Clay mould fabric, by Elaine L. Morris

Examination of five fragments of mould using a binocular microscope suggested potentially two different fabrics used in casting, but thin-section analysis showed composition to be uniform. The fabric is porous in texture and lightweight in nature with a low density, comprising abundant (35–40%) temper of carbonised vegetal matter or vesicles, and moderate (15–20%) naturally occurring inclusions of quartz, iron oxides, calcite and recrystallised limestone in calcareous clay with a scatter of limestone dispersed throughout. The inclusions in the clay matrix suggest that the clay source was alluvial, derived from degraded Triassic geological strata (Kellaway and Welch 1948) that can be found in the Bristol area, although no extraction of clays was evident in the excavated area. The preparation of richly organic-tempered fabrics to make metalworking moulds that were light and porous in nature and suitable for use in the casting process was a recognised production technique during the post-medieval period (Blaylock 2000, 38–41).

THE BIOLOGICAL AND GEOARCHAEOLOGICAL EVIDENCE

Animal bone, by Sylvia Warman

The animal bone assemblage comprised 9250 fragments from 9117 bones weighing 47kg. Animal bone was recovered from 251 of the 1256 deposits excavated, and dated to all Periods from medieval to modern. Deposits from features and early layers from Periods 1 and 2 were selected for detailed analysis, with a focus on those features where low residuality of pottery suggested securely dated assemblages. The animal bone from these 134 deposits totalled 846 fragments from 772 bones, and weighed 22.6kg.

Methods

For each specimen the following information was recorded: element, species, size, sex, weight and parts present (zones recorded following Dobney and Reilly 1988). Fusion of long bones, tooth wear, pathology, burning and butchery were also noted. Preservation was recorded using Behrensmeyer’s (1978) weathering stages. The total numbers of bones identified for each species were presented as NISP. The number of animals represented was estimated using MNI (minimum number of individuals), calculated by the recording of the recurring presence of specific parts (following Dobney and Reilly 1988). Sheep and goat were distinguished wherever possible using reference specimens and the criteria of Boessneck (1969). Age estimates were calculated from tooth wear, following Grant (1982), and from long bone fusion, following Silver (1969) and using the approach of O’Connor (2000).

Results

The animal bone was generally in a moderate state of preservation with a high degree of fragmentation. The presence of reworked soil horizons between each identified period of activity resulted in a degree of residuality in all deposits, including cut features. The majority of the assemblage could not be related to specific activities on site, and may have derived from a mixture of sources, reflecting both domestic and industrial activities. There was no significant differentiation in the proportions of species present across the plots in either period. The number of features where primary disposal of animal bone could be assumed were few, and confined to a group of possibly domestic rubbish pits in Period 1.
Period 1: medieval
The animal bone selected for detailed analysis came from 80 deposits. The assemblage totalled 535 fragments from 493 bones, weighing 13kg. The species identified were horse, cattle, sheep, sheep/goat (undistinguished), pig, dog, cat, rabbit, goose, chicken and two duck species (mallard and teal). The assemblage was dominated by cattle and sheep/goat; the latter more numerous by MNI. Pig was also present in most deposits, and other domestic species, including horse, dog, cat and chicken, were present in very small numbers. Fragments of rabbit bone were also present in small quantities. There were no clear differences between plots in terms of the species present.

The disturbed alluvium at the base of the Period 1a sequence (layers 974 and 1563) produced a large assemblage of animal bone from cattle, sheep/goat, chicken, sheep, pig, cat and goose. The assemblage from the pits and cut features included cattle, sheep/goat, sheep, chicken, pig, dog, goose, rabbit, and duck (teal). The bulk of the material came from pits 1058, 1062 and 1064 within Plot 1. The animal bone assemblages from pits 1062 and 1064 were composed entirely of cattle and sheep/goat bones. The assemblage from pit 1058, whilst largely composed of cattle and sheep/goat bones, also contained single specimens of pig and goose.

The age at death estimated for cattle indicates that most of the animals were older than 18 months, and well over half were over 3.5 years old. For sheep/goat, almost all the specimens were older than 16 months, and three-quarters were older than 2.5 years. Over two-thirds of the sheep/goat had been slaughtered by the age of 3.5 years. The number of ageable pig bones was much smaller than for cattle and sheep/goat, but estimates indicate that two-thirds were less than one year old at death and that the assemblage did not contain any pigs over 3.5 years old. The other species represented were all from fully adult specimens.

The material must have been deposited quite rapidly as there is little evidence of weathering or gnawing by dogs. Evidence for butchery was noted on 14% of the assemblage, and comprised long-bone shafts either chopped through mid-shaft or occasionally split vertically, probably for the extraction of marrow. A handful of burnt bones (1.6%) was predominantly white in colour with some distortion, suggesting they had been burnt at a higher temperature than would generally be reached in a domestic fire. The burnt specimens come predominantly from pit 1543 and comprised sheep/goat foot bones. No long bones from domestic stock were sufficiently complete for measurements to be taken.

Period 2: post-medieval
The animal bone came from 54 deposits and totalled 311 fragments from 279 bones, weighing 9.7kg. The species identified were: horse, cattle, sheep, sheep/goat, pig, dog, cat, rabbit, goose and chicken. The proportion of the main domestic species was very similar to that seen in Period 1, with cattle and sheep/goat dominating and with sheep/goat the most numerous by MNI. Horse was represented by a single bone from the backfill of Well 1. Cattle and sheep/goat included a wide range of body parts including meat-bearing bones.

Most of the cattle present were older than 18 months; two-thirds were older than 2.5 years and just over a third were older than 3.5 years at death. This pattern contrasts with Period 1, where nearly two-thirds were over 3.5 years. Most sheep/goat specimens were older than 16 months, but only half of them exceeded 3.5 years old at death. When compared with Period 1, this indicates that more sheep were killed at a greater age, the opposite trend to that seen for cattle. Age at death was also calculated on a small percentage of the pig bones,
of which half were killed before they reached one year of age. Pig, like cattle, shows a trend
towards slaughter at an earlier age than was seen in Period 1. The other species represented
by a handful of bones were all from fully fused adult specimens.
Here too, deposition must have been rapid as very few bones show signs of weathering or
gnawing by dogs. Evidence for butchery was seen in 18% of the assemblage and comprised
of long bones chopped through mid-shaft, with some specimens split vertically. Evidence
of cess deposits on the bone surface was noted in 2% of the assemblage. No long bones
from domestic stock were sufficiently complete for measurements to be taken.

Discussion

The animal bone assemblages from Periods 1 and 2 were very similar in the range of species
present and the range of body parts from particular species. Cattle and sheep/goat were
most numerous in both periods, with sheep/goat in the majority. A greater proportion of
cattle and pigs were killed at younger ages in Period 2 than in Period 1. This may have
been due to an increased demand for beef and pork. The lack of substantial numbers of
cattle over 3.5 years old indicates that this was likely to be butchery and domestic waste,
rather than the dispatch of older individuals exploited for secondary products such as milk
or traction. Conversely, sheep/goat showed a shift towards slaughter of individuals of a
greater age, which was also supported by mandible wear, which may indicate animals from
wool-producing flocks.

The small number of goose and chicken bones is likely to represent food waste. There was
very little evidence for the use of wild species apart from the two duck bones present in the
assemblage from Period 1, and the rabbit bones may have been from wild specimens. The
relatively narrow range of species present was not unusual for smaller medieval assemblages
in this area, as at Temple Street, Bristol (Levitan 1988). There is an absence of evidence for
high-status food consumption, such as deer bone.

The assemblages from Period 1 pits 1058, 1062 and 1064 within Plot 1 were almost
entirely composed of cattle and sheep/goat. These were deep, well stratified deposits, in
contrast to the shallower features which produced more mixed assemblages, and therefore
are likely to reflect primary deposition, probably from a domestic context. A similar pattern
of medieval-period deposition was noted at nos 30–38 Thomas Street (Higbee 2004).

For cattle and sheep/goat, and to a lesser extent pig, the range of body parts was wide,
including both meat-bearing and non-meat-bearing elements. The presence of frequent
butchery damage and large numbers of meat-bearing bones indicates that the cattle
and sheep/goat assemblage includes waste derived from food consumption. The small
assemblage from 3 Redcliff Street (Higbee, forthcoming) includes material of comparable
date to the Period 1 and 2 assemblages, and has a similar range of species with a similar
frequency of the main meat-bearing bones. Thus there was no clear evidence for primary
butchery or tanning and associated industries except for some burnt sheep/goat toes bones
from Period 1 pit 1543, which may represent whittawing waste but is perhaps more likely
to represent the preparation of lime plaster.

Of the worked bone objects (Metal and worked bone objects, above), the Period 2 ‘pinner’s
bone’ made from a cattle metapodial would have been used for weaving cloth, and it may
be that small-scale ‘cleaner’ industries and crafts were carried out in these tenements, in
contrast to the heavier and smellier industries identified elsewhere in the suburb, such as
1–2 Redcliff Street (Warman, forthcoming).
Fish bone, by Hannah Russ

Abundant fish remains were recovered through hand collection and environmental sampling. A wide range of edible fish species is represented, including those from deep and shallow marine and estuarine environments. The more diverse range of species and abundant remains were recovered from Period 1 and included European eel, thornback ray, cod and probable herring. Evidence for preparation and consumption is present in the form of fragments with cut-marks and burnt remains. The species representation from Period 2 is similar to that of Period 1, with herring and eel dominant, but thornback ray and cod reduced. Evidence for food preparation is absent in this period, and only one sample contained burnt remains. The similarity in species may reflect either continuing consumption in Period 2, or a high degree of residuality from Period 1. The small size of the Period 2 assemblage could be due either to reduced consumption or more off-site disposal of domestic waste. The presence of large deep-sea fish indicates net-fishing by boat, while smaller species mostly associated with coastal and estuarine environments suggest coastal and near-shore fishing. Cranial elements of smaller species were almost entirely absent, which may indicate that only processed fish (gutted, with head and possibly tail removed) were present, but may also result from taphonomic processes due to the reduced robustness of cranial elements compared to vertebrae in many fish species.

Charred and waterlogged plant remains, by Julie Jones

A total of 24 samples was processed from a variety of features, including pits, postholes, ditches and soil layers. The plant macrofossil concentration in the flots was low, with mostly single examples of charred cereal grain and weed taxa. A few examples of free-threshing wheat grains were well preserved, but other grains were very fragmented, with degrees of surface damage from the charring process. Small quantities of the main cereal crops of wheat, barley, rye and oat that were cultivated during the medieval and post-medieval periods were represented, often as individual grains. Many of the wheat grains were well preserved but barley and oat were often fragmented or eroded.

Samples from features such as rubbish pits and areas of burning from Period 1 (13th to 15th centuries) produced a small assemblage. The species identified include wheat, barley, oat, rye and Celtic bean, which are possible food remains. Charred hazelnut fragments may also represent food debris, but may equally be associated with the charcoal present in the majority of the samples. There was only one example of cereal chaff from the whole site, which was from rivet/macaroni wheat. Although this is very sparse evidence, it does suggest that two types of wheat, bread and rivet wheat, were cultivated and brought to the site in the medieval period. Other species identified were grass, brome, goosefoot, pea/vetch, common chickweed, common nettle, rush, hemlock, hawthorn, clover/medick, stinking chamomile and sedge.

The samples from Period 2 (15th to 17th centuries) were obtained from soil layers, pits and ditches. The species identified include wheat, oat, barley, Celtic bean, hazelnut and fig, which may all be food remains. Pit 1380 produced the greatest concentration of charred wheat grains from the site, in fair to good condition. Other species identified include oak, common nettle, elder and bramble, and are likely to represent the local flora of the site. Some non-charred elder and sedge seeds were also identified.

Such restricted assemblages limit the interpretation of domestic and economic activities
associated with the site, apart from indicating the availability of these cereal crops, whether for purposes of human consumption or animal feed and bedding. However, such a sparse distribution of cereal remains is common to many of the other sites previously investigated in Bristol, such as at Union Street (Jones 2010) and Finzel’s Reach (Jones, forthcoming); where greater concentrations of charred remains do occur, these are often primarily of cereal grain alone, suggesting that cereals were brought into the medieval city already processed, for use in the city mills or for general domestic use.

The only waterlogged preservation of seeds came from the basal fill of drain 1558 from Period 1a, which lay close to the water table. These include elder, bramble and nettle, which could easily have thrived in unkempt areas of the site, particularly where organic waste may have been discarded, as elder and nettle in particular thrive in nitrogen and phosphate-enriched soils. Similar non-charred assemblages have been found elsewhere in Bristol, particularly associated with later deposits such as garden soils, where they were frequently mixed with both organic and inorganic domestic waste, including bone, shellfish and eggshell. The site at 30–38 St Thomas Street produced similar assemblages associated with 16th to 17th-century garden soils (Jones 2004, 41–5). The mineralised preservation in rubbish pit 1062 may indicate localised deposition of cess in features such as these.

The wood charcoal, by Dana Challinor

Introduction
Charcoal from eight samples from Period 1 (13th to 15th centuries) and Period 2 (15th to 17th centuries) deposits was selected for detailed examination. The samples came from pits and burnt deposits, some of which were associated with domestic waste, and some which might have derived from activities associated with metalworking. The analysis focussed on differences between the context types and any changes over time.

Full analysis was undertaken of four samples, and broad characterisation of the remaining four samples. The latter group of samples was largely dominated by a single taxon and the aim of the analysis was to confirm identifications, check for additional species and record maturity data. For the full analysis, 100 fragments of the >2mm fraction were identified and for the broad characterisation, a selection of 20 fragments was identified. The charcoal was fractured and examined by microscope at up to X400 magnification. A full methodology is available in the archive.

Results
The results for the Periods 1 and 2 charcoal analyses are presented in Tables 1 and 2 respectively. Fragment count has been used as a method for broad discussion of quantification, although it is acknowledged that there are inherent limitations. Twelve taxa were positively identified: field maple, alder, birch, hazel, beech, ash, holly, hawthorn group, oak, willow/poplar, elder and elm. All were consistent with native species and no exotic species were recorded. The results indicated the use of both wide (>20mm diameter) and narrow (<20mm diameter) roundwood, with some oak and ash heartwood observed in several contexts.

Discussion
Given that the feature types examined were pits and burnt deposits, it is assumed that the charcoal for all assemblages was from dumps of spent fuelwood. With a couple of minor
Table 1: Charcoal from Period 1 features (by fragment count)
\(r=\text{roundwood}; s=\text{sapwood}, h=\text{heartwood}\)

<table>
<thead>
<tr>
<th>Feature type</th>
<th>burnt deposit</th>
<th>burnt deposit</th>
<th>pit</th>
<th>pit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Feature number</td>
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<td>1540</td>
<td>1544</td>
<td>1069</td>
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<td>Context number</td>
<td>1541</td>
<td>1540</td>
<td>1544</td>
<td>1069</td>
</tr>
<tr>
<td>Sample number</td>
<td>20</td>
<td>19</td>
<td>21</td>
<td>3</td>
</tr>
<tr>
<td>Ulmus sp.</td>
<td>elm</td>
<td></td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Fagus sylvatica L.</td>
<td>beech</td>
<td>3</td>
<td>1</td>
<td>37r</td>
</tr>
<tr>
<td>Quercus sp.</td>
<td>oak</td>
<td>17rs</td>
<td>19s</td>
<td>33rs 50rs</td>
</tr>
<tr>
<td>Corylus avellana L.</td>
<td>hazel</td>
<td></td>
<td>18r</td>
<td>27r</td>
</tr>
<tr>
<td>Populus/Salix</td>
<td>poplar/willow</td>
<td></td>
<td>2r</td>
<td></td>
</tr>
<tr>
<td>Maloideae</td>
<td>hawthorn group</td>
<td></td>
<td>1</td>
<td>2r</td>
</tr>
<tr>
<td>Ilex aquifolium L.</td>
<td>holly</td>
<td></td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>Acer campestre L.</td>
<td>field maple</td>
<td></td>
<td>6r</td>
<td></td>
</tr>
<tr>
<td>Fraxinus excelsior L.</td>
<td>ash</td>
<td>4</td>
<td>11r</td>
<td></td>
</tr>
<tr>
<td>Sambucus nigra L.</td>
<td>elder</td>
<td></td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>20</td>
<td>20</td>
<td>100</td>
<td>100</td>
</tr>
</tbody>
</table>

Table 2: Charcoal from Period 2 features (by fragment count)
\(r=\text{roundwood}; s=\text{sapwood}, h=\text{heartwood}\)

<table>
<thead>
<tr>
<th>Feature type</th>
<th>pit</th>
<th>pit</th>
<th>pit</th>
<th>pit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Feature number</td>
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<td>1457</td>
<td>1464</td>
<td>1467</td>
</tr>
<tr>
<td>Context number</td>
<td>1381</td>
<td>1458</td>
<td>1465</td>
<td>1468</td>
</tr>
<tr>
<td>Sample number</td>
<td>11</td>
<td>13</td>
<td>12</td>
<td>15</td>
</tr>
<tr>
<td>Ulmus sp.</td>
<td>elm</td>
<td></td>
<td>3h</td>
<td>13r</td>
</tr>
<tr>
<td>Fagus sylvatica L.</td>
<td>beech</td>
<td>13r</td>
<td>13r</td>
<td>4</td>
</tr>
<tr>
<td>Quercus sp.</td>
<td>oak</td>
<td>28rh</td>
<td>68rh</td>
<td>16rh</td>
</tr>
<tr>
<td>Betula sp.</td>
<td>birch</td>
<td></td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>Alnus glutinosa Gaertn.</td>
<td>alder</td>
<td>8r</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Corylus avellana L.</td>
<td>hazel</td>
<td></td>
<td></td>
<td>1r</td>
</tr>
<tr>
<td>Betulaceae</td>
<td>birch family</td>
<td>3</td>
<td>3r</td>
<td></td>
</tr>
<tr>
<td>Populus/Salix</td>
<td>poplar/willow</td>
<td>8</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Maloideae</td>
<td>hawthorn group</td>
<td>3</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>Acer campestre L.</td>
<td>field maple</td>
<td></td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>Fraxinus excelsior L.</td>
<td>ash</td>
<td>29hr</td>
<td>1r</td>
<td>1</td>
</tr>
<tr>
<td>Total</td>
<td>100</td>
<td>100</td>
<td>20</td>
<td>20</td>
</tr>
</tbody>
</table>
exceptions, the use of fuelwood appears to have been consistent between Period 1 and Period 2. Oak and beech were the main fuelwoods, with more or less similar frequencies of ash and other taxa. The chief difference lies in the significance of hazel, which was well represented in the samples of Period 1, but apparently supplanted in Period 2 with a range of other taxa such as alder and birch. Whether this reflects a change in the local resources or a bias in the nature of the assemblages is difficult to ascertain.

Charcoal assemblages can usually be ascribed to two main activities, metalworking and domestic, on the basis of their association with artefacts and other ecofacts. The former category includes pit 1464, Period 2a, which also contained fired-clay mould fragments, and burnt deposit 1541, Period 1a, which also contained a smithing hearth bottom. Some of these ‘metalworking’ contexts also contained animal bone, cereal remains and other domestic-type rubbish, which suggests that there may have been mixing of waste material.

Metalworking activities commonly required the use of charcoal as fuel, until it was replaced with coke in the 18th century (Bayley et al. 2001). Oak, which makes a good calorific charcoal fuel but can be easily fragmented, was apparently used for metalworking at nos 55–60 St Thomas Street in both the medieval and late medieval periods. The metallurgical analyses suggest that any metalworking at the site was small-scale and it is likely that the oak was not transported over any great distance. The presence of oak in every sample, including those not associated with metalworking, suggests that this taxon was used for general fires, albeit with a range of supplementary fuelwood. Interestingly, there was one other oak-dominated sample from pit 1068 (Period 1a), which produced large quantities of mineralised material of possible cess derivation, and it is possible that the oak had been deposited as charcoal to minimise odours, a practice suggested at St James Priory, Bristol (Challinor, forthcoming).

The assemblages are generally consistent with results from comparable sites in Bristol (Gale 2006) and those from other urban medieval and post-medieval sites such as Oxford (Challinor 2009a) and Southampton (Challinor 2009b). The medieval period saw a rise in the use of beech as a wood fuel (which continued into the post-medieval period), supplemented by a range of other taxa. Although there is no direct evidence for coppicing/pollarding in the charcoal residues, most fuelwood throughout the early and later medieval periods was provided from the underwood of local, managed woodlands (Rackham 2006).

The analysis of charcoal from fuel residues of industrial and domestic-type deposits dating to the medieval and post-medieval periods indicates the use of similar fuels in both periods. The predominant use of oak and beech, supplemented with a range of other taxa, is comparable to fuelwood residues recovered from other medieval and post-medieval sites.

**Borehole stratigraphy, by Keith Wilkinson**

Three boreholes (BH1-3) were drilled within the excavation area (Fig. 2), with the objective of examining Quaternary stratigraphic layers buried at depths below which it was possible to excavate conventional archaeological trenches. Strata were not described in the field but sampled as a series of 1m-long and 50mm-diameter cores. Boreholes were drilled towards the end of the fieldwork, and hence archaeological strata were not sampled in the
cores. Drilling continued until fluid sands were encountered, at which point the boreholes were abandoned. Thus BH1 was drilled to 7m below ground surface, but BH2 and BH3 could only be drilled to a depth of 5m. The borehole cores were prepared and cleaned in the laboratory and the exposed sediment strata were described using standard geological criteria (Tucker 1982; Jones et al. 1999; Munsell Color 2000). Stratigraphic and positional data were subsequently combined with prior geotechnical information as a database with the RockWorks geological utilities program (RockWare 2008), and that software was then used to plot the cross section shown in Fig. 18 and the deposit model shown in Fig. 19.

As a result of many geoarchaeological borehole investigations carried out in central Bristol since the late 1990s, the Holocene stratigraphy is broadly understood. Fluvial gravels of the Pleistocene Avon Formation (Campbell et al. 1999) are overlain by alluvial deposits of the informally defined Wentlooge formation (Allen and Rae 2007), with both units topped by 'made ground' (including archaeological deposits) of medieval and later date. The thickness of the Wentlooge formation and made-ground deposits depends on topographic location, but the broad trend is for sites in the centre of the valley and in westerly locations to have thicker Holocene stratigraphies than those on the valley sides and in easterly positions. A geotechnical study of the site carried out by WSP Environmental (WSP BH6 and WSP BH7) prior to the drilling of the geoarchaeological boreholes confirmed this basic sequence. Approximately 3m of made ground and 9.5m of Wentlooge formation sands, silts and clays overlay 2m of Pleistocene gravels (Avon Formation), which in turn lay above the Triassic Mercia Mudstone bedrock (Fig. 18).

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**Fig. 18** Cross-section through deposits revealed in the boreholes (scale 1:350)
The deposit model (Fig. 19) demonstrates that the contact between the Wentlooge formation and the Avon Formation drops from c. -4m AOD in the west to c. -5.3m AOD in the east of the site. The data therefore suggest that a broadly north/south channel passes through the site in which the lowermost deposits of the Wentlooge formation lie. These basal Wentlooge formation deposits were only sampled in the geotechnical boreholes and have not been described in great enough detail to provide a firm indication of their genesis. However, it is likely, based on geoarchaeological data from elsewhere in Redcliffe where the entire Holocene sequence could be penetrated (e.g. Wilkinson 2008a, 2008b), that laminated silt/sand strata noted in the geoarchaeological boreholes below 3m AOD extend down to the Avon Formation gravels. The sand/silt sediments comprise 200mm thick sets of laminated reddish brown fine silts/clay and fine sands, with occasional thin beds of fine sand. Within each of the beds, wavy, parallel, continuous laminae of alternating silt/clay and fine sand are clustered in 20-50mm thick bundles. The sedimentary characteristics of the laminated sediments suggest that they formed in a deep-water channel environment.

Fig. 19 Surface model showing the lower contact of the Wentlooge formation (1:500)
Similar laminated silt and sand strata have been found in the majority of geoarchaeological borehole surveys undertaken in Redcliffe, where a fluvial mode of deposition has been inferred. Although the nos 55–60 St Thomas Street laminated silt/sand strata could not be dated, radiocarbon dating has been possible on other sites and these demonstrate that the lower contact with the Avon Formation dates to between 5320–5070 cal. BC (6280±40 BP, Beta 245646) at 32–36 Victoria Street (Wilkinson 2008a), and 3630–3360 cal. BC (4720±40 BP, Beta 245645) at 1–2 Redcliff Street (Wilkinson 2008b).

The laminated silts/sands at nos 55–60 St Thomas Street, and indeed at other sites in the Redcliffe area, are conformably overlain by first laminated, then homogeneous silts and clays, the latter containing frequent iron and manganese oxide precipitates. The former silt/clays have a lamina structure that is predominantly straight, while occurrence is in regular-sized bundles. These structural and morphological properties suggest regular and pulsed deposition, most likely on mud flats or on channel margin depositional environments. The iron-stained homogeneous silts and clays probably formed in the same way as the laminated silts and clays previously discussed, but post-depositional processes resulting from water table fluctuation, bioturbation and exposure to sub-aerial processes have removed primary structural features. It has not been possible to date these silt/clay strata, either at nos 55–60 St Thomas Street or elsewhere in Redcliffe.

Archaeological and organic material is entirely absent from the Wentlooge formation deposits at nos 55–60 St Thomas Street, although charcoal layers have been found within the Wentlooge formation at other sites in Redcliffe (Wilkinson 2008a, 2008b; Wilkinson and Head 2008), demonstrating that people were active on the Avon floodplain in the Neolithic and Bronze Age periods. The value of the sediments recovered from the boreholes at nos 55–60 St Thomas Street is therefore not in their archaeological inclusions, but rather the information they provide on Middle Holocene landscapes in what is now central Bristol. The sediments track the change from a large, fast flowing river that passed across the site, to a channel-side location that was heavily influenced by tidal processes.

**DISCUSSION**

The excavations at nos 55–60 St Thomas Street covered the sites of six historic properties, the origin of whose boundaries are traceable to the 13th century. Over time these boundaries varied slightly in alignment, and various plots were combined and subdivided. The history of the site is in large part that of the plots which formed the framework of the fieldwork results. However, from the archaeological evidence alone it has not been possible to reconstruct individual plot or tenement histories that are chronologically distinct from their neighbours' until the late 17th century onwards (Periods 3a and 3b). The most puzzling aspect of the archaeological sequence is the episodes of dumping or aggradation between each major phase of structural activity and occupation. Most, if not all, of the features of each period showed evidence of truncation prior to burial by horizons of horizontal deposits. While it is possible that this truncation was the result of accidental machine excavation of the uppermost occupation layers of each Period, too homogeneous to be properly differentiated from subsequent mass deposits, the recognition of subtle stratigraphic relationships on many other levels of the site makes this seem unlikely. In the earlier period, if not later, the ground conditions in this area of former marsh may have been improved by periodically raising the ground level, and it is possible that some of these
deposits derived from levelling and excavation at the street frontage when the principal buildings were altered or rebuilt. Similar deposits have been recognised at other sites in the Redcliffe suburb, where they have been principally assigned to horticultural activity, and examples of this are discussed below.

**Periods 1a and 1b: 13th to 15th centuries**

The earliest activity pre-dated the property boundaries. Deposits of trampled silty clay were clearly earlier than any boundaries and seem to represent casual activity rather than permanent settlement. The intention may have been to level up the irregular surface of the alluvium and these deposits contained the earliest pottery, of mid 12th to mid 13th-century date. The Redcliff and Temple Fees were laid out in the 1120s to 1140s, but there is no substantive evidence for occupation of these southern tenements as early as that. Animal bone was common in these deposits and it is clear that processing of animal carcasses must have been going on nearby, with this area used as a rubbish dump. The preponderance of head parts of cattle, and head and feet from sheep/goat, hints at hide processing, but cattle vertebrae probably indicate meat cuts as well. Similar mixed deposits lying above the natural alluvium were noted during investigations at sites at Portwall Lane (Good 1989, 22), and at nos 26–28 St Thomas Street (Watts 2011 [this volume]), at the latter site containing 11th to 13th-century pottery.

At nos 55–60 St Thomas Street, the upper layer (974) of the trampled silty clay deposits had pottery with a date range extending to the mid to late 13th century, and may have incorporated disturbance from the earliest construction activity. Therefore, the earliest date suggested for the laying out of tenements in Period 1a is the mid 13th century, which compares with the earliest occupation at nos 26–28 St Thomas Street (Watts 2011 [this volume]), and is a little earlier than the 14th-century pits at Portwall Lane (Good 1989, 22). In general the development of St Thomas Street would appear to be slightly later than the first occupation in the north and west of the Redcliffe suburb, notably at nos 68–72 Redcliff Street (Jones 1983) and nos 1–2 Redcliff Street (Hart, forthcoming), where occupation also followed on from some less identifiable exploitation of the area.

Most of the pottery from the first substantive occupation period in the 13th to 14th centuries was regional, but medieval Bristol’s foreign contacts are reflected in a few sherds of Saintonge, Norman and other French wares. This range of pottery is typical of both rich and poor medieval households, and as such is not a reliable indicator of status, although a comparison of the percentages of utilitarian and imported wares with other published assemblages from Bristol would suggest that the occupation in this period was at the lower end of the economic scale. This is supported by the absence of evidence for consumption of high-status meat (such as venison) and a lack of artefacts that might reflect wealth.

The site was divided up into at least four plots or tenements by rows of posts and/or gullies in this period (Fencelines 1–7). The only two complete plots (2 and 3) were 10m wide, which probably represents two ‘poles’ (a ‘pole’ equalling just over 5m), although Plot 3 was subdivided into two unequally.

The two double rows of posts (Fencelines 1 and 2, and 3 and 4) appear to represent alleyways between the plots, giving access to the rear of the plots or the areas behind them to the east. The eastern boundary of these plots was beyond the limit of excavation, but was probably the Law Ditch, the parish boundary between the Temple and Redcliffe Fees. Where this kinked westwards it formed the boundary between Plots 3 and 4. Fencelines 6
and 7 would have provided a level of security to the plots on either side of the Law Ditch, if it was open at this time. Fenceline 5, which was stratigraphically one of the earliest fencelines and pre-dated Fenceline 6, subdivided Plot 3 into two unequal parts, but was superseded by possible structural evidence which appeared to cross the sub-division.

Structural evidence from Period 1 was fragmentary and difficult to interpret. Two pairs of slots parallel and at right angles to each other in Plot 1 must be assumed to represent a temporary and insubstantial structure (Structure 4), probably to the rear of a more substantial building beyond the limit of excavation on the medieval St Thomas Street frontage, and Structure 1, comprised of postholes and the short slot 1096, suggests another insubstantial structure to the north. The evidence for Structure 2 in Plot 2 suggests a square or rectangular timber-and-daub building, occupying much of the width of the plot, but the full extent of this building was lost to later intrusions and the unexcavated area of contamination. A number of smaller pits and possible postholes were concentrated around this structure but no clear pattern or function could be identified.

The smaller, shallower gullies in Plot 3 may have been fragmentary beam slots for timber buildings, but while they were parallel or at right angles to each other, no clear plan could be determined, though they appear to define a rectangular area which is assumed to have been the extent of the Period 1 buildings. The robbed masonry drain 1558 was of a large enough scale to indicate more than merely domestic arrangements. This, and drain 1630 to the west, seemed to discharge into the Law Ditch where it ran between Plots 3 and 4. These features produced a large proportion of the animal bone from this period. Apart from this drain, there was no evidence for masonry structures on the site in this period. Small pit 1543, with a dump of mortar in a wooden tub, suggests the preparation of render for the walls of timber structures, or internal plastering. Lime-filled tubs in pits found elsewhere in Bristol have been suggested as lime stores for hide processing (Ridgeway and Watts (eds), forthcoming) but here the admixture of sand seems to indicate a dump of building mortar. A number of glazed crested roof tiles present in these early deposits suggest that fairly substantial domestic properties may have occupied the street frontage.

There was little to indicate any activity other than domestic occupation in Plot 1, 2 or 3. In Plot 4 there is some evidence for ironworking from relatively large quantities of oak charcoal and a smithing hearth bottom in the very thin layers of clay that sealed a cluster of small postholes. The layers also contained fragments of hearth waste and lining, and small amounts of non-specific slag, and tap slag; however, the amounts of slag were not enough to confirm smelting on site. Whether the waste was related to the posthole structures they sealed could not be demonstrated. The northern side of this plot lay beyond the site, precluding a fuller picture of the activity within it, but despite the poor quality of the evidence, it does seem to suggest a different use for this plot than for the others.

It may well be that the soil layers of Horizon 1 represent a horticultural phase of activity, following the construction of early buildings, and this might account for both truncation and the development of soils over the site. The development of Horizon 1 seems to have taken place in the early or mid 14th century. It may indicate the end of the 13th-century boom and the beginning of what appears to be a later medieval reduction in activity, at least at the back of the main buildings on the street frontage (beyond the limit of excavation).

Dry-stone wall 865 at the east end of Fenceline 8 was the earliest evidence for a masonry wall. The trench-built footing of this wall was flanked by its demolition debris spread across the top of Horizon 1. The slots to the south of this boundary are the earliest of this
type of features, which were also recorded in Plot 1 in Period 2a, with additional and more extensive groups of these features in Period 2b. There are two possible interpretations: their rounded profiles suggest horticultural features, but the silty fills are indicative of open drainage trenches rather than bedding trenches, and in Period 2b the slots appear too closely spaced to represent raised beds. A series of shallow parallel slots was excavated at the site at Portwall Lane, but these were regularly spaced, approximately 2m apart, and were interpreted as for drainage or horticultural trenches (Good 1989, 23). The second possibility is that they were structural, either floor joists or possibly the ground beams of drying racks for cloth after dyeing or fulling. Millerd’s plan shows drying racks at Rack Close in 1673, but these look as if they would leave rows of postholes as evidence, and for the medieval period, no examples are known. Nonetheless, the documents for no. 61 St Thomas Street refer to a woolworker next door at no. 60 (Plot 1) in 1456 and 1457 (BRO: P/StT/D/1; P/StT/D/137), so it is possible that these features relate to the processing of cloth; if not racks then some structural evidence for a drying room, such as that listed in a will of 1441, which may refer to a piece of land on the corner of Mitchell Lane and St Thomas Street (Wadley 1886).

Compared to the activity in Period 1a, the evidence from the 14th to 15th centuries suggests that most of the plots were open and therefore less developed than in the 13th century. Documentary evidence seems to confirm or at least strengthen this impression. Plot 1 (no. 60 St Thomas Street) was a garden throughout the 15th century (BRO: P/StT/D/134–35), and leases and wills of this period suggest that Plots 2, 3 and 4 were also largely open ground (‘void ground’ and ‘garden’), although this remains a little uncertain because the exact site of the properties involved is arguable (Wadley 1886). However, Leech (The documentary evidence, above) argues that nos 54–57 St Thomas Street (Plots 3 and 4) were part of Foster’s Charity land, described in the 15th century as garden.

If the laying-out of tenements in the later 13th century was intended to lead to a dense urban environment, the archaeological evidence suggests that this aim was not realised in Period 1. The cross-plot activity represented by Horizon 1 at the end of Period 1a is less puzzling when the relatively low level of activity seen in Period 1b is considered. Only the fencelines between Plots 1 and 2 were renewed in this phase, and there seems to have been little activity apart from the excavation of slots in Plot 1. The homogeneous layers defined as Horizon 2 can be interpreted as a silty soil developing over largely abandoned (or at least not actively developed) plots.

The lack of urban occupation here in the late medieval period is very different from the northern and eastern end of the suburb. Property boundaries were established from the 12th century at nos 98–103 Redcliff Street (BaRAS 1999). At nos 68–72 Redcliff Street the tenements appear to have been laid out in a single operation in the late 12th or early 13th century and the area was heavily occupied by the end of the 13th century (Jones 1983). At nos 110–112 Redcliff Street (Buchanans Wharf), the earliest stone footings date to the 12th century (Burchill 1987). Nos 1–2 Redcliff Street show occupation beginning at much the same time, developing into continuous activity with masonry buildings in the 13th and 14th centuries (Hart, forthcoming). In contrast, development at St Thomas Street appears to be later and less intense, as indicated by the excavations almost opposite the site at nos 26–28 St Thomas Street (Watts 2011 [this volume]) and nos 30–38 Thomas Street (Jackson 2004, 60), where dumping and pit digging in the 11th to 13th centuries was followed by construction of stone walls in the late medieval to post-medieval period,
but there was no clear evidence of tenement creation. At the corner of St Thomas Street and Portwall Lane a brief period of gardening is described (Good 1989, 26) between the earlier pit digging and the late 14th or early 15th-century building, which echoes the separation of activity in Periods 1a and 1b by Horizon 1. It has been suggested that there was no substantive occupation of this part of the suburb until after the creation of the Portwall in 1240 (Hebditch 1968) and the archaeological evidence from nos 55–60 St Thomas Street certainly fits that model.

**Periods 2a and 2b: 15th to 17th centuries**

There was no evidence for a boundary between Plots 1 and 2 in Period 2, but the layout of features indicated that one continued into the post-medieval period. A metalled track formed the boundary between Plots 2 and 3, supporting the interpretation that the earlier fencelines flanked access lanes to the back of the plots. Another access lane is represented by double rows of postholes and gullies (Fencelines 9 and 10) on the north side of Plot 3. The large trench filled with building debris that ran north to south bisecting Plot 2 (1243) may have been some kind of internal boundary, although it is remarkably massive for such a purpose.

There was no evidence for a masonry building from which the debris in gully 1243 could have come, as Structure 5 at the east end of the plot appears to have been timber-built. This structure lacked a coherent plan and may represent several phases of activity. There was little else in the early part of this period to indicate major structural activity.

Well 1 in Plot 2 was the earliest identified. It was abandoned and robbed in Period 2b. The apparent lack of wells in Periods 1 and 2 may again suggest limited or no permanent occupation of these plots.

The mould fragments for casting of metal cauldrons found in pit 1464 in Plot 4 are redeposited, but provide evidence of fairly heavy industry in the vicinity. A scatter of post-pits to the west of pit 1464, including two sub-rectangular ones, may have been some kind of shelter associated with the cauldron casting. No plan was obvious but the stone packing in several of these postholes does indicate a structural function. The debris of metalworking in the preceding Period 1 suggests a continuity of industrial activity either on or near Plot 4. A similar sequence of ironworking followed by evidence for a copper-alloy foundry was found at nos 68–72 Redcliff Street (Jones 1983). Large quantities of clay mould fragments from copper-alloy casting were also found in late 14th to early 15th-century deposits at the corner of St Thomas Street and Portwall Lane, possibly from a bell foundry (Good 1989, 26).

Horizon 3 represented another probable episode of horticulture, which sealed the earlier Period 2 evidence in Plots 1, 3 and 4. Across the middle of the site in Plots 2 and 3 almost no archaeological evidence survived to suggest activity in Period 2b, other than a few scattered pits in Plot 3, and the absence of silty clay layers (Horizon 3) in Plot 2 suggests little use of the backplot even for horticultural purposes. Two stone-packed pits with 17th-century dating in the area of the alleyway on the north side of Plot 3 might be taken to suggest that the alleyway was blocked towards the end of this period.

The series of drains in Plot 4 suggests a sequence of activity in Period 2b, but cannot be ascribed to any clear purpose above that of drainage. Gully 1394 may have run into the precursor to Culvert 4 (Period 3a). The bulbous west end of ditch 1316 may have been a sump drained by the ditch. The fills suggested deliberate backfill rather than silting, so added little to understanding the function of these features.
The slots that extended across Plot 1 in Period 2b, dating to the late 16th or 17th century, have been discussed with similar features from the earlier periods. If these represent a structure, its full width could not be established as the slots extended south beyond the edge of the site. No other features apart from a few pits appeared to be associated with them.

The animal bone evidence shows that there was a change in meat consumption patterns in Period 2. While general patterns of food and other species were similar, if slightly more wide-ranging in the later period, the slaughter of younger cattle and pigs suggests a more specialised market for meat consumption, and possibly a rise in status. The pottery assemblage is too small to reliably contribute to this debate, although there are hints of higher status in the small assemblage of imported wares. The evidence for small-scale structural activity and open spaces across the site is consonant with the 15th-century documentary evidence, and the inference is that the tenements here in the later medieval and early post-medieval periods were often held as garden ground and lodges used for housing cloth racks, or as recreational retreats from the centre of town (The documentary evidence, above). The period of horticultural activity represented by Horizon 3 at nos 55–60 St Thomas Street has possible parallels with the 16th-century garden soils noted at the corner of St Thomas Street and Portwall Lane (Good 1989, 26) and at nos 30–38 St Thomas Street (Jackson 2004, 60); at both these sites this was preceded by the demolition of 14th or 15th-century masonry structures, that lay towards the street frontages. A similar sequence noted at nos 68–72 Redcliff Street (Jones 1983) suggests that this decline in urban activity was more widespread in the Redcliffe suburb, although possibly confined to the southern end. Further north at nos 1–2 Redcliff Street, late medieval buildings were demolished in the 17th century but immediately replaced (Hart, forthcoming).

Nonetheless, later 16th-century mapping (Smith 1568) shows the frontages of the properties at nos 55–60 St Thomas Street as built up, largely in the areas unavailable for excavation, under modern St Thomas Street. Although some of the tenement divisions were not archaeologically visible in the area of excavation in this period, it is apparent that the boundaries first identified in Period 1a were preserved at the street frontage, to be re-established at the rear of the plots in the later 17th century (Period 3 below).

**Period 3: later 17th to mid 20th centuries**

The structural remains dating from the later 17th to early 19th centuries (Period 3a) were those of a series of long, narrow buildings running back from St Thomas Street. Some building plans can be reconstructed by comparing the archaeological remains to documents of the properties at various dates, although due to 20th-century widening of St Thomas Street, the frontages of these buildings were beyond the limit of excavation. The remains of the Period 3 buildings were at cellar or basement level. The four plots were divided into six tenements. In the late 19th and 20th-centuries (Period 3b), much of the site was rebuilt for commercial purposes.

**Period 3a: later 17th to early 19th centuries**

*Plot 1: no. 60 St Thomas Street*

Parts of two rooms of Building 1 were revealed, but the main interest was the large stone cistern at the rear of the building. This had been modified in Period 3b so its original function...
could not be ascertained. Its stone-flagged floor suggests it was built as a cess pit, but its relationship to the stone culvert that ran beneath it was not established, and it was big enough to have been a small cellar, although there was no means of access. It may relate to the use of the property as a public house, known by 1764 as The Artichoke (The documentary evidence, above). The Artichoke remained in existence at least until 1775. By 1800 the property was at least partly in multiple occupancy but neither the maps nor the archaeological record suggest this entailed alteration or extension to the property in this period.

Plot 2: nos 58–59 St Thomas Street
The Ordnance Survey (OS) map of 1882 (Fig. 21) shows that Plot 2 contained two mirrored houses with outbuildings to the rear, which appear to be the surviving Period 3a houses. The tiny walled front area, with the façade set very slightly back from the street, suggests an 18th to early 19th-century date for these, rather than earlier. The excavated remains of these on site were Building 2 to the south, and Building 5 to the north. More survived of Building 5 and the fragments match the map of 1882 in plan very well. The unexcavated well to the rear of the remains of Building 5 fell on the boundary of nos 58 and 59, and is shown with a pump in 1882. By 1800 the properties were in common ownership, but severally occupied.

Plot 3: nos 56–57 St Thomas Street
The remains of the house at no. 57 St Thomas Street (Building 6) were the best preserved of this period, largely because they were incorporated into the early 20th-century rebuild of the foundry which occupied these plots (and eventually all of the site) in later Period 3b. It can also be identified in a plan of the foundry of that period. Its plan was typical of the still evolving later 17th and early 18th-century urban terrace. Its central and presumably top-lit dogleg staircase was reached by a lateral corridor and was set between the front and rear rooms. The two post pads 779 and 780, excavated in the centre of this room, may represent stair supports. At the rear, separated from the body of the house by a courtyard, was a large detached room which survived well, including the stone-flagged floor and evidence of a fireplace. Excavation showed that this was a vaulted basement, large parts of whose brick-vault survived. It probably supported a room above which could have been a detached kitchen, or perhaps a workshop or warehouse, although access for goods would have been limited by the width of the lateral corridor in the frontage building.

These buildings occupied roughly over half of the tenement. East of the kitchen/workshop was a walled garden or courtyard, 10m x 5m. At its east end, centrally on the wall, was what appeared to be a drinking fountain or conduit linked to Well 6, in what was probably a well house (Building 10), only part of which fell in the excavated area. It is likely that the well was pumped, perhaps into a water tank at a high level. Overflow from this and the fountain was fed back into the culvert which ran under the garden and Building 6. It is not clear if this was later than Building 6 but it may well have been. Culvert 3 ran north from the east end of the vaulted basement, to drain into Culvert 4. The fact that the drain ran across the neighbouring property is of interest in that it implies rights of drainage to the Law Ditch and may explain the similar cross-boundary routes of the gullies and drains in Periods 1 and 2.

It seems probable that no. 57 St Thomas Street is that held by Samuel Wickham in 1725, described as a workhouse and yard. By 1730 it was held by Stephen Doggett, who
had moved from no. 58. However, the history of nos 56 and 57 is confused as they were both owned by the Foster Charity from the late medieval period, and this may account for the record of only four properties (sometimes three) along St Thomas Street (south of the Law Ditch) until well into the 18th century. It seems that both were Samuel Wickham’s workhouse and yard in 1725 and 1730, and the same description was given when Doggett became the occupant in 1735. The description, general as it is, fits no. 57 in Period 3a well, although as a workhouse yard the water feature excavated at the rear of the property is unlikely to have had an ornamental function.

An 1816 lease plan of no. 61 St Thomas Street, immediately south of the excavated area, includes a watercolour elevation (Fig. 20). This illustrates a mid to late 17th-century house of no great pretention, probably typical of what was being erected in Period 3a in this area. The house at no. 57 is a close match in plan to no. 61, but a little more advanced, reflecting its probable later date.

![Fig. 20 Plan and elevation of no. 61 St Thomas Street, 1816–17 (BRO: P/StT/Ch/3/31 fol.4)](image-url)
Plot 4: no. 55 St Thomas Street

The Law Ditch was culverted in this period (Culvert 4), thus removing any trace of earlier forms of this drain, which may have been left open until buildings in the flanking plots were extended in this period.

Pre-dating the construction of Building 7 were scraps of cobbling that may indicate a yard or workshop where the front room was later situated. Building 7 was originally a short building like Building 1, with a cess pit and two wells (Wells 2 and 4) in the back garden. This was extended by less than two metres when the rear wall was rebuilt, and then again when two heated rooms were added to the rear of the house along with a half-width room and a vaulted cess pit. This earliest phase of the building was probably early 18th century, as the underlying cobbled floors were dated to the late 17th century. In 1755 and 1802 this property was documented as the Ring of Bells public house (The documentary evidence, above), and business expansion may well account for its extension to the rear.

It is clear that, after some activity and building in the early part of this period, the development of this part of St Thomas Street took off in the 18th century and that the area was prosperous enough to support rebuilding, modifications and extensions. Tax returns from the later 17th century seem to show that St Thomas Street was only partly built up at this time, although Millerd's map of 1673 (Fig. 2) shows buildings all along the frontage. As late as 1695 only three of the potential five properties along St Thomas Street were listed, one being a house and stable (Ralph and Williams 1968, 115). The documentary evidence from here into the early 18th century indicates tenements, stables, warehouses and workshops as well as yards, but occupations are not given. Occupations are given in Sketchley's Directory from 1775 (grocer, carpenter, gent., victualler, etc.), but this does not necessarily reflect the activities in the properties themselves, except for the victuallers at nos 56 and 60, both public houses at this time. The remaining occupants places of work may have been off-site. The houses were built in typical late 17th and 18th-century Bristol fashion in sandstone rubble, and both the excavated and the documentary evidence shows that this was rendered. It was not possible to distinguish archaeologically between domestic or commercial/industrial property use (nor should we expect that the inhabitants did so).

Changes that led to the major upheavals in the early 20th century began when no. 57 was taken over by Gevers, an iron founder, in the 1810s. This foundry continued under various owners, growing with the acquisition of no. 56 by 1880. The latter property seems not to have been mentioned in rate and tax returns after 1830 and had most likely merged with no. 57 soon after that date. Until the 1930s the tenements south of no. 57 remained in domestic occupation.

Not much 18th-century pottery was recovered, which could reflect a lower residential density, but it more likely reflects a different loss pattern at this period, exacerbated by a lack of catchment, with more hard floors and fewer dug features.

Period 3b: 19th to mid 20th centuries AD

Rebuilding on the St Thomas Street frontage seems to have begun in the early 20th century. Archaeologically, the only structural traces from this period were remnants of the rebuild of no. 60 on Plot 1, a drain and well in no. 59 on Plot 2, and fragments of the rebuilding of the foundry that occupied nos 55 to 57 in Plots 3 and 4. Most of the concrete floors and other structures of this period were removed during preliminary site clearance.
Fig. 21  Extract from 1882 1:500 Ordnance Survey map, with Period 3b (19th to mid 20th centuries) structures superimposed (scale 1:500).

At no. 60 the earlier house was rebuilt and divided into two long, narrow sections by a spine wall, but remained in one ownership. This does not appear to have happened before 1887 as its earlier form is on the Goad Fire Insurance Plan of that year (BRO; Fig. 6), although the construction of the ice house is identified, which was the brick-floored and walled room excavated at the rear of the property in Plot 1. Well 9 has been attributed to this period as it truncated cistern 573 of Period 3a and the later walls seemed to respect it, but it may have been a late Period 3a feature continuing in use into Period 3b, as it appears on the 1882 Ordnance Survey (OS) map as a pump (Fig. 20). The house had been rebuilt by 1938, as shown on plans relating to the road widening scheme of that year. By 1949
Fig. 22 Plan of nos 54–57 St Thomas Street, 1914 (BRO: 3804/1BMC/12/PL3 fol.71)

Fig. 23 Plan of nos 54–57 St Thomas Street, 1904 (Eversheds, London)
the site was a machine and erecting shop, part of the foundry (BRO: Goad c. 1949 Fire Insurance Plan).

The Period 3a houses at nos 58 and 59 St Thomas Street survived up to the road widening of 1939, as shown on a lease plan of 1939 (Fig. 23). In 1949 the properties were part of the foundry and were occupied by a machine shop and machine store (BRO: Goad c. 1949 Fire Insurance Plan).

At no. 55, the excavated remains can be equated with those shown in a survey plan of 1914 that seems to be of a recently built establishment (Fig. 21). In any case, these buildings do not appear on the Goad 1887 Fire Insurance Plan (BRO). On the Goad c. 1949 Fire Insurance Plan (BRO) these buildings were of the offices and a pattern shop behind, fronting Mitchell Lane. In no. 56, the remains were those of a weighbridge pit and the foundations for steel stanchions that flanked a "hauling way" marked on the 1914 plan (Fig. 22). This led into a rear yard through the large room whose upper floor the stanchions supported. South of this the Period 3a house at no. 57 (Building 6), the original foundry from 1810, survived as offices incorporated in the rebuild, although its rear vaulted cellar was buried under the new floor. By the 1930s the foundry had taken over the entire block. Wholesale reorganisation and rebuilding of the area south of no. 55 followed the road widening of 1938, and by 1949 the area had been transformed. Between 1949 and the 1951 edition of the Ordnance Survey (OS) map the foundry had contracted to occupy
only no. 55 St Thomas Street, with engineering works in nos 58–60. The 1959 OS map records a garage at no. 55. The buildings had been demolished before the 1974 revision of the OS map, and the site remained as an open space until the recent development.

Conclusions

The excavations at nos 55–60 St Thomas Street have shown that the earliest activities on the site seem to have been a little later than those to the north of the Redcliffe suburb, with only the slightest indications of pre-13th century utilisation. Substantive activity came in the mid to late 13th century, with the laying out of what proved to be long-lived property boundaries, typically long and thin urban tenements running back from St Thomas Street. The tenements were not destined to be intensively occupied through much of their history, however, and there is evidence to support the documentary references to gardens and small structures such as lodges and stables, from the general lack of substantial structural remains in Periods 1 and 2. On the other hand, lack of recognisable buildings does not preclude the use of the area for industrial activities as shown by the evidence for iron forging and, less certainly, for smelting and the casting of copper-alloy vessels, although these latter processes may derive from the immediate vicinity, rather than the site itself. Nonetheless, by the 15th century, if not before, and well into the 17th century, the excavated area was probably largely open, albeit with roadside buildings largely beyond the western limit of excavation, from which the domestic assemblages of animal bone and pottery may derive.

Development took off, at least in an archaeologically visible way, in the later 17th century, which reflects the boom in Bristol's trade in that period and through the 18th century (Manson 2000). Smith's map of 1568 suggests that the area was built up and Millerd's map of 1673 certainly shows the frontages all built up, but tax returns indicate a less intense occupation. By 1696 only three properties were listed here, and as far as the tax authorities were concerned the area was not fully developed until around 1725 (BaRAS 2002a). The first clear documented picture of occupation and development of all the properties does not come until Sketchley's Directory of 1775, but there can be little doubt that this density was reached much earlier in the century.

The framework provided by these developments seems to have served the area until the early 20th century, when properties were amalgamated and rebuilt for the foundry. This pattern appears to be typical of the 20th-century industrialisation of the Redcliffe and Temple suburbs in this period, largely removing the residential element that had been an integral part of the industrial use of the area previously.

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26–28 ST THOMAS STREET, REDCLIFFE, BRISTOL: EXCAVATIONS IN 2002

by Martin Watts

Introduction

Between July and October 2002, Cotswold Archaeology carried out an archaeological excavation at nos 26–28 St Thomas Street, Redcliffe, Bristol (centred on NGR: ST 59187277; see Davenport et al. 2011 [this volume], fig. 1), at the request of CgMs Ltd and on behalf of Crown Dilmun (Redcliffe Village) Ltd, in advance of proposed mixed-use redevelopment of the site. Preparatory work had comprised two desk-based assessments, for nos 26–28 St Thomas Street (BaRAS 2001a) and for a parcel of adjoining land in Three Queens’ Lane (BaRAS 2001b), and a field evaluation (BaRAS 2002), all of which was undertaken in 2001. The evaluation trenches revealed features and deposits of medieval and post-medieval date, including garden soils, pits, ditches and masonry structures. Excavation followed in 2002 as a condition of planning permission. Post-excavation work continued into 2003 but came to a halt when the client ceased trading. A very brief summary of the site was published (Young 2003) and a post-excavation assessment report was ultimately completed (CA 2005), as were separate assessment reports on various environmental aspects of the project (Green et al. 2004; Vaughan-Williams and Branch 2004; Warman et al. 2004). This report presents a more detailed summary of the excavation, as it is understood at the assessment stage, to accompany the publication of the excavation undertaken on the opposite side of the road at nos 55–60 St Thomas St in 2006 (Davenport et al. 2011 [this volume]). The project archive is held at Bristol City Museum and Art Gallery under accession number BRSMG 2002/30.

The site is within the parish of St Mary Redcliffe, on the corner of St Thomas Street and Three Queens’ Lane, at approximately 8m AOD. Covering an area of c. 700m², it comprised two former shop units on the St Thomas Street frontage, with a former garage building and car park to the rear. All buildings had been demolished prior to excavation. Redevelopment proposals included encroaching into St Thomas Street to create a narrower thoroughfare to the east. The underlying geology of the area is mapped as Triassic Redcliffe Sandstone and Keuper Marl (BGS 1974). This is overlain by alluvium forming the floodplain of the River Avon, which typically consists of a soft yellow clay, becoming dark blue-grey at depth.

Historical background

A general historical background to Redcliff Fee and St Thomas Street is provided elsewhere (see Davenport et al. 2011 [this volume], Historical and archaeological background). Like Mitchell Lane to the east, Three Queens’ Lane was known as Hundenlane in the medieval period (Veale 1933, 214), and later Ivie Lane (on M韓ld’s plan of 1673; see Davenport et al. 2011 [this volume], fig. 3), but by 1742 it was ’The three Queen’s Lane’, at least on some copies of Rocque’s plan (e.g. Jackson 2004, fig. 6). Presumably it was named after the ’Three Queens Inn’ depicted on the northern corner of the junction with St Thomas Street on Ashmead’s plan of 1855 (ibid., fig. 20). On the southern corner, the current site formerly comprised seven tenements, nos 92–98 St Thomas Street, the plans of which
suggest were originally medieval burgage plots. The original corner plot, no. 99, was lost to road widening in the late 19th century.

The earliest documented property on the west side of St Thomas Street south of Three Queens' Lane was nos 88–91 (now nos 30–38 St Thomas Street, immediately to the south of nos 26–28). This was first recorded in 1325, when it was described as 'a garden, house and land', and then again in 1346, when it was referred to as a 'grange' (Jackson 2004, 4). Documentary evidence for properties in St Thomas Street and Three Queens' Lane is sparse, and the earliest to clearly relate to the site is a lease of 1638 (though it is unclear precisely which tenement it refers to), which describes 'one stable, one backside or barton, a washing house, the use of half a well adjoining to the said washing house, also two grounds, then in one, in St Thomas Street' (BRO: 11533(2), quoted in BaRAS 2001a, 4). Millerd's plan of 1673 (Davenport et al. 2011 [this volume], fig. 2) shows nos 26–28 St Thomas Street as being occupied by buildings fronting St Thomas Street, with further buildings to the rear. By the 18th century the buildings fronting the street were known as nos 92–98, and an 18th-century lease describes no. 95 as comprising 'a messuage, tenement or dwellinghouse together with yard, workshops sheds and workhouse' (BRO: 11533(10), quoted in BaRAS 2001a, 4). Photographic evidence shows these buildings surviving into the 20th century as timber-framed, jettied and gabled properties of probable late 17th or early 18th-century origin (ibid., plate 3). From the early post-medieval period onwards the site was occupied by many different properties and trades, including Morgan, Walker and Company, one of the largest stoneware manufacturers of 18th-century Bristol, at no. 95, which later became the 'White Hart' public house. In the 1960s the roads were widened further and new shop units and offices constructed.

Method

Three areas were excavated, but nothing of significance was revealed in Area 3, a new service trench within the street just to the east of the former shop frontage. Area 1 extended to approximately 200m² within the property to the south of Three Queens' Lane; Area 2 covered an area of c. 500m² within the site of nos 26–28 St Thomas Street. All areas were stripped mechanically of modern surface and overburden. This was followed by selective hand excavation of exposed features and structures, and further machine excavation where appropriate. Truncation was substantial in places, with little to indicate the location of the former tenement boundaries other than the location of cellars and other features. However, where features survived intelligibility was generally good, with both negative features and upstanding remains surviving with well defined interfaces. Over 2000 sherds of pottery were recovered, which was related to the Bristol Pottery Type (BPT) fabric series (see Ponsford 1988).

Results

**Period 1: medieval (11th to 13th centuries)**

A layer of trampled alluvium, up to 0.15m thick, overlay natural alluvium at about 7m AOD. There were a number of features cut through the trampled alluvium (Fig. 1), mainly subcircular pits up to 5m in diameter and concentrated in the centre of Area 2, which could have been for quarrying alluvial clay. There were also a few shallow linear ditches at or near to the edge of excavation that may have been early land divisions and for drainage (though there was little
correlation with the plot divisions that lasted through to the 20th century) and the remains of a midden deposit to the north-east of the pit cluster. All of these early features appeared to have silted up rather than having been deliberately backfilled, with medieval finds from these and the trampled alluvium dating to the 11th to 13th centuries.

**Period 2: late medieval (13th to early 16th centuries)**
The earliest built structures dated to the late medieval period and comprised a pair of parallel stone walls on the eastern side of Area 2 (Fig. 1). These were almost certainly the remains of buildings that once fronted St Thomas Street, and survived to over 0.5m high, enough to indicate that construction had not been constrained by plot boundaries but had been undertaken in phases spanning several of the tenements evident from later maps. This implied either that this phase of construction pre-dated division of the area into tenements, or that the tenements were in common ownership when first developed.

To the rear of these buildings, in the western part of the site, were substantial soil layers that together were approximately 1m thick. There were a few pits and gullies of probable late medieval date within the soil layers, but no other structures could be assigned to this period with any certainty. It was unclear if the soil layers were the result of deliberate importation of cultivation soil or the slow build-up of domestic and perhaps industrial waste. The relationship between the soils and the early structures fronting St Thomas Street was lost to truncation.

**Period 3: post-medieval (16th to 18th centuries)**
This period was characterised by the remains of stone walls, surfaces and other structural
elements of buildings on the St Thomas Street frontage in Area 2. In addition, to the rear or west of these, was an array of subterranean tanks, soakaways, drains and wells. Some of the building walls cut through or were built over the parallel stone walls of the Period 2 buildings (Fig. 2), but it was not possible to determine if these were additions/alterations to the earlier buildings, or new structures following their demolition. They included the remains of a large cellar, with a floor level at 6.8m AOD and walls surviving up to 1m high, which featured a drainage channel running around its periphery. To the west, the tanks, which were up to 2.5m² internally, were also constructed in stone, with flagstone floors at 6.9m AOD and rendered stone walls surviving up to 0.9m high. These appeared to have served as cisterns or water storage tanks.

Truncation had removed almost all evidence of contemporary tenement boundaries but the distribution of features gave a clear indication that development in the post-medieval period had proceeded on a plot-by-plot basis (Fig. 2). Thus it would appear that, from south to north, the southernmost two square tanks were located within nos 92–93 St Thomas Street; the large cellar, adjacent tank and well were part of nos 94–95, which by the mid 19th century formed a single plot; the double tank and adjacent building remains were those of no. 96; and the remaining rectangular tank was in the back part of no. 97, with no structural remains surviving from no. 98.
The finds

Medieval pottery amounted to 1286 sherds, approximately half of which was recovered residually from post-medieval contexts. The bulk of the stratified material came from the Period 1 alluvium deposits, pits and other features sealed by the Period 2 cultivation soils. It comprised mainly locally made wares with a small quantity of regional and continental imports. With the exception of a few sherds of Ham Green A type jugs, none of the medieval pottery needs to have been any earlier than the 13th century, and most medieval contexts probably dated to between 1250 and 1350. The overwhelming bulk of the glazed ware was of Bristol Redcliffe type (BPT 118), almost all consisting of jugs of known form, including some moulded anthropomorphic designs. However, waster pits of the type identified at the neighbouring site of nos 30–38 St Thomas Street (Burchill 2004, 26–8) were not present. The most abundant of the coarseware fabrics comprised Ham Green products (BPT 32), handmade and with vessel forms and decoration closely comparable to examples known from the production site (Barton 1963, fig. 112). These were mostly simple jars (cooking pots) with everted rims. There was also a highly unusual probable lamp of Minety ware (BPT 84). Continental imports were relatively rare and regional imports were poorly represented, presumably due to the dominance of local products.

A total of 1052 sherds of post-medieval pottery was recovered. It spanned the 15th/16th to 18th centuries, with the bulk from the 16th and 17th centuries. Included were Malvernian redware, ‘Tudor Green’ and Cistercian wares, types which were in production before 1500 but which continued well beyond. As with the medieval assemblage, continental imports were not abundant. The bulk of the utilitarian coarsewares appeared to be regional imports and made up of internally glazed earthenwares. Malvernian redwares were well represented, as were Somerset red earthenwares and North Devon gravel-tempered wares. Forms included pipkins, ‘basket-handled’ and other jars, and pancheon-type flanged bowls. Tablewares were less abundant and consisted of cups and small jugs in Tudor Green and Cistercian wares, and slipware or sgraffito-decorated plates. The absence of ‘household’ forms (e.g. chamber pots and stoneware tankards), which were abundant from the early to mid 18th century, suggested that the bulk of the post-medieval assemblage dated to before c. 1700–1720.

Other notable medieval finds included glazed ridge tile, of likely 14th-century date; Pennant sandstone and Delabole slate roof tiles; a copper-alloy shield-shaped harness mount and seal matrix, and a variety of lace-ends and dress-pins. Post-medieval finds included further metal objects, clay pipes (mostly of mid 17th to early 18th-century date), 18th-century bottle glass and some lozenges of 16th to 17th-century window glass.

Biological evidence

A small assemblage of well preserved animal bone was recovered, the majority from medieval (Period 2) contexts. It was dominated by domestic stock species (cattle, sheep/goat and pig) but also included horse, dog, cat, chicken and goose as well as wild species such as roe deer and rabbit. A few fish vertebrae were recovered, as was a single bone from a dolphin.

Charred plant remains recovered from Period 1 deposits included some cultivated cereals, including emmer/spelt wheat, bread wheat and barley, with the rest of the assemblage associated with human diet (fig, blackberry, plum, sloe and grape) or the deposition of animal or human waste (fat hen and nettle). Period 2 deposits contained evidence for the continued utilisation of cultivated cereals, notably emmer/spelt wheat and barley, with bread wheat.
possibly increasing in importance, but only limited evidence for human diet (e.g. plum). The composition of the assemblage was mainly of charred grain, suggesting the area was used to dump material associated with domestic occupation rather than for horticultural purposes.

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INTRODUCTION

Archaeological investigations were carried out between January 2003 and February 2008 by Cotswold Archaeology on land to the south of Anchor Road, Bristol (Fig. 1). The work was undertaken on behalf of Nicholson Estates (now Crest Nicholson Regeneration Ltd) prior to the redevelopment of the Harbourside area.

Given the historic importance of the location of the site, close to the former Abbey of St Augustine (now Bristol Cathedral), conditions attached to planning consent required archaeological work to be undertaken in advance of and during construction. Initial works comprised the monitoring and recording of geotechnical and archaeological boreholes (Wilkinson and Tinsley 2005), and a desk-based review of all the archaeological, geotechnical and cartographic data pertinent to the development area (CA 2003). Archaeological evaluation followed later in 2003, followed by excavation of specific areas in 2003 and 2004. An intermittent watching brief was also undertaken during specific phases of development from 2004 until 2008.

Location, geology and topology

The development area covers a total of 7.3ha of low-lying land on the Avon floodplain next to the Floating Harbour. The site lies at approximately 9m AOD and is bounded to the north by Anchor Road, to the east by @Bristol, to the south by the Floating Harbour and to the west by Gas Ferry Road (centred on NGR: ST 58157245; Fig. 1). Prior to redevelopment, the site comprised two areas of car parking and derelict oil gas works. The underlying geology of the area is mapped as Redcliffe Sandstone of the Triassic Keuper series, covered by estuarine alluvium (BGS 1974).

Archaeological and general historical background

The site lies to the south-west of the historic centre of Bristol in the parish of St Augustine-the-Less and within the historic area of Canon's Marsh (Fig. 1). The site is approximately 150m to the south-west of the former Abbey of St Augustine, founded by Robert FitzHarding in c. 1140, the church of which is now Bristol Cathedral. The northern part of the site lay within the former precinct of the abbey, with the southern part being within Canon's Marsh, which was endowed to the abbey in the 1150s (Bryant 1995).

By the end of the 12th century the abbey had probably begun to manage its holdings on a systematic basis, with water management being a major requirement for the improvement
Fig. 1 Site location plan, with excavation areas and evaluation trenches (scale 1:5000)
of the Canon’s Marsh area (Cox et al. 2006, 64–5). Documentary evidence suggests that a water supply to the abbey was established by the mid 13th century (ibid., 66) and that hay crops were being gathered from the marsh by the 15th century (Beachcroft and Sabin 1938, 28, 112–13, 148). Fishponds shown on Rocque’s map of Bristol (1743) also may have been created in the medieval period (Fig. 2).

The monastery was granted licences to make rope in 1491 and 1512, and the ropewalk shown on numerous later maps may have been established at this time (Beachcroft and Sabin 1938, 278–9). The Abbey of St Augustine was suppressed in 1539, and in 1542 many of its holdings, including the area of the site, were transferred to the Dean and Chapter of the newly created Bristol Cathedral, although the landscape remained largely unchanged. Ropemaking continued after the Dissolution, with ropewalks shown on De Wilstar’s survey of 1738 (BRO: DC/E/3/4 fols.24–5), Rocque’s map of 1743 (Fig. 2), Plumley and Ashmead’s map of 1828 (Fig. 9) and the Ordnance Survey (OS) map of 1885. In the 19th century, Canon’s Marsh was increasingly developed for manufacturing and industry.

The review of the archaeological, geotechnical and cartographic data (CA 2003) concluded that there was potential for deposits of medieval, post-medieval and modern date.
to survive within the development area, although it also showed that much of the area was likely to be heavily truncated by the 19th-century industrial development of the site.

Methodology

Six evaluation trenches (Trenches 1–6), were excavated to investigate the areas of high archaeological potential identified in the review (CA 2003). Trenches 4–6 were located on banks and ditches shown on Rocque's map of Bristol of 1743 (Fig. 2). This was followed by two open-area excavations totalling 1090m², investigating features of archaeological interest identified in Trenches 1–3 in the north-eastern part of the development area (Areas 1 and 2). Within the open-area excavations, modern surface material and overburden was excavated mechanically, and archaeological features thus exposed were hand-excavated to the bottom of stratified archaeological deposits. Where widespread homogeneous deposits were identified, these were mechanically removed under archaeological supervision. Environmental samples were obtained from appropriate deposits. Five boreholes were drilled into the underlying stratigraphy in Canon's Marsh. The cores were examined in conjunction with the borehole stratigraphy obtained from a geotechnical survey of the Harbourside development area (by Geotechnical Engineering Ltd). The results of the borehole study and the evaluation trenches have been synthesised with the subsequent excavation; the detailed contextual information, finds and geoarchaeological reports are summarised below; detailed reports can be consulted within the archive.

RESULTS

Geoarchaeological sequence, by Keith Wilkinson

Study of the borehole data suggests that the geological substrate of the Triassic Mercia Mudstone Group is overlain on the southern part of the site by gravels of the Late Pleistocene Avon Formation. Silts, clays, organic muds and peats of the Holocene Wendooge formation occur above the gravels, and the sequence is capped by made ground deposited during the medieval and post-medieval periods.

Sedimentological and palynological analysis of organic sediments within the Wentlooge formation from a borehole in the centre of Canon's Marsh (CA 2; Fig. 1) provided a detailed palaeoenvironmental history. This suggests that the lowest elements of the Wentlooge formation accumulated in an intertidal salt marsh during the Middle Holocene (c. 7000–5000 BC). The radiocarbon date obtained from this part of the sequence dated to 6230–6060 cal. BC (7287±42 BP, Wk 16708). Following this, sediment deposition exceeded rises in river/sea level and as a result the area emerged from the river for a short time, during which sedge communities colonised the site. Organic deposits from these deposits were radiocarbon-dated to 5680–5530 cal. BC (6694±39 BP, Wk 16707). Later still, the area once more became inundated as a result of rising sea levels, and mud flats developed. A radiocarbon date from these sediments of 7750–7570 cal. BC (8619±47 BP, Wk 16706) was obviously too old, and may have derived from reworked older carbon-rich material within the organic laminae used for the AMS measurement. This cast doubt on the integrity of the lower two dates, which do not tally with the accepted vegetation history of South-West England, suggesting contamination of the stratigraphy had occurred.
The wider vegetation throughout this succession comprised woodland of lime and oak on the high ground that surrounded the site. Evidence for human impact was slight during accumulation of the organic deposits, but sedimentological evidence indicated one possible episode of ash deposition onto the mud flats. As discussed above, chronological control on these events is uncertain.

Archaeological sequence

The archaeological remains survived as structures, layers and below-ground features, but had suffered from truncation by ground levelling and the construction of substantial industrial buildings. This had an impact on the understanding and interpretation of the more complex sequences of archaeological remains, most notably in Area 1, where Great Western Railway transit sheds were constructed in the 19th century. The sequence was divided into five periods:

Period 1: medieval (12th to mid 15th centuries)
Period 2: late medieval to post-medieval (mid 15th to 17th centuries)
Period 3: 18th century
Period 4: 19th century
Period 5: 20th century

Period 1: medieval (12th to mid 15th centuries)

Archaeological remains from Period 1 were poorly dated with only 24 sherds of medieval pottery recovered. The scant ceramic evidence appeared to date from the later 13th century onwards, consisting primarily of Bristol Redcliffe wares (BPT 118); however, this pottery was nearly all recovered from garden features or the later Building 1 and there was no direct dating evidence for the earliest structures. The dating for the period is therefore largely relative and mostly based on limited stratigraphic relationships. The ceramics suggest a date of c. 1270–1300 for the earliest remains; however, given the paucity of datable material and the undated nature of the earliest deposits, Period 1 is perhaps best defined as starting with the foundation of St Augustine's Abbey in c. 1140.

The top of natural alluvium was recorded across the site at between 7.65m and 6.9m AOD. The archaeological sequence had been heavily disturbed by later truncation but the earliest archaeological activity appeared to relate to the laying out of the Abbey precinct.

A substantial 0.5m-wide masonry wall excavated in both Area 1 (9257, Fig. 3) and Area 2 (1078/8042/8113, Fig. 6) represents the earliest structural activity, although no dating evidence was recovered. The position of the wall correlates with one shown on Rocque's map of 1743, which would appear to mark the southern boundary of the precinct of St Augustine's Abbey (Fig. 2). The wall was later rebuilt (wall 9150, Fig. 3). In Area 1, this returned to the north (walls 9278 and 9281) to enclose an open area, interpreted as a garden. A fragment of roof tile from wall 9150 may date to the 15th or 16th century, although this is not certain.

The garden area was accessed through a gap in wall 9278. Within the garden was a homogeneous soil and a stone-kerbed pavement (9249) along the eastern garden wall; a fragment of ceramic louvre recovered from the pavement probably dates to c. 1300 to 1450. Other features included a stone-filled foundation (9210), possibly indicating the wall of a lean-to structure against the precinct wall, and a drain (9239). A large section of
Fig. 3  Area 1, Period 1 (12th to mid 15th centuries) and Period 2 (mid 15th to 17th centuries) (scale 1:250)
fallen masonry (9237) lay to the north of precinct wall 9150. Within the garden a masonry wall (9250) may have marked a subdivision of the garden and contained pottery dating to the late 12th to 13th centuries. Pottery recovered from the lean-to structure and garden soil dates to the mid 13th to 14th century.

To the north of the garden was an east/west-aligned drainage channel (9302), revetted by masonry walls 9293 and 9301 (not shown); there was no evidence for an earlier timber revetment and it is likely that the channel was masonry-built from the outset. The channel was originally approximately 3m wide, narrowing to the west. The north wall of the channel was repaired with a new masonry wall (9254), and later the north and south channel walls were both rebuilt in sandstone as walls 9291, 9295 and 9305. The north wall (9305) was rebuilt on a new alignment, narrowing the channel to a width of 1.1m to the west in Area 1. The area between this new wall (9305) and the previous repair (9254) was infilled with dumps of silt and stone.

A masonry bridge was built over the channel (Figs 3 and 4). The bridge was 4.7m wide with a span of approximately 2.6m and was originally formed of a single span with four sandstone ribs and Bathstone facing, keyed into the channel walls. At the north end of the bridge, the addition of abutment 9303 strengthened the west wall of the bridge, which on its south side was probably keyed into wall 9281. The eastern side of the bridge had been truncated. It may have been constructed at the same time as the precinct and garden boundary walls, although the complex construction sequence, subsequent repairs and rebuilds, and severe truncation obscured the finer detail of the sequence.

The bridge served to carry a north/south lane across the channel. To the north of the

Fig. 4 Channel 9302 with bridge to rear, Area 1, Period 1, looking east (scales 2m)
bridge, the lane took a northwest/southeast alignment, bounded by walls 9264 and 9290. Wall 9264, on the west side of the lane, butted bridge abutment 9303. The surface of the lane was cobbled, and had been repaired several times (9228 and 9235). No such surfaces survived to the south of the bridge from this period, but a lane connecting the bridge to Anchor Lane is inferred by the later evidence (see below, Period 2).

To the north of the channel, the area to the west of wall 9264 was levelled up (9217); a surface of stones (9203) surviving over part of the levelling (this surface may have been contemporary with Period 2 Building 2, but the robbing of the walls had destroyed the stratigraphic relationship). The levelling contained ceramics dating to the 14th to 15th centuries. To the west of these deposits was a stone drain (9226), discharging into the channel.

A building (Building 1), measuring 5.1m² internally, was constructed to the south of the channel, post-dating channel revetment wall 9295 and reusing wall 9281 for its east wall. The building may have had slight external buttresses at its south-western corner (9255), although much of the south and west wall had been robbed out at a later date. Internally, make-up layer 9241 formed the base for cobbled floor 9214. Late forms of Bristol Redcliffe ware pottery (BPT 1181) from make-up layer 9241 suggest a mid 14th to 15th-century date for construction.

An arched culvert (9306) was built over the channel west of Building 1, springing off from revetment walls 9305 and 9295. The culvert almost certainly continued eastwards, to the north of Building 1, as later maps show buildings spanning the channel in this location (Fig. 9), although no archaeological evidence for this had survived. To the south of Building 1, a mortar surface (9244) sealed the demolition of garden wall 9250 and may have been a garden path leading to an entrance to the lane. Later in Period 1, this entrance was blocked by masonry insert 9280.

To the south of precinct wall 9150 there was little evidence for activity, although there appears to have been some ground raising in Area 2. This may have been for a lane along the south side of the wall, depicted on later maps as Anchor Lane, but there was no direct evidence for this in this period.

There was no archaeological evidence in Trenches 4, 5 and 6 for any activity in this period within Canon's Marsh, and the area probably remained as open and largely unimproved marshland in this period.

**Period 2: late medieval to post-medieval (mid 15th to 17th centuries)**

There is a slight increase in the amount of pottery recovered from this period compared to Period 1, and dating of contexts is aided by clay tobacco pipes, although there is some intrusive material. The pottery includes Iberian micaceous-type wares (BPT 282), with a date range of 1250–1600, and Black-glazed Cistercian types (BPT 275) dating to between c. 1500 and 1650, but these were found in combination with later pottery types such as East Somerset glazed earthenware (BPT 96) and tin-glazed earthenware (probably Bristol manufacture) (BPT 99), which extended the sequence into the late 17th century. However, Period 2 contexts are generally poorly dated and overall the period relies on stratigraphic relationships for relative dating.

In Areas 1 and 2 the major structural features survived with little or no change. Within the garden in Area 1 (Fig. 3) soil built up, sealing earlier features, and was cut later by pits 9243 and 9205, and bedding trench 9173. Pottery from these features gives a date range of c. 1550–1650, but a clay pipe fragment from pit 9205 suggests a later (17th-century) date.
for these features. To the north of the channel, robber trench 9145 marked two sides of a building (Building 2), measuring 5.2m east/west by at least 3.6m north/south. A stone drain (9160), which issued into the channel, was built against the west wall of this building.

At the junction of the north/south lane and Anchor Lane, a pillar (9273) of well dressed Bath stone and sandstone blocks was constructed in 17th-century style, with buttresses to the north and south, and with an iron pintle for a hinged gate. This was probably the eastern side of a gateway into the former precinct, but the corresponding western pillar at the corner of wall 9150/9278 had not survived. The pillar lay at the west end of a length of wall that continued the line of the precinct wall beyond the eastern limit of excavation.

The first clear evidence for Anchor Lane dates to this period. A series of metalled surfaces (9262, 9272, 9316 and 9317) indicated that it was resurfaced on several occasions. Dating evidence from these surfaces included clay pipe from the late 17th/early 18th-century from surface 9262. The level of the north-south lane was also raised, although the actual road surface had been truncated.

In Trench 6 (within Canon's Marsh), a bank approximately 1.2m high composed of two thick deposits of clay (6052 and 6039) was constructed from a level of c. 7m AOD on the natural alluvium next to the Avon (Figs 7 and 8). The upper bank deposit (6039) contained two copper-alloy farthing tokens dating to 1652. The bank survived to a width of 3.5m (it was probably originally over 4m wide, but had been truncated on its landward side; see below). The bank was constructed in two episodes with a shallow gully separating the two 'lifts' of the bank. The top of the bank was covered by a thin layer of cinders, clinker, ash and charcoal (6038), which formed a protective surface and walkway on the bank. Dating evidence from this layer included a fragment of clay pipe manufactured between 1699 and 1728. The bank was later raised to c. 8m AOD with the addition of another dump of clay (6037). A residual 13th-century decorated floor tile was found in this deposit.

The landward side of the riverside bank was cut away to form a channel or pond (6050). Pollen from the lower deposits of this feature suggest there was an environment of open vegetation cover, probably dominated by grassland; pond species (including pondweed, yellow water lily and reed mace) from upper fills 9041 and 9051 confirm that this feature once contained water. It partly silted up, but also included glassworking waste and a pipe fragment from the upper fill dating between 1677 and 1716. It was infilled to 7.7 m AOD and cinder track 6036 was built over it (Fig. 8).

**Period 3: 18th century**

Period 3 deposits generally contained sufficient quantities of pottery and clay tobacco pipe to allow contexts to be dated with some certainty, although stratigraphy remained a key element in the relative dating of the sequence. Many ceramic types recovered from Period 3 contexts were first introduced in the late 17th century (for instance tin-glazed earthenware BPT 99; yellow slipware BPT 100, North Devon gravel-tempered ware BPT 112, and Somerset earthenware types BPT 96 and BPT 285), so some deposits may have been slightly earlier than 1700.

Within Area 1, Building 1 was demolished, its south and west walls (9131 and 9246) removed and layers of demolition material (9140 and 9141) were spread over the cobbled floor (Fig. 5). Immediately to the south a buttress (9206) was built against the garden wall entrance (9280) blocked in Period 2. A new building (Building 3) was constructed in the south-eastern corner of the garden; its south wall was keyed into the surviving
precinct wall (9150) and the building also reused the existing wall (9278) for its eastern side. The northern part of this building was truncated, but it can be assumed to have been on the northern edge of brick and stone cesspits 9087 and 9128, to the south of
external surfaces 9035 and 9039. Building 3 was 4.3m east/west and 7.2m north/south. The surviving internal surfaces were a frequently repaired sequence of clay and mortar floors with ingrained ash, charcoal and dirt layers. Soil layers built up further in the garden area (9132) and a soakaway (9104) was later dug to the west of Building 3.

The level of the north/south lane was raised and resurfaced both to the north and south of the bridge crossing, and numerous pits were dug in the road, possibly to repair potholes (e.g. 9178, 9194 and 9196), although some were also used to dispose of domestic refuse (e.g. 9176). Building 4 was constructed to the east of the lane, incorporating boundary wall 9273 into its southern wall 9264. A fragment of a late 15th or early 16th-century decorated tile in the foundations of this building may derive from earlier building on the east side of the lane. There was archaeological evidence for at least two rooms, divided by wall 9111, with a series of trampled floor deposits in each room. The surviving evidence matches a lease plan of 1794 (BRO: DC/E/40/38/1) and from this it can be deduced that the stub of a wall (9125) running north from wall 9264/9273 divided the southern room into two (Fig. 5). The building extended to the north (9216) and a pavement (9220) and gutter (9230) ran to the west of wall 9216 and round the north side of the building. A fragment of a bone syringe (Fig. 14, no. 1) was recovered from gutter 9230.

Anchor Lane was repaired and remetalled with glassworking waste and clinker. Within Area 2, the former precinct wall was rebuilt during this period (8044) and Anchor Lane was enclosed on the south by a new stone wall (8007, Fig. 6) creating a 3.5m-wide lane.

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Fig. 6 Area 2, Period 1 (12th to mid 15th centuries) and Period 3 (18th century), superimposed on Rocque 1743 (scale 1:500)
Fig. 7  Trenches 4–6, Period 2 (mid 15th to 17th centuries) and Period 3 (18th century), superimposed on Rocque 1743 (scale 1:1250)