

Roman remains, post-medieval tenements and clay pipe manufacturing at Saw Close and Bridewell Lane, Bath; excavations 2015-16

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ROMAN REMAINS, POST-MEDIEVAL TENEMENTS AND CLAY TOBACCO PIPE MANUFACTURING AT SAW CLOSE AND BRIDEWELL LANE, BATH: EXCAVATIONS 2015-16

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SUMMARY

Excavation at Saw Close and Bridewell Lane, Bath, within the extent of the former Roman town, revealed Roman, medieval and post-medieval remains. The Roman remains point to the presence of buildings of some quality within the north-western part of the defences, but the exposure and survival of these, and of parts of the ramparts which were also found, was limited.

Aside from several Anglo-Saxon artefacts, all residual within later deposits, the next earliest finds comprised 10th- to 12th-century pottery associated with the demolition, collapse and robbing of the Roman structures, although evidence as to the nature and duration of these processes was limited. During the medieval period, the site lay within open ground, probably cultivated or used as gardens, although there were hints that cottages may have lain nearby, most likely along a precursor to Bridewell Lane. There was also some evidence for a smithy nearby during this period, although no in situ remains of this were found. There was no evidence as to whether or not a timber yard at Saw Close, known to have existed in post-medieval times, had originated during the medieval period.

The area was gradually developed from the Tudor and Stuart period, gathering pace through the Georgian and Victorian periods. Evidence for the construction of dwellings and commercial premises was found, notably including a clay tobacco pipe factory, the remains of which were preserved in situ during the redevelopment. Parts of dwellings fronting Bridewell Lane and parts of the Bath Pavilion theatre were excavated, as were remains associated with the Blue Coat charity school and a clinic dating to the 1920s.

INTRODUCTION

Between October 2015 and March 2016, Cotswold Archaeology (CA) carried out archaeological

investigations at the request of Deeley Freed (Penhalt) Ltd in advance of new development at Saw Close and Bridewell Lane, Bath (centred at NGR ST 74903 64834; Fig. 1). The site forms part of Scheduled Monument BA 82: *the Roman Baths and Site of Roman Town*, Bath (NHLE No. 1004678; Old County Number BA 82).

The site lies towards the centre of Bath and comprises 0.5ha. The underlying solid geology is the Jurassic Charmouth Mudstone Formation (BGS 2018), but only the overlying superficial Quaternary sand and gravel river terrace deposits were reached in the deepest excavations.

Bath is a UNESCO World Heritage Site, renowned for its Roman baths and Georgian architecture. Remains pre-dating the Roman occupation are generally sparse, although over 16,000 Mesolithic flints were recovered from excavations at Southgate (Barber *et al.* 2015). The Roman settlement was established as *Aquae Sulis* during the 1st century AD as a combined religious and medicinal complex. By the Late Roman period, if not before, this had also become an administrative, social and commercial centre. The present city centre lies within the Roman defences; their projected extent has been illustrated by Davenport *et al.* (2007, fig. 1.3) (Fig. 1). The site lies just inside the north-western corner of these defences, with the baths and temple complex to the south; previous discoveries near to the site have indicated that the remains of quality Roman houses survive in this area (Bath Urban Archaeological Database (BUAD) refs 66, 72, 75 and 77; Fig. 1).

The nature of any occupation within the city during the very Late Roman and early post-Roman periods is unclear. The extant street plan probably dates to the refounding of the settlement as a burh in the late 9th century, and to further alterations following the establishment of the cathedral priory in 1091, onto which streets associated with the Georgian expansions of the 18th and 19th centuries were added (Cunliffe and Davenport 1985; Davenport 2002).

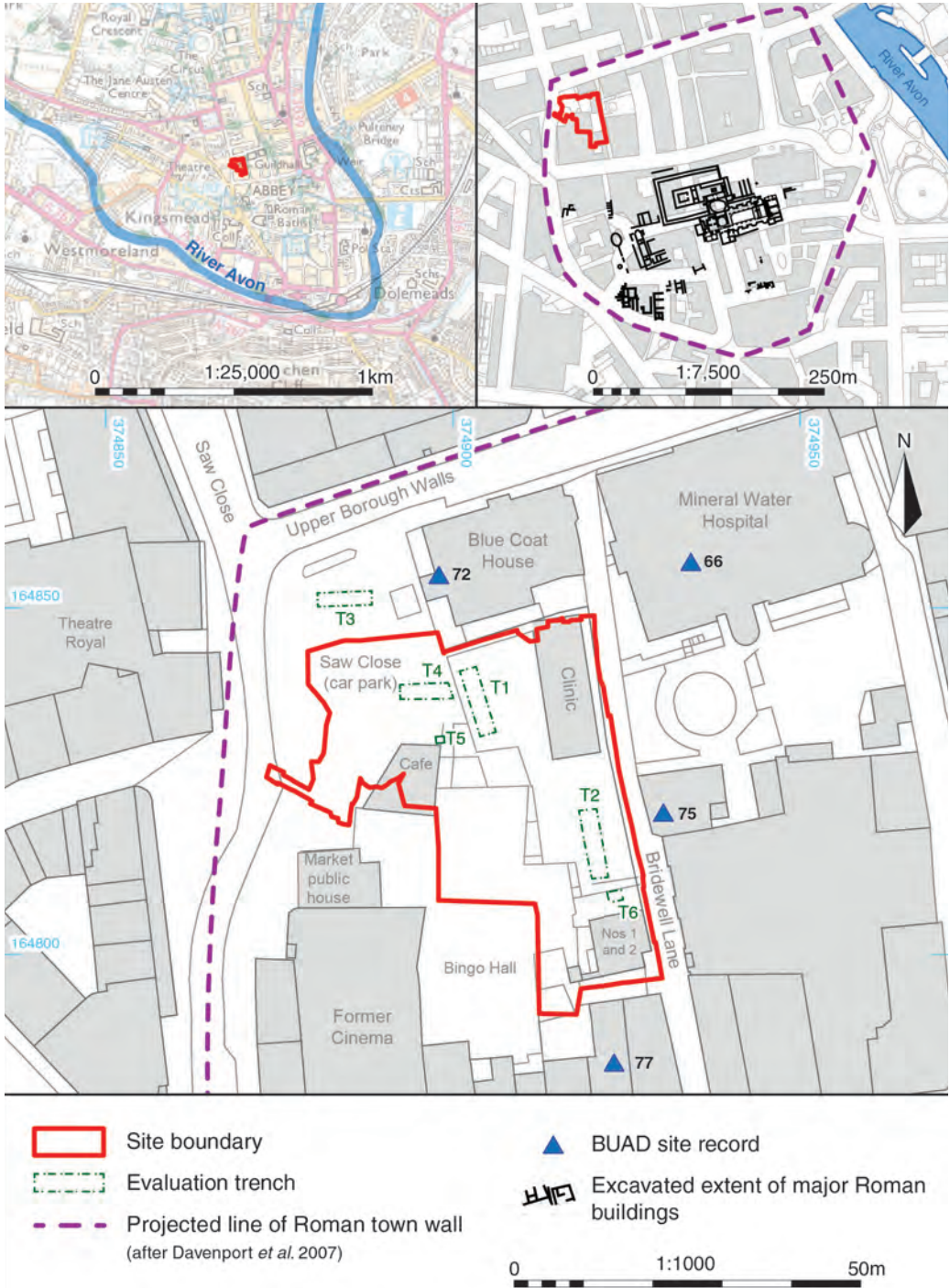


Fig. 1 Site location plan, showing location of groundworks (1:1000)

Deeds and leases to properties acquired by the Corporation of Bath have been used to reconstruct conjectural property layouts from the medieval period onwards, supplemented from the 1600s by historic mapping (Chapman and Holland 2000; Davenport 2007). Together this research forms the basis of much of the historical context referred to hereafter. The Saxon and medieval defences followed those of the Roman town, with the site inside these and to the north of Westgate Street. Bridewell Lane (known as *Plumtreostwichene*, i.e. Plum Tree Lane) was probably a narrow passageway leading between crofts (cottages), with gardens extending west to a timber yard at Saw Close. Although the city developed as a spa from the 17th century, Savile's map of 1604-10 shows that the area around the site retained its largely open medieval character. By the time of Gilmore's map of 1694, the southern half of Bridewell Lane was fronted by an almshouse and by rows of tenements with yards to their rear, whilst the northern half comprised gardens of the Bridewell, a house of correction built in 1632 (Chapman and Holland 2000).

By the early 18th century, the western frontage of Bridewell Lane was fully built up, and the Blue Coat charity school had opened in 1722 (Listed Building Entry 1394901), partly on the site of the former Bridewell. South of the school, Bridewell Lane was lined along its western side by adjoining properties with yards extending westwards. Saw Close ceased to be used as a timber yard by the mid-18th century, although the open space was used for fairs and markets (Chapman and Holland 2000). The town walls were finally removed during the second half of the 18th century, with the length near Saw Close amongst the last to go (*ibid*). By 1782, Joseph Smith, pipemaker, had converted a property along the lane into a clay tobacco pipe factory (Chapman and Holland 2000).

An 1852 map (Cotterell and Spackman) shows much of Bridewell Lane occupied by domestic dwellings. The clay tobacco pipe factory had closed by 1851 (Chapman and Holland 2000). A theatre was built from 1886, initially known as the Bath Pavilion, then the Palace Theatre. It included existing buildings which were adapted for its use behind properties at the junction of Westgate Street and Bridewell Lane. The Blue Coat School was sold in 1921 (Chapman and Holland 2000), the lease going to the Mineral Water Hospital, with the retained school building renamed as Blue Coat House. A clinic was built south of this in the 1920s. By the mid century, a garage occupied part of Saw Close, whilst Bridewell Lane was fronted by commercial premises and the clinic. The Palace Theatre became the Regency Ballroom in 1957 and from the late 1960s was a Bingo and Social Club (*ibid*). The buildings fronting Bridewell Lane were demolished piecemeal, with the exception of Blue Coat House, which still stands and is a Grade II Listed building.

Archaeological investigations began with a ground probing radar survey, although this proved of little use due to the disturbed nature of the ground (Stratascan 2010). An evaluation (CA 2011) identified that Roman and later deposits survived within the site and formed the basis of the archaeological mitigation works reported on here. The remains of the clay tobacco pipe factory were recorded in plan and then preserved *in situ* beneath the slab of the new building. Archaeological levels across the rest of the site were assessed against formation levels, and selected areas were identified for excavation to the contractor's formation level.

The findings are fully detailed within the Excavation Report published online (CA report no. 17181 (<http://reports.cotswoldarchaeology.co.uk/>)). A report describing the evidence for clay-pipe manufacture is published elsewhere (Lewcun and Alexander forthcoming). The remains are described below in relation to plot numbers shown on the 1852 map.

RESULTS

Roman (1st to 4th centuries AD)

Roman deposits were observed intermittently within the deepest trenches. They included patches of surfacing and sections of stone walling, taken to indicate the locations of three, possibly four buildings, although only very partial ground plans for each could be seen. That these were buildings of quality is indicated by the recovery of loose tesserae, mortar, wall plaster, *opus signinum* (a Roman concrete often used for surfacing), ceramic building material and stone roof tiles, whilst there were *in situ* patches of tessellated and *opus signinum* surfacing.

Within Saw Close, a series of rampart deposits was found; although the full depth and width of the ramparts was not seen, the deposits seem to represent parts of the inner edges of the ramparts, which probably pre-dated the construction of the 3rd-century Roman town walls. The rampart frontages and any walls would have lain beyond the site limits.

The small Roman pottery assemblage mainly dates from the mid 2nd through to the 4th centuries AD. Other Roman finds include a late 3rd- to 4th-century bone hairpin, a Late Roman shale armlet, part of a shale dish/bowl, and a few Roman vessel glass fragments.

Medieval (11th to 16th centuries)

Anglo-Saxon finds were restricted to a copper-alloy toilet implement of Roman or, more probably, Early Anglo-Saxon date, a Late Anglo-Saxon antler comb handle, and a possibly Anglo-Saxon ear-cleaning instrument.

All were residual within later deposits. The Roman ruins decayed and were robbed for building stone, and then sealed beneath medieval cultivation soils and pits dating to the 11th to 14th/16th centuries. Smithing hearth bottoms and hammerscale from two pits indicates the presence of a smithy nearby, but no structural remains of this or any other medieval buildings were found.

Early post medieval (16th to late 17th centuries; Fig. 2)

No early post-medieval remains were found within Plot 1 whilst those within Plots 2–4 were restricted to garden soils. This corresponds with the documentary record, which suggests that Plots 1–2 were within a garden/yard attached to an almshouse which lay within Plots 3 and 4 and which also had a yard to the rear. No structural remains belonging to the almshouse were present.

Plot 5 preserved the most extensive evidence for an early post-medieval property within the site. Although a floor plan could not be reconstructed, the remains indicate a property fronting the lane with a yard and wells to the rear. A yard or garden deposit probably of this date was also found to the rear of Plot 6. Documentary research (Davenport 2007) suggests that Plots 5–7 formed a single property of William Fould during 1600–10, remaining in use through the 17th and 18th centuries.

Early post-medieval remains within Plot 8 were limited. Walls within the plot probably represent the partial survival of the rear part of a building at ground-floor level, whilst a property boundary wall separating Plots 8 and 9 was also present. There were garden soils and wells to the rear. Historic research (Chapman and Holland 2000) indicates that Plot 8 was initially occupied by gardens but that a slaughterhouse had been built by 1641.

Within Plots 9 and 10, archaeological remains were restricted to a boundary wall separating Plot 10 from what (for the purposes of this report) has been numbered as Plot 10A. Documentary research (Davenport 2007) suggests that these plots were initially occupied by gardens but by 1641, each contained a property fronting the lane with a yard to the rear.

Remains within the timber yard at Saw Close comprised walls, garden soils and a possible saw pit. These suggest sheds, yards and open areas used for cutting and storing timbers.

Late post medieval (18th century; Fig. 3)

Extensive structural remains dating to the 18th century were found, many remaining in use into the 19th and 20th centuries. No archaeological remains of 18th-century date were found within Plots 1–4, reflecting continuing use of

this space as a garden or yard for the almshouse, which became a Poor House by the middle of the 18th century.

Within Plots 5–7, three adjoining properties were built fronting the lane, all as a single build. These are first referred to in a 1720 lease to Thomas Biggs, and in successive leases of 1733 and 1766 (Davenport 2007, 28). These changes were well represented within the archaeological record, which suggests that the properties were a new build, rather than a conversion of the former property. The new dwellings were built with narrow yards to the rear of each, behind which a row of adjoining outbuildings occupied the rearmost parts of the plots. The houses fronting the lane survived as the ground floor foundations for the walls and fireplaces. The floors had been lost and the buildings had not been provided with cellars. The ground plan comprised a front room along the Bridewell Lane frontage, a narrow central hall which probably included the staircase, and a back room. In most cases, both the front and back rooms had fireplaces and access was via a corridor along the northern side of the rooms.

Within Plot 8, the existing slaughterhouse was converted to dwellings in 1703–5 (this dating being based on documentary sources; Davenport 2007). These dwellings survived at cellar level. It is not clear whether these cellars were part of the original build of the slaughterhouse or added during the conversion of the property. Either way, they provided two-room deep domestic quarters along the lane frontage. The front room fireplace had no surviving ironwork and may originally have been an open fire, perhaps with a hob grate, since removed. The flooring comprised large stone flags. The back room was unheated.

Further buildings were constructed within Plots 9, 10 and 10A. Within Plot 9, a house fronting the lane with a yard to the rear was present by 1641 (Chapman and Holland 2000). Archaeological remains survived at cellar level and most likely date to the early 18th century when Samuel Teart acquired the property and then divided it up into several tenements (Davenport 2007, 25). The cellar frontage was largely obscured by a later wall, added when the lane was widened and the cellars infilled, but glimpses of the original front wall of the cellar were afforded beneath a relieving arch along this later wall. Internally, the house was divided by lathe and plaster walls supported on wooden beams, creating a front room, a back room, and a smaller room used as a coal store. The surviving flooring was of flagstones, patched with brick and slate, whilst patches of lime plaster survived on the internal wall faces. Both rooms contained fireplaces; neither had grates, although these might conceivably have been removed when the cellars were backfilled. Along the lane frontage, a centrally placed front doorway (blocked up when the later wall was added) led up to the lane, presumably via a flight of steps leading from a lightwell. Behind the back room

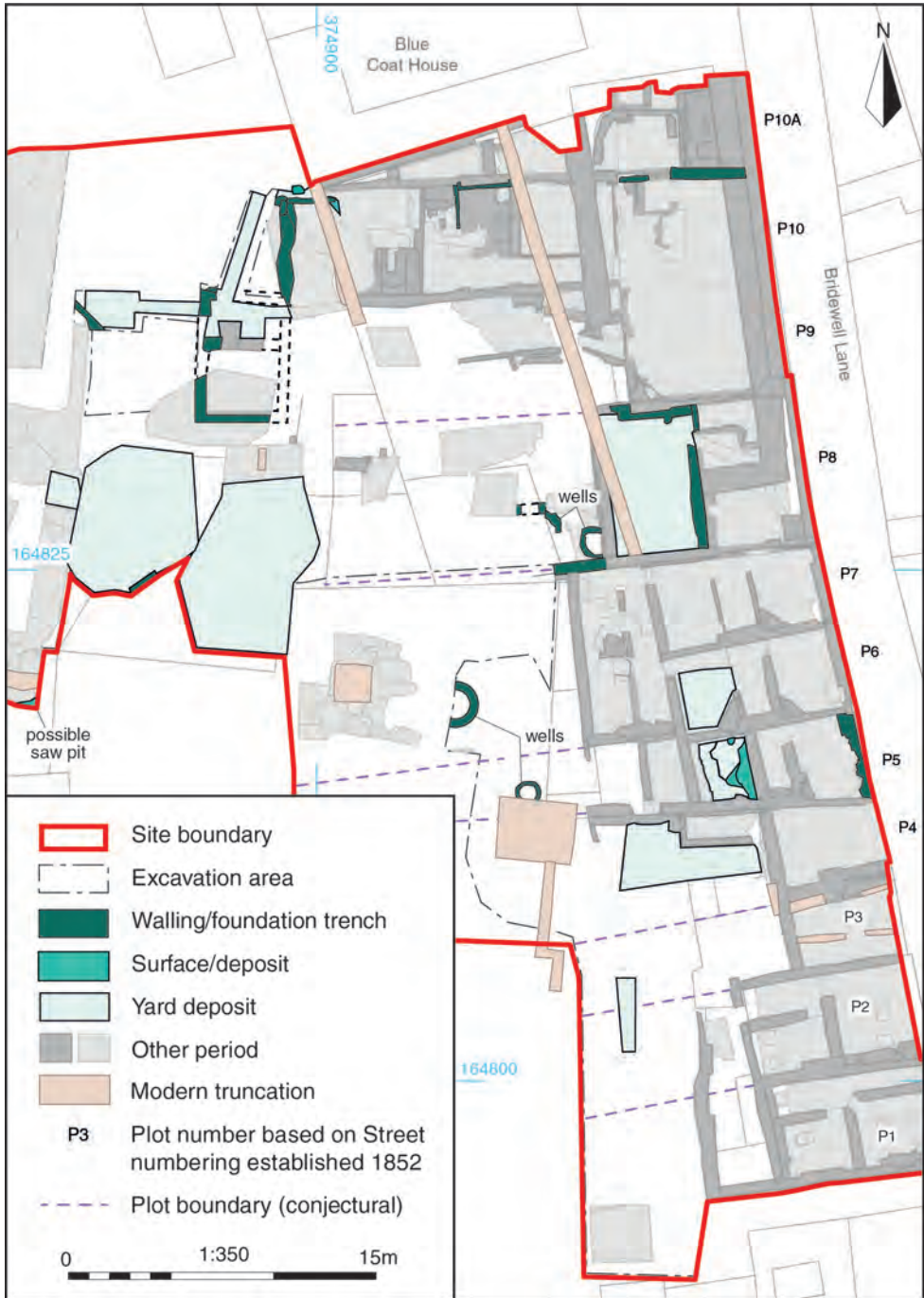


Fig. 2 Plan of early post-medieval features (16th to late 17th centuries)

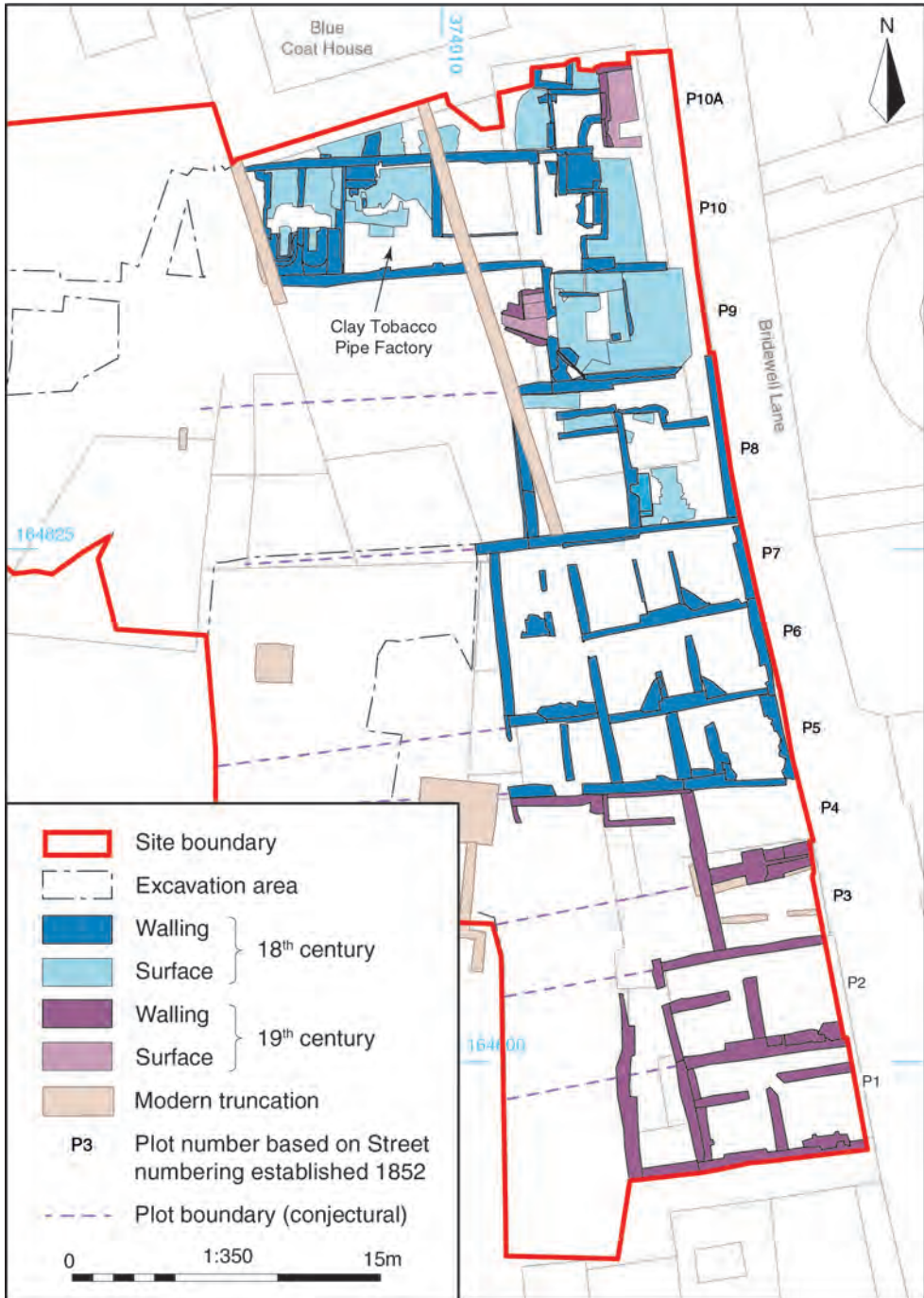


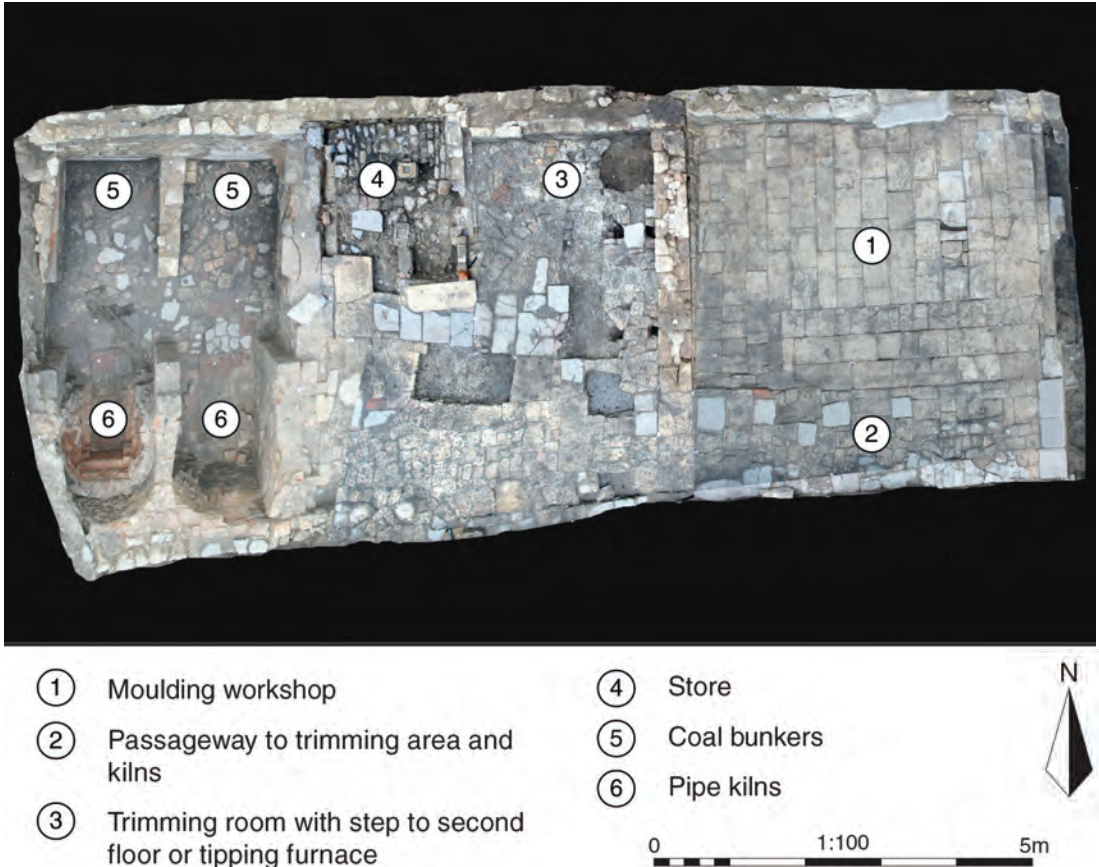
Fig. 3 Plan of late post-medieval and Victorian features (18th to 19th centuries) (1:350)

was a smaller cellar floored with stone.

The best preserved property was within Plot 10, where the remains of a clay tobacco pipe factory were found to the rear of the plot. The remains have been preserved *in situ*. Although this means that the build sequence could not be fully investigated, the ground-floor plan was easily reconstructed and included paired kilns with associated fuel stores and workshops (Fig. 4). A small cellar was also included and the base of a staircase was found indicating that the factory had had a first floor. The property belonged to Joseph Smith, originally a baker, who purchased the lease of Plot 10 in 1780 to convert the factory, apparently from existing premises (Chapman and Holland 2000), and it had opened by at least 1782, when he took on his first apprentice. The business was sold in 1810 to James Clarke and passed through other owners before being demolished in 1859 due to concerns that the smoke was a health hazard to the Blue Coat School children. Finds

from the factory were few, but did include many clay tobacco pipe fragments and kiln debris, although many of these post-dated the use of the factory and had been imported as hardcore to backfill the kilns from clay pipe factories operating later (see below).

The factory building was 13m long by 5m wide and was stone built throughout. Access was from the east, via a gable-end doorway presumably opening onto a small yard between the factory and a dwelling fronting Plot 10, parts of which survived at cellar level. Entering the factory, the doorway led to a corridor which gave access to workshops including a moulding room, where the tobacco pipes were initially created in their metal moulds and a trimming room, where the pipes would have been trimmed to make them smooth, prior to firing. Steps led down to a small cellar, perhaps used as a store, whilst further steps led to the first floor, not extant, but perhaps used as offices and stores. Firing



- ① Moulding workshop
- ② Passageway to trimming area and kilns
- ③ Trimming room with step to second floor or tipping furnace
- ④ Store
- ⑤ Coal bunkers
- ⑥ Pipe kilns

Fig. 4 Rectified overhead photo-mosaic view of the clay tobacco pipe factory (1:100)

was undertaken at the western end of the factory where two kilns were provided. These survived as adjacent apsidal kiln walls, countersunk into the ground, each with a rectangular coal bunker to its immediate north. The kiln walls were stone-built, with the floors and flues built using fire bricks. Above the kilns, the bases of the stone-built chimneys survived. These would have had openings through which the tobacco pipes were loaded and unloaded, and internally would have contained large cylindrical chambers (muffles), made from pipe clay and built above the flues. These seem to have been deliberately removed, along with much of the brickwork.

North of the factory, Plot 10A was only partially exposed within the site. Although a property stood within the plot by the mid 17th century, the remains within the site point to a rebuild or replacement of this in the 18th or possibly early 19th centuries. What survived comprised the front room of the property with a cellar to the rear and the remains of yards and outbuildings behind this.

Victorian (19th century; Fig. 3)

This period included further well-preserved structural remains. The 1852 Cotterell and Spackman map (Davenport 2007, fig. 27) shows the property layout at that date; the archaeological excavation has provided details of the construction and room fittings of the properties at this time. The 1852 map is the first to show property numbers to which the plot numbers used in this report correspond (other than 10A).

Within Plots 1 and 2, adjoining properties were built. These survived at cellar level but were clearly a single build, with almost identical cellar-level plans. The provision of fireplaces and ovens within these cellared rooms indicates that they were living rather than storage spaces. Each property comprised, at cellar level, a front room and a back room connected by a corridor. Flooring comprised regular stone flags and the walls were rendered with white lime plaster. Heating was within the front rooms only, provided by fireplaces surrounded by dressed Bath stone; that within Plot 2 included an iron range with a brick chimney to the rear. A wash 'copper' or boiler (in fact an iron vessel) was later added, standing on a stone plinth which included a stoke hole and flue allowing water in the copper to be heated. To the rear of the properties was a yard, found at ground floor level and not directly accessible from the cellared rooms.

A similar development was undertaken within Plots 3 and 4 Bridewell Lane, although these were on a different plan to Plots 1 and 2, and seem to have been built later. The 1852 map indicates that they were only of single-room depth, and this was confirmed on site by the survival of the external walls. Both included fireplaces,

which would have shared a common chimney. The fireplace surrounds were of dressed Bath stone and that at Plot 4 included an iron range, with an iron copper added later on a brick plinth within an existing stone setting (Fig. 5). Flooring was of regular stone flags, and the internal wall faces were covered with white lime plaster. Within Plot 4, there was a blocked window along the lane frontage (just visible in the photograph presented as Fig. 5) and traces of wooden stairs leading to the ground floor were present; similar arrangements were probably provided in Plot 3 but were not seen.

The dwellings within Plots 5, 6 and 7, built during the 18th century, continued in use through the 19th century and are depicted on the OS map of 1886. Plots 6 and 7 were demolished when a clinic was constructed in the 1920s, but Plot 5 remained until the grounds of the clinic were expanded southwards in the mid 20th century.

The dwelling at Plot 8 also remained into the 19th century, but by the time of the 1886 OS map had been levelled and the ground used as a yard for the Blue Coat School. Within Plot 9, a toilet was added within the small back cellar. The toilet, which comprised a stone slab box with a simple wooden seat, was provided with foul drainage and may date to the purchase of the property by the Blue Coat School. Probably at this time, works were begun to widen and straighten the lane, which comprised the construction of a supporting wall beneath the lane, including within Plot 9 a receiving arch; the cellar behind this wall was then infilled.

Complaints about emissions from the clay tobacco pipe factory and about the dilapidated state of the house fronting Plot 10 had been made by the Blue Coat School trustees, and in 1851 it was ordered that the factory cease production and the house fronting the lane be quitted. The demolition of the factory and house was evidenced in the archaeological record: the muffles were removed and then the kilns were infilled with debris, including clay tobacco pipe wasters dateable as an assemblage to after the last firing at the Bridewell Lane factory, imported as hardcore from another kiln (pipes with the initials of Thomas Jones who operated the Avon Street factory (1855-59) indicate the dump must have been after 1855, and may date to Sant's brief tenure of the Avon Street premises in 1859).

The property at Plot 10A survived into the early 19th century but was the first of the properties along the lane to be acquired by the school and demolished to provide yards, which came also to include properties extending as far south as Plot 8.

Within Saw Close were a series of demolition or rubble deposits, representing ground levelling, that were laid prior to the laying of stone yard surfaces. Late 18th- to 19th-century finds came from one of the lowermost of these deposits.



Fig. 5 Detail of fireplace with iron range (right) and later oven with 'copper' (left) at Plot 4 Bridewell Lane, looking south (scales 0.5m and 1m)

20th century

Remains pertaining to 20th-century developments within the site were limited. Within Plots 1 and 2, cellar infills were found, probably dating to the conversion of these premises to office use. Plots 3-5 were purchased for the new Bath Pavilion theatre. Whilst parts of these were occupied as dwellings, other rooms were used by the theatre. Within Plot 3, a corridor added at cellar level was used as the artistes' entrance and emergency exit and was perhaps heated by the original Georgian hob grate, which was retained, although the rest of the original cellar was backfilled behind the corridor. Blue Coat School was rebuilt from 1859, but in 1921 the lease was acquired by the Mineral Water Hospital. In 1927, an infant welfare centre was built over the former school yards across Plots 8-10A, with its own yard across Plots 5-7, and this was evidenced by surviving surfacing and numerous drains.

THE FINDS

The pottery

E. R. McSloy, incorporating contributions from Alejandra Gutiérrez (post-Roman pottery)

Pottery amounting to 2,965 sherds (69.9kg) was recorded, the majority dating to the medieval and post-medieval/modern periods. A summary is included here, with full reporting available in the archive (<https://reports.cotswoldarchaeology.co.uk/>; report number 17181).

The moderately large quantities of Roman pottery

(499 sherds, weighing 8.4kg) provide evidence for activity from this period, although most was re-deposited in medieval and later deposits. The earliest material dates to the later 1st or early 2nd centuries AD, but most relates to the later Roman period, after c. AD 250. The large majority (75% by sherd count) comprises locally or regionally produced reduced coarsewares. Oxidised types are also common; these probably of local or north Wiltshire origin. British finewares or specialist wares (flagons and mortaria) are present mainly as products from the Late Roman Oxfordshire and New Forest industries. Continental wares make up 6.5% of this group, and are present mainly as Gaulish samian. The samian group is made up of central and east Gaulish products, mainly plain bowls (Drag. 31, 31r and 38) and mortaria (Drag. 45). Continental wares other than samian are limited to a few sherds of south Spanish and Gaulish amphorae, and a single Gaulish mortarium sherd. This range suggests mid/late Antonine dating (or up to the mid 3rd century for the east Gaulish material).

A total of 997 sherds (14.3kg) of medieval pottery was recovered, with only a small proportion (83 sherds) re-deposited in post-medieval/modern-phased deposits. The earliest fabric is similar to Cheddar E, a type recorded at Cheddar palace and elsewhere and thought to date to the mid 10th–11th/12th centuries. The bulk of the medieval assemblage comprises unglazed coarsewares amongst which 'Bath A' and 'Bath B' types are most common. There are also unglazed and glazed fabrics identifiable as of

Bristol Ham Green type from hand-made vessels dateable to the mid 12th–13th centuries. Further glazed material, primarily jugs, is present and comes from a range of sources including neighbouring Bristol, Nash Hill (Lacock, Wiltshire), Laverstock (Salisbury, Wiltshire) and Somerset; most of this material dates to the 13th to 14th centuries. From further afield are a few sherds of Developed Stamford Ware from Lincolnshire which have a bright yellow glaze. Rouletting around the neck on one of these sherds indicates dating in the later 11th century (Kilmurry 1980, 142). Later medieval occupation is also in evidence as a single sherd from a ‘Tudor Green’ cup from London/Surrey, dateable to the mid 15th century, and glazed wares from Bristol, dateable to the 14th–15th centuries.

Pottery dating after the mid 16th and up to the 19th/early 20th centuries makes up the largest portion of the assemblage (1,465 sherds, weighing 46kg). Material typical of the 17th and 18th centuries is abundant in the form of glazed earthenwares, mainly from Somerset sources, together with delft and yellow slipwares, most probably from Bristol. Also of this period or a little later (18th or early 19th century) are cream wares and white stonewares. Imported vessels are few, mainly Frechen and Westerwald stonewares from the Rhineland, and a few sherds of Chinese porcelain. The latest elements in the assemblage date to the 19th or early 20th centuries and consist of pearlwares and other refined whitewares, English brown stoneware and yellow ware.

Other finds

E. R. McSloy (incorporating information from Ioannis Smyrnaios (stone); Katie Marsden (metal, worked bone and glass) and Peter Davenport (plaster))

A range of other artefactual material was also recovered. Roman ceramic building material (313 fragments; 19.8kg) was largely re-deposited in medieval and later horizons. The majority comprises roof tiles and flue tiles, the latter associated with heating systems. Evidence for mosaic or tessellated floors comes from 44 tesserae cut down from tiles or bricks. There are also two examples of glass tesserae that are uncommon from Romano-British sites and are more likely to be encountered in mosaics from the Eastern Mediterranean. Also unusual are 19 examples of *opus spicatum*. These small, rectangular clay tiles were typically laid in a herringbone pattern as flooring. Worked/ utilised stones considered of Roman date (341 fragments; 35.8kg), include roofing material and *tesserae*, mostly made using local stone. From further afield are an armet and a vessel fragment made from Kimmeridge shale.

Amongst a sizeable glass assemblage (164 fragments) are two small fragments of Roman vessel glass. The remainder dates to the post-medieval/modern periods and the majority consists of wine/spirit

bottles and other bottles typical of the later-17th to 19th centuries. Smaller quantities of window glass were also recovered and also date to the later-17th to 19th centuries, and there are also shards of clear glass table ware (mainly stemmed drinking vessels). Of individual note are a complete flask with a flattened, oval body which probably dates to the 17th century, and a linen-smoother, thought to date to the 18th or 19th centuries.

Of the 21 coins from the site, all but one date to the 18th or early 19th centuries; the exception is a poorly-preserved 4th-century issue. In addition there is a Nuremberg jetton, dateable to c. 1554-1601, and two uniface lead tokens of medieval or post-medieval type. Objects of metal (260) and worked bone (27) primarily relate to post-medieval and later activity. Amongst the Roman objects in these materials are a twisted copper-alloy bracelet, a furniture mount, and a worked bone hairpin fragment. A copper-alloy double-ended toilet implement may also be Roman, although earlier Anglo-Saxon dating is more likely. More certainly Anglo-Saxon are two decorated bone items, including a comb handle (Fig. 6, no. 1). Aside from the pottery, the only dateable medieval find comprises part of an iron padlock mechanism. Post-medieval and later metal objects comprise mainly cutlery, wire pins, dress items (buttons and buckles) and thimbles. Worked bone of this period is similarly ‘domestic’ in character, consisting of buttons, cutlery handles, spoons and brushes. More notable is a lathe-made object thought to be a medical implement (Fig. 6, no. 2).

Some 11.6kg of metallurgical residues, all relating to ironworking, were recorded, with largest proportion coming from medieval deposits. These included 15 smithing hearth bottoms and concentrations of hammerscale, which together provide good indications of blacksmithing activities located within or close to the site during the medieval period.

Amongst the latest artefactual material recorded were 24 fragments of decorative mouldings in plaster of Paris. These almost certainly relate to the Bath Pavilion theatre which in the 1950s was gutted of all decorative detail. The fragments are painted red, gold and green and are typical of the sort of cheaply produced, classically inspired embellishments produced to provide a grandiose but welcoming environment for the customers.

Clay tobacco pipes

Marek Lewcun

The full illustrated clay pipe report is in the archive report available online [https://reports.cotswoldarchaeology.co.uk/report number 17181](https://reports.cotswoldarchaeology.co.uk/report%20number%2017181) and is summarised here.

A very substantial and significant element to the artefactual assemblage is of clay tobacco pipes (6,729 fragments) and associated waste material (105



Fig. 6 Selected worked bone items (1:1)

fragments), mostly recovered from the clay tobacco pipe factory, last owned by Joseph Sants, which closed in 1851. Some 30 mould forms were associated with the Sants' pipes and 1,322 individual pipes bore this maker's marks, utilising a variety of stamps (Fig. 7). The majority of the pipe fragments came from backfill deposits within the factory, although the pipes in the trimming room were probably left there when the factory was abandoned in 1851. Amongst this material, most examples with maker's stamps come from Sants' works, but there are also stamps from rival manufacturers. Significantly for dating these backfills, there are 16 pipes with the initials of Abraham Jones and eight by his son Thomas, who operated a rival factory in Avon

Street (Lewcun 1994, 135). The presence of pipes with the initials of Thomas Jones (operating kilns at Avon Street from 1855 to 1859) indicates that the backfilling post-dates August 1855, while documentary evidence shows that it was prior to, or during the early months of, 1859 when the Bridewell Lane factory was demolished to make way for the construction of school yards. The pipes excavated from the kiln and coal cellar backfills of the disused factory therefore post-date its last firing and almost certainly represent wasters imported from either Sants' Milk Street factory between 1855 and 1859, or his brief occupation of the factory in Avon Street in 1859.

Many had deposits of soot on the surface and inner faces of the bowls, the reasons for which are

not clear, but possibly from a collapse of soot from the flue; as both well-fired and over-fired bowls had soot on them. These were not fit for sale, while others may have simply broken during unloading from the kiln or packaging. A small number of the bowls were slightly squashed across their axis, the result of the pipes not being sufficiently hardened before being loaded into the kiln, or of over firing where pipes soften and collapse under their own weight, or due to overloading of the muffle. Other pipes had been overfired to a pale grey colour and had shrunk in size as a consequence. The factory backfills also produced a terracotta plaque depicting an unidentified bearded male figure and likely to be a test piece made at Sants' Milk Street factory where redware pottery was manufactured (Fig. 8).

There is evidence of the use of kiln muffles at 88 locations in the British Isles, seven of which are in Somerset. In Somerset, however, these relate only to the chance discovery of material related to the manufacture of pipes but dumped beyond the confines of the workshop, and not the actual kilns or workshops themselves. With the exception of the still-standing kiln at Broseley, Shropshire, it does not appear that any of the few known kiln structures and workshops in Britain survived to such an extent as those at Saw Close, and only a few have been excavated as thoroughly or recorded in such detail (Archer *et al.* 2002; Groundworks Archaeology 2018). The recording at Bridewell Lane has also shown that the kiln muffles and the arches of the coal cellars were deliberately dismantled, probably in 1851, either to re-use in the new site or in order to prevent another maker from taking over the premises and operating a similar business without the necessity of any financial outlay.

THE PALAEOENVIRONMENTAL EVIDENCE

The animal bone

Matilda Holmes

A moderate animal bone assemblage was recovered, with c. 300 fragments identified to taxa, most of which came from medieval features. The few bones from Roman deposits were from cattle, sheep/goat and pig, with a few from chicken, eel and herring.

Medieval features produced a diverse assemblage of animal bones, dominated by sheep/goat and cattle, alongside smaller numbers of horse, cat, domestic fowl, red deer, goose, and numerous fish including eel, herring, possible gurnard and a salmonid. Most cattle and sheep/goat had been culled prior to, or at around the age of maturity, when they would be at prime meat age, with a few older animals also present. Pigs were culled

as juveniles, again for meat. All parts of the carcass were recorded for the main domesticates, but there were no discrete deposits of butchery, skin-processing or bone-, horn- or antler-working waste. Butchery marks were consistent with all stages of processing, including horn core removal, brain removal, splitting the carcass into sides, dismemberment, jointing and filleting. Fish remains were nearly all from vertebrae, and it is probable that they came from preserved fish that had had their heads removed during processing.

Post-medieval deposits produced a small assemblage of bones from the major domesticates, along with occasional finds of goose, hare, herring, cod-type fish, and possible gurnard.

The charred plant remains

Sarah F. Wyles

Charred plant remains were analysed from four samples taken from Roman and medieval deposits. The Roman assemblages contained cereal remains, including those of barley (*Hordeum vulgare*), spelt wheat (*Triticum spelta*) and free-threshing wheat (*Triticum turgidum/aestivum* type), as well as a range of weed seeds including those of vetch/wild pea (*Vicia/Lathyrus* sp.) and oats (*Avena* sp.). Hazelnut (*Corylus avellana*) shell fragments were also present. At least some of these remains are intrusive, free-threshing wheat being, for example, more typical of post-Roman assemblages (Greig 1991).

The medieval assemblages were dominated by cereal and possible crop remains including those of free-threshing wheat, barley, celtic bean (*Vicia faba*), probable garden peas (*Pisum sativum*) and some oats. They are likely to represent dumps of domestic hearth/oven material. Other remains included hazelnut shell fragments, crab apple (*Malus sylvestris*) type pips and false oat-grass tubers (*Arrhenatherum elatius* var. *bulbosum*). The weed seeds included seeds of clover/medick, vetch/wild pea, curled docks, brassica (*Brassica* sp.), brome grass (*Bromus* sp.), stinking mayweed (*Anthemis cotula*), red bartsia (*Odontites vernus*), meadow grass/cat's-tails (*Poa/Phleum* sp.) and cornflower (*Centaurea cyanus*), a range typical of grassland, field margin and arable environments. There is an indication from the weed seeds of the use of both damp, heavy clay soils and lighter drier soils for cultivation during this period.

Wood charcoal from the four samples was also analysed. In total, ten taxa were positively identified: *Ulmus* sp. (elm), *Quercus* sp. (oak), *Alnus glutinosa* (alder), *Corylus avellana* (hazel), *Prunus* sp. (blackthorn/cherry/plum), Maloideae (hawthorn, apple, pear, whitebeam, service tree etc.), cf. *Ilex aquifolium* (holly),

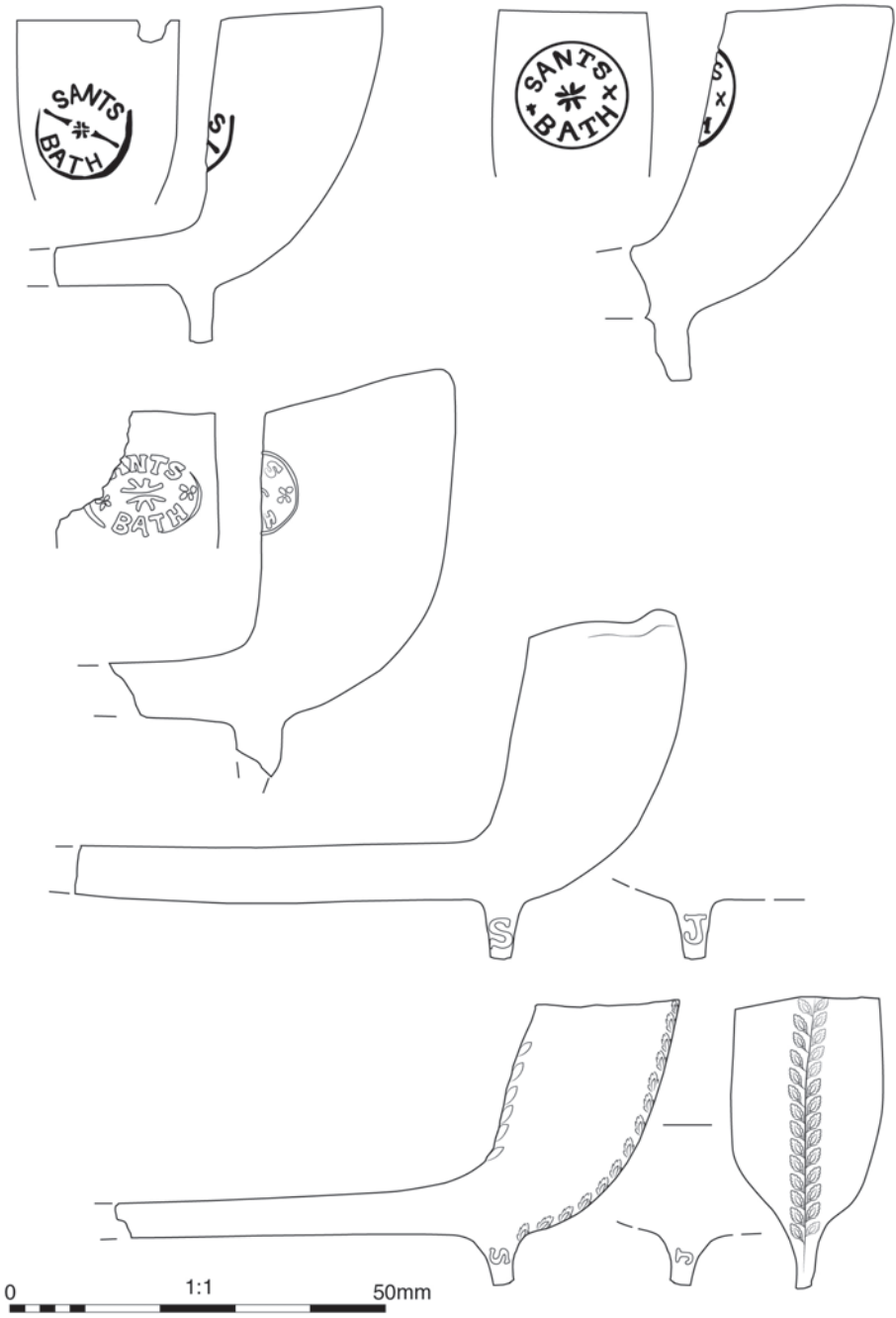


Fig. 7 Selected clay tobacco pipes with Joseph Sants stamps (1:1)



Fig. 8 Terracotta plaque (50mm scale)

Acer campestre (field maple), *Fraxinus excelsior* (ash) and *Sambucus* sp. (elder), with elm, field maple and hazel just being recorded from the Roman assemblage and holly and elder just from medieval deposits.

The charcoal from the Roman samples and from one of the medieval pits (pit 6566) is consistent with the remains of spent fuelwood. The assemblage exhibited a range of taxa, mostly from roundwood of small diameter, indicative of bundles of firewood, drawn from a range of hardwood species. In the medieval period, faggots of firewood were typically sourced from the underwood of managed woodlands (Rackham 1996). In contrast, the dominance of oak heartwood in the other medieval samples (from pit 6504, and from deposit 6534) suggests that different activities may be represented and it is possible that these charcoal assemblages represent waste fuel from industrial use.

DISCUSSION

Roman

The discoveries along Bridewell Lane have lent weight to the suggestion that this part of Roman Bath was occupied by houses of quality. The locations of up to four buildings have been suggested, but given the limited nature of the investigations, these must remain speculative, as no ground plans can be reconstructed. The *in situ* remains reveal that the buildings included masonry walls with some rooms floored with *opus signinum* and tessellated surfaces. Loose finds, including those residual within later, mainly medieval,

deposits, reveal that the Roman buildings included rooms decorated with wall plaster, whilst the presence of ceramic box-flue tiles indicates that some of the rooms were heated. Very little plaster was recovered, but the small assemblage includes white-finished fragments and fragments painted yellow-brown, black and 'Pompeiiian' red. Although too little survived for any designs to be reconstructed, it is clear that the buildings included some painted rooms. Ceramic floor tiles (*opus spicatum*) suggest that some floors were laid with these, perhaps in a herringbone pattern, although none of these tiles were found *in situ*. Ceramic and stone roof tiles suggest the nature of the roofing, but none of the walls survived above foundation level and the nature of the walling above this is not known: it might have been masonry, timber-framed, or a combination of these, with the build perhaps changing over time as the houses were remodelled, a process implied by a build-up of successive floor surfaces.

The dating evidence for the Roman buildings rests mainly on the pottery assemblage which suggests a focus of occupation within the mid-2nd to 4th centuries. Late Roman shell-tempered wares, indicative of activity after c. AD 350, were absent. Although this assemblage is small, at face value it suggests that this part of *Aquae Sulis* was only seriously developed from the mid 2nd century AD, at about the time that the earthen ramparts were probably constructed, and fell into disuse during the 4th century AD, before the latest dating from the temple complex, which belongs to the 5th century.

The rampart layers observed in the Saw Close part of the site represent the rear parts of the earthen ramparts which are thought to have been created in the mid 2nd century AD (La Trobe-Bateman and Niblett 2016, 80, 101). At Saw Close, these deposits were never fully revealed but did reach a combined thickness of 1.4m. The rampart frontages would have lain to the west of the site, along with any defensive walls.

Post-Roman to medieval (late 4th/5th to late 15th centuries)

The mechanism of abandonment of the Roman buildings is not clear and the earliest post-Roman finds from the site are Anglo-Saxon. Medieval robbing of the Roman masonry levels suggests that the Roman buildings survived, most likely in a ruinous state, through the Anglo-Saxon period, and then into the few centuries after the Norman Conquest, in effect providing quarries for building stone. The build-up of medieval cultivation soils (dark earths) suggests that the land immediately around these ruins were cultivated by the 11th to 13th centuries, either as plots standing away from settled areas, or as plots attached to cottages which have not been identified within the archaeological

record. The medieval precursor to Bridewell Lane, *Plumtreostwichene*, was probably laid out during the 9th century as part of a grid-pattern of streets within King Alfred's burh (defended town) (Davenport 2007, 19) and cottages may have fronted this.

In common with many medieval urban sites, pits were commonly found. No specific function can be ascribed to most of these, although some may have been latrine pits. There was probably a medieval smithy nearby, but no smithy structure was identified. There was no evidence from the site to support the suggestion that Saw Close was a timber yard as early as the medieval period (Davenport and Beaton 1991) and this hypothesis remains unproven.

Early post-medieval (16th to late 17th centuries)

From the surviving archaeological remains it would appear that the site was slow to reflect the growing population of the town in the Tudor and Stuart periods when Bath began to develop popularity as a spa. Soil deposits suggest most of the area was gardens or under cultivation until the late 17th century. The earliest building evidence comprised a stone wall, which may have formed part of a property built 1600-10 by William Fourd (Chapman and Holland 2000) spanning Plots 5-7. The single wall recorded does not afford the opportunity to reconstruct the building at floor level or in its elevation but, based on analogy with the tall houses shown on the maps of Savile (1603) and Speed (1610), a three to four-storey property might be expected, served by the wells in the yard to the rear. The property remained in use through the 17th and 18th centuries. Plot 8 remained as gardens until occupied by a slaughterhouse by 1641 (Chapman and Holland 2000). This would probably have taken the form of a dwelling, similar perhaps to that within William Fourd's property, but with a shop, slaughterhouse and work/storage rooms also provided (Peter Davenport pers. comm.). Within Plots 9-10A, the garden soils probably belonged to the gardens of Bridewell house of correction to the north of the site.

Within Saw Close, the absence of building evidence is consistent with use as a timber yard, although the only feature specifically characteristic of timber working was the possible saw pit.

Later post-medieval (18th century)

The discoveries along Bridewell Lane dating to the Georgian period paint a vivid picture of urban life in this increasingly densely packed town. Rebuilding in Plots 5-7, 8 and 9 during the early- to mid-18th century, was probably undertaken with the purpose of housing larger numbers. The houses survived only at their lowest levels, but the evidence demonstrates that the cellars were

designed for habitation. It is possible that the cellars provided servants' quarters for a family occupying floors above, but also possible that the houses were let to multiple families, each occupying a different floor, including, where present, the cellars.

Although clearly densely packed, these were not slums. The dwellings along Bridewell Lane were well floored, the walls were plastered, and most of the main rooms included plain but adequate fireplaces which in later times had iron ranges added. Essentially, typical family accommodation included front and back rooms, a corridor and/or hall and access to the back yard where wells were provided. Lavatories must also have been present, but none were found and they were perhaps above-ground structures within the yards.

What the archaeological record does not indicate is the nature of the build above the lowest surviving level of each property and it is unclear whether the earlier properties were simply adapted, perhaps having been to some extent 'Georgianised', or were extensively rebuilt as Georgian-style properties. In Plot 9, the house which had stood since the mid 17th century seems to have been adapted for sub-letting, a process which included adding partitions which rested on timber sill beams and which were probably built of lathe and plaster. An oblique aerial photograph of 1920 (Britain From Above image EPW001161) includes Bridewell Lane, although only Blue Coat House and the roof tops of the houses south of this are visible along the lane itself. These almost certainly include those that stood within the site during the Georgian period and whilst details of the frontages are obscured, the houses would appear to be of three-storey build, some with higher roofs suggestive of attics.

The well-preserved remains of the clay tobacco pipe factory are a significant discovery. Opened c. 1782 this would have been a familiar, and at times noisome, landmark to successive generations living along or near Bridewell Lane, as well as to pupils and staff at the Blue Coat School which had opened in 1722 at the northern end of the lane. The factory was always a modest business compared, for example, with factories in Bristol; the 1841 and 1851 census returns record four men as living along or near Bridewell Lane who described themselves as pipemakers, and the workshops could have accommodated four work benches. Capital from owning this property was perhaps maximised by renting out the dwelling along the lane frontage.

Victorian and later

Bath continued to expand during the Victorian period, although as a leisure destination it fell behind the coastal resorts. The area near Westgate Street included entertainment destinations, and elements of the

Bath Pavilion theatre were recorded within the site. Complaints about the emissions from the clay tobacco pipe factory led to its closure in 1851, a reminder that not all Victorians were content with smoky streets. Joseph Sants ensured that the demolition of the factory was undertaken in a structured way, designed to prevent its re-opening by a rival without significant outlay.

The trend towards dense occupation seen along the lane during the Georgian period continued into the Victorian period, with a pair of new properties constructed as a single build within Plots 1 and 2 and a second pair, also a single build, within Plots 3 and 4. The construction date of these properties is within the early years of the 19th century (Chapman and Holland 2000, 71). As with some of the earlier properties, these dwellings were built with fireplaces in the cellars, either as servants' quarters, or for multiple occupancy.

Later remains reflected changes to the area, with the expansion of healthcare facilities and changes of use of the properties from residential to commercial.

CONCLUSION

The redevelopment of Saw Close has provided a valuable opportunity to excavate in an area of the city that lies beyond the more well-known sites of Roman and Georgian remains. The Roman evidence for buildings of relatively high status are in keeping with the character of the remains previously recorded in the area, and some insights have been gained into the nature of the abandonment of this area after 4th century AD. Although the medieval deposits had been much damaged by later truncation they are an important depiction of the nature of the medieval activity in this part of the walled area, hitherto unreported. The post-medieval deposits are of considerable interest and survive in some detail, allowing buildings and activities to be identified, particularly towards the street frontage of Bridewell Lane. The clay-pipe factory is of national importance in being one of the most complete examples excavated to modern standards to date, and both the surviving fabric of the factory and the clay pipes and kiln furniture related to this industry will make a valuable contribution to the study of clay-pipe manufacturing in Britain.

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