemblage of cereal remains and both wheat and oat grains occurred in large numbers.

The waterlogged conditions of many of the contexts have allowed the preservation of a diverse range of uncharred seeds. These include taxa from woodland, wetland, arable and ruderal habitats. Woodland species include alder and elder which are likely to have grown in areas of damp ground, probably beside the river. A few birch fruits also occurred, however these small fruits may have been blown or washed to the site from some distance away. Numerous hazelnut fragments may indicate that hazel was also growing beside the river, or they may have accumulated as a result of the disposal of domestic waste. Many species from wetland habitats were also recorded. Water plantain would have grown in pools or shallow water at the river's edge, while damp ground nearby was occupied by sedges, spike-rush, gypsywort, pale persicaria, lesser spearwort and celery-leaved buttercup.

The occurrence of numerous ruderal taxa suggests that the site was predominantly open, waste ground. These disturbed, waste areas were dominated by redshank, knotgrass, prickly sow-thistle and common chickweed. Docks, nettles, thistles and grasses would also have grown here. A diverse range of arable weed seeds including fat-hen, corncockle, corn marigold and sun spurge were recorded. Some of these may have been harvested and brought to the site with arable crops or they may have been growing locally as ruderal weeds.

A few seeds of flax were present in context (60) and (69) from Trench 2 and a context (WB48) from the monitoring. This crop may have been grown for oil, fibre or fodder. The seeds may have been stored or traded at the site or may have come from ropes or fibres which would have been common along the waterfront. They may also have washed in from more rural areas. Flax seeds have been recorded from other excavations on the Newcastle quayside (Huntley 1994) and from other urban medieval deposits in the region such as Saddler Street in Durham (Carver 1979) and Darlington Market Place (Huntley 1995). The small seeds of weld occurred in many of the contexts. Although weld has been cultivated for its use as a dye plant, it also grows naturally on areas of disturbed ground.

Following full analysis, a large assemblage of charred cereal remains was found, particularly from context [53], a clay deposit in Trench 1, and [61], a black surface layer in Trench 2. Oat and wheat grains were present in large numbers, and although the wheat could not be definitively identified to species level in the absence of its chaff, the grains strongly resemble the form most often associated with bread wheat. A few grains of barley, a fragment of rye chaff, and hazelnut shells were also recorded. This wide range of cereals is common from medieval and later sites in northern England (Huntley & Stallibrass, 1995). The predominance of oats and bread wheat is also a characteristic of medieval and later urban sites in northern England. For example, the medieval to post-medieval site at Middlegate, Hartlepool, produced samples dominated by oats and bread wheat (Huntley, 1988a), and these were also the most common cereals in samples from The Church Close, Hartlepool (Huntley, 1988b) and Saddler Street, Durham (Archaeological Services 2005b). Previous excavations from the medieval urban waterfront in Newcastle have produced bread wheat, hulled barley, rye and flax, in combination with more exotic taxa such as figs (Huntley, 1994). Excavations of the

medieval quayside by Tyne & Wear Museums at Tuthill Stairs also indicated that the main crops were oats, barley, bread wheat and rye, with evidence for the use of flax and weld, and importation of dried grapes (Archaeological Services 2007).

The low concentration of chaff indicates that processed grain was brought to the site rather than local processing having taken place. Huntley (1994) also found little evidence for crop processing waste from the previous Newcastle waterfront excavations. The occurrence of charcoal, coal, pot, mortar and bones in the samples suggests that many of the deposits have accumulated as a result of general and domestic waste disposal.

## DISCUSSION

A small quantity of Roman material was identified. With the possible exception of a truncated posthole containing a single Roman pot sherd, this was all demonstrably residual. Given the small quantity of material found in this posthole, even that sherd may have been residual too. The presence of residual Roman material is not surprising, since there is proven Roman activity on the top of the Heugh, immediately upslope from the site (Rich 1904; Harbottle 1968). More surprising is the small amount of evidence, both from this site and from other excavations in the area, for Roman activity along the waterfront itself, given the presence of a nearby settlement. It would be extremely unusual for a waterfront site this close to any significant settlement not to be utilised, and this suggests that the nature of later activity here has largely removed or obscured evidence for earlier occupation.

Within Trench 1 a surface of glacial clay was identified that sloped down towards the river and was overlain by an alluvial deposit, but in Trenches 2–5 there was an almost level surface of this clay at a shallow depth below the current ground surface. (Trench 6 was not deep enough to identify any natural geology at all.) Since the natural ground surface slopes steeply downwards from the Heugh to the river, this level surface suggests that much of the site has been terraced into this slope. This conclusion has also been reached by Mabbitt (2007, 62–3) in relation to the neighbouring site of Quayside Lofts to the west. More extensive excavations here, including profiles taken down the slope of The Heugh, and backed up by diatom and foraminifer studies that showed a lack of estuarine species, indicated that the land on that site had also been terraced into the natural slope. Mabbitt (2007, 62–3) suggests that this terracing of the land northwards into the natural slope formed the first phase of reclamation of the foreshore, to be followed by reclamation southwards (*i.e.* towards the river) by infill with dumped material. This terracing cut provides a plausible mechanism for removal of Roman and other early deposits from the waterfront area. The thick deposits of made ground identified on sites to the south of The Close (cf. Fraser *et al.* 1994; 1995; Goodrick *et al.* 1994; O'Brien *et al.* 1998; 1999) contrast strongly with the natural glacial deposits found at shallow depth on sites to the north of the road, suggesting that the road roughly follows the line of the original foreshore.

An enigmatic feature, provisionally interpreted as the base of a wattle-lined pit, was found at the base of this terracing in Trench 2. Whatever the exact nature of this feature, it was found towards the rear of the plot, where the terracing will have been at its greatest, and it was too slight to have been dug deeply into pre-existing glacial till before being truncated by later activity. In addition, the stake that was sampled was of narrow diameter and still possessed its bark, so it is unlikely to be re-used wood. The feature therefore almost certainly post-dates this terracing and the radiocarbon date on it provides a *terminus ante quem* of AD 1030 for the

terracing. This date is significantly earlier than that obtained at Quayside Lofts. Based on dendrochronological dates and pottery types, Mabbitt (2007, 62–3) dates terracing there to the early thirteenth century and provides documentary evidence to suggest that reclamation elsewhere along the waterfront to the west of the bridge was of similar date. However, it is probable that this reclamation was a piecemeal affair, so there is no reason why small areas such as the current site should not have been reclaimed at an earlier date.

The earliest feature identified in Trenches 3–5 was a large rectangular or square vertical-sided and flat-bottomed pit containing a white lime-rich deposit at its base. The size and shape of the pit and the nature of its fill are indicative of an industrial function, and it is suggested that it was a liming pit as part of a tannery. Although two leather shoes were found in the lime-rich deposit at the base of the pit, this does not necessarily imply that the tannery was for production of shoe leather, since liming is an early stage activity in the tanning process (Thomson and Mould 2011, 5); in contrast, the two shoes recovered were finished products. The pit can be securely dated to the very beginning of the thirteenth century by thirteenth- to fourteenth-century pottery and leather artefacts, together with a radiocarbon date of Cal AD 1030–1230 from a late fill of the pit. The end of the radiocarbon date range only overlaps the very beginning of the artefact one, and indicates that the pottery at this site may date from the very beginning of its date range. This conclusion has also been reached by Mabbitt (2007, 62) in relation to Quayside Lofts. Here deposits giving dendrochronological dates of just after AD 1200 were associated with pottery with a thirteenth- to early fourteenth-century date.

A timber-lined drain in Trench 2 produced a comparable radiocarbon date of Cal AD 1154–1258 (with a slight statistical probability of the earlier date of Cal AD 1056–1076) and may be a water channel for this tannery. Other fragmentary remains of early timber-lined drains elsewhere in the trench may also be from this phase. Whilst the earlier stake feature in Trench 2 could conceivably also be related to this tannery, it was too poorly preserved to confirm this and it would be unwise to extend the date of the tannery back into the pre-conquest period without additional supporting evidence. Closure of the tannery pre-dates the fourteenth- to fifteenth century pottery that was recovered from stone-lined drains cutting across the earlier features, but is not more narrowly defined. An early date of closure is more probable than a later one, to account for the lack of surviving documentary evidence for the tannery.

There was no evidence for structures related to the tannery in Trench 1 so it may not have extended so far to the west, although timber-lined pits were also found on the Quayside Lofts site further to the west again; these are of uncertain function but one possible explanation is that they were tanning pits (Mabbitt, pers. comm.). Instead, Trench 1 was characterised by a series of stone walls and culverts, the earliest of which were associated with thirteenth- to fourteenth-century pottery. Since several hand-made sherds were present in the assemblage, again a date close to the beginning of this range is the most probable. This is comparable with the dates obtained for the tannery and the first buildings in Trench 1 may have been contemporary with it.

Trench 1 revealed a multiplicity of phases of wall construction, illustrating a long history of building construction and modification and reconstruction. The limited size of the excavated area makes it hard to provide a detailed chronology of these alterations. By contrast, Trenches 2 and 3–5 had relatively simple stratigraphies with little evidence for building foundations (except for the recently demolished ones) overlying the tannery remains. This

may be an indication that this part of the site remained as open ground for some time after removal of the tannery.

The Close was occupied by some of the richest and most powerful members of Newcastle's medieval and early modern population, and it was characterized by its profusion of private wharves and quays, whereas the Quayside to the east was a public quay. Excavation has shown that there were substantial stone structures on The Close, probably serving both domestic and commercial purposes (Fraser *et al.* 1995). The current excavation has contributed to our understanding of the evolution of these structures.

### ACKNOWLEDGEMENTS

The excavation work was carried out by Alan Rae, Mark Randerson, James Roberts and Andrew Willis and was supervised by Mathew Claydon and Jason Mole. Post-excavation work was carried out by Jennifer Jones and Dr Charlotte O'Brien. The illustrations were prepared by Janine Watson. Our thanks are due to Gary Green, Jacqui Huntley, Jennifer Morrison and Dr Pam Graves.

### BIBLIOGRAPHY

- ARCHAEOLOGICAL SERVICES, 2005a 46–54 *The Close, Newcastle upon Tyne; archaeological works*, unpublished report by Archaeological Services Durham University
- ARCHAEOLOGICAL SERVICES, 2005b 64, *Saddler Street, Durham City: plant macrofossil analysis*, unpublished report by Archaeological Services Durham University
- ARCHAEOLOGICAL SERVICES, 2007 *Tuthill Stairs, Newcastle upon Tyne: palaeoenvironmental analysis*, unpublished report by Archaeological Services Durham University
- CARVER, M. O. H. 1979 'Three Saxo-Norman tenements in Durham City', *Medieval Archaeology* 23, 1–80.
- DANIELS, C. M. and CAMBRIDGE, E. 1974 'New Light on the Sandgate', *CBA North Archaeological Newsbulletin* 8.
- DAVIS, S. 1991 'Textiles, fibers and mats recovered from the San Juan' *Textile Conservation Newsletter*, 2, 6–10.
- DIXON, S. 1988 'The leather', in O'Brien *et al.* 1988, 93–103.
- ELLISON, M. 1981 'The pottery', 95–164, in Harbottle B. and Ellison, M. 'An excavation in the Castle ditch, Newcastle upon Tyne 1974–1976', *AA<sup>5</sup>*, 11, 75–250.
- ELLISON, M., MCCOMBIE, G., MACELVANEY, M., NEWMAN, A., O'BRIEN, C., TAVERNER, N. and WILLIAMS, A. 1993 'Excavations at Newcastle Quayside: waterfront development at the Swirle', *AA<sup>5</sup>*, 21, 151–234.
- EVANS, N. and MOULD, Q. 2005 'The footwear from the Mary Rose', in Gardiner J., *Before the Mast: Life and Death Aboard the Mary Rose* (Archaeology of the Mary Rose, 4)
- FRASER, R., MAXWELL, R. and VAUGHAN, J. E. 1994 'Excavation adjacent to Close Gate, Newcastle 1988–9', *AA<sup>5</sup>*, 22, 85–151.
- FRASER, R., JAMFREY, C. and VAUGHAN, J. E. 1995 'Excavation on the site of the Mansion House, Newcastle, 1990', *AA<sup>5</sup>*, 23, 145–213.
- GIMPEL, J. 1977 *The Medieval Machine: the Industrial Revolution of the Middle Ages*, London.
- GOODRICK, G., WILLIAMS, A. and O'BRIEN, C. 1994 'Excavations at Newcastle Quayside: the Evolution of Sandgate', *AA<sup>5</sup>*, 22, 219–33.
- GRAVES, C. P. forthcoming, *North Sea Capital: Newcastle, the making of a Mercantile Community*.
- GREW, F. and DE NEERGARD, M. 1988 *Shoes and Pattens*, London.
- HARBOTTLE, B. 1968, 'Excavations at the Carmelite Friary, Newcastle upon Tyne, 1965 and 1967', *AA<sup>4</sup>*, 46, 163–223.

- HESLOP, D., and TRUMAN, L., 1993 'The Cooperage, 32–34 The Close: A timber-framed building in Newcastle upon Tyne' (Buildings of Newcastle 1), Newcastle.
- HESLOP, D., TRUMAN, L. and VAUGHAN, J. E. 1995 'Excavation of the Town Wall in the Milk Market, Newcastle upon Tyne', *AA<sup>5</sup>*, 23, 215–34.
- HUNTLEY, J. P. 1988a *Plant remains from Middlegate, Hartlepool, Cleveland 1987*, Ancient Monuments Laboratory Report 86/88, London.
- HUNTLEY, J. P. 1988b 'The botanical remains', 201–2, in Daniels, R. (ed.) 'The Anglo-Saxon monastery at Church Close, Hartlepool, Cleveland,' *Archaeological Journal* 145, 158–210.
- HUNTLEY, J. P. 1994 'Plant remains', 134–144, in Fraser, R., Maxwell, R. and Vaughan, J. E. (eds.) 'Excavations adjacent to Close Gate, Newcastle 1988–89', *AA<sup>5</sup>*, 22, 85–151.
- HUNTLEY, J. P. 1995 *Darlington Market Place: DMP94. An assessment of the environmental samples*, Durham Environmental Archaeology Report 14/95, Durham.
- HUNTLEY, J. P. and STALLIBRASS, S. 1995 *Plant and vertebrate remains from archaeological sites in northern England: data reviews and future directions*, Research Report 4, Architectural and Archaeological Society of Durham and Northumberland, Durham.
- KILBY, K. 2004 *Coopers and Coopering*, Princes Risborough.
- MABBITT, J. 2007 'Quayside Lofts, Tuthill Stairs, Newcastle upon Tyne; archive report on archaeological excavation', unpublished report by Tyne and Wear Museums Archaeology Service.
- MATTHIES, A. L. 1992 'Medieval treadwheels: artists' views of building construction', *Technology and Culture*, 33 (3), 510–47.
- MOULD, Q. 1993 *The Leather from the Studland Bay Wreck*, unpublished report for the Borough of Poole Museum Services.
- MOULD, Q., CARLISLE, I. and CAMERON, E. 2003 *Craft, Industry and Everyday Life: leather and leatherworking in Anglo-Scandinavian and medieval York*, York.
- NOLAN, J., FRASER, R., HARBOTTLE, B. and BURTON, F. C. 1989 'The medieval town defences of Newcastle upon Tyne: excavation and survey 1986–87', *AA<sup>5</sup>*, 17, 29–78.
- O'BRIEN, C. F., BOWN, L., DIXON, S. and NICHOLSON, R. 1988 *The Origins of the Newcastle Quayside: Excavations at Queen Street and Dog Bank*, Society of Antiquaries of Newcastle-upon-Tyne Monograph Series, 3.
- O'BRIEN, C. F., BOWN, L., DIXON, S. and NICHOLSON, R. 1989 'Excavations at Newcastle quayside: the Crown Court site', *AA<sup>5</sup>*, 17, 141–205.
- OLIVER, A. M. 1924 *Early Newcastle Deeds* (Surtees Society, 137).
- OLIVER, T. 1831 *Reference to a Map of Newcastle upon Tyne and Gateshead*, Newcastle upon Tyne.
- PASSMORE, D., O'BRIEN, C. and DORE, J. 1991 'Roman Period Riverside Deposits at Castle Stairs, Sandhill', *AA<sup>5</sup>*, 19, 17–24.
- RICH, F. W. 1904, 'Two stone coffins of the Roman period, in one of them human bones', *AA<sup>2</sup>*, 25, 147–9.
- THOMSON, R., and MOULD, Q., (eds.) 2011 *Leather Tanneries; the Archaeological Evidence*, London.
- TRUMAN, L. 2001 'Excavations at Stockbridge, Newcastle upon Tyne, 1995', *AA<sup>5</sup>*, 29, 95–221.
- TURNBULL, P. 2003 *Archaeological Evaluation at 46–54, Close, Newcastle upon Tyne*, unpublished report by The Brigantia Archaeological Practice.
- VAUGHAN, J. E. 1994 'The pottery,' in Fraser, et al. 1994, 105–19.

Archaeological Services Durham University, South Road, Durham DH1 3LE.

andrew.platell@durham.ac.uk

*This paper is published with the assistance of a grant from  
Archaeological Services Durham University.*