

Excavations at Trinity Court, 55–57 Quayside, Newcastle upon Tyne

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SUMMARY

Two trenches were excavated by Pre-Construct Archaeology Limited at Trinity Court, 55–57 Quayside in 2014, where the principal archaeological interest was the location of the area within and close to the circuit of the medieval town wall of Newcastle upon Tyne, on a corridor of land reclaimed from the north foreshore of the River Tyne by c. 1400 AD.

Some of the earliest recorded deposits at the site arrived in the form of ships' ballast as the Tyne foreshore was being reclaimed (thirteenth to fourteenth centuries) ahead of construction of the town wall along the eastern stretch of Quayside (early fifteenth century). Deeply-stratified deposits represent medieval occupation of the reclaimed land, with the dominant feature of this era being a monumental sandstone wall, built at right angles to the riverfront, which served as a long-lived property boundary. The remains of post-medieval cellars of former Quayside frontage properties recorded at the site potentially incorporated medieval masonry.

INTRODUCTION

THE 55–57 QUAYSIDE SITE (NZ 2540 6394) was located immediately east of The Custom House and Trinity Chare, extending to the north to take in part of an open area, known as Trinity Court, accessible from Broad Chare (fig. 1). Vacant when the archaeological excavation took place in June–July 2014 (fig. 2), the site was subsequently developed by Live Theatre as the 'Live Works' scheme.

The site lies within a corridor of land reclaimed from the north foreshore of the River Tyne in the medieval period to form the early, eastern portion of the Quayside. Prior to canalisation, the Tyne was much wider and shallower than today, although it was naturally confined within a steep-sided, relatively narrow gorge at Newcastle/Gateshead. The original north cliff of the gorge lay c. 90 m north of the site, overlooked by the spur of land where All Saints' Church stands. The eastern Quayside was created between the deeply-cut inlets (denes) of two tributaries of the Tyne, Lort Burn and Pandon Burn, which discharged at low tide into broad, shallow estuaries on the Tyne foreshore. To the west, Lort Burn skirted the area of the medieval bridgehead at Sandhill, while Pandon Burn met the river west of Sandgate, the site of the south-eastern corner of the medieval town wall circuit (investigated at the Milk Market, fig. 1).

Numerous archaeological investigations, mostly conducted during the 1980s (when a civic initiative sought to regenerate the Quayside) and since then, have examined the development and use of the Newcastle waterfront (Graves and Heslop 2013, 171–73). Of particular relevance here (fig. 1) are Queen Street, the Crown Court, the Milk Market and Stockbridge

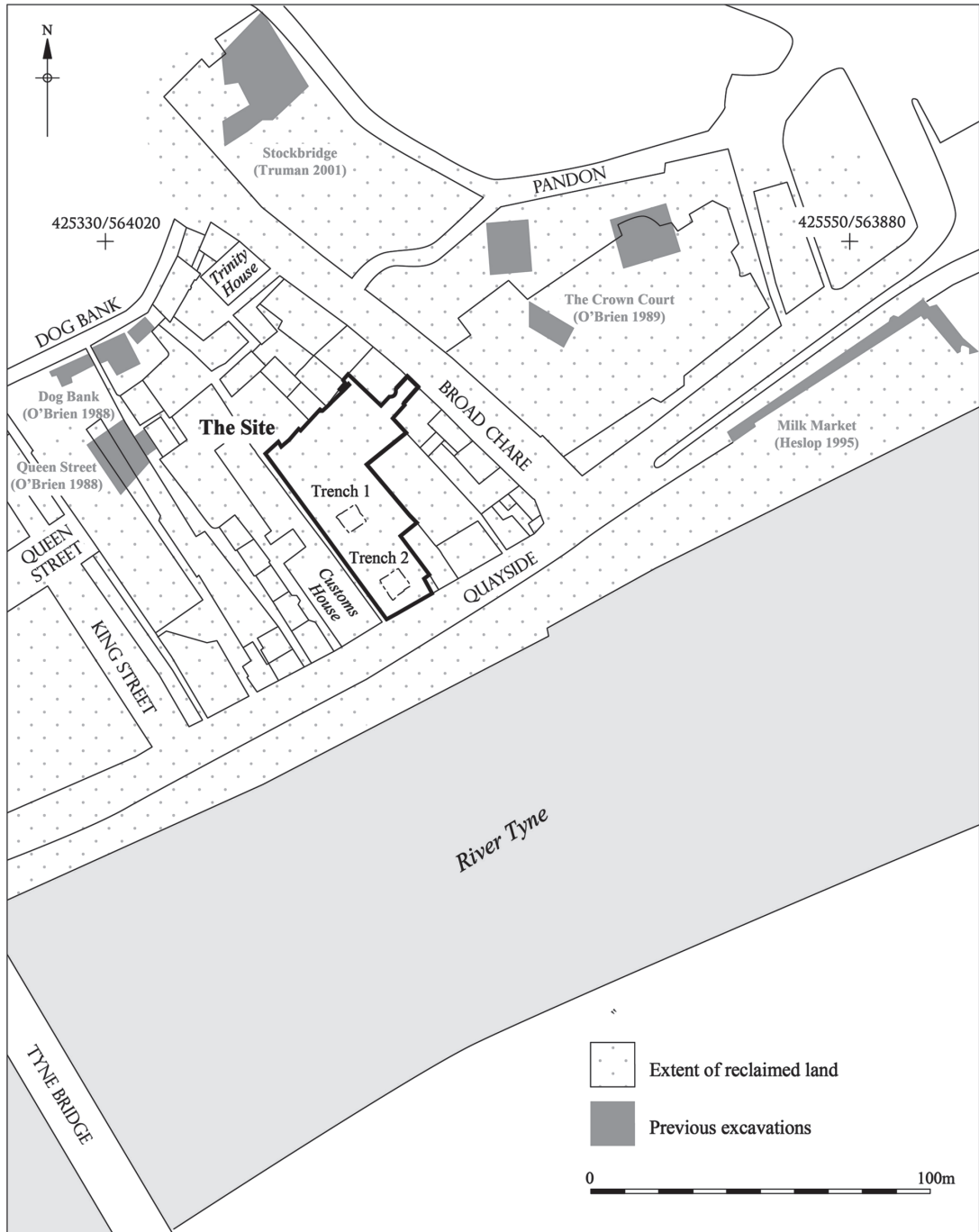


Fig. 1 Site location plan, showing the location of earlier interventions in the area.



Fig. 2 Quayside frontage of the site at the time of the excavation, The Custom House to the left; looking north.

(O'Brien *et al.* 1988; O'Brien *et al.* 1989; Heslop *et al.* 1995; Truman *et al.* 2001), while the Live Works site itself had previously been subject to archaeological evaluation and desk-based assessment (Tyne and Wear Museums 2000 and 2004). This body of work established that the reclaimed land of the riverside area is greatly elevated above its foreshore levels, due firstly to the significant ballast and other dumping which characterised medieval reclamation then, subsequently, the result of long-term occupation and development so that a substantial depth of archaeological remains lies below the modern street level along the Quayside.

Two trenches (Trenches 1 and 2) *c.* 17 m apart were excavated, both within the footprint of the main new build component of the Live Works development (fig. 1). The trenches were initially stepped-down from ground level (fig. 3, fig. 4) to allow investigation of the uppermost deposits of importance; the cellars of former street frontage properties encountered in Trench 2 had undoubtedly caused truncation, potentially severe, of medieval strata. Shoring was then installed to allow an area of *c.* 4 m square to be investigated to a greater depth in each trench. Ultimately, the maximum depth of excavation was determined by ground conditions.

With the site occupied continuously since the medieval period, the overarching aim of the work was to record deeply-stratified medieval and post-medieval material, extending as far down into the depositional sequence as was practicable. The work presented an opportunity to investigate a location closer to the line of the town wall than had previously been possible



Fig. 3 Trench 1, prior to shoring installation, alleyway access from Broad Chare in centre rearground; looking north-east.



Fig. 4 Trench 2, prior to shoring installation, Sage Gateshead in rearground; looking south-east.

on the eastern Quayside between the Tyne Bridge and Broad Chare. Uppermost in the project-specific objectives were investigation of the natural environment during which foreshore reclamation took place, recovery of evidence of the reclamation process itself, as well as of subsequent land-use.

A detailed assessment report on the project, along with all specialist reports and catalogues of material, is included within the site archive, which will be deposited with the Great North Museum, Newcastle upon Tyne.

HISTORICAL BACKGROUND

With port facilities a fundamental component of trade and economy as medieval Newcastle developed, there would have been strong economic drivers for the creation of a formal, accessible quayside. Due to the topography of the river gorge in the town this necessitated reclamation of the north foreshore, with current knowledge indicating that this process began in the twelfth century, possibly even the eleventh, west of the Sandhill bridgehead area, where the earliest reclamation evidence as yet identified comes from The Close (Platell 2013, 203-4). Within the circuit of the town wall (depicted on fig. 5), the river frontage was c.0.8km long, with distinct western and eastern parts probably developing independently, although largely contemporaneously, due to differing requirements of the parts of the town with which they were associated (Graves and Heslop 2013, 173). The Live Works site lies within what was

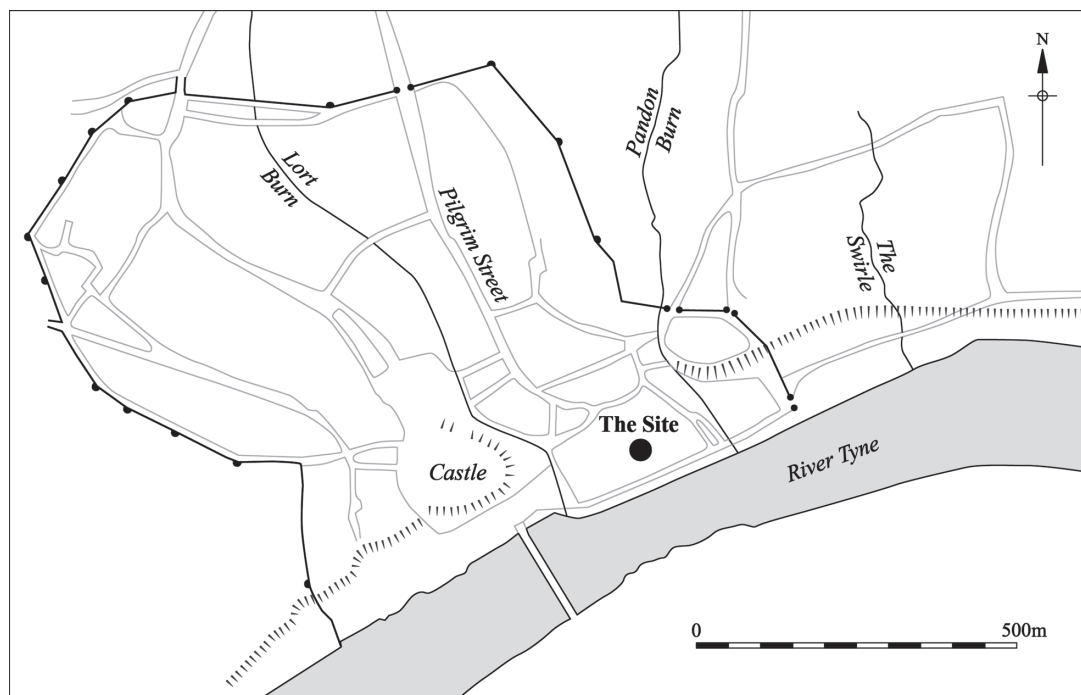


Fig. 5 Medieval Newcastle.

the c. 0.3 km long eastern part of the early waterfront, situated downstream from the bridge-head, between Lort Burn and Pandon Burn, the area previously identified as 'the core of the medieval port' (O'Brien *et al.* 1988, 1).

From the second half of the thirteenth century, Newcastle saw a significant increase in both the quantity and value of its maritime trade, with the main trading partners being the Low Countries, France and Baltic states (Graves and Heslop 2013, 180). The town was designated a Customs port in 1275 and documentary references from the late thirteenth century refer to tolls on a wide variety of sea-borne commodities, with wool and hides initially dominant (Graves and Heslop 2013, 119–22). Ships carrying cargoes of coal from Tyneside are recorded as early as the thirteenth century (Fraser *et al.* 1995, 208) and by the second quarter of the fourteenth century the coal trade had increased in importance, with significant exports from Tyneside to Flanders and Holland, extending as far as the Baltic. By the early sixteenth century, coal had become the dominant component of the Newcastle economy, with associated industries, particularly glass- and salt-making, developing in tandem. Around the English coastline, the main trading routes from Newcastle were between London and East Anglia, with Normandy and Picardy the main continental destinations for exported coal. The reign of Elizabeth I saw greatly increased demand for Tyneside coal in London in particular, due to a period of rapid development that saw firewood and charcoal in short supply (Healey 2009, 220).

The use of solid ballast material to increase draft and regulate stability was common-place in sea-going vessels prior to the late post-medieval period, with coal often serving this pur-

pose when exported from the Tyne by sea, Newcastle coal thus becoming known as 'seacoal' (Healey 2009, 200). With arriving vessels having to off-load their own ballast to make space for coal, the consequence in archaeological terms is that ballast material is often encountered during excavations in Newcastle, as in many seaport towns throughout Europe (Ansorge *et al.* 2011, 163). Although incoming ballast was often bulk material of low value, such as sand, gravel, rock or ash, in Newcastle such material proved of particular use (along with local domestic refuse, industrial waste and locally-quarried deposits) in creating the corridor of reclaimed land upon which the Quayside was formed. Ballast dumping in fact proved a valuable source of revenue as the medieval town developed, with the earliest ballast shores created from the late thirteenth century east of the Sandhill bridgehead (Graves and Heslop 2013, 122).

Reclamation was at its most concentrated between the thirteenth and fifteenth centuries, continuing east beyond Pandon Burn into the seventeenth century (O'Brien *et al.* 1988, 156–7; Graves and Heslop 2013, 171). Financed by collection of tolls on both exports and imports at the port (licensed by Henry II in 1265), construction of the town wall circuit began in the mid-thirteenth century (Fraser 2009, 42), though it was not completed until the fifteenth century, with the eastern riverfront portion added in the early part of that century (Heslop *et al.* 1995, 215). Therefore, since the riverside wall cannot have been built before the land upon which it stood was reclaimed and consolidated (O'Brien *et al.* 1988, 157), the corridor of land in which the Live Works site lies must have been reclaimed from the foreshore by *c.* 1400 AD.

Archaeological evidence suggests that early reclamation of the north foreshore of the Tyne occurred in a somewhat piecemeal fashion (Graves and Heslop 2013, 179–80). This was certainly the conclusion at Queen Street, where land was evidently won by individual land-owners advancing episodically from their own revetments and quays at different times (O'Brien *et al.* 1988, 158–9). In essence, the process of reclamation involved building a river wall, initially using wattle hurdles, as at Stockbridge (Truman *et al.* 2001, 104–5), but mostly employing timber revetments and stone walls, across the foreshore at low tide. Subsequent dumping of landfill or ballast behind the structure would create a platform of 'dry' land, with this repeated some time later further down the foreshore (Heslop and McAuley 2011, 71). With regard to the level of organisation involved in the overall process, it has been concluded that 'it is not known who was laying out the plots or who was controlling the process of reclamation' (Graves and Heslop 2013, 180).

Once established, the eastern waterfront became a public quay, initially the 'Key' or 'Newe Key' (Pears 2016, 145), now the Quayside, this formed a continuous street running alongside the river and bridging the former burns. The alignments which came to determine the siting of medieval Quayside properties were established at an early date and possibly reflected the existing layout of burgage plots in the already developed portion of the town on the higher ground to the north (Tyne and Wear Museums 2004, 8). The early origin of property boundaries was demonstrated at Queen Street where, following landfill, consolidation and capping, the lines of the earliest waterfront piers became the lines of access routes running alongside newly created landholdings, with buildings then constructed in the plots between the thoroughfares (O'Brien *et al.* 1988, 10–11). In time, these developed into a series of narrow alleyways ('chares') running across the platform of reclaimed land, at right angles to the Quayside, and back to the Tyne cliff edge. The medieval layout remains fossilized in the modern street pattern, which includes many chares, such as Trinity Chare west of the Live Works site, while a short alleyway between the eastern site boundary and the adjacent

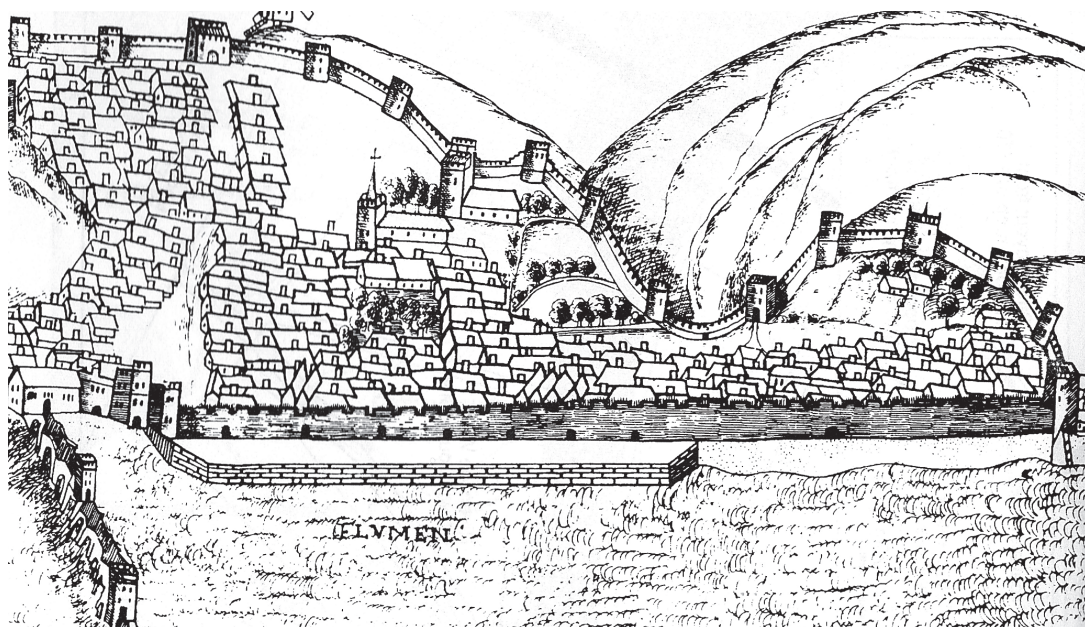


Fig. 6 Extract from The Cotton Manuscript (1590), showing a view of the Quayside between the Tyne Bridge and Pandon (not to scale).

property represents the remains of what was once a more extensive access route, named on historic maps as 'Three Indian Kings Court'.

As the Quayside grew in commercial importance, pressure would have increased to provide additional commercial premises, as well as domestic accommodation. Thus, the chares themselves were developed with adjoining properties of several storeys, creating a densely crowded riverside trading area, in common with many other seaports of the period. Analysis of probate inventories of Newcastle tradesmen in the period 1548–1641 indicates the variety of commerce on the Quayside by the early post-medieval period (Heley 2007, 176). Some businesses were inevitably shore-based though connected with shipping, with merchants and agents operating from offices, as well as wholesale buying and selling, while tradesmen directly associated with boat building and maintenance were also present. Street level premises would have been occupied by tradesmen offering a variety of sale goods, while others would have housed service professions (Heley 2007, 177) and there would have been a proliferation of drinking establishments. By the early post-medieval period, some degree of trade specialization had evolved along many Quayside streets, with reciprocal services provided by adjacent premises, such as shipwrights, keelmen and mariners (Heley 2007, 175).

The 'bird's eye view' of Newcastle depicted in the Cotton Manuscript (c. 1590; fig. 6), confirms the developed nature of the Quayside at the end of the sixteenth century. Given the importance of the coal trade by this date (the 1583 Grand Lease transferred ownership of the major collieries of Tyneside from the Bishop of Durham to the merchants of Newcastle), it became customary for riverfront houses to be leased with a staithe (Graves and Heslop 2013, 218–19). Like much of Newcastle, the riverside area saw extensive re-development in the

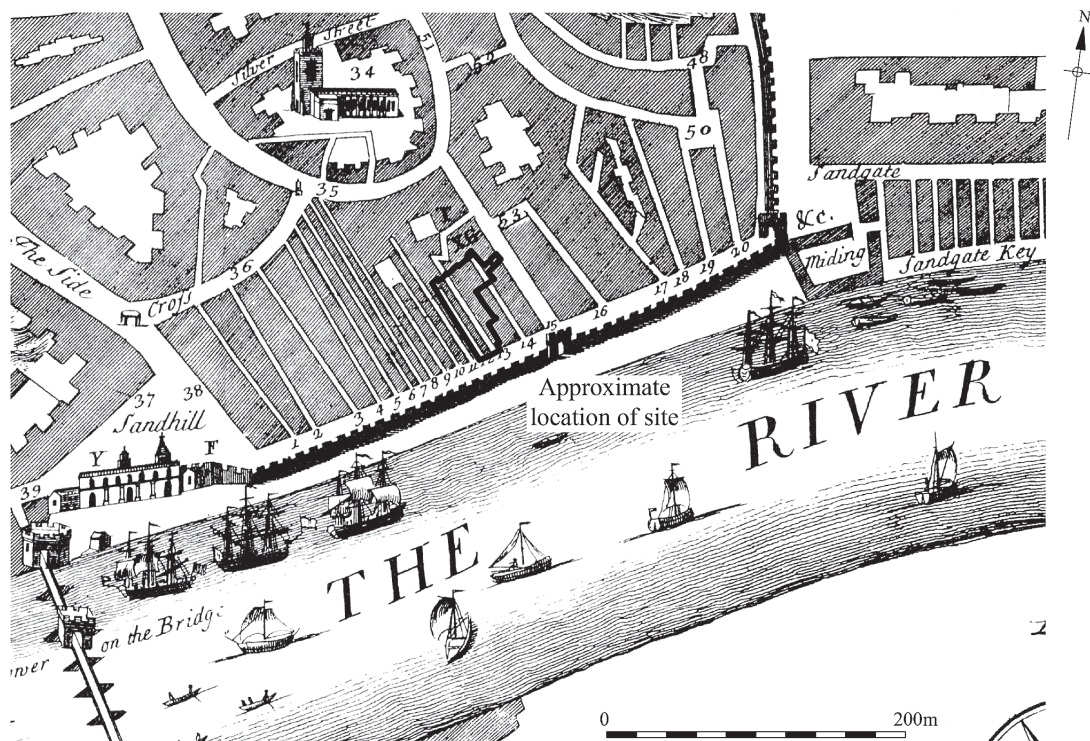


Fig. 7 Extract from a map adapted for Henry Bourne's *The History of Newcastle upon Tyne* (1736), showing the densely occupied area behind the Quayside town wall, sub-divided by chaes (scale approx. 1:400).

period following the Civil War, borne out by Beckman's map (1684) and Bourne's map (1736; fig. 7), which show the area of the site fully developed with the chaes depicted. Also of note amongst eighteenth- and nineteenth-century illustrations depicting the developed Newcastle riverfront are those of Samuel and Nathaniel Buck (1723 and 1745), Richardson (1819) and Storey (1852; a reconstruction of the late sixteenth-century view). Richardson's clear depiction (Pears 2016, fig. 5) of The Customs House (built 1766, re-fronted 1833) indicates that the western part of the Live Works site frontage was occupied by a five-storey building, flanked to the east by one of three storeys, both probably of eighteenth- or early nineteenth-century date.

An early 1780s trade directory (Whitehead 1782?) identifies four properties on Trinity 'chair', one occupied by a surveyor and school-master, one a fitter's office, one a raff merchants (dealing in used maritime materials), as well as the publican of 'The Boar's Head', with the publicans of 'The Three Kings' also listed. Amongst a wide variety of trades and professions in the vicinity of the site, an 1827 directory (Parson and White 1827–1828) names, either on the Quayside or its chaes or at Sandhill: coal merchants, colliery owners and fitters, brokers for insurance and shipping, as well as general commission agents, wharfingers (a keeper or owner of a wharf), underwriters and numerous vice consuls, including those of America and Brazil, alongside many European countries.

Oliver's map (1830) and the Ordnance Survey first edition (1859) show a broadly similar layout at the Live Works site, suggesting that the catastrophic fire across Gateshead/Newcastle in 1854 did not significantly affect the site or indeed the surrounding buildings (although upper storeys may have been damaged). The Ordnance Survey first edition depicts the 'Three Indian Kings Head' public house in the rear of the site, accessible from the Quayside along a blind alley/court. The second edition (1894) shows relatively little change in terms of the site layout and by the third edition (1919), the site had been largely cleared of buildings, apart from a garage and warehouse, erected in the 1930s, which remained until *c.* 2000, though changing in use over the years.

RESULTS

The results of the excavations within the two trenches are presented below by Period and sub-phase for each trench. Other than the earliest deposits, which accumulated as the result of the dumping of ballast, the archaeological sequences in the two trenches did not bear close comparison. In Trench 1 an extensive series of deposits was encountered which spanned a considerable time period, from the thirteenth to the fifteenth centuries, while comparable horizons had been largely truncated in Trench 2 by post-medieval basements, which, however, provided evidence for riverfront properties of that date. Hence, in the following text and figures the evidence is presented by trench and overarching broader themes are drawn together in the conclusions.

Natural Deposits

Undisturbed natural clay of the Tyne riverbed was not encountered in either trench. The lowest levels reached were 0.88m AOD in Trench 1 and 0.47m AOD in Trench 2, in both cases within medieval reclamation material.

Period 1

(broadly thirteenth to fourteenth century): foreshore reclamation, property boundary established and associated occupation

The earliest deposits recorded in both trenches comprised material, including ships' ballast, dumped on the natural foreshore during its reclamation. Central to the process would have been episodic advancement of a series of newly-established riverfronts, southwards from the natural channel edge, infilling behind frontage structures to create a platform of usable land, elevated above the foreshore. Possible evidence of riverine inundation during land reclamation was recorded in Trench 2, located closer to the river.

PERIOD 1, PHASE 1: FORESHORE RECLAMATION DEPOSITS

Trench 1 (fig. 8, fig. 9)

A dump [141] of large sandstone fragments in brownish yellow silty clay was the earliest recorded deposit. Possibly locally quarried material, this was observed in section at the conclusion of the excavation, extending to a lowest level of 0.88m AOD. To the west, it was overlain by a substantial (up to 0.50m thick) deposit [138] comprising tightly-packed flint

North Facing Section

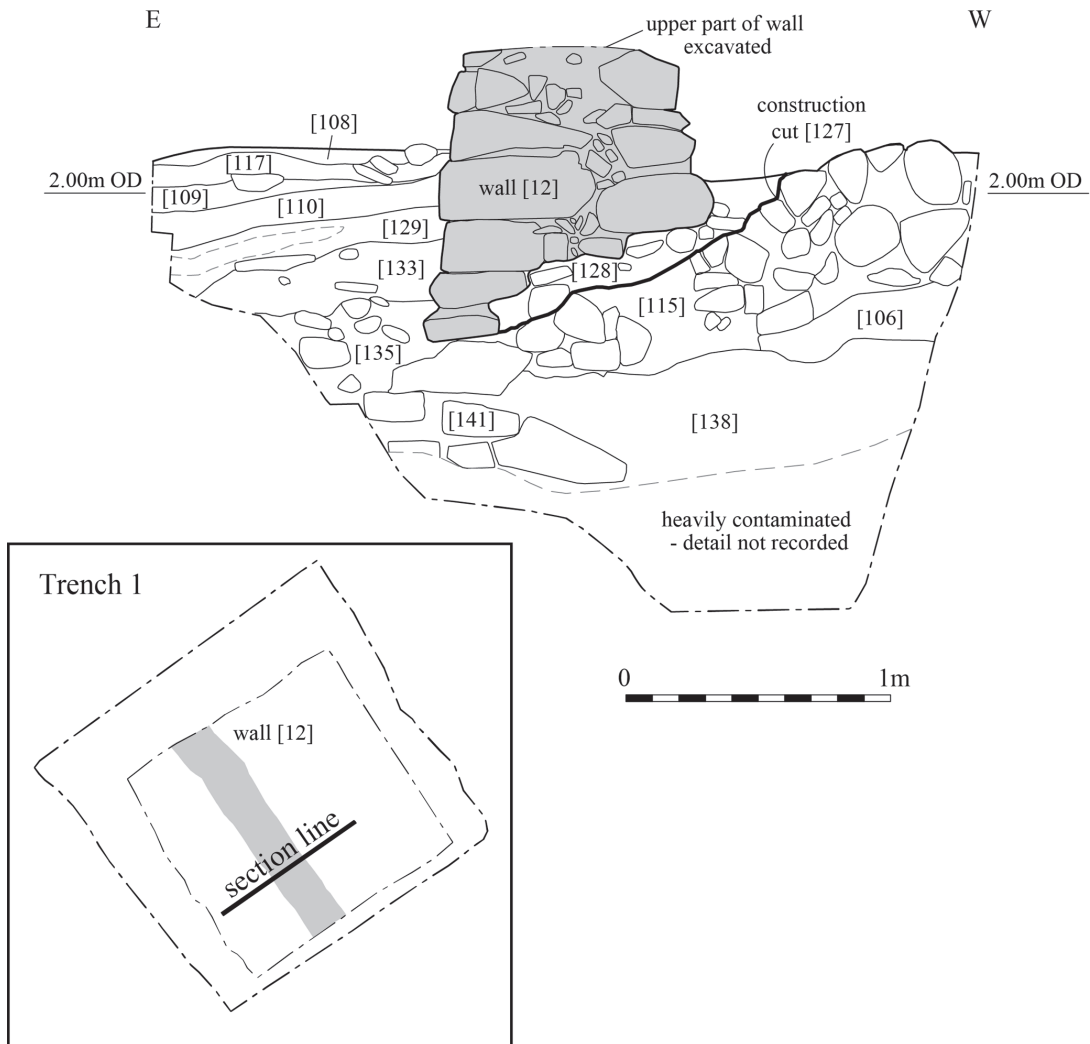


Fig. 8 Trench 1; section through Period 1 remains (inset shows line of section).

cobbles in light yellow clay. With the cobbles identified as most likely originating from the south-east of England, perhaps from Pleistocene terrace gravel along the lower Thames and its estuary, an origin as ships' ballast is probable. Other reclamation deposits included: potentially re-deposited natural boulder clay [106], notable in that it yielded an uncharred plum fruitstone (one of only a very small number of plant macrofossils to be identified in collected samples). These deposits were overlain by an extensive compact dump [115] of clay with gravel, cobbles and sandstone fragments, a sample of which produced a poorly-



Fig. 9 Trench 1; Period 1 remains, lowermost deposits mostly dumped ballast with lower part of boundary wall [12], centre left; looking south-east (1 m scale).

preserved barley grain, with hammerscale identified in the residue, and a stony dark grey sandy silt [135], which produced a single sheep or goat tooth.

Trench 2 (fig. 10, fig. 11)

The earliest deposits were evidently for the most part dumped ships' ballast, essentially loose sand and rocks, the exception being an alluvial layer [130], which had accumulated at some point during foreshore reclamation.

The earliest ballast, which comprised light grey sand with large flint nodules, could not be fully investigated (nor could it be recorded in section). The deposit was, however, recorded at a maximum level of 0.60 m AOD, and was bulk sampled, which produced small quantities of chalk, coal and burnt shale. Since chalk does not occur naturally in the region, its presence, albeit in small quantities, is likely to represent trace remnants of ballast imported from southern England, while the coal may have been cargo residue from a collier hold. The overlying deposit [131] was orange brown sand and flint gravel, with large flint nodules, one of which was a typical beach cobble of translucent black flint, very similar to those found along the South Downs, indicating that the south coast of England was the source of the material.

Alluvium [130] comprised brownish grey silty clay up to 0.35 m thick (maximum recorded level 1.10m AOD). Pollen, microfauna and plant macrofossils within a column sample

West Facing Section

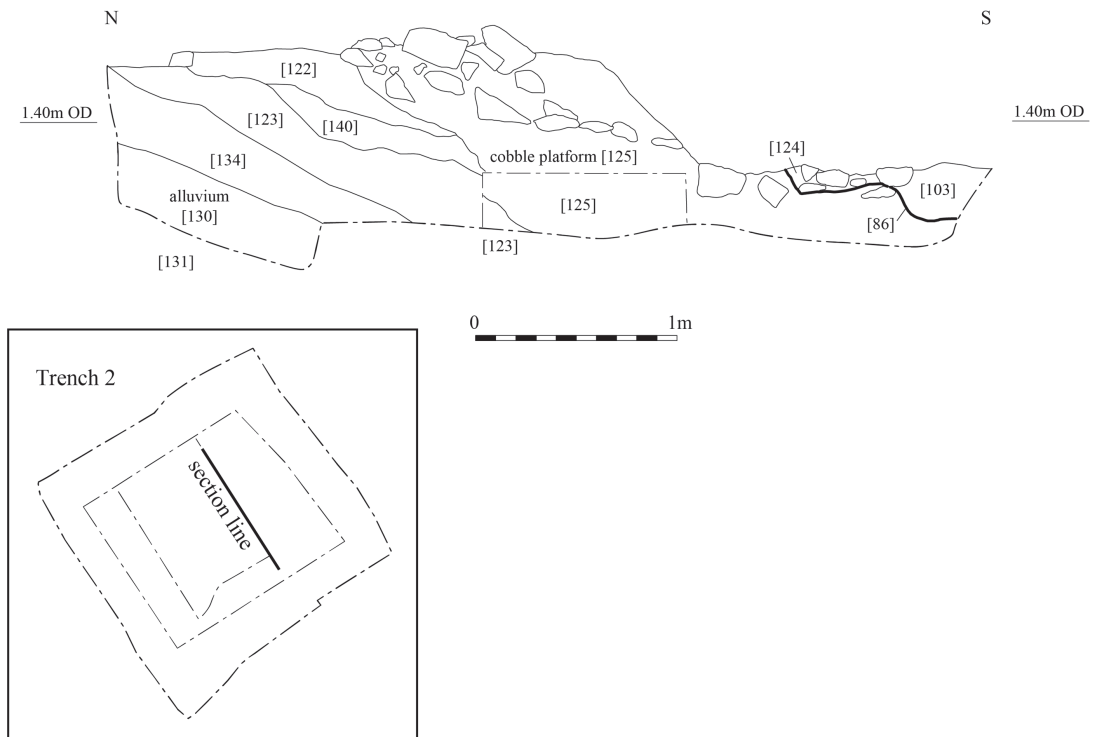


Fig. 10 Trench 2; section through Period 1, phase 1 remains.

indicate that it was deposited in either a slow backwater channel of the tidal river and its mudflats or a freshwater pool or brackish lagoon, as reclamation was taking place, with input from freshwater sources evident in either case. Radiocarbon dates obtained from organic material in the sample are problematic; firstly, a small assemblage of seeds provided a date in the Saxon period, while waterlogged bark gave a second date in the first century BC. Given that the deposit lay within a sequence that accumulated during medieval land reclamation, both dates are clearly too early, for which an explanation must be proposed. It is considered most likely that older organic material simply contaminated the alluvium during its accumulation; previous studies have shown that caution is necessary when interpreting the results of radiocarbon dates from fluvial systems where there is potential for older material to be washed in and incorporated as deposits accumulate (Howard *et al.* 2009). Alternatively, but considered less likely, the entire 'alluvial' deposit may have been redeposited foreshore material, possibly dumped as backfill during reclamation; against this explanation was the unbroken condition of tiny crustaceans (ostracods) in the sample.

A sequence of probable ballast deposits, including [134], [123], [140], [122], [125] and [124], overlay the alluvium, mostly generally similar in composition, predominantly sandy and sterile, with varying quantities of flint gravel, cobbles or other stones throughout. The exception was a substantial stony dump [125] comprising cobbles, sandstone fragments and flint



Fig. 11 Trench 2; excavation of Period 1, phase 1 ballast material, unexcavated part of cobble platform [125], lower right; looking north-west.

nodules (fig. 10; fig. 11). Up to c. 0.90 m thick, this material attained a maximum level of 1.58 m AOD, the highest recorded for any deposit of this phase in Trench 2. Such was its solidity, the material may well have been essentially structural, perhaps a platform behind a newly established waterfront or even simply acting as a relatively temporary 'beaching surface'.

Collectively, the ballast deposits in Trench 2 produced more than 50 sherds of generally abraded pottery and a small assemblage of tile, all of thirteenth/fourteenth-century date, as well as parts of an iron nail and copper-alloy object. Around 50 fragments of animal bone were recovered, with layer [122] producing a variety of fish species, essentially gadids (cod family), flatfish and herring, all potentially from the Tyne estuary, while the deposits also produced the majority of the small overall assemblage of edible marine shellfish from the site, mostly oyster but with mussel, periwinkle, cockle and limpet also present, all possibly derived from human food waste.

The varied origin of the early ballast encountered at the site is entirely consistent with previously recorded examples from the Quayside. Flint does not occur naturally in the region, therefore a probable south of England origin is proposed for flint gravel in dump [131] and flint cobbles in dump [138]. Similar deposits of flint nodules, cobbles and gravel have been found in contemporary deposits at the Crown Court (phase 3, ground-raising dump [281]; O'Brien *et al.* 1989, 149), the Milk Market (phase 1, pre-wall sand and gravel; Heslop *et al.* 1995, 221; 233), and the Mansion House site (period 1, landfill; Fraser *et al.* 1995, 151), where

later (period 5, fourteenth century) landfill was characterised by sand layers (Fraser *et al.* 1995, 154).

Imported stone in ballast was encountered here in both trenches, representing a distance of *c.* 30 m down the reclaimed foreshore. If the process was undertaken within a series of long, narrow plots (potentially related to property ownership to the north) extending down the foreshore, then the reclamation material examined in the trenches was most likely deposited within the same plot or in two adjacent plots. The maximum recorded height on ballast material in Trench 1 was 2.20 m AOD, while in Trench 2 it was 1.58 m AOD; this could be taken as an indication of the platform of reclaimed land sloping down gently towards the river, although in Trench 2 the extent of horizontal truncation of the earliest strata by later cellars is unclear.

PERIOD 1, PHASE 2: PROPERTY BOUNDARY AND ASSOCIATED OCCUPATION

Trench 1 (fig. 8, fig. 9, fig. 12, fig. 16, fig. 17)

The dominant component of Period 1, phase 2 features in Trench 1 was a monumental north-west–south-east aligned sandstone wall [12] of which a length of 4.55 m was exposed. Its base occupied a construction cut [127], evidently cut through ballast [115] (maximum recorded level 2.12 m AOD). The stony backfill [128] was potentially the same as (Period 1, phase 1) deposit [135] east of the wall, although this was not certain. An irregular line of sandstone rubble blocks may have been a simple footing for the northernmost part of the wall, which, if so, effectively served to retain fill [128] for at least part of its extent and, by design, delimited the western extent of the construction cut. Wall [12] was up to 1.05 m wide, although it was more generally *c.* 0.80 m, and survived to a maximum height of *c.* 1.50 m to the south. However, the full surviving height was never exposed, the upper portion having been removed as the excavation progressed; the maximum level recorded on the wall was 3.0 m AOD (fig. 16a shows the wall in section at the north side of the trench).

In terms of fabric, wall [12] mostly comprised random sandstone rubble, with some blocks of monumental dimensions (up to 600 mm by 500 mm by 250 mm), often with squared or roughly dressed faces. The masonry was roughly coursed along each face, with some cobbles present, leaving a narrow core filled with stony grey silt. One block examined was of pale olive-green micaceous sandstone, most probably locally quarried from the Lower Coal Measures. The lowermost portion of the wall employed firm yellow clay, in places mixed with the core infill, as a bonding material, while the uppermost part was mortared, this most likely the result of post-medieval re-pointing.

While potentially originating as a lateral retaining wall for a platform of consolidated ground behind a waterfront, wall [12] essentially represents a long-lived property boundary. In terms of its form and construction, the structure closely resembles similarly-dated walls previously recorded on the Quayside. It can be compared with phase 5 (fourteenth century) building walls [299] and [348] at Queen Street, with wall [299] surviving to a height of at least 2 m, occupying a similar construction ‘trench’ to that of wall [12] here (O’Brien *et al.* 1988, 11–12). Similarly, at Mansion House period 1 (thirteenth century) revetment wall [350], at *c.* 3 m high, (Fraser *et al.* 1995, 151); and phase 3 (fourteenth century) landfill retaining wall [074], again at least 2 m in height, at the Crown Court (O’Brien *et al.* 1989, 149) are also comparable.

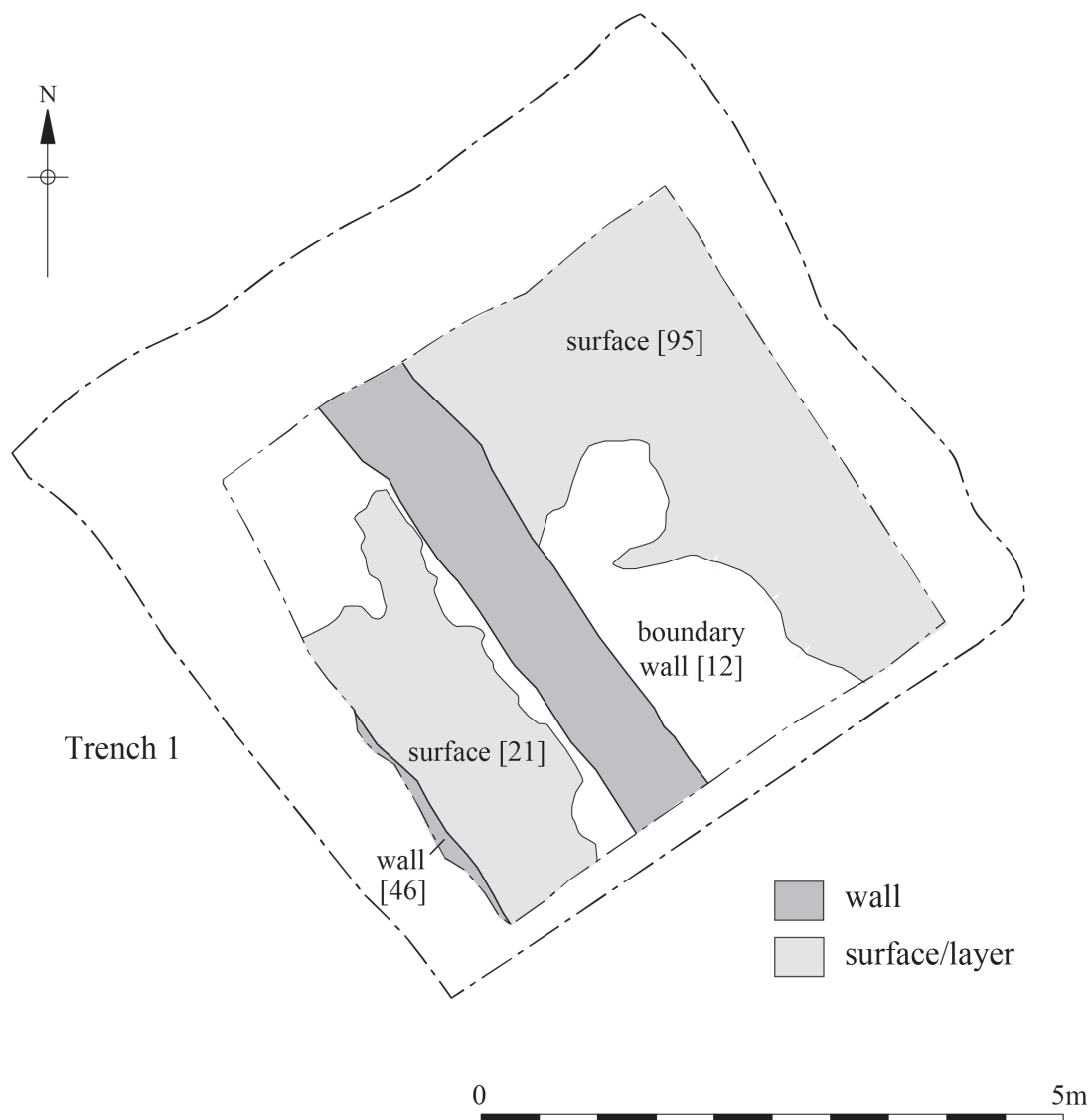


Fig. 12 Trench 1; Period 1, phase 2 plan.

With wall [12] in place, deposits accumulated alongside it, to both west and east. To the east, a grey silty sand deposit [133] was the earliest material to post-date the structure, this overlain by a succession of varied dump deposits, including [129], [110] and [109] (fig. 8), which yielded very small quantities of pottery only broadly attributable to the medieval period. As a group, these deposits were probably laid down to raise and consolidate ground level ahead of the establishment of surface [117], comprising compact brownish orange sandy gravel with cobbles, alongside the boundary, presumably forming an associated yard or lane.

Associated with surface [117] was structural evidence, albeit in the limited form of a small posthole with post-packing stones, the presence of which indicates that ground raising had ceased and activity was taking place east of the boundary. At Queen Street, evidence of timbers set into the surface of a solid pier (phases 2 and 3) built on the reclaimed foreshore was interpreted as representing possible mooring posts or cargo handling equipment (O'Brien *et al.* 1988, 8–9).

Abandonment of the structure represented by the posthole in surface [117] was followed by the laying down of another compact sandy gravel and cobble surface [108]. In turn, this was overlain by several patchy spreads, the uppermost of which had been cut through by a sub-circular posthole, this a more substantial feature than the earlier example, but again with packing stones surviving. Sealing the infilled posthole was an extensive compact black and dark orange brown dump [95] (fig. 12) comprising coal and ash with iron slag. Possibly originally laid for ground raising and consolidation, this probably also served as a surface (maximum recorded level 2.40 m AOD), again for a yard or lane alongside the boundary. As well as producing more than 30 sherds of thirteenth- to fourteenth-century pottery and three fragments of similarly-dated tile, the deposit contained heavily-weathered lumps of iron-rich conglomerate. However, rather than representing an *in situ* compacted earth/detritus floor from an iron forge, the material was more probably the broken-up remains of such a floor in the locality or potentially arrived at the site as ships' ballast.

Of the sequence of Period 1, phase 2 deposits east of wall [12], a clay spread (not recorded in section) attained the highest level (2.53 m AOD). Therefore, the cumulative effect of the accumulation of these deposits was to elevate ground level by *c.* 0.90 m. Over what period of time this took place is unknown, given that two or three distinct surfaces were evidently represented within the sequence, as well as two structural episodes, albeit of uncertain nature.

West of wall [12], a substantial compact dump of cobbles and sandstone fragments was the earliest deposit (maximum recorded level 2.71 m AOD) post-dating its construction, sealing infilled construction cut [127] and abutting the structure. Partially overlying this material was an orange sand spread from which sherds of thirteenth- to fourteenth-century pottery were recovered. In turn, this was overlain by a stiff yellowish brown clay surface [21] (fig. 12, fig. 17). Although surfaces [21] and [95] (both depicted in plan on fig. 12) lay at relatively similar levels either side of wall [12] and amongst the uppermost deposits assigned to Period 1, phase 2, it is by no means certain that they were in use contemporaneously.

The eastern side of a north-west–south-east aligned sandstone rubble wall [46] was exposed in the south-western corner of the original trench (fig. 12); subsequently obscured behind the shoring, it was unclear what form of structure it represented.

Trench 2 (fig. 13, fig. 14)

In Trench 2, very little activity could be assigned to Period 1, phase 2, with later cellars likely to have removed stratified medieval deposits above the ballast. To the east, around half of the lowermost part of a refuse pit [113] had a brownish green clayey sand primary fill, while its upper fill was a distinctive mixed deposit of dark brown silty sand with patches of charcoal and flint gravel. A large, though broken, sandstone 'disc' (SF 9, fig. 30.2) occupied the south end of the feature (fig. 13; fig. 14). The relatively complete, unbutchered skeleton of a young chicken lay directly beneath the stone, suggesting that the pit was used to dispose of an

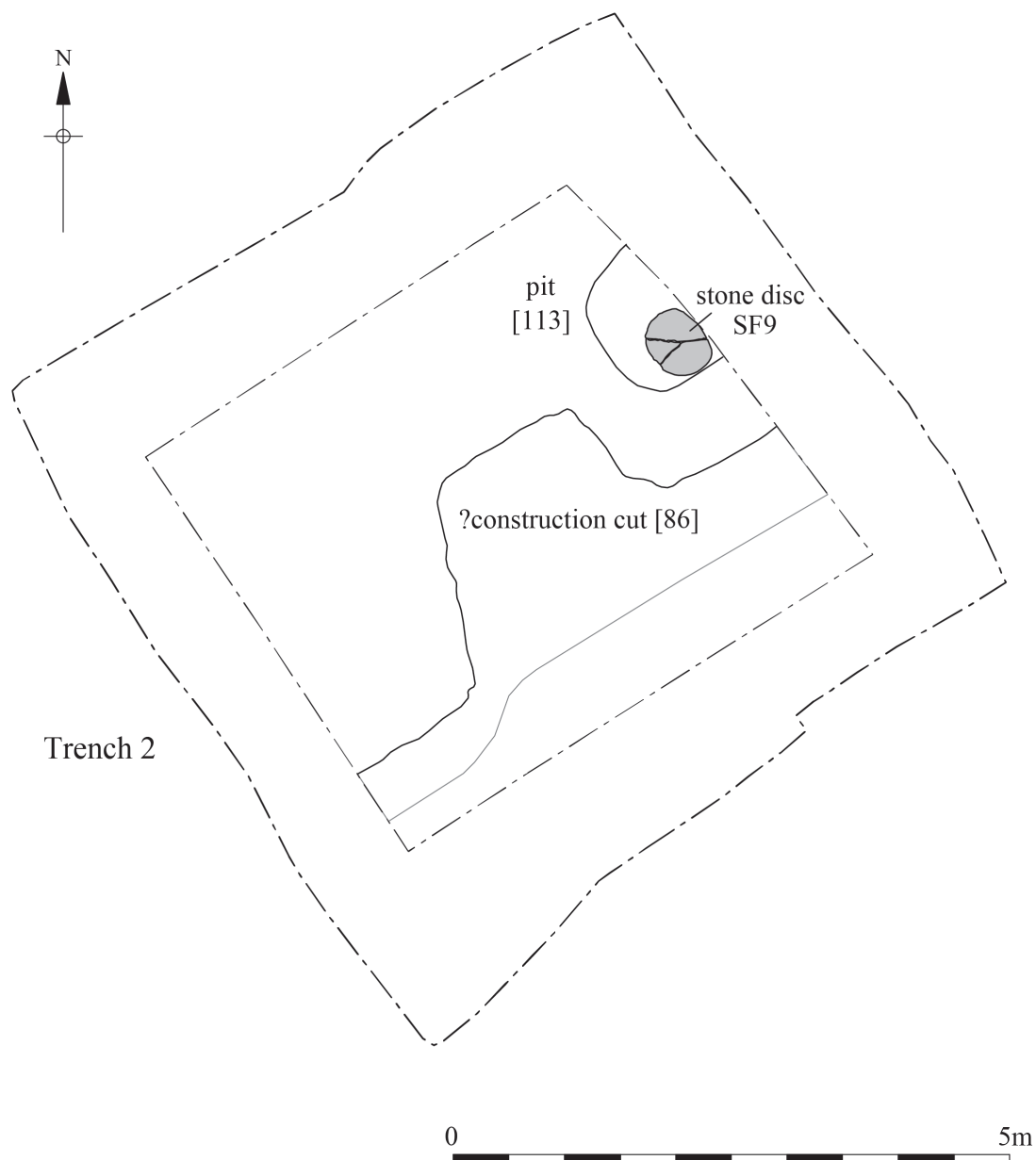


Fig. 13 Trench 2; Period 1, phase 2 plan.

unwanted, possibly diseased, bird carcass. The upper fill yielded sherds of late thirteenth-century pottery, broken medieval bricks, and a single iron nail.

Crossing the full width of the trench on a south-west–north-east alignment was the north side of a large feature [86] (part of which was recorded in section, fig. 10). Excavated to a maximum depth of *c.* 0.90 m, this perhaps most likely represents the construction cut for a



Fig. 14 Trench 2; excavation of Period 1, phase 2 pit [113], stone disc SF 9 in situ; looking north.

section of long-removed riverfront revetment, while a squarish extension c. 1.80 m wide to the north perhaps represents some form of associated structure, such as a mooring post or something more elaborate, perhaps a temporary pier or jetty. The medieval town wall would have lain c. 15 m to the south, possibly too far to be able to associate its construction with feature [86]. Its stony fill [103], mostly fluvial sandstone or igneous cobbles, included a black flint flake struck from a nodular cobble possibly derived from the lower Thames or its estuary, indicating that at least some of the material was ships' ballast. All 34 sherds of pottery recovered from fill [103] were of thirteenth-/fourteenth-century date.

Partly overlying infilled feature [86] was an extensive cobble dump [81] (not illustrated) which appeared to form either a consolidated capping 'raft', potentially the definitive, concluding episode of reclamation activity; cf. phase 4, cobble surface [4] at the Milk Market (Heslop *et al.* 1995, 224). Recorded at a maximum level of 1.81 m AOD, dump [81] was the highest surviving medieval deposit in Trench 2, although again the uncertain extent of horizontal truncation by later cellars must be highlighted. Eight sherds of pottery and a fragment of ridge tile, all of thirteenth-/fourteenth-century date, were recovered from it, as well as three small iron objects, two probably parts of nails. In this case, stones examined from dump [81] most likely originated from the adjoining channel of the Tyne, rather than having been imported from further afield. A banded silty sandy clay spread overlying the cobbles yielded two sherds of medieval pottery and two iron nails, one a possibly complete example.

Period 2

(broadly fourteenth to fifteenth century); continued occupation on the reclaimed foreshore

Trench 1 (fig. 15, fig. 16, fig. 17)

Deliberate ground-preparation was evidently undertaken for the construction of a south-west-north-east aligned sandstone rubble wall [39] abutting boundary wall [12] at a right angle, to the east (fig. 15; fig. 16). Notable amongst the ground-raising and consolidation material was a distinctive coal and ash dump which yielded 20 sherds of pottery, the latest

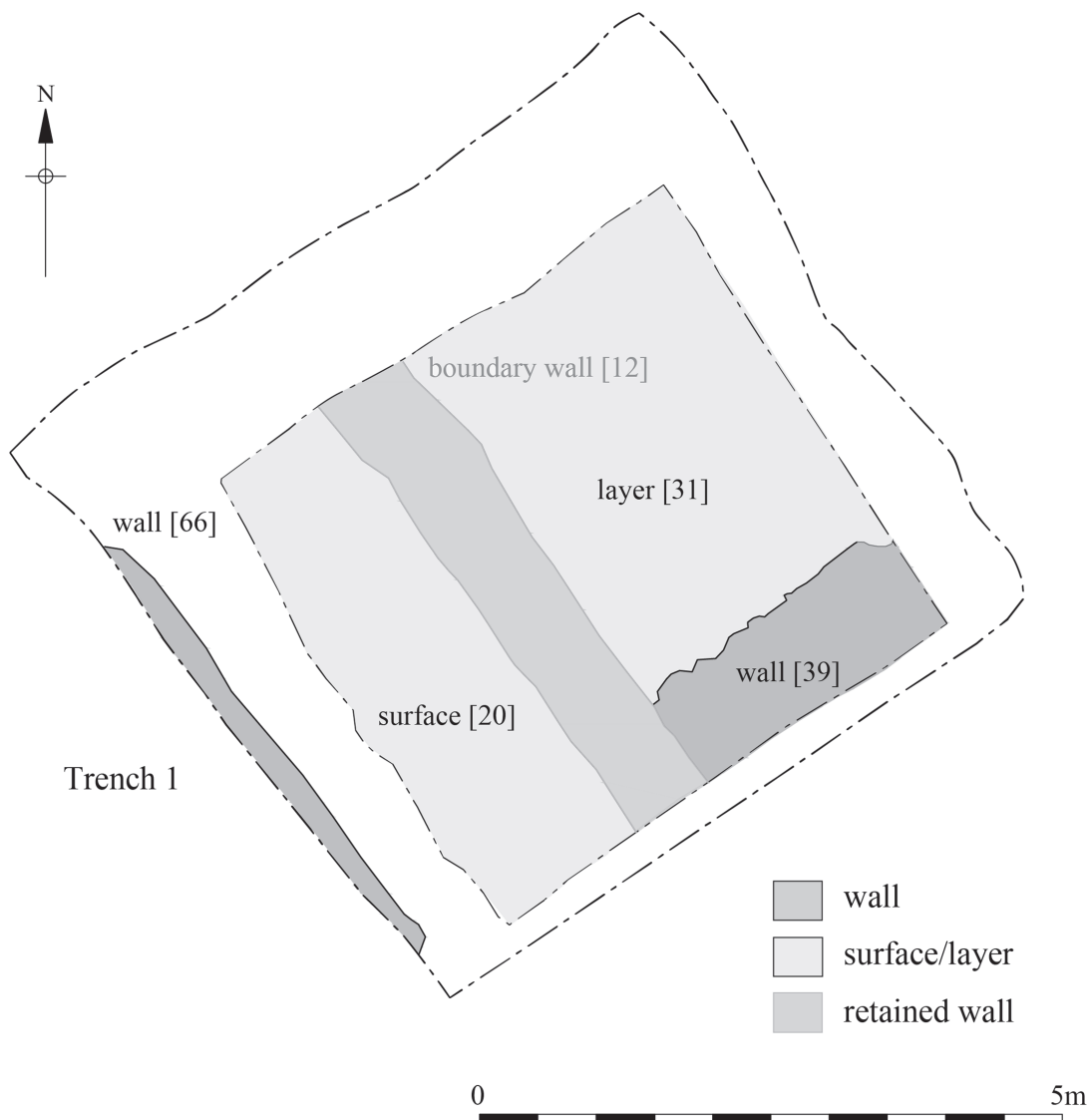
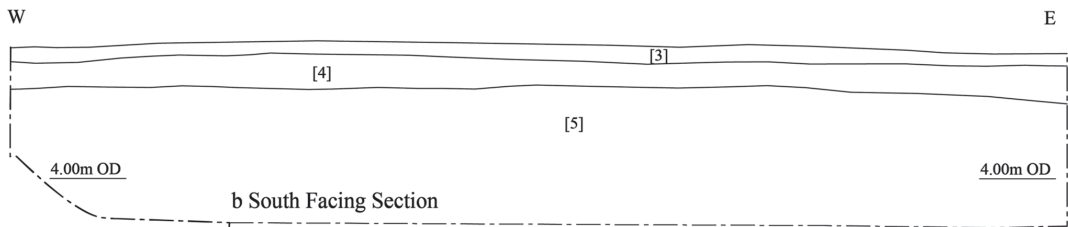
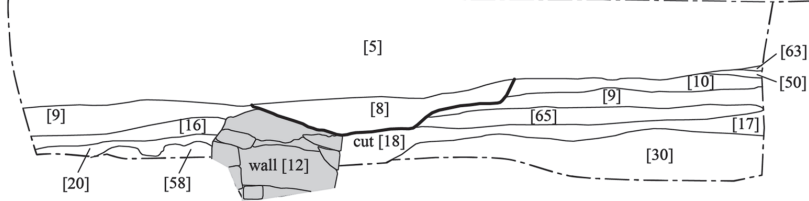


Fig. 15 Trench 1; Period 2 plan.

a South Facing Section



b South Facing Section



c West Facing Section

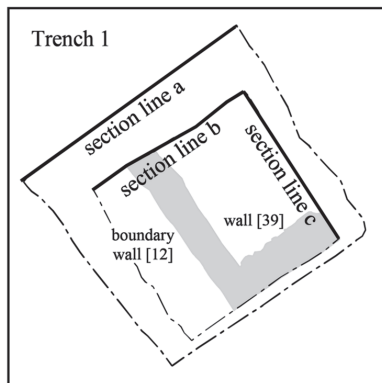
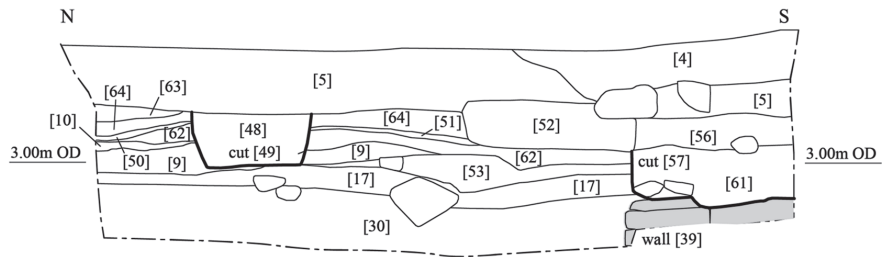


Fig. 16 Trench 1; sections through upper strata, including Period 2 remains, eg walls [12] and [39].

material of fourteenth-/fifteenth-century date, two similarly-dated fragments of flat tile, and a small piece of sheet lead. The deposit also contained heavily weathered lumps of iron-rich conglomerate, which again probably represents disposal of a broken-up forge floor. An overlying sequence of dump layers and spreads produced fourteenth-/fifteenth-century pottery.

The exposed portion of wall [39] was up to 1.0m wide, standing to a height of c.0.60m (maximum level of 3.06m AOD). Built directly upon the underlying consolidation material, with no construction cut evident, it may have formed a property sub-division or partition. The lowermost course included the largest stones (up to 540mm by 400mm by 290mm) within the wall and the squared faces of many of these larger components perhaps suggest re-use from an earlier structure. Three sherds of pottery were recovered from the wall masonry, indicating construction during or after the fourteenth/fifteenth century.

Lying immediately north of wall [39] and post-dating its construction, was an extensive, very distinctive dump [31] of bluish grey ashy clay with frequent sandstone fragments (fig. 17). This was particularly noteworthy in that it yielded 35 whole or part medieval bricks, as well as more than 50 sherds of pottery and fragments of flat tile, collectively indicating a fifteenth-century date of deposition.

Overlying deposit [31] across the eastern portion of Trench 1 was another distinctive dump [30], which comprised loose light greyish yellow sand. In contrast to the underlying material, it produced very little cultural material, just a small quantity of animal bone. Similar sand deposits recorded at Queen Street were interpreted as material dumped for ground raising (e.g. phase 5i, fifteenth century, spread [353]; O'Brien *et al.* 1988, 19).

In a sequence of Period 2 deposits west of wall [12], the earliest, lying above clay surface [21] (fig. 17), was a patchy reddish brown ashy sand [19] (maximum recorded level 2.69m



Fig. 17 Trench 1 (with shoring); Period 1, phase 1 wall (12) (as exposed), central; Period 1, phase 2 clay surface (21), right; Period 2 wall (39), rear left; stony dump layer (31), left; looking south-east (1m and 0.5m scales).

AOD). It was overlain by a more extensive layer [20] (fig. 16) of fire or hearth debris, comprising black and purple sandy ash, coal and clinker/cinder. The remainder of the deposits west of wall [12] comprised further dump layers and spreads, including layer [16], with some of these noteworthy in that, for the most part, they comprised crushed lime mortar.

An extensive dump layer [9] was the most extensive of a small group of deposits, which included layer [10], to form the uppermost medieval strata in Trench 1. Layer [9] (maximum recorded level 3.11 m AOD) was a mixed though generally silty deposit, recorded in plan to the east of wall [12] but also traced in section across the majority of the extent of the trench (fig. 16).

Some Period 2 deposits produced small quantities of pottery, indicating a date of deposition during or after the fourteenth or fifteenth centuries. Layer [17] produced six fragments of flat and possible hip tile, all of fourteenth-/fifteenth-century date, while two deposits, including [10], each produced two similarly-dated tile fragments.

The eastern edge of a sandstone rubble wall [66] was exposed (maximum recorded level 3.88 m AOD) on the western step of the original trench ahead of the shoring installation (fig. 15). Uncoursed and mortared, a broadly medieval date is assumed, based on form. Period 1, phase 2 wall [46], also exposed to only a very limited extent in the lower part of the original trench, would have lain between walls [12] and [66] indicating that all three structures were probably not in use contemporaneously.

Trench 2

No deposits or structures could be assigned to Period 2 in Trench 2, where later medieval strata had almost certainly suffered horizontal truncation by later cellars.

Period 3

(broadly post-medieval); installation and development of street frontage cellar rooms

Trench 1

Dump layers of little or no archaeological significance were recorded in section in Trench 1 (highest recorded level 3.31 m AOD); chiefly comprising coal and clinker/cinder, these were broadly of post-medieval date.

PERIOD 3, PHASE 1 (LATE SEVENTEENTH TO EIGHTEENTH CENTURIES)

Trench 2 (fig. 18)

The cellar rooms of two former adjoining street frontage buildings were recorded in Trench 2. Dating evidence indicates that the constructional sequence commenced in the late seventeenth to eighteenth century, although the possibility is acknowledged that the earliest fabric may have been of medieval origin.

Probably the earliest structure was a north-west–south-east aligned sandstone wall [32/43] (the wall had been cut through at a later date to form a doorway) forming the cellar wall of the eastern building (fig. 18). Up to c.0.70 m wide, it survived to a height of up to 2.40 m (maximum recorded level 3.62 m AOD). Its coursed random sandstone rubble was mortar-bonded, with two distinct mortar recipes identified. The sandstone itself was medium-

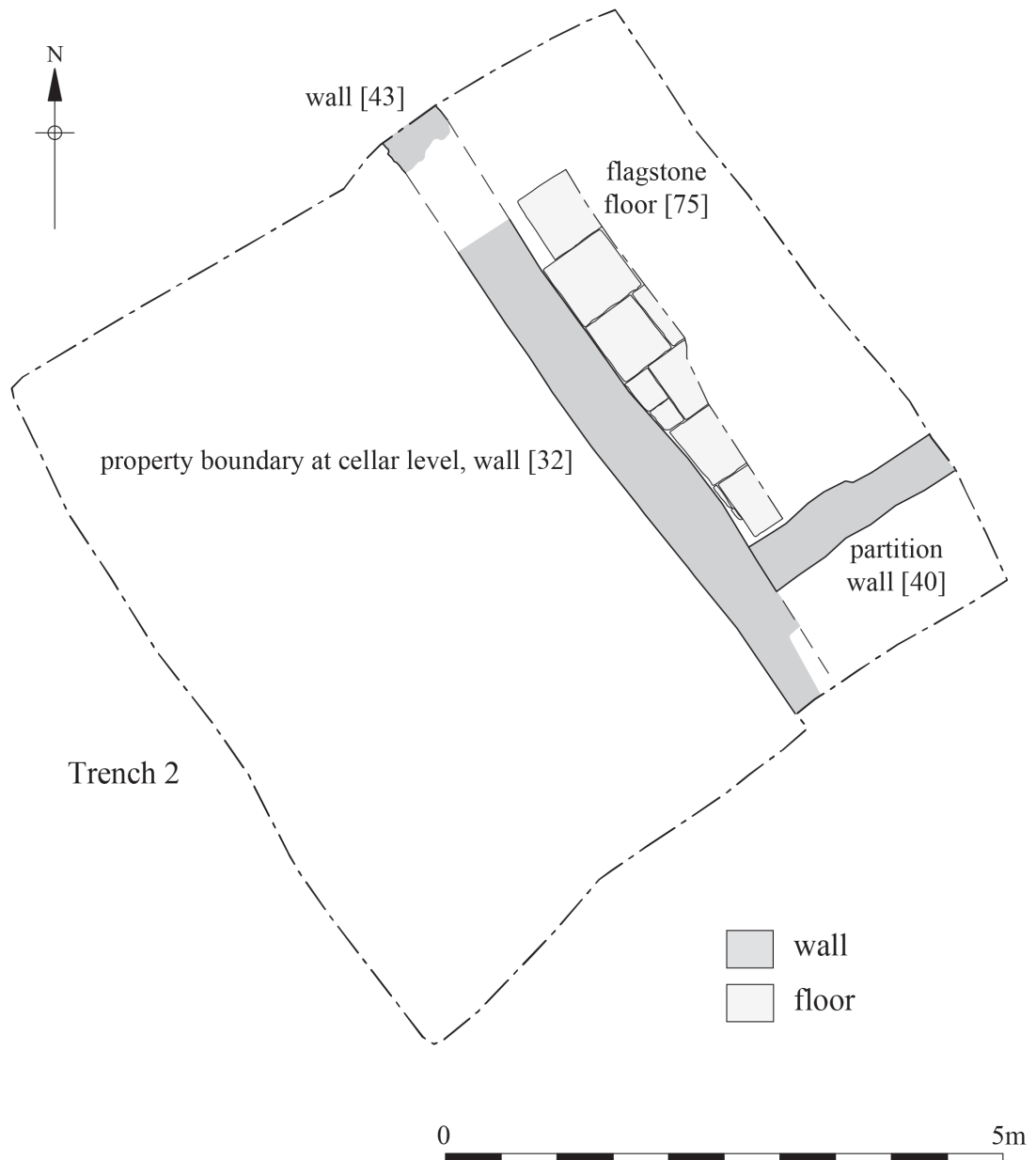


Fig. 18 Trench 2; Period 3, phase 1 plan.

grained quartz sandstone, probably locally-quarried from a coarse Lower Coal Measures unit. A fragment of brick recovered from the heavily-mortared lowermost part of wall [32] was of probable seventeenth-century date.

Part of wall [32] occupied a very shallow construction cut, exposed for a length of c. 2.40 m, with a squarish terminal cutting into the north edge of the Period 2 cobble dump. To the

south, the wall sat directly on the underlying reclamation deposits, with no construction cut evident, while the extreme southernmost portion occupied a more substantial construction cut, up to 0.50 m deep, which continued to the southern limit of excavation. Relatively modest foundation arrangements for substantial walls (of medieval date) have been recorded previously on the Quayside, e.g. at the Mansion House site, where successive waterfront walls [525 and 290] were built directly onto natural foreshore deposits (Fraser *et al.* 1995, 153-4), while at the Milk Market, the west-east portion of the medieval town wall was itself set directly upon sand and gravel ballast, without either a foundation trench or a consolidated supporting raft (Heslop *et al.* 1995, 224-5).

Here, the deeper southern portion of the construction cut for wall [32] was shared by another wall [40] that had been keyed into its eastern side and ran at a right angle to it, with the close relationship indicating contemporaneity. Wall [40], again mortared random sandstone rubble, was up to 0.50 m wide and stood to a maximum height of 1.95 m (maximum recorded level 3.14 m AOD); it represents sub-division of the cellar of the eastern building.

Deposits abutting wall [32] in the north-eastern corner of Trench 2 probably post-dated the structure, possibly dumped for ground consolidation and levelling. A silty sand and charcoal spread yielded a piece of clay tobacco pipe stem with a date of manufacture closely-datable to between about 1690 and 1710. It was overlain by a rubble (fragmented mortar, chalk and sandstone) make-up layer, which was in turn overlain by a sandy bedding layer, for a flagstone cellar floor [75]. A glass bottle fragment (SF 3, fig. 30.4) recovered from the bedding layer was also closely datable, in this case to the last decade of the seventeenth century. The flagstones were hewn from locally-quarried brownish sandstone, with some of substantial size (up to 660 mm by 620 mm and up to 150 mm thick, although most were typically *c.* 10 mm thick).

PERIOD 3, PHASE 2 (EIGHTEENTH CENTURY)

Trench 2 (fig. 19, fig. 20)

A sandstone wall [33]/[44] (also cut through to form the later doorway) was constructed against and parallel to existing wall [32]/[43], tightly abutting the upstanding structure on its western side and forming the cellar wall of an adjacent western property (fig. 19). Built in roughly-coursed mortared random rubble, the wall was up to *c.* 0.70 m wide and survived to a maximum height of 2.0 m. Its lowermost part occupied a linear construction cut up to 0.40 m deep and this portion of the wall included a half brick of probable late eighteenth-century date. Walls [32]/[43] and [33]/[44] therefore represent the abutting boundary walls, at cellar level, of adjacent street frontage properties.

Very neatly keyed into the west side of wall [33] and extending away to the west at a near right angle was a similarly-constructed wall [34], up to *c.* 0.60 m wide and surviving to a maximum height of 1.80 m (fig. 20). The base of this wall was consistently 'stepped out', by up to *c.* 0.20 m, this 'footing' incorporating numerous cobbles, while its construction cut went into underlying medieval ballast, as well as appearing to cut through the backfill of the construction cut for wall [33], at the junction of the two structures. Therefore, although wall [34] was evidently built after wall [33], the two structures were so similar in overall form that some degree of contemporaneity can be reasonably assumed. In similar fashion to wall [40] in the eastern building, wall [34] represents sub-division in the cellar of the western building.

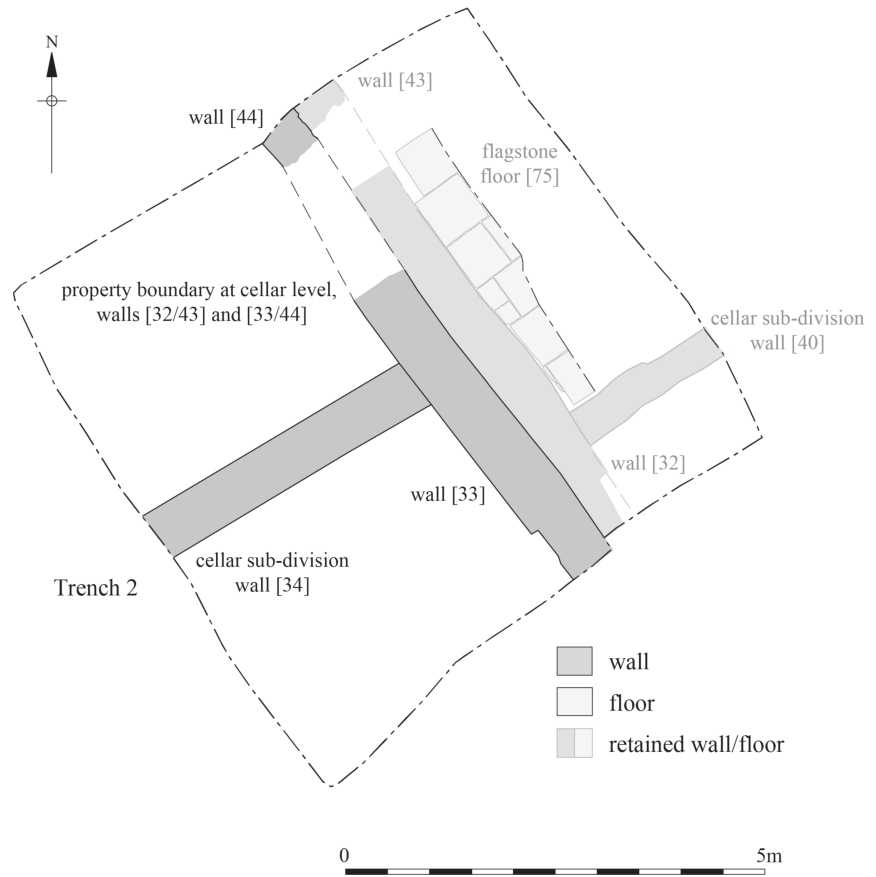


Fig. 19 Trench 2;
Period 3,
phase 2 plan.

Fig. 20 Trench 2;
Period 3, phase 2
walls [33], rear
and [34], central
(both at reduced
height), cut into
medieval ballast;
looking north-east
(1 m and 0.5 m
scales).



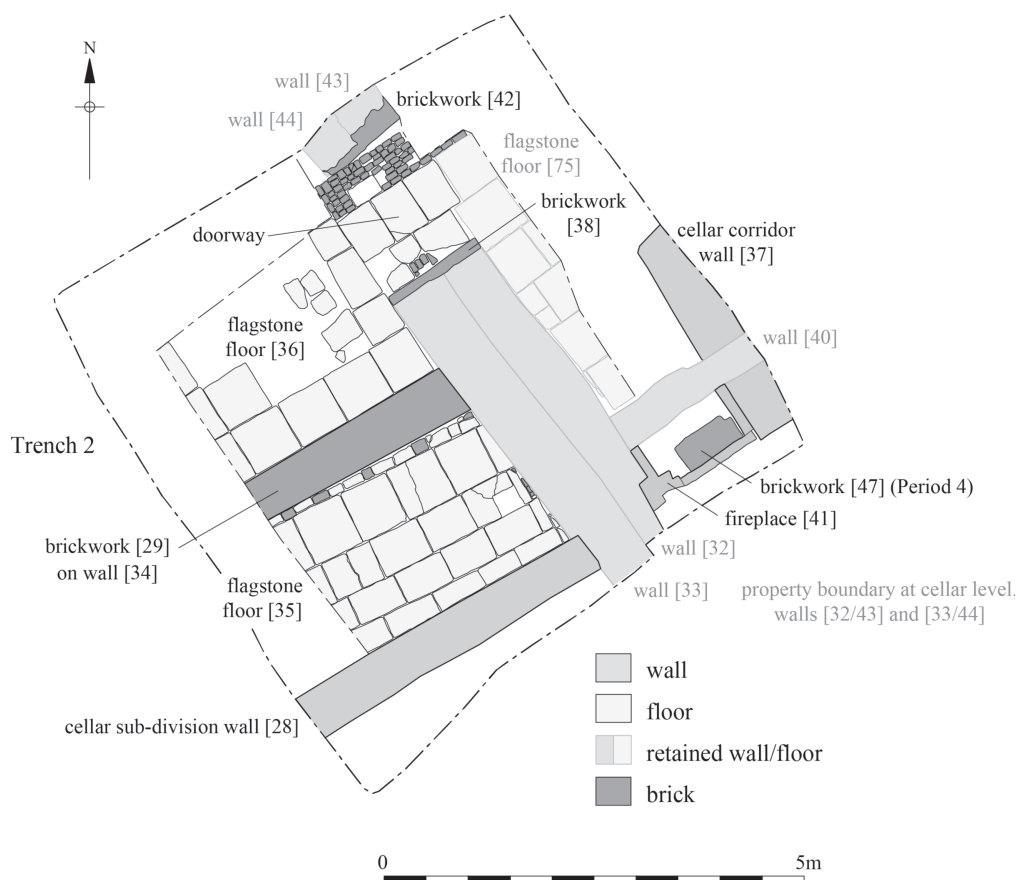


Fig. 21 Trench 2; Period 3, phase 3 plan.

PERIOD 3, PHASE 3 (LATE EIGHTEENTH TO MID-NINETEENTH CENTURY)

Trench 2 (figs. 21-25)

A south-west-north-east aligned brick wall [28] was keyed into the west side of wall [33] (fig. 21; fig. 23; fig. 24), meeting it at an angle slightly off the perpendicular, thus running parallel to wall [34] and creating a narrow cellar room *c.* 2m wide and at least 2.80m long in the western building. The bricks (average dimensions 250 mm by 122 mm by 60 mm) were laid in stretcher bond with slobbered lime mortar obscuring the face in places. Up to *c.* 0.60m wide, the wall stood to a height of 1.70m. The constituent bricks were broadly of eighteenth-century date.

The uppermost surviving brick course of wall [28] comprised the springer course, laid as stretchers, for the south side of a barrel-vaulted ceiling. The shallow angle at which the bricks were set indicated an almost semi-circular arch and, in the very limited part to survive, there was some indication that the soffit had been rendered. To the north, sandstone wall [34] had been adapted, with the addition of brickwork [29] (fig. 25), to carry a barrel-vaulted ceiling on both sides, to the south meeting the wall [28] abutment. Along the north side, the steeper angle of the springers indicated a segmental ceiling arch with a span in excess of 2.80m,



Fig. 22 Trench 2; Period 3 structures: cellar walls [33], right and [34], left (both at reduced height); flagstone floors [35], [36] and [75]; looking north-west (1 m and 0.5 m scales).

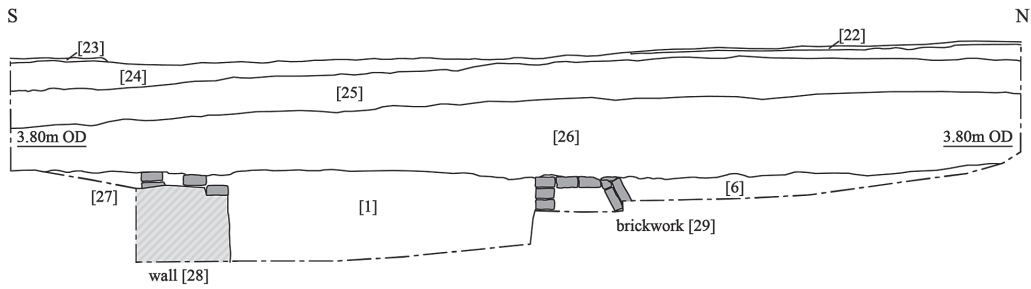
though the north abutment wall was not seen within the trench. Of the constituent bricks in the three surviving courses of brickwork [29], only a single complete example (dimensions 255 mm by 125 mm by 63 mm) could be recovered and this was broadly of eighteenth-century date.

In the eastern cellar, brick wall [37] had been built at a right angle across wall [40] and ended in a vertical face to the north, presumably one side of a cellar doorway. Wall [37] was up to 0.42 m wide, although its eastern edge was not seen, standing to a height of 1.15 m. The bricks (average dimensions 240 mm by 115 mm by 60 mm), some with a shallow combed frog, were of late eighteenth- or possibly very early nineteenth-century date. Angled bricks in the fragmentary uppermost surviving course represent the remains of the springer course for a barrel-vaulted ceiling above the narrow cellar passage between walls [37] and [32].

Sandstone walls [32] and [33] had been cut through to create a cellar doorway, 1.50 m wide, with both sides of the aperture faced with brickwork, [38] to the south (fig. 25) and [42] to the north. The hand-moulded bricks (average dimensions 220 mm by 109 mm by 67 mm) were datable to the first half of the nineteenth century, perhaps its first quarter. Part of the springer course for a doorway ceiling arch survived in brickwork [42], but no trace of this survived on the south side. Insertion of this doorway perhaps represents ownership of the two properties by the same person or persons.

The narrow cellar room between walls [28] and [34/29], with its end wall formed by wall [33] had a well-preserved flagstone floor [35] (maximum recorded level 1.98 m AOD) (fig. 22).

a East Facing Section



b West Facing Section

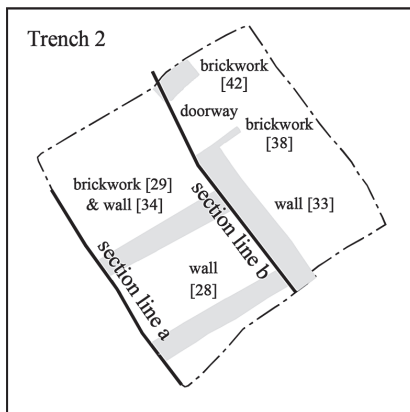
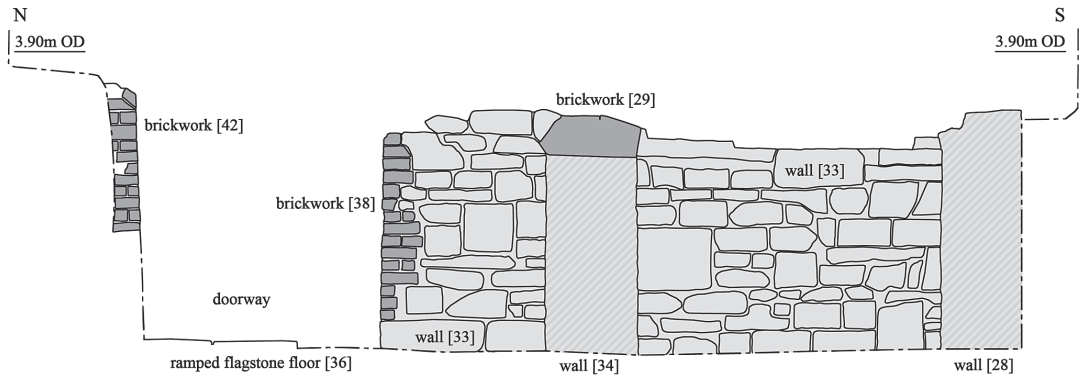


Fig. 23 a) Trench 2; section through upper strata; b) elevation/cross-section of Period 3 structures.

Brick of early nineteenth-century date was recovered from a silty sand make-up layer, along with two fragments of nineteenth-century tile and a copper-alloy shoe buckle (SF 2, fig. 30.3) of eighteenth-century date, this presumably residual in context. A row of larger (up to 600 mm square and up to 60mm thick), flagstones formed the northernmost part of floor [35]. The sandstone was of a laminated micaceous type, probably locally-quarried from the Lower Coal



Fig. 24 Trench 2; Period 3 cellars, including: walls [32] and [33], with brick addition [38], central; wall [34], with brick addition [29], right, central; brick wall [28] right, rear; looking south-east (1 m scales).



Fig. 25 Trench 2; Period 3 cellars, junction of wall [33] (with brick addition [38], centre, left) and wall [34] (brick addition [29], right); flagstone floor [36]; looking south-east (1 m scale).

Measures bedrock. Gaps between the floor and the cellar walls to the north and east, created due to the less than perpendicular angle between the walls, were filled with cut flags and part bricks.

Flagstone floor [36] to the north of wall [34/29] was poorly-preserved. To the east, it had been laid against wall [33], where it was recorded at a height of 1.99m AOD. It also extended into the doorway created in walls [33] and [44] and [32] and [43], with this portion sloping up to provide access to the slightly higher floor [75] of the retained through passage. Much brick infilling had been undertaken in the doorway floor, most notably to the north, alongside brick facing [42].

In the eastern cellar, brick fireplace [41] (fig. 21), which utilised sandstone wall [40] as its back wall, would have heated a space to the south of the trench. Its one-skin thick side walls were brick-built (average dimensions 237mm by 110mm by 66mm), these effectively lining walls [32] and [37] to the west and east, respectively. The heat-damaged bricks, most with shallow frogs, were of early nineteenth-century date. The fireplace surround was exposed in the corner of the original trench, comprising sandstone uprights and lintel, with some brick infill recorded on its western side, joining the side wall.

Period 4

(late nineteenth- to mid-twentieth century); disuse of street frontage cellar rooms

Trench 2

Disuse of fireplace [41] in the eastern cellar was represented by brick infill [47] (fig. 21). Demolition dumps, up to 1.50m thick, infilling the cellar rooms of the western building are likely to represent demolition of the building above. A complete clay tobacco pipe and another pipe stem fragment, both of which were stamped, were recovered from infill [6] (fig. 23a); one of the stamps was of a pipemaker who worked in Newcastle from 1875 to 1925.

Period 5

(late twentieth to early twenty-first century); modern overburden

Modern overburden was removed by machine at the onset of the excavation, then recorded in section in the original stepped trenches prior to the installation of shoring.

Trench 1

The predominant component of modern overburden was a layer [5] (fig. 3, fig. 16) of recycled aggregate, up to 1.90m thick, thought to have been laid down as a piling mat in association with a previous (unimplemented) development proposal. The ground surface was tarmac [3] (maximum recorded level 4.84 m AOD).

Trench 2

The backfilled cellar rooms were overlain with recycled aggregate [26], up to 0.55m thick, with the ground surface grassed [24/23] or surfaced with tarmac [22] (maximum recorded level 4.48m AOD), these components of a small street frontage park prior to the development (fig. 4, fig. 23a).

THE FINDS

*The Pottery**(from a report by J. E. Vaughan)*

INTRODUCTION

Fig. 26 and fig. 27 compare the quantities of pottery assigned to each period (and phase where relevant) by weight and sherd count, respectively, in the two trenches. Trench 1 produced the larger quantity of material, amounting to 62.4% by sherd count and 69.1% by weight of the overall assemblage, and this was exclusively medieval (Period 1, phases 1 and 2 and Period 2), ranging in date from the thirteenth to the fifteenth centuries. Many of the sherds were discoloured with areas of de-vitrified glaze and rust-coloured accretions. Medieval pottery from Trench 2 (amounting to 23.8% by sherd count and 7.7% by weight of the overall assemblage) was broadly thirteenth/fourteenth century (Period 1, phases 1 and 2). Some of the material was noticeably abraded, probably water-worn. Trench 2 also produced post-medieval pottery of broadly nineteenth- or early twentieth-century date (Periods 3 and 4, respectively).

COMPOSITION OF ASSEMBLAGE

The pottery was sorted according to the established local fabric series and recorded using a system of Fabric Group (FG) numbers which has been used for recording other Tyneside assemblages. The following types were present:

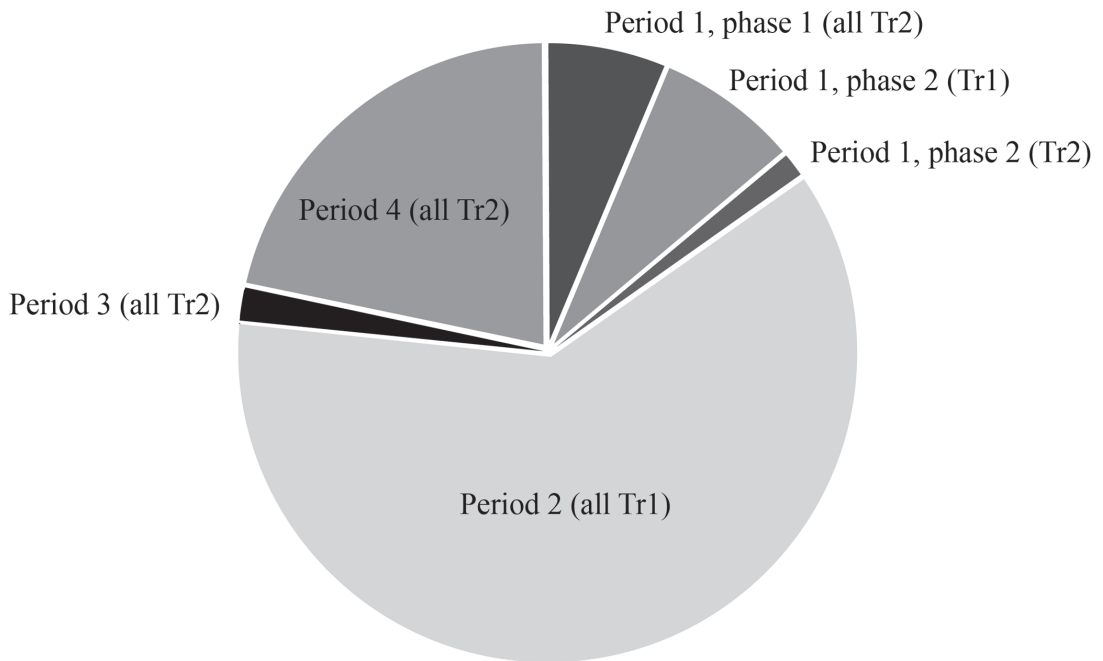
Pottery: proportion by weight (total 11,479g)

Fig. 26 Proportion of pottery by period/phase, by weight, in the two trenches.

Pottery: proportion by sherd count (total 303)

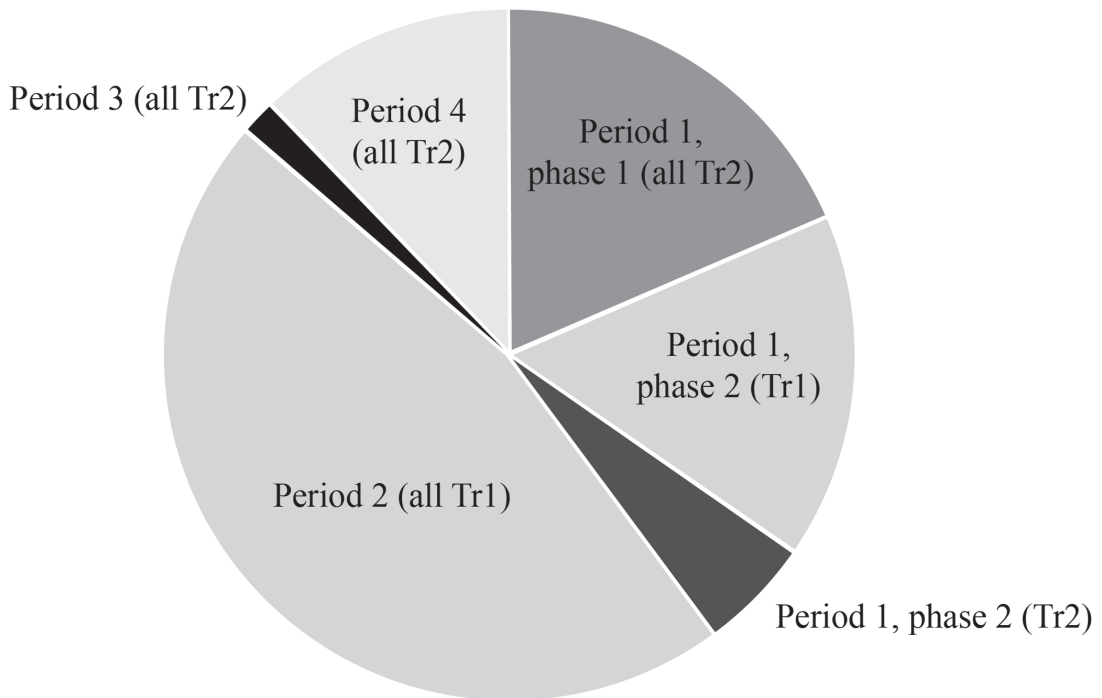


Fig. 27 Proportion of pottery by period/phase, by sherd count, in the two trenches.

- 2 South Curtain Wall; an early coarse sandy ware
- 3 Gritty wares; coarser varieties of types in FG 4
- 4 Light-firing wares (e.g. buff white wares)
- 5 Oxidized wares
- 6 Sandy unglazed wares
- 6.1 Early green glazed sandy wares
- 7 Reduced green glazed wares, includes part-oxidised with same characteristics
- 8 Later reduced green-glazed wares
- 10 Other medieval wares; unidentifiable
- 11 Scarborough ware
- 12 French wares
- 20 Imported redwares
- 21 Low Countries greyware
- 32 Later red earthenwares; eighteenth/nineteenth century
- 33 Refined whitewares; late eighteenth century onwards
- 35 Utilitarian stonewares

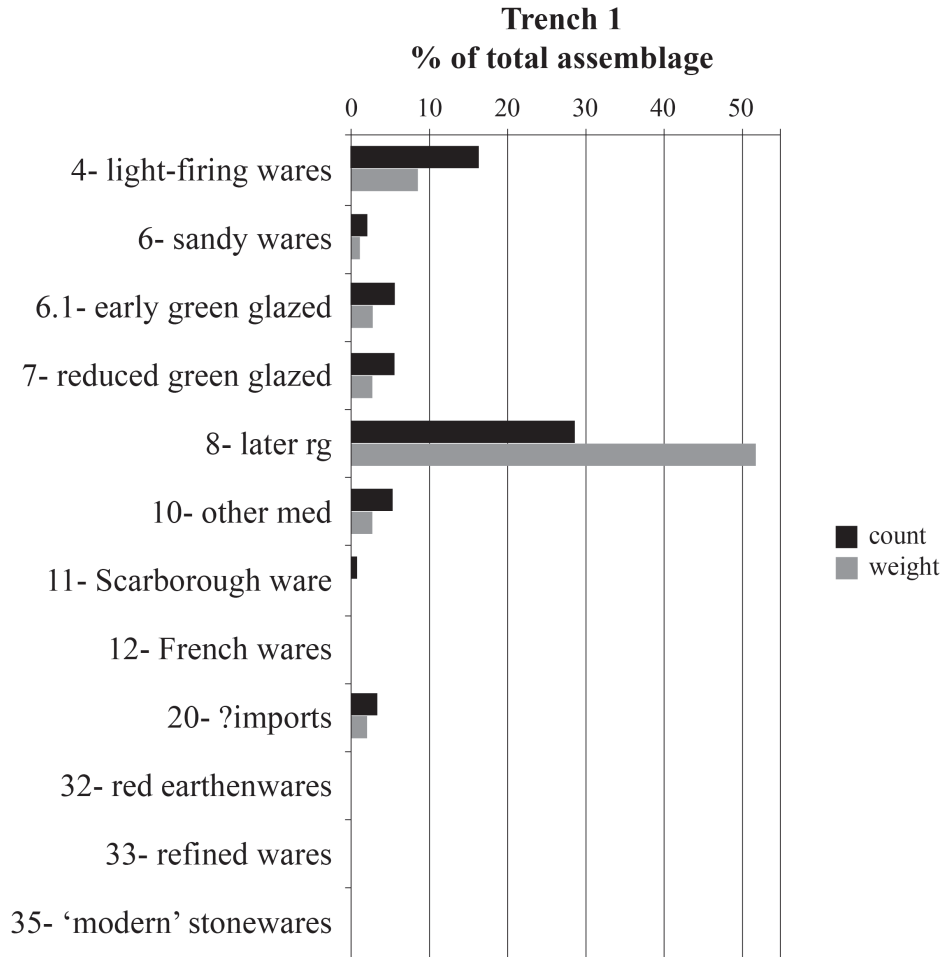


Fig. 28 Percentage of each fabric group represented in the Trench 1 assemblage, by sherd count and weight.

The trench assemblages are summarised in two charts (fig. 28 and fig. 29). Some small groups have been amalgamated, but the distinctions remain in the archive catalogue.

The largest group comprised later reduced greenwares (FG 8) from Trench 1. Nearly half of the sherds belonged to a large three-handled jug with bridge spout (from Period 2 dump layer [31]), possibly a cistern, though no bung hole was present. Two other large strap handles and a rim with handle scar were probably from similar vessels. A smaller handle and base from a vessel with internal glaze and a buff coloured deposit were possibly from a urinal. Light-firing wares (FG 4) were the second largest group present. Of the five rims present (all from Trench 1), four were everted jar rims of various forms and one was a straight rim possibly from a dripping pan.

Two identifiable groups of imports were Scarborough ware and French wares. Apart from two Scarborough ware sherds, this material came from Trench 2. The Scarborough Ware included sherds of a green-glazed possible jug with vertical ribs and one of probably a decorative 'false' handle. There were several sherds including the base of a mottled green-glazed jug, from Saintonge, south-west France, and another jug base and rim, also probably Saintonge, in a very fine white fabric. In addition to these imports, sherds of unglazed greyware were present and one

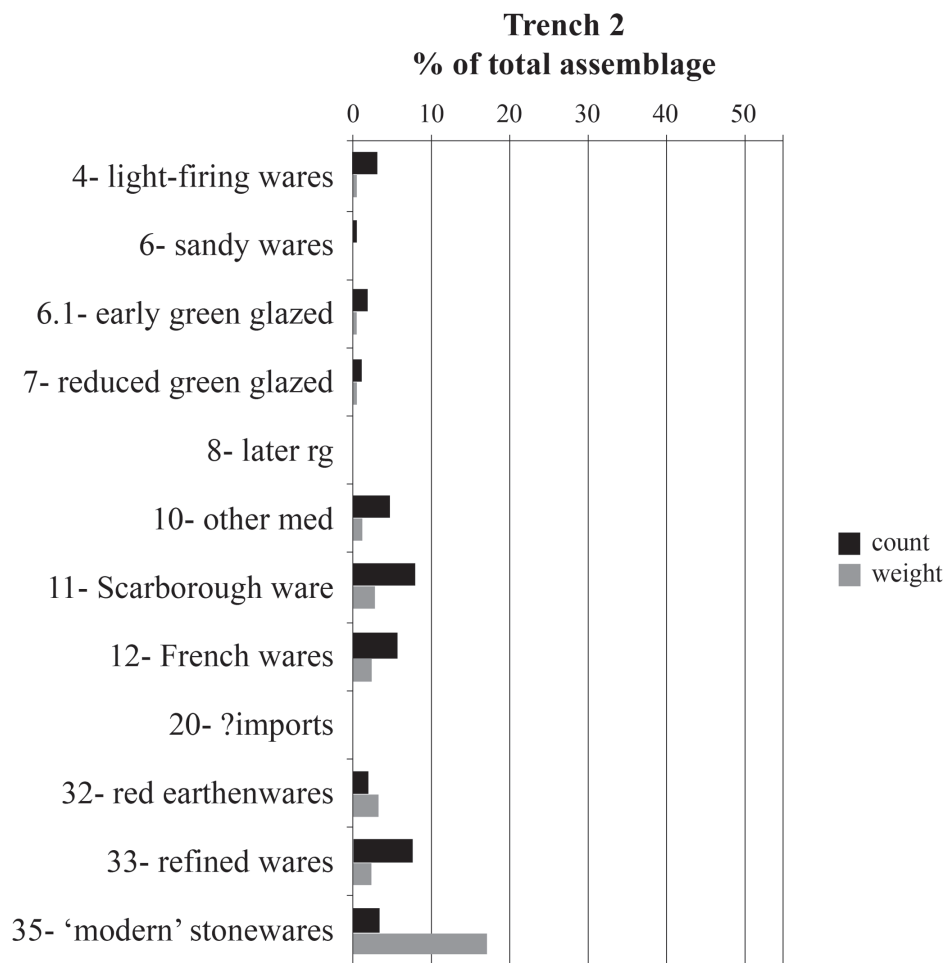


Fig. 29 Percentage of each fabric group represented in the Trench 2 assemblage, by sherd count and weight.

'family' of these (including a jar rim and base), was probably from the Low Countries; the sherds here came from Period 2 dump deposits in Trench 1. Low Countries greyware was found at the Castle also in association with late medieval material.

One sherd from Trench 2 (Period 1, phase 1 ballast [125]) was possibly the 'South Curtain Wall' type, so-called because it was first identified in the pottery from excavations at the South Curtain wall of the castle (Harbottle 1966). This could be indicative of activity in the early thirteenth, or even late twelfth, century. However, a distinctive jar form is a large part of the definition of this type, and a single body sherd is always open to question.

The main component of the post-medieval pottery comprised various nineteenth-century (or later) stonewares. These included a complete brown-glazed stoneware bottle with degraded maker's stamp, probably Doulton, and an almost complete bottle with stamp reading 'SKEY'; George Skey was a bottle manufacturer in Tamworth from 1860 into the early twentieth century. Another bottle had the mark of James Stiff, who set up in competition to Doulton in Lambeth, while part of another had a printed stamp identifiable as from the Manor Brewery of Ridley, Cutter and Firth Limited in Newcastle.

DISCUSSION

The difference between the two trenches appears to be very marked, although this discrepancy is likely to reflect the circumstances of excavation rather than any true disparity. None of the small group of medieval pottery from Trench 2 is *necessarily* later than the thirteenth century although there were comparatively few buff wares (FG. 4), which are the dominant type on Tyneside from the mid/late thirteenth to the early fourteenth centuries. Interestingly the two largest groups are imported wares (Scarborough and French). The assemblage from Trench 1 covers a wider date range from the thirteenth to fifteenth centuries. This is perhaps because the late medieval deposits in Trench 2 had been truncated by post-medieval cellars. The Trench 1 pottery included a significant quantity of FG 4 wares, and, even discounting the impressive large jug, was less fragmented than the medieval assemblage in Trench 2. The latter is too small to allow any serious interpretation, but it should be noted that whilst Scarborough wares constitute a significant proportion of the medieval pottery found on the Quayside, French wares are not nearly so common.

The pottery assemblage was too small to merit in-depth analysis, especially in view of the large quantities of medieval pottery recovered from other sites nearby. However, as noted above, there were some points, and vessels, of interest.

Ceramic Building Material and Mortar

(from reports by John Nolan (CBM) and Kevin Hayward (mortar))

INTRODUCTION

Trench 1 produced mostly medieval building material, with brick in five contexts and roof tile in twelve. Predominantly post-medieval material came from Trench 2, unsurprising given the presence of brickwork in the cellars; brick occurred in ten contexts, only one of which, pit fill [100], was medieval, with roof tile in eight contexts, half of which were medieval.

The range of brick types recovered was broadly comparable to similar sites excavated west of the Tyne Bridge, such as Close Gate and the Mansion House. Most noteworthy amongst this assemblage were the complete examples of medieval bricks.

MEDIEVAL BRICK

Fifty-four whole (typically 200 mm by 100 mm by 45–55 mm) and fragmentary bricks, predominantly in a creamy-yellow fabric, sometimes with stone or shell inclusions, were recovered. The largest quantity (36 samples), and the most complete examples, came from Period 2 dump deposit [31] in Trench 1.

Brick of this form has been recorded at many Newcastle sites, such as the Castle, Black Friars and the Mansion House site, in fourteenth- to late fifteenth-century contexts, and has been designated 'Type 1' in the published Newcastle brick type series (Harbottle and Ellison 1981; Fraser *et al.* 1995). The date of this assemblage, based on associated pottery, is broadly thirteenth to fifteenth century.

Examples here had been bonded with a coarsely-gritted white mortar, which in one example retained the impressions of two overlying bricks laid at ninety degrees, suggesting a simple header-stretcher bond. Others had evidence for knife-trimming and other manufacturing techniques.

POST-MEDIEVAL BRICK

Orange-red and light to dark red fabrics, often with reduced cores, characterise the assemblage, with bricks generally larger, heavier and denser than the medieval examples. The rougher lower faces have a shallow lateral comb-like 'scrape' prefiguring the later frog. Most of the assemblage is hand-moulded, though Period 4 brickwork [47] in Trench 2 included white-glazed press-moulded or cast brick marked in the frog 'Leeds Fireclay Co. Ltd.' and 'Burmantofts'; the latter company, which operated the Burmantofts Works, formed in 1889 and closed in 1957.

ROOF TILE

Four types of roof tile were recovered: pantile, flat tile, ridge tile and hip tile. Most of the tile appears to be flat or plain tile. Fabrics were predominantly orange-red to reddish-brown, often with reduced cores, with one face (taken as the 'upper') wiped, the other sanded. The red fabric has been considered non-local, with Netherlands imports suggested as the source (Harbottle and Ellison 1981, 173). No nail-holes were noted, and only four nibs were present, three of which were turned to the wiped face. Thicknesses varied from 10-20mm, the majority 14-15mm. The first appearance of flat tile can be difficult to determine; here examples occur in contexts e.g. Period 2 dump [31] (fig. 15) with fourteenth-/fifteenth-century brick, suggesting both were in use broadly contemporaneously.

Two fragments of ridge tile were recovered, both from Period 1 dumps in Trench 2, one being deposit [122] (fig. 10). The fabric was gritty, with pale pinkish margins, reduced cores, and green external glaze. Ridge tiles in a very similar fabric and of comparable date were found at the Castle (Harbottle and Ellison 1981).

Six fragments of hip tile came from later medieval contexts, with an orange-red fabric perhaps again indicating a Netherlands origin. Period 2 dump [17] produced four fragments, the largest single piece (fig. 30.1) indicating a trapezoidal- or 'fish-scale'-shaped tile, roughly 'nibble' trimmed on its top edge, with a single small rectangular nail-hole; the tile appears to have been 380 mm long, 290 mm across at its widest point and 18 mm thick.

Pantile fragments of a uniform orange-red fabric were present in two contexts in Trench 2, Period 3 flagstone floor make-up [74] and Period 4 cellar infill [1]. Pantile is not thought to have appeared in Newcastle before the second half of the sixteenth century (Harbottle and Ellison 1981).

MORTAR

Five lime mortars were sampled from various structures, with an additional example recovered as fragments from a fill of Period 1 pit [113] in Trench 2 (fig. 13).

Given its origin, probably the earliest mortar type identified (designated T4) was a beige/white quartz-rich mortar in pit [113].

The most common mortar type (designated T3) amongst the samples was a lime-rich recipe with numerous cream and pink clay inclusions. Associated with several components of the post-medieval cellars in Trench 2, e.g. [40], [43] and [44], it also appeared in Period 1, phase 2 wall [12] in Trench 1, although it is considered likely that this monumental long-standing structure was re-pointed in the early post-medieval period.

A loose, dark grey earthy mortar (designated T2), also recovered from the Trench 2 cellar complex, e.g. walls [32] and [33], was poorly-preserved and was either an early recipe or could simply be a degenerated form of the T3 type.

Later harder recipes (designated T1 and T1a) recovered from components of the Trench 2 cellars, e.g. walls [32 and 37], represent a mortar type widely used throughout England in the mid-eighteenth to nineteenth century; the material here was (T1) concrete-like, light grey, with inclusions of woody matter and coal, as well as occasional shell, quartz and purple siltstone, while its hard, fine, light brown variant (T1a) included lime chunks and coal.

Miscellaneous Finds

STONE

Context [100], Period 1, phase 2, (SF 9). A large sandstone 'disc', though broken into three closely-fitting parts (fig. 30.2); D: 580 mm, H: 26 mm, Wt: 10 kg. One surface is ground or polished noticeably smoother than the other. Manufactured from locally-quarried (Lower Coal Measures) laminated micaceous fine sandstone.

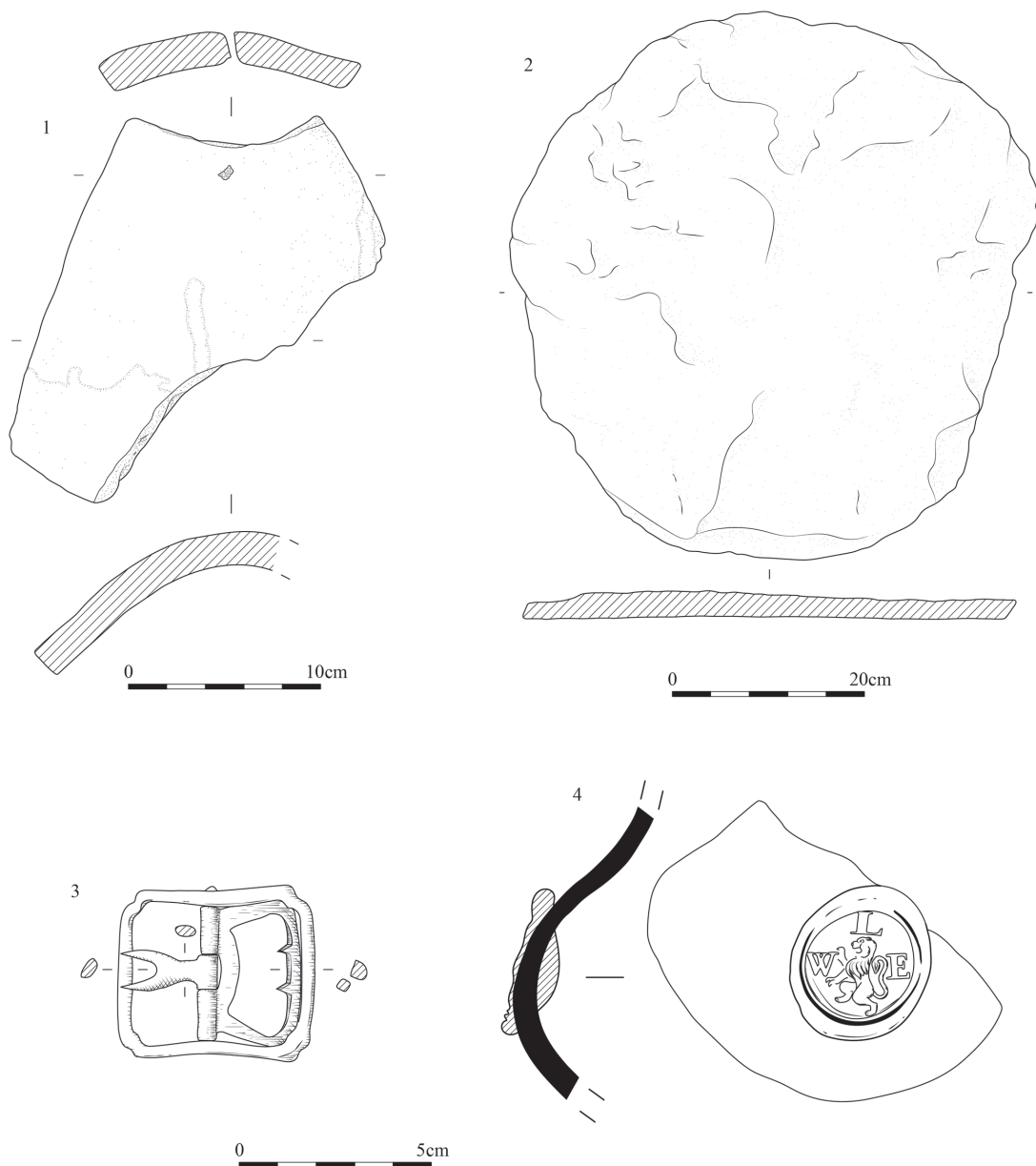


Fig. 30 Finds illustrations; 1. Hip tile fragment, context [17]; 2. Large stone disc, SF 9, context [100]; 3. Copper-alloy shoe buckle, SF 2; context [74]; 4. Glass bottle seal, SF 3, context [77].

CLAY TOBACCO PIPE (*from a report by J. E. Vaughan*)

Just seven examples of clay tobacco pipes were recovered. Noteworthy pieces are described below (none illustrated).

Context [78], Period 3, phase 1. Stem fragment, bore c. 7/64", stem stamp and thickened portion with rouletted encircling grooves. Stamp reads 'MIC/PARK', being that of Michael Parke, a Gateshead maker between about 1692 and 1736; this type of oval stem stamp went out of use (for makers) about 1710.

Context [6], Period 4. Complete pipe with spurless bowl, stem stamped 'ROBERT SINCLAIR' one side and 'GOLDEN TWIST' the other. Sinclair was the manufacturer of Golden Twist tobacco rather than the pipemaker and his company lasted well into the second half of the twentieth century.

Context [6], Period 4. Stem fragment with start of a bowl, stem stamped '... NNANT' one side and 'NEWCASTLE' the other. Stamp is that of William Tennant, a Newcastle pipemaker working from 1875 to 1925.

IRON AND COPPER ALLOY (*from reports by J. E. Vaughan*)

Six items (in 11 fragments) were recovered, of which all but one appeared to be nails, or parts of nails. Five of the items came from Period 1 deposits, the other from a Period 3 deposit.

Three copper-alloy items were recovered, with just one notable item:

Context [74], Period 3, phase 3, (SF 2). A complete example of an eighteenth-century shoe buckle (fig. 30.3); Wt: 31 g.

GLASS

Thirteen items were recovered, just one of which was noteworthy.

Context [77], Period 3, phase 1, (SF 3). A fragment of an iridescent olive-green glass bottle with seal formed of a lion rampant flanked by the letters 'W' to the left, 'E' to the right and 'L' above, within a lined border (fig. 30.4). The fragment measures 95 mm by 55 mm, with a thickness of 4–6 mm, and a seal diameter of 30 mm. This is part of an early tavern bottle and a hitherto unrecorded example (D. Burton pers. comm.). The curvature indicates a late seventeenth-century date, while the seal position, on the bottle shoulder, places it c. 1690–1700. The initials could be those of a couple, such as a husband and wife with given names beginning 'W' and 'E' (e.g. William and Elizabeth) and a surname beginning 'L', possibly co-licensees of a 'lion tavern', such as, e.g. *The Red Lion* or *The Golden Lion*.

Palaeoenvironmental Remains
C. E. O'Brien, J. E. Whittaker and L. A. Elliott

INTRODUCTION

Palaeoenvironmental assessment of 15 bulk samples of medieval deposits (Periods 1 and 2) was undertaken. In addition, a 0.5 m column sample of a Period 1 alluvial deposit was assessed for pollen, ostracods and foraminifera. Full details of methodologies employed and results are available in the project archive.

RESULTS AND INTERPRETATION

Bulk samples

The bulk samples produced very few palaeoenvironmental remains. From Trench 1, charred plant macrofossils from Period 1 deposits comprised a barley grain from ballast [115] and an oat grain from dump [110] (fig. 8). From Trench 2, a charred hazel nutshell came from Period 1 ballast [122]

(fig. 10). The clay matrix of Period 1 dump [106] in Trench 1 allowed the preservation of an uncharred plum fruitstone. Such remains are typical of medieval sites in northern England (Hall and Huntley 2007). Very small quantities of charcoal in the samples were predominantly oak, with a single fragment of alder noted in Period 1 dump [129] in Trench 1.

Column sample, alluvium [130] (fig. 10)

Waterlogged conditions in alluvium [130] in Trench 2 allowed the preservation of a range of micro- and macrofossil remains, including plant macrofossils, pollen, ostracods, foraminifera and dinoflagellate cysts. Microfossil assemblages were similar throughout the sample, suggesting either rapid accumulation or little environmental change during the time span of deposition. Shallow, calcium-rich, still or slow-flowing water is indicated by aquatic plants such as *Zannichellia palustris* (horned pondweed), *Potamogeton coloratus* (fen pondweed), Characeae (stoneworts) and *Myriophyllum sp* (water-milfoils). Microfauna comprise a distinctive assemblage of both brackish and freshwater elements. The brackish foraminifera and ostracods are characteristic of a tidal river with mudflats and nearby saltmarsh, with the high diversity of freshwater ostracods suggesting input of freshwater streams or inwashing from nearby freshwater pools by high tides and overtopping. The microfauna, in addition to the dinoflagellate cysts recorded on the pollen slides, suggest a minor marine input. These are present in low numbers and were probably brought in by high tides or storm events. The unbroken condition of both the brackish and freshwater ostracods suggests major re-deposition is unlikely. The generally poor concentration and condition of the pollen may indicate fluctuating water levels and periodic drying out of the deposit.

A diverse waterside flora, typical of riverbanks and pool margins, is reflected in the macrofossil and pollen assemblages. Tall wetland herbs including Cyperaceae (sedges), *Conium maculatum* (hemlock) and *Schoenoplectus lacustris* (common club-rush) were recorded, in addition to *Ranunculus sceleratus* (celery-leaved buttercup) a salt-tolerant species which frequently occurs on estuarine marshes (Preston *et al.* 2002). Flood-tolerant species include *Bidens cf. cernua* (cf. nodding bur-marigold), *Lycopus europaeus* (gypsywort) and *Ranunculus flammula* (lesser spearwort).

The predominance of herbaceous pollen taxa suggests a relatively open landscape. Herbs such as *Taraxacum*-type (dandelion-type), *Plantago lanceolata* (ribwort plantain) and *Pteridium aquilinum* (bracken) have been associated with managed habitats (Behre 1986), and may reflect some pastoral farming on the outskirts of Newcastle town, with the pollen either blown to the site or washed in via streams. A few cereal-type pollen grains were noted which may originate from cultivated land, although this pollen type includes some semi-aquatic grasses such as *Glyceria* (sweet-grass) which is common on pond margins and other shallow water habitats (Preston *et al.* 2002). Regional woodland comprised oak, elm, birch, hazel and pine, with alder and willow probably growing more locally. Hazel may have occurred in the woodland understorey or as scrub vegetation, for example on the valley slope above the site.

CONCLUSIONS

With regard to alluvium [130], the pollen, microfauna and plant macrofossils indicate deposition in a still or slow-flowing, shallow aquatic environment, with both freshwater and brackish/marine influences. This may have been a slow backwater channel of the tidal river, with input from freshwater streams such as Lort Burn, or a freshwater pool or brackish lagoon with tidal influx, in addition to probable input from freshwater streams. It is possible that early ballast deposition accidentally or deliberately created this low energy environment.

Two radiocarbon dates obtained from alluvium [130], the first (cal AD 687–880; SUERC-59016) from an assemblage of terrestrial plant macrofossils, the second (749–403 cal BC; SUERC-69765) from waterlogged bark, are problematic. Given the stratigraphic position of the deposit, both dates are evidently too early; anomalous radiocarbon results are, however, a common problem associated with obtaining chronologies from the complex environment of fluvial systems (Howard *et al.* 2009). In this case, inwash and/or reworking of material from various sources would appear to be the cause of these divergent, anomalous dates.

*Animal Bones**Kevin Rielly (with comments from Philip Armitage)*

INTRODUCTION

A total of 151 animal bones was recovered by hand, with a further 22 retrieved from three soil samples (see Table 1).

RESULTS AND INTERPRETATION

The great majority of the assemblage was of medieval date (Periods 1 and 2). Although quantities were insufficient to warrant comparisons between periods, the collection displayed a dominance of cattle and sheep bones, their ages suggesting a major usage of adult beef and mutton. A minor intake of other meats was evident, including pork, fish and chicken, the last mainly represented by the near whole carcass from Period 1 pit [113]. The few fish bones include a number of estuarine, or probably estuarine, species indicative of the exploitation of local fisheries. The represented cattle and sheep are within the medieval size range as shown by data from contemporary English sites,

Table 1 Species abundance of hand-collected and sieved animal bones divided by Period/phase; sieved bones in brackets.

General date:	Medieval			Post-Medieval	Modern
Period:	1	1	2	3	4
Phase:	1	2		2	
Species					
Cattle	9	3	12		
Cattle-size	19(1)	4(1)	13	1	1
Sheep/Goat	6	3	5		4
Pig	(1)	2			
Sheep-size	3(4)		2	1	4
Cat		1			
Rabbit					1
Chicken		54			
Goose			1		
Cod (medium-sized)	1(2)				
Cod (small)	(1)				
Haddock (small)	(1)				
Saithe	1				
Small gadid	(2)	(2)			
Flatfish (small)	(1)				
Herring	(2)				
Unidentified fish	(1)	(3)			
Total	39(16)	67(6)	33	2	10
N samples	2	1			

Table 2 Percentage abundance of cattle, sheep/goat and pig bones in medieval and post-medieval deposits, from five Newcastle sites, compared with 55-57 Quayside .

Site	Date (century)	Species (percentage)			N
		Cattle	Sheep	Pig	
CC	13th	58.8	27.8	13.4	97
QSt	13th	55.9	27.6	16.6	145
SB	12-14th	53.8	35.1	11.1	567
QSt	13-14th	58.8	28.2	13.0	670
MH	13-14th	31.7	57.7	10.6	123
CC	14th	50.8	37.3	11.9	581
55-57 Quayside	13-15th	60	35	5	40
CC	14-15th	68.3	24.7	6.9	736
QSt	14-15th	54.3	32.9	12.8	1694
MH	15-16th	31.5	61.6	6.9	948.5
CD	15-16th	33.8	59.9	6.3	1042
QSt	16-17th	42.9	36.0	21.1	336
BF	16-17th	23.7	72.6	3.7	501
MH	17-18th	25.5	69.9	4.6	172.5

SB = Stockbridge (Gidney 2001), CC = Crown Court (Gidney 1989), QSt = Queen Street (Rackham 1988a), MH = Mansion House (Davis and Bullock 1995), CD = Castle ditch (Rackham 1981), BF = Blackfriars (Rackham 1988b); data from each site uses hand-collected assemblages with the exception of the Mansion House site, where all the bone was passed through a 5 mm sieve.

Dates in centuries AD. N equals the sum totals for each site and phase.

with a possible indication of at least one larger individual. The majority of the later material (Period 4) broadly conforms to its late date, in terms of domestic size, use of the saw for butchery and possibly the incidence of rodent gnawing.

Although the overall quantity of material was small, aspects of the collection warrant some comparison with contemporary collections from other sites in the near vicinity, namely Queen Street (Rackham 1988a), Stockbridge (Gidney 2001) and the Crown Court (Gidney 1989); as well as others further west or north-west, namely Castle ditch (Rackham 1981), the Mansion House site (Davis and Bullock 1995) and Blackfriars (Rackham 1988b). The major domesticates form the principal components of each of these assemblages and their respective percentage abundances are listed in Table 2.

Across the studied sites, there is a general dominance of cattle, followed by sheep and then pig. The greater proportion of sheep than cattle in the very latest medieval and post-medieval collections broadly demonstrates a shift towards either sheep dominance or cattle and sheep parity. The incidence of pig also appears to decrease, although the sites close to and including 55-57 Quayside already showed rather small proportions of this species up to the fourteenth/fifteenth centuries. Counts of pig bones do tend to decrease through the medieval period in England, due in part to the ongoing denudation of forests and woodlands reducing the availability of pannage (Albarella 2006, 77; 80). Another factor was probably the greater usage of sheep related to the increasing importance

of the woollen industry, particularly into the early post-medieval era (Trow-Smith 1957, 247). That wool production was obviously important in medieval Newcastle is shown by the abundance of adult animals at these sites, although a dominance of young adults is suggestive of animals used for their mutton as well as their wool. A similar general abundance of adult cattle and in particular of older adults is broadly suggestive of animals used for dairy or work purposes.

Finally, there is a notable use of other food species, including poultry and fish. While chicken and goose occur at these sites, they tend to form rather a small proportion of the respective bone counts, even at the Mansion House site, where sieving took place. The fish species, in common with those from 55–57 Quayside, appear to be exclusively marine, possibly including the freshwater eels, which can be caught in the tidal part of rivers during the migratory parts of their life cycle. There is a clear dominance of gadids (cod family) and herrings, though with a good representation of rays, flatfish and gurnards. In overview, the evidence indicates a thriving fishing industry in medieval Newcastle (Nicholson 1988, 145), utilising both deep water and inshore sources.

CONCLUSIONS

Natural riverbed deposits of the Tyne were not reached at 55–57 Quayside. Some of the earliest deposits (Period 1, phase 1) recorded in both trenches clearly arrived at the site as ships' ballast during medieval reclamation of the portion of the north foreshore of the Tyne between the bridgehead to the west and Pandon Burn to the east. In this respect, the findings correlate closely with those of previous work on the Quayside. Prior to reclamation, the foreshore was probably largely unused, except for specific activities, such as beaching shallow-draught boats; previous archaeological work has recorded little or no pre-medieval activity along the waterfront (Graves and Heslop 2013, 173).

In common with other previously investigated Quayside sites in Newcastle, it appears that at least some of the ballast material encountered here most likely originated from southern England. One sample of flint cobbles was typical of beach cobbles associated with the South Downs, while other cobbles may have originated from the lower Thames or the Thames estuary and small quantities of chalk in a sandy ballast layer also probably derive from southern England. In addition to imported material, locally quarried geological deposits, represented by glacial 'boulder clay' and Carboniferous bedrock, were evidently also used at this site for bulk landfill during reclamation of the foreshore.

Pottery evidence here indicates that reclamation of the Tyne foreshore took place during the thirteenth/fourteenth century. Again, this correlates closely with the findings of previously excavated sites, which have established that the eastern Quayside town wall and existing line of the waterfront (and therefore, by necessity, the platform of reclaimed land upon which the site lies) were in place by *c. AD 1400*. The two trenches here represent an overall distance of *c. 30m* 'down' the reclaimed foreshore, probably taking in parts of two adjacent narrow plots.

Alluvium that developed during ballast dumping in Trench 2 yielded a large quantity of crustacean fragments along with plant remains typical of both waterlogged ground and slow moving or still water. Two radiocarbon dates obtained for plant remains within the alluvium are problematic (too early by varying degrees), given the stratigraphic position of the deposit. The cause of these erroneous dates is considered most likely a detrital origin of the sampled material, so that material with significant inherited age found its way into the fluvial sediment.

A monumental north-west–south-east aligned sandstone wall in Trench 1 dominated evidence of occupation on the reclaimed foreshore during the broad span of the thirteenth/

fourteenth century (Period 1, phase 2). As seen elsewhere on the eastern Quayside, for example at Stockbridge (Truman *et al.* 2001, 144), property boundaries were being established as land reclamation was taking place. The wall here, certainly an extremely long-lived feature, may have originated as a lateral retaining wall for a platform of consolidated reclaimed ground behind a quay wall but over time most probably came to define a property boundary running at right angles to the riverfront, which would almost certainly have continued through Trench 2. The findings from previously excavated sites have demonstrated that as medieval plots saw repeated re-development, newly-constructed buildings simply used the surviving walls of earlier, derelict buildings as their footings, so that the footprints of buildings remained unchanged, as at Queen Street (O'Brien *et al.* 1988, 23). Even as late as the mid-nineteenth century, this boundary evidently remained fossilized in the layout of the properties, delineating the north-west–south-east boundary between buildings fronting onto Trinity Chare to the west and Three Indian Kings Court to the east.

Deeply stratified medieval deposits recorded either side of the boundary wall in Trench 1 included evidence of episodic surfacing, while limited evidence of associated structural activity was also recorded. It is possible that further ships' ballast continued to be dumped, and while some material contained evidence of industrial activity, there was no indication, as was the case at Stockbridge for example, that metalworking formed a significant occupation throughout the development of the site. In Trench 2, very limited evidence of medieval occupation survived above reclamation deposits due to the presence of post-medieval cellars in street frontage buildings. The surviving features comprised the base of a refuse pit and a possible robbed-out construction cut, perhaps for a mooring post or more elaborate small riverfront structure. From the site as a whole, evidence from faunal remains hinted at the importance of wool as an export commodity in medieval Newcastle, as well as indicating the not unexpected presence of a thriving fishing industry in that era.

Further evidence of later medieval activity in Trench 1, broadly dated to the fourteenth/fifteenth century (Period 2), was represented by the uppermost parts of stratified sequences either side of the main boundary wall. One deposit to the east was notable for its inclusion of numerous whole or part medieval bricks. Additional structural remains of this period in Trench 1 included a sandstone wall appended at a right angle to the main wall and presumably representative of plot sub-division.

Period 3 broadly covered the post-medieval period. In Trench 1, very little evidence of activity of this date survived, while in Trench 2 significant structural remains represented the cellars of two Quayside frontage properties, potentially straddling the same boundary delimitation represented further north in Trench 1. A medieval origin certainly cannot be entirely discounted for the back-to-back sandstone cellar walls of the adjoining properties, i.e. their shared boundary, although the structures had been pointed (or re-pointed) in the late seventeenth or early eighteenth century. The bedding layer for a flagstone cellar floor of the eastern property yielded a glass bottle seal closely datable to the last decade of the seventeenth century. Over the course of the next two hundred years or more, the cellars saw modifications, including significant brick additions, such as partition walls and barrel-vaulted ceilings, as well as a doorway being inserted to allow access between the cellars of the two properties, until the buildings were demolished in the early modern era. Eighteenth- and nineteenth-century illustrations of the Quayside indicate the nature of the properties that occupied the site in the later post-medieval period, with narrow buildings of several storeys depicted on the frontage. In addition, documentary evidence has illuminated the wide variety

of trades and professions undertaken in Quayside properties throughout the post-medieval era.

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