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Cover: St. Paul's Church, Portland Square, Bristol, from Surrey Street, 1825, by Samuel Jackson. From the Braikenridge Collection, Bristol City Museum and Art Gallery.

CONTRIBUTIONS

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ARCHAEOLOGICAL EXCAVATIONS AT NOS. 30-38 ST THOMAS STREET & NO. 60 REDCLIFF STREET, BRISTOL, 2000

by Reg Jackson

SUMMARY

The archaeological excavation concentrated on the St. Thomas Street frontage which was found to have been occupied from at least the second quarter of the 14th century. The presence of a few 12th-century sherds suggests earlier occupation in the vicinity. Of particular interest were a number of pits cutting through the natural alluvium which had been backfilled with 14th-century pottery kiln waste of a type belonging to the so-called 'Bristol/Redcliffe-ware' industry. Medieval property boundaries and the rear wall of a house fronting St. Thomas Street were identified. Following the demolition of the medieval building in the 16th century the land was used as gardens until the construction of Warren's glasshouse in the early 18th century. Glass production ceased before 1774 and the property subsequently became part of the Bear Inn and, later, a tobacco factory. The archaeological evidence is supplemented by extensive documentary research.

INTRODUCTION

This report deals with the history and archaeology of an area between St. Thomas Street and Redcliff Street in St. Mary Redcliffe parish, Bristol, known as Nos. 30-38 St Thomas Street and No. 60 Redcliff Street (Fig.1; NGR ST 5915 7255; BUAD No. 3376). Until the early 20th century these properties were known as Nos. 88-91 St. Thomas Street and

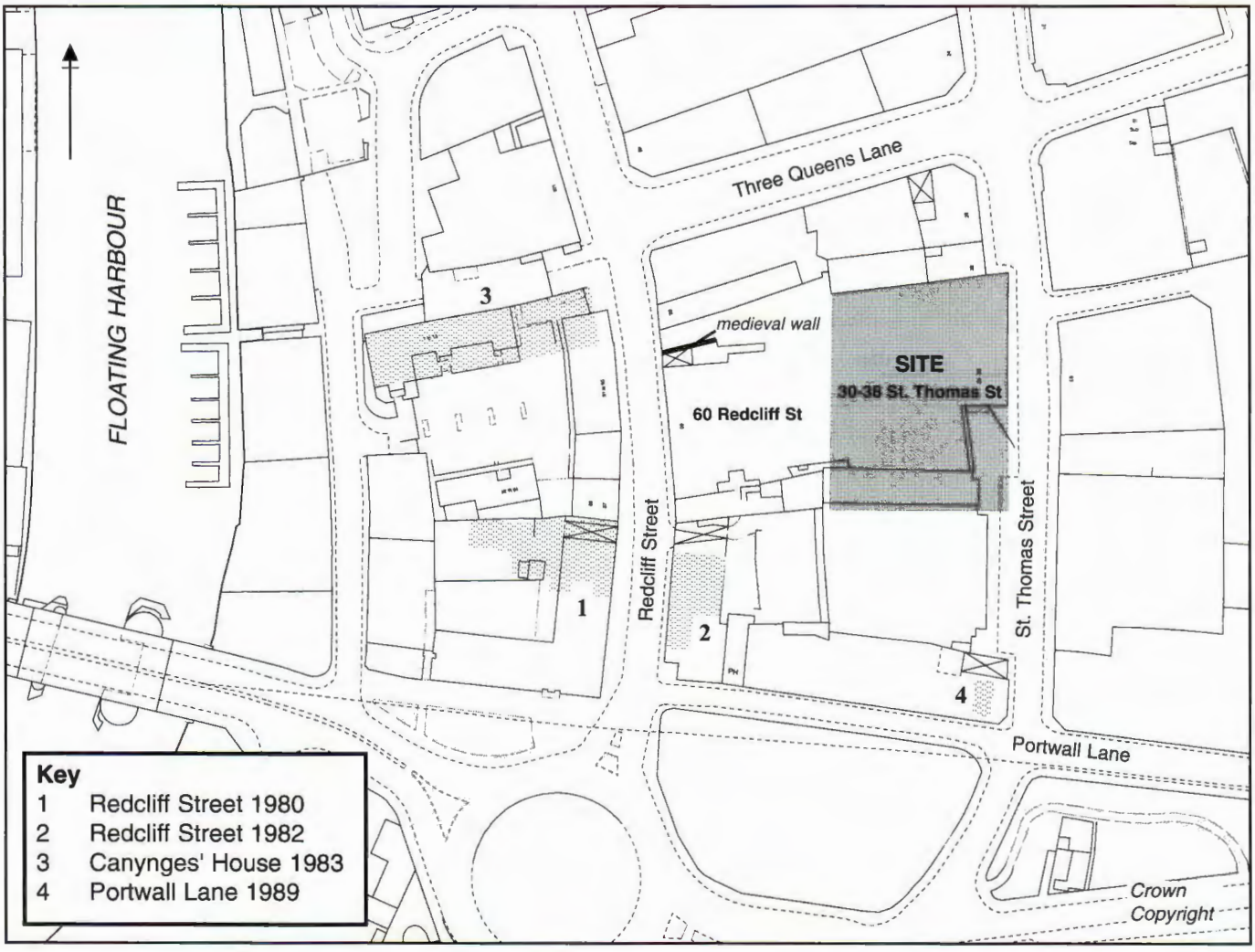

Fig.1 Location of site, area of evaluation and excavation, standing medieval wall and previous archaeological investigations, scale 1:1250.

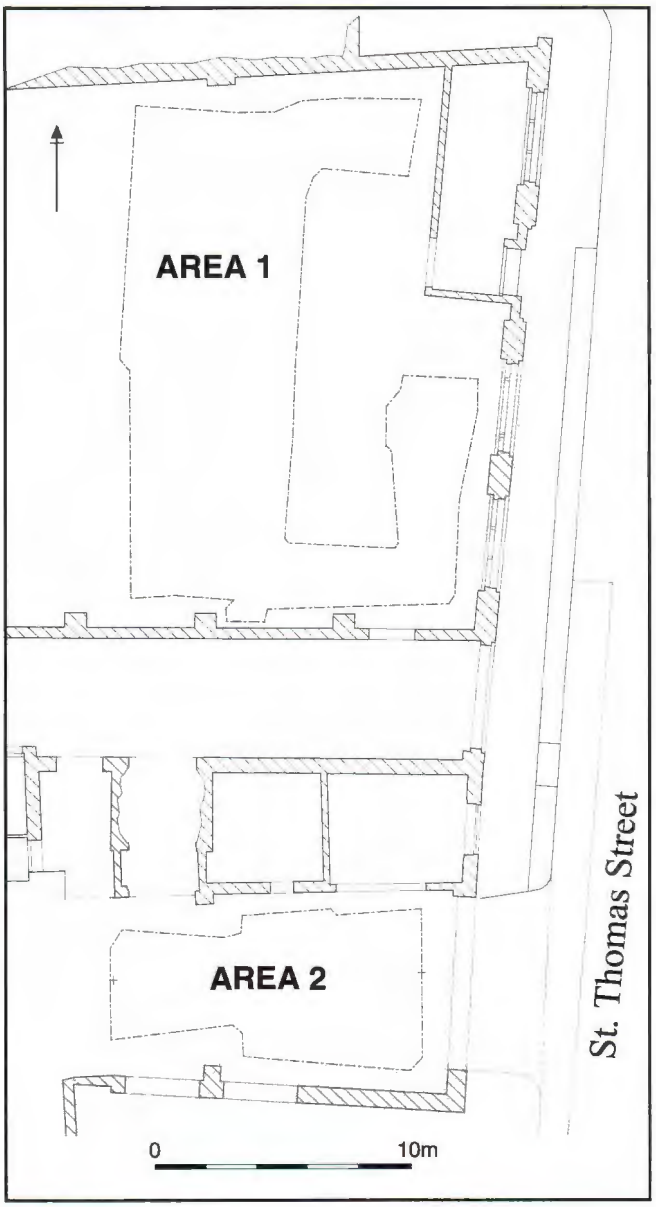

Fig.2 Site plan.

Nos. 57-64 Redcliff Street.

In 1998 a planning application was submitted for the area involving partial demolition, internal alteration and rebuilding with the purpose of providing residential accommodation.

As part of the planning process an archaeological desktop study was carried out on the properties which indicated that development had probably commenced on the street frontages during the 12th or 13th centuries (BaRAS 1998). It revealed that a large drain, formerly an open ditch of medieval origin, ran north/south through the middle of the site. This was one of a number of such ditches, known as `Law Ditches', draining the marshy areas of Redcliffe, St. Thomas and Temple parishes and also serving as property and parish boundaries. Between the tenements and the Law Ditch were large plots of land used as gardens and orchards and for small scale industrial activities. Many of the medieval buildings and the general layout of the medieval properties probably survived well into the post-medieval period; a 15 metre length of medieval wall still stands to first floor height on the north side of the main entrance to 60 Redcliff Street (Fig.1).

Perhaps the most significant change in the land use of the area was the construction of a glasshouse on part of the interior of the St. Thomas Street properties at the beginning of the 18th century. The glasshouse continued in operation until the early 1770s. It has been recognised by English Heritage in its Monuments Protection Programme as being of national importance.

Extensive redevelopment occurred in the 1880s with the construction of a tobacco manufactory on the Redcliff Street portion of the site and further building work continued until 1931 by which time the tobacco manufactory had been extended to cover the whole of the study area.

An examination of building plans combined with an on-site investigation showed that the majority of the area below 60 Redcliff Street had been cellared to a depth that would have destroyed all archaeological deposits. It was also evident that parts of Nos. 30-38 St. Thomas Street had been cellared, although as some of these cellars had been backfilled and sealed below modern floors their extent was uncertain.

Following the desktop study an archaeological evaluation was carried out in 1999. That involved the excavation of five trial trenches within the St. Thomas Street properties and demonstrated the survival of well preserved medieval and post-medieval archaeological deposits and structures including part of the foundations of the cone of the 18th-century glasshouse (BaRAS 1999).

The design of the proposed new development for Nos. 30-38 St. Thomas Street involved using a large part of the interior of the site as an open courtyard thus ensuring

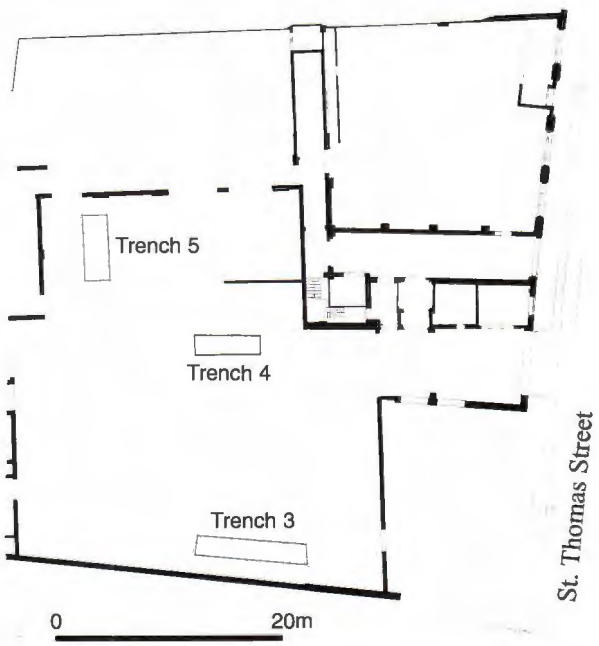

Fig.3 Plan showing evaluation trenches 3, 4 & 5.

preservation of the surviving archaeology. It was only on the St. Thomas Street frontage that rebuilding involving piling and groundwork operations would cause serious damage to the archaeological resource and it was decided that two areas just behind the frontage should be completely excavated. The need to underpin and shore the retained St. Thomas Street façade would have rendered excavation following the demolition of the main structures impossible, making it necessary to carry out the excavation within the existing buildings. Safety and engineering constraints restricted the areas available for excavation due to the need to avoid weakening wall foundations and floor supports. Area 1, which incorporated Evaluation Trench 1, measured at most 16m north/south by 10m east/west, while Area 2, incorporating Evaluation Trench 2, measured at most 5.2m north/south by 10.4m east/west (Fig.2).

The archaeological excavation was conducted between March and May 2000. Where appropriate the following report incorporates the findings made in Trenches 3, 4 and 5 of the 1999 archaeological evaluation (Fig.3).

The writer is grateful to:
Crown Dilmun plc, the landowners, for financing the work and to Steve Baker of Helios Project Management for his assistance before and during the course of the excavation.
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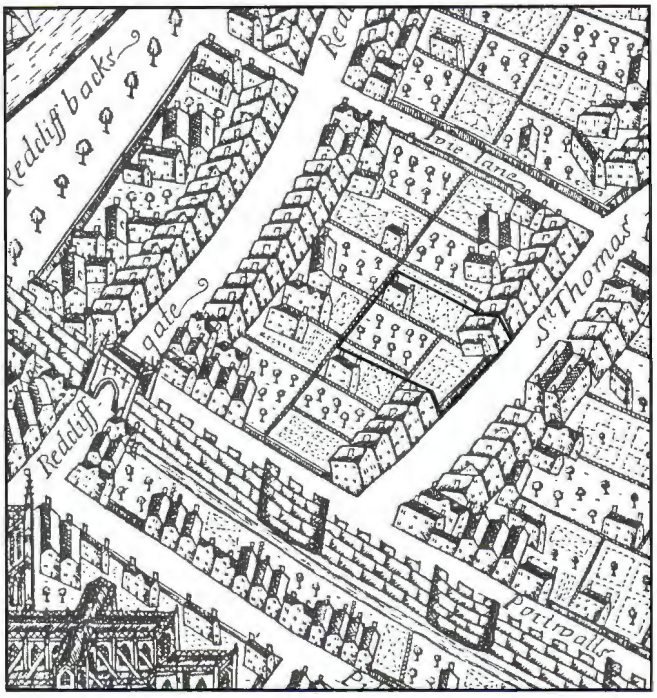

Fig.4 Millerd's plan of 1673.

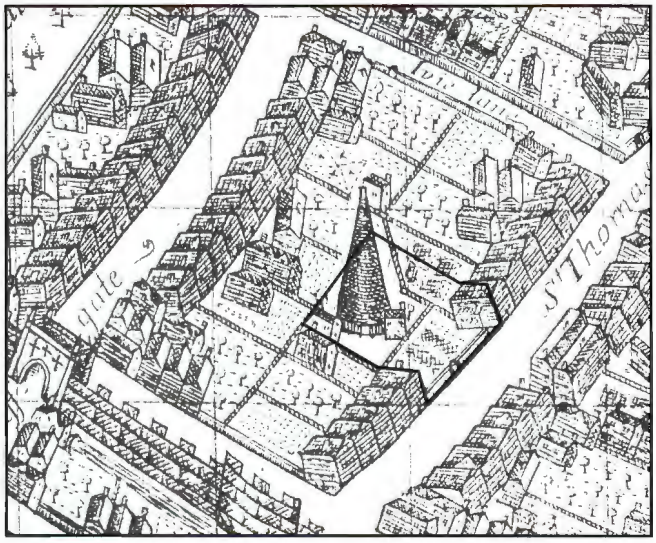

Fig.5 Millerd's plan of c1715.

OWNERS AND TENANTS - THE HISTORICAL DOCUMENTATION FOR NOS. 57-64 REDCLIFF STREET AND NOS 88-91 ST THOMAS STREET

by Dr Roger H. Leech

Introduction

The properties investigated for this report are of considerable interest for their history and archaeology. First they are well documented from the medieval period onwards. Secondly the documents offer many insights into the contrasts between the fortunes of two adjacent streets, one successful the other often a commercial backwater (detailed references to the individual properties and the documentary sources used are given later).

Two properties, no. 57 Redcliff Street and nos. 88-91 St. Thomas Street, were gifts to the church of St. Mary Redcliff in the mid 14th century. The deeds, leases, accounts, plan-books and other documents belonging to this church have been a rich source of information for the history of these properties. In Redcliff Street no 58 belonged to St. Augustine's Abbey, which became in 1542 the cathedral of Bristol, one of the four such monastic houses re-utilised at the order of Henry VIII for the founding of a new cathedral. Its lands became the endowment of the Dean and Chapter of the cathedral. The earliest documentation for no 58 is probably of the 12th century and to be found in the cartulary of St. Augustine's Abbey (Walker 1998). The abbey was given a number of properties in this long street, and not all can be distinguished one from another; no. 58 cannot be

certainly identified. The documents relating to no. 58 Redcliff Street thus extend from the time of the abbey's ownership through to the 1870s when the property was acquired by the City of Bristol for the widening of Redcliff Street. This same scheme resulted in the acquisition of the adjacent plots, providing yet another rich source of documentation. Nearly all of these properties can be identified in some detail from the 17th century onwards.

The Early History of Redcliff and St. Thomas Streets

The southern parts of Redcliff Street (the modern spelling is used here throughout) and Thomas Street (in medieval and early modern documents always St. Thomas Street) were developed as part of a new or extended suburb south of the River Avon in the mid 12th century (ed. Harding 1930, 4-5). The east part of this suburb was Temple Street, developed by the Templars, who were granted land there by Robert Earl of Gloucester between 1128 and 1148 (Taylor 1875, 275-78). The properties with which this report is concerned were within the west part of the new suburb, developed by Robert Fitzharding out of part of his manor of Bedminster (Cronne 1946, 32-3). In this part of the new suburb two main streets were laid out, Redcliff Street and St. Thomas Street, each with long narrow tenement plots extending back on either side, those on the west of Redcliff Street stretching to the Avon, those on the east side to the Law Ditch, beyond which lay the properties in St. Thomas Street. Dendrochronological dating has shown that the west side of Redcliff Street was being developed from c.1123-33 (Nicholson & Hillam 1987, 141).

The wall enclosing these suburbs on the south side was not built until the 1240s. In the later 12th and early 13th century the parts of Redcliff Street and St. Thomas Street studied here were therefore within a suburb that extended as far as Pile Street. At this date St. Thomas Street may have been more of a through route than it was at a later date, when access to the south was barred by the Portwall built at the end of this street without any gate to provide access to the south. One question for the archaeological investigation was thus whether a short-lived but intensive urban phase preceded the building of the town wall and the possible relegation of the status of St. Thomas Street to that of a commercial backwater.

The Contrasting Fortunes of Two Streets

By the mid 14th century the two streets were very different in character. The part of Redcliff Street studied here was characteristic of the street as a whole. High land values were much evident in the narrowness of the intensively developed individual properties. No. 58, the tenement of St. Augustine's Abbey, is a good example. This was a separate property only c.18ft wide by the late 12th or early 13th centuries, the date range of the abbeyís endowments. Nos. 56 and 57, given to the church of St. Mary Redcliff in 1346, were already two separate properties by 1337 when first mentioned, each of similar width (c.21ft) to no 58 (Fig. 21 shows nos. 56-7 in 1798). Immediately to the north no. 55 was a plot of similar width by the late 12th or early 13th centuries, the likely date range of the endowments of Keynsham Abbey, the owner of this plot until the Dissolution in the 1530s. To the south nos. 60-64 were all separate narrow properties by the 17th century when they are first recorded in identified documents. These narrow plots are first shown in iconographical form on Millerd's map of 1673 and as revised in c.1715 (Figs.4 and 5). Rocque's map of 1742 shows only the glassworks in detail (Fig.6). Ashmead's map of 1828 is the first to show the detail of the individual plots in plan (Fig.7).

In contrast nos. 88-91 St. Thomas Street were a single property when first recorded in 1325. This first reference was to 'a garden, house and land'. Two decades later in 1346 it was described as a 'grange', giving an even more rural character to its location. It is clear from documents of the next two hundred years that this was a part of the town used partly for the drying of cloth. Cloth production and finishing was extremely important in the medieval economy of Bristol and was concentrated in the suburbs on the south side of the River Avon. Millerd's map of 1673 shows some of the cloth racks set up on land to the east of Temple Street. The research undertaken for this report has revealed a second area referred to in deeds of 1366 and 1378, known as 'the Reckkes'. The cloth drying rack or 'tentor' on nos. 88-91 is first mentioned in 1549. In 1620 the property was described as that 'wherein a tenterne or rack for clothe nowe standeth'. This use had ceased by 1721 when it was noted as where 'a tenter or rack for cloth sometime stood'.

The drying of dyed cloth could be combined with the ownership of a second residence set within a large garden away from the bustle of the town centre. Nos. 88-91 were characteristic of a number of properties at the south end of St. Thomas Street and elsewhere on the periphery of the city where second residences known as lodges were being built from the 15th century onwards. The lodge at nos 88-91 had been built by 1572, when it was described as a 'lodge and garden ground' together with a rack in the lease to Thomas Tailor, a grocer. He leased several of these properties, probably as a letting proposition. The lodges standing in this and an adjacent garden are shown in iconographical form on Millerd's map of 1673 (Fig.4).

Trades in Redcliff Street - The 17th to Early 19th Centuries

By the later 17th century the narrow tenements in Redcliff Street were used for a variety of trades. Several were or became public houses or inns. No. 57 was a public house, the King's Head. This use had ceased by 1775 when it was occupied by a grocer and tea dealer. By 1687 no. 58 was an inn, offering accommodation as well as liquid refreshment. By 1752 it was known as the Bear, possibly taking its name from the former Bear Inn at the north end of Redcliff Street which was to be closed with the rebuilding undertaken in conjunction with the building of the new Bristol Bridge in 1764-8. This new Bear Inn evidently prospered with the closing of the glass works in St. Thomas Street, taking over

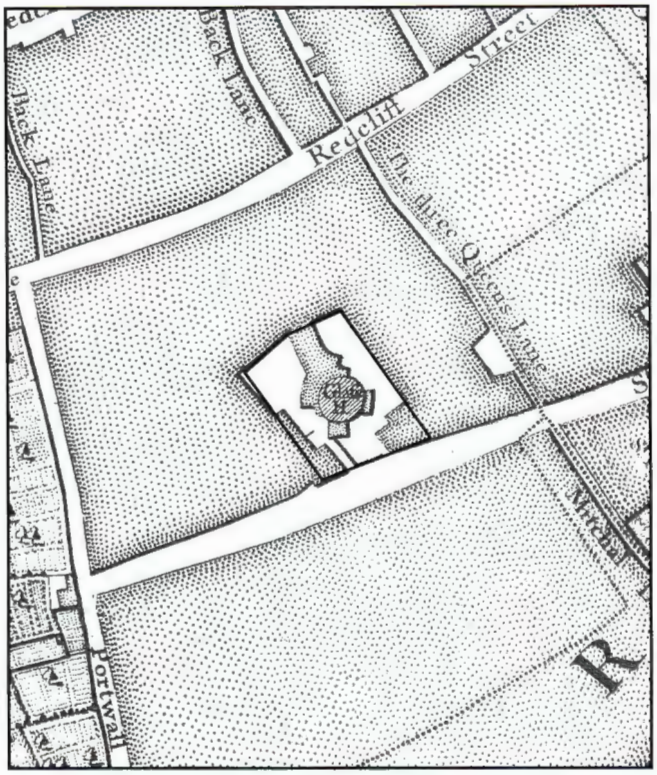

Fig.6 Rocque's map, 1742.

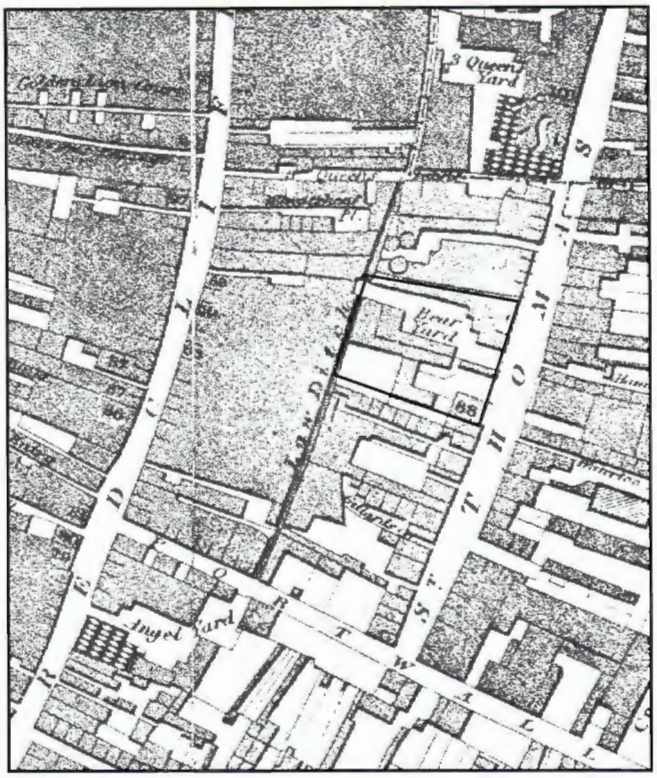

Fig.7 Ashmead's map of 1828.

the greater part of its premises as the Bear Inn Yard (Figs. 10-14 and below). No. 60 was another public house, known as 'the City of Bristol' by 1749 and in 1775. Two other properties became public houses at a still later date. No. 63 was the Royal Oak by 1779, though not recorded as such in the directory of 1775. By 1847 it had been renamed the London Brewery. No. 61 became the Sugar Loaves by 1845, a use here related to its earlier history as a soap and then sugar factory.

Several tenements housed a variety of manufacturing trades. No. 61 was to become a public house later, but in the 17th century was occupied successively by a cooper, felt-maker, and then a soapmaker. It was still being used as the premises of a soapmaker in 1775, possibly the buildings shown on a plan of 1798 (Fig.8). The plan shows the shop on the street front, the dwelling house behind, then an open court, then most interestingly the precise location of 'the stove' and then at the rear two warehouses. These premises were evidently readily adaptable to the processes of sugar baking, for which the premises were being used in 1845. The sugar house itself probably occupied the site of the earlier stove. The use of the street frontage premises as a spirit shop and public house, together with its name the Sugar Loaves was entirely appropriate to the overall use of the plot. Other trades practised in the 17th and 18th centuries included baking (no. 59), shoe making (nos. 60,

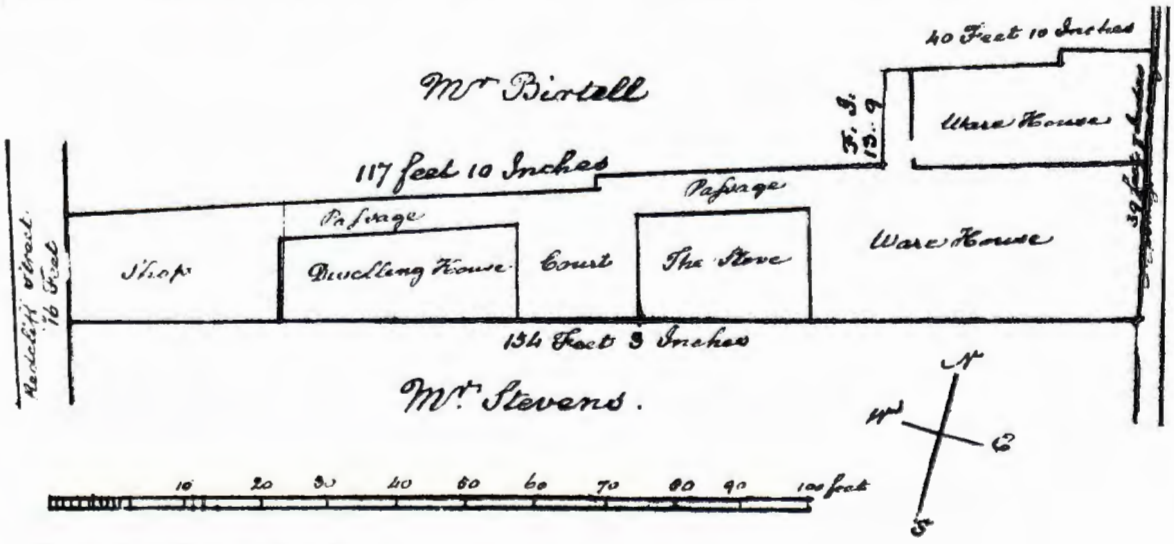

Fig.8 No. 61 Redcliff Street in 1798.

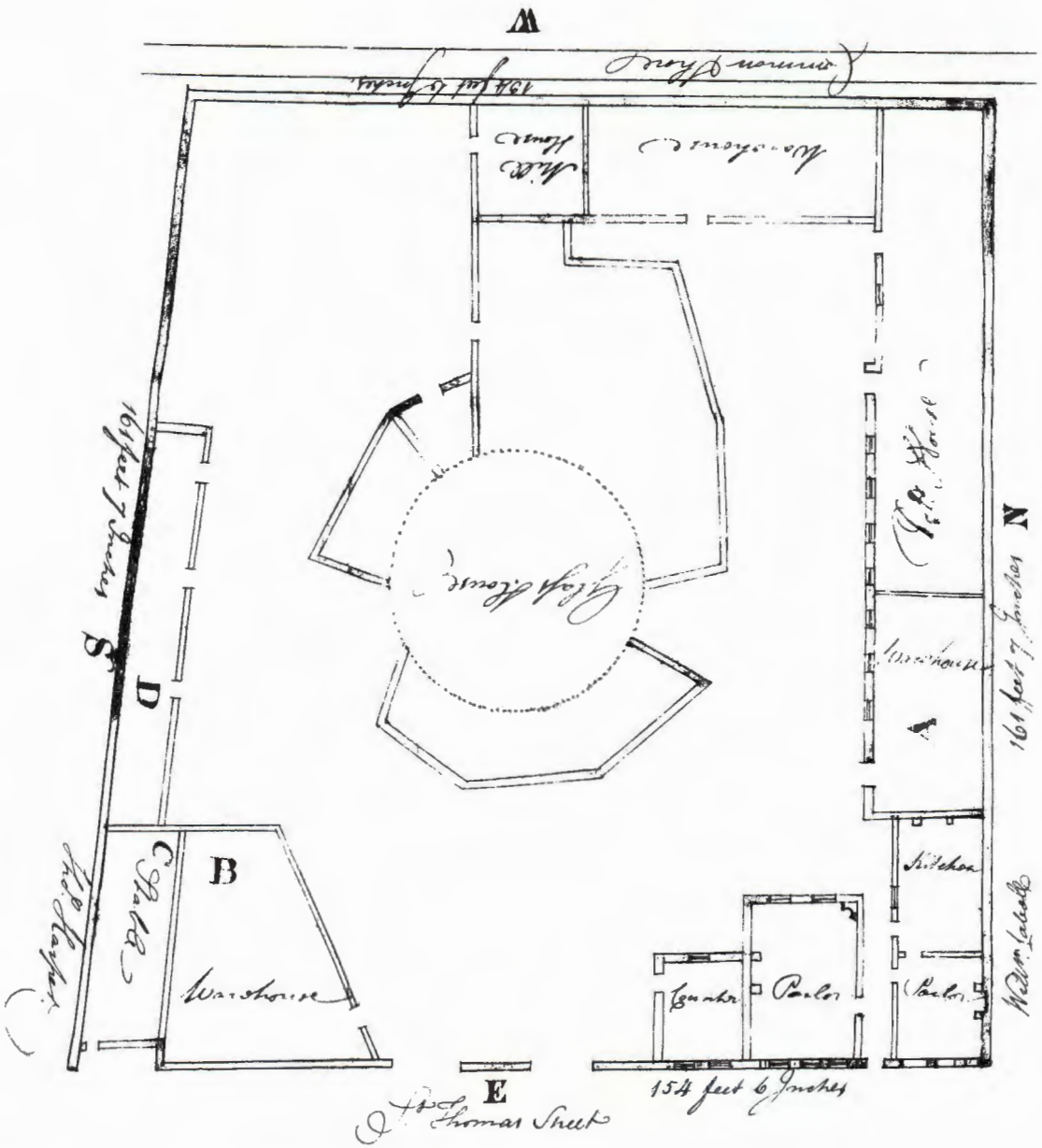

Fig.9 The St. Thomas Street glassworks in 1768.

62, 63), pottery manufacture (no. 62), and iron working (no. 64). Trades could also be combined. In 1784 Thomas Lewis was both the publican of the Royal Oak and a glazier.

A minority of the properties was evidently used primarily as residences. Henry Weaver and John Orchard, both mariners, and Eleanor Haggatt and Mary Orchard, both widows, were at various times the occupants of nos. 62-4.

The Glassworks at Nos. 88-91 St. Thomas Street

The contrast between land use in the two streets continued into the 18th century. While the narrow tenement plots in Redcliff Street were used for a variety of trades, the large plot in St. Thomas Street was used for one, namely glass-making. Glass was being produced in Bristol by c.1651 when Edward Dagney, a glass maker is recorded as living there. By 1698 there were six bottle houses and four flint glass makers (Powell 1925). The glassworks at nos. 88-91 St. Thomas Street is first shown on the revised version of Millerd's map, of c.1715 (Fig.5). It was owned by Richard Warren by 1712; an advertisement in the London 'Postman' for 17 May 1712 records that 'fine Crown Glass and good bottles' were being made there. Warren was taking apprentices for glass making between 1714 and 1728 and also owned the glasshouse just outside Redcliff Gate (Powell 1925).

A new lease to Richard Warren was granted by the churchwardens of St. Mary Redcliff in 1721. This was of the property previously leased as a garden and lodge, now described as a new built tenement 'by the said Richard Warren erected' together with 'the glasshouse and warehouses and buildings erected and built by the said Richard Warren on some part of the rack yard, parcel of

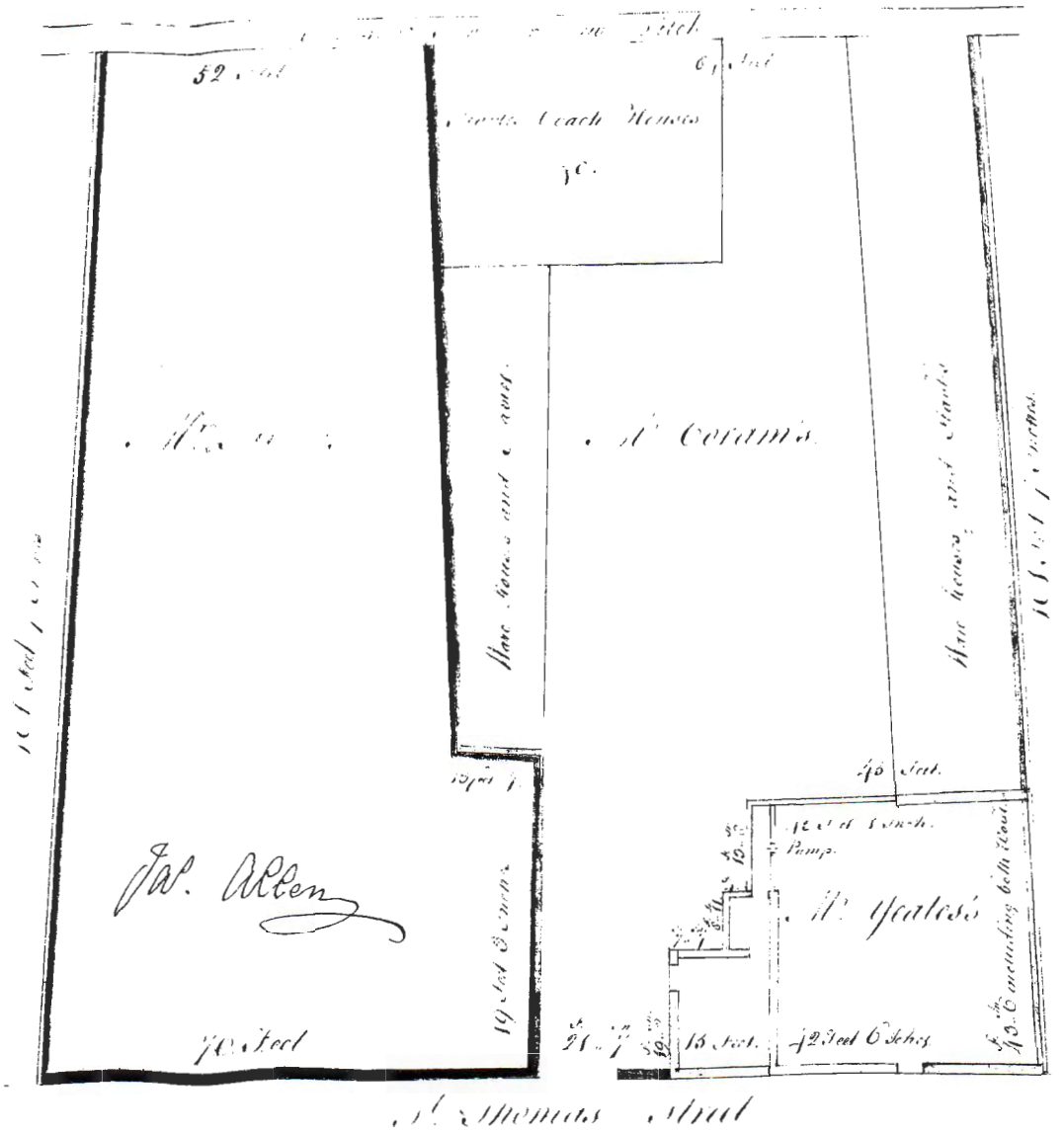

Fig.10 The site of the former St. Thomas Street glassworks in 1789.

ground or great garden'. The glasshouse is shown in some detail on John Rocque's map of the city in 1742 (Fig.6). By 1752 Warren was making bottles using brass moulds (Buckley 1925). Richard Warren died in 1767 and a renewal of the lease in 1768 was to his sons, John and Thomas, together with Richard Cannington, Richard Reynolds and William Cowles, all glassmakers. On this lease is endorsed a detailed plan of the premises (Fig.9). On the street frontage were a stable, presumably that mentioned in earlier leases, and a warehouse on the south side of the main gate, and the new built tenement on the north side. This consisted on the ground floor of a counter or office, two parlours and a kitchen. Set further back were another warehouse and the 'Pott House'. In the centre was the glasshouse, the cone shown on Millerd's map as revised, and at the rear against the Law Ditch were the mill house and a further warehouse.

Glass production on this site had come to an end before 1774. In January 1774 Felix Farley's Bristol Journal, reported that 'Early on Wednesday morning an old Glasshouse not used for some time, belonging to Messrs. Warren and Co. in St. Thomas Street, was blown down by violence of the wind'. In December 1774 a sale of the premises and goods of Messrs. Warren and Co. included a glasshouse and sundry tenements in St. Thomas Street (Powell 1925). In the new lease to William Acraman, a lighterman and prominent parishioner of St. Mary Redcliff, the property was described as 'a ruined or decayed glasshouse'.

The historical sources for the glassworks of Richard Warren and his sons need to be used with caution. Warren also owned a second glassworks on the east side of St. Thomas Street and against the north side of Portwall Lane, the site of

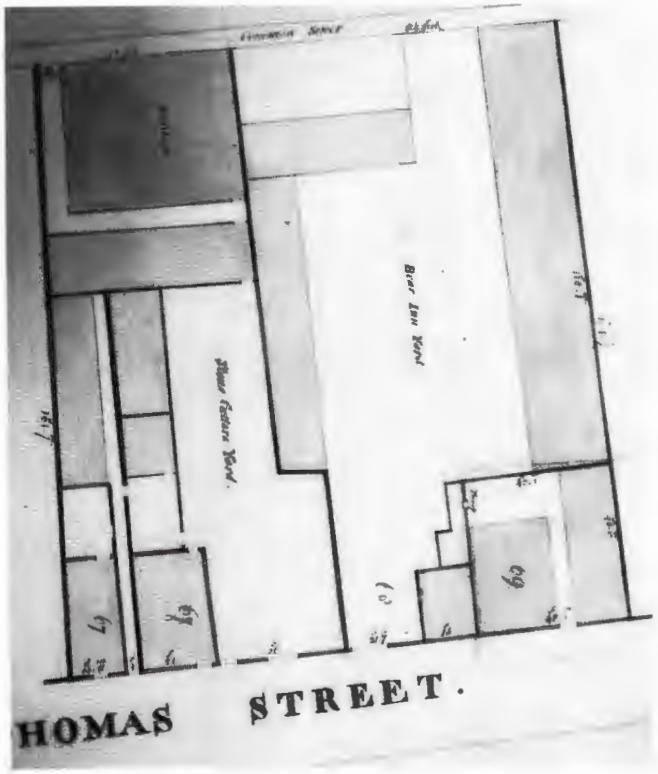

Fig.11 The site of the former St. Thomas Street glassworks in 1798.

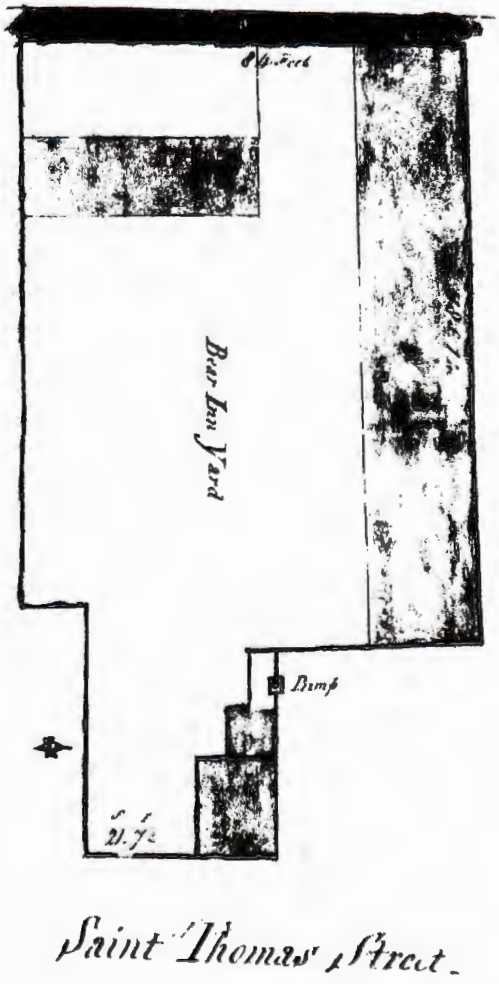

Fig.12 The Bear Inn yard in 1803.

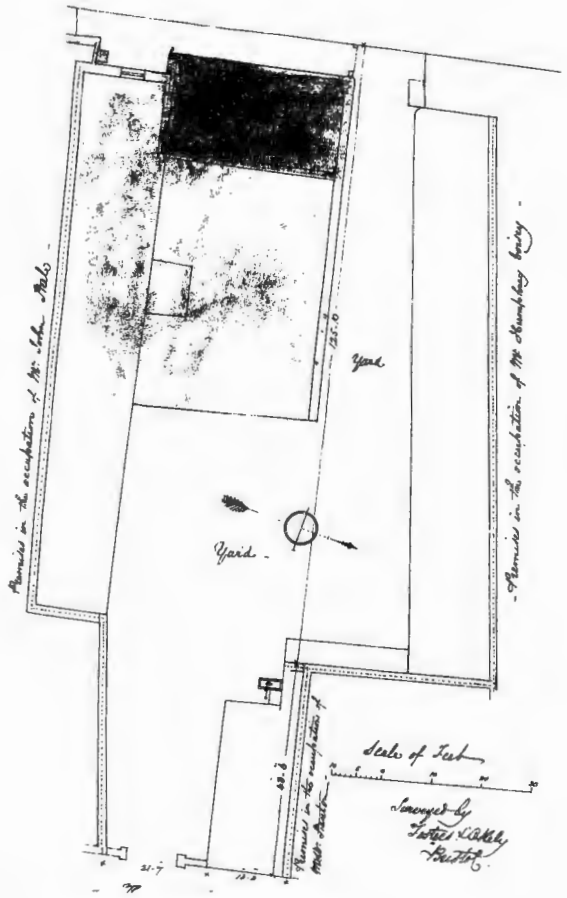

Fig.13 The Bear Inn yard in 1831.

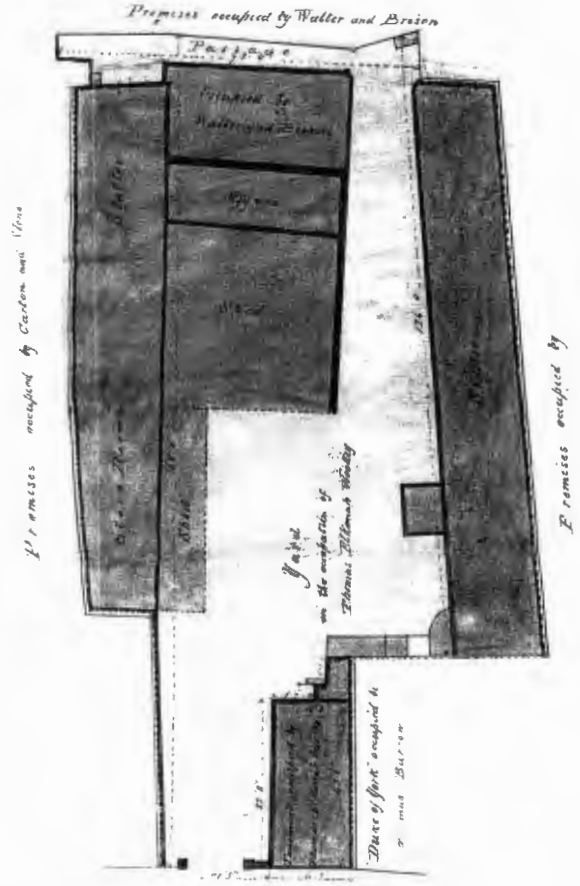

Fig.14 The Bear Inn yard in 1862.

which he leased from 1766 if not earlier (P/StMR/D/4/29). This glassworks continued longer in production. The works were shown in detail on a map of 1798, but had evidently ceased production by 1828, when the works were no longer shown on Ashmead's plan.

The Bear Inn - In Redcliff Street and St. Thomas Street

With the closure of the glassworks, the St. Thomas Street property had been leased to William Acraman. This must have been a speculative move, identifying and creating new uses. These were set out in three separate leases granted in 1789, each endorsed with a similar plan showing the new arrangements (Fig.10).

The greater part of the property became linked to and part of no. 58 Redcliff Street, the Bear Inn. The St. Thomas Street part was the yard to the inn, entered from St. Thomas Street between the street frontage properties which were now separately leased by the churchwardens of St. Mary Redcliff. Fronting on to the yard were various buildings of the inn; warehouses and stables on each side and stables and coach houses at the rear (Fig.10). Although not shown on the plan, there must have been a bridge over the 'Common Sewer or Law Ditch' dividing the property from the residential accommodation of the Bear Inn at no. 58 Redcliff Street.

The changing plan of the Bear Inn yard is shown on successive plans, of 1798, of 1803, of 1831 and of 1862 (Figs.11-14). The last two show the yard considerably infilled, the area occupied by stables much diminished. In 1887 it was still known as the Bear Yard, now used for a carrier's stables (Fig.19, Goad Insurance Survey).

The buildings of the Bear Inn in Redcliff Street are shown on successive plans of the 18th and 19th centuries. The most detailed plan is of c.1750 (Fig.15). The front range consisted of two parlours on the ground floor, separated by a central passage, probably for a stairs. Behind was a very large kitchen, commensurate with the needs of an inn. Further back were the drinking room, brewhouse, stable and yard. These were the arrangements prior to the yard being extended to St. Thomas Street. By 1857 the property was no longer used as an inn and had become two separate tenements. A plan of 1863 in the records of the Church Commissioners is evidently copied from a plan in or used for the lease of 1857 (Fig.16). By 1887 it formed part of the premises of Edward Ringer and Co. (Fig.19, Goad Insurance Survey).

The Frontage to St. Thomas Street

By 1789, on the frontage to St. Thomas Street, the entrance to the Bear Inn yard separated two properties which had formerly been part of the glassworks site.

On the south side of the entrance were nos. 88-9. From 1789 this was leased to James Allen, a manufacturer of statuary. The plan of this date shows only the outline of the property (Fig.10). From 1803 it was leased to John Steele, a mason. The plan endorsed on his lease shows rather more detail; the north part of the property was now a stone cutter's yard. Steele's lease was renewed in 1817 (Fig.17).

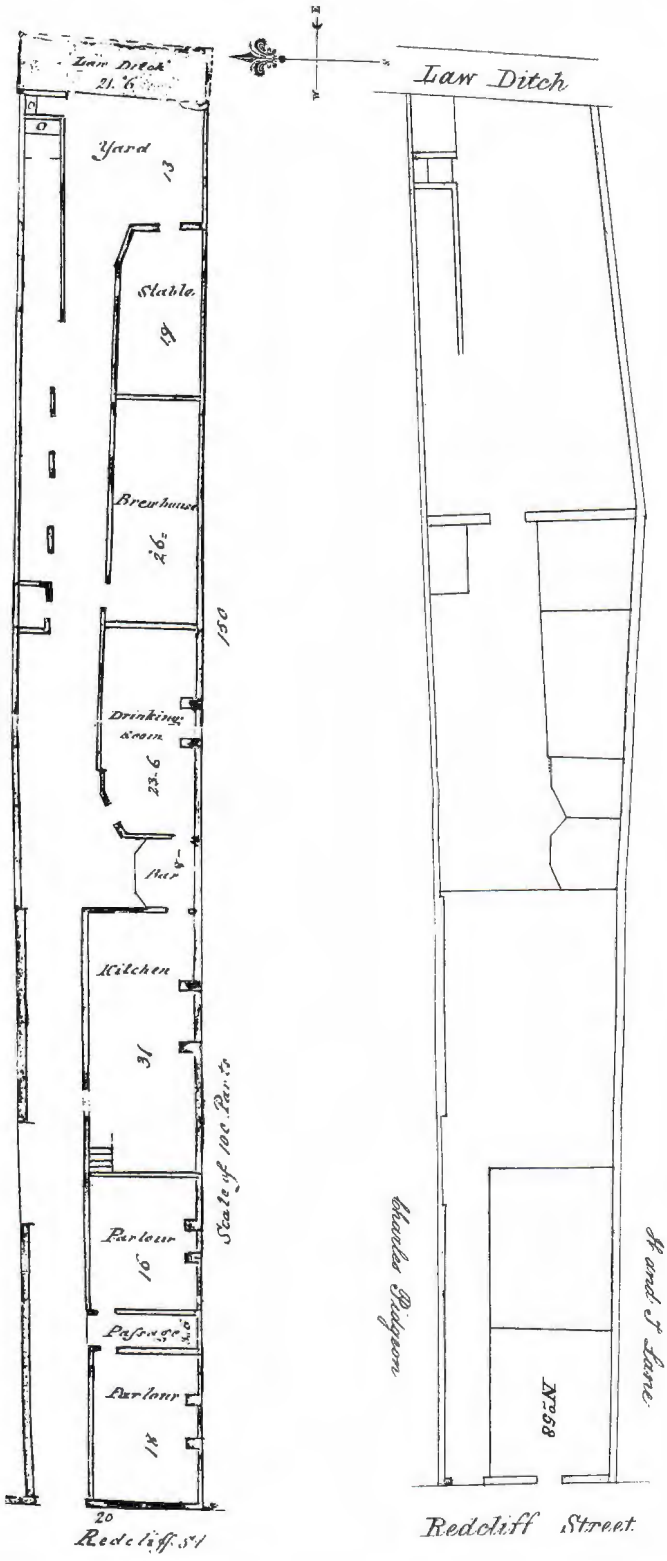

Fig.15
No. 58 Redcliff Street, the Bear Inn, in the late 18th century.

Fig.16
No. 58 Redcliff Street in 1863.

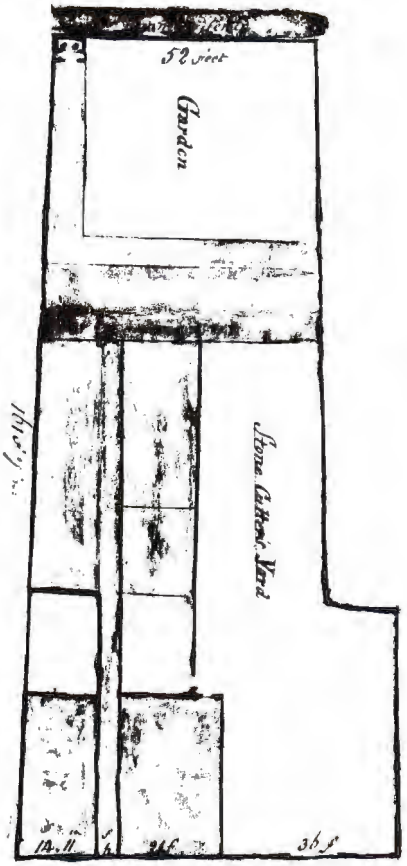

Fig.17
Nos. 88-89 St. Thomas Street in 1817.

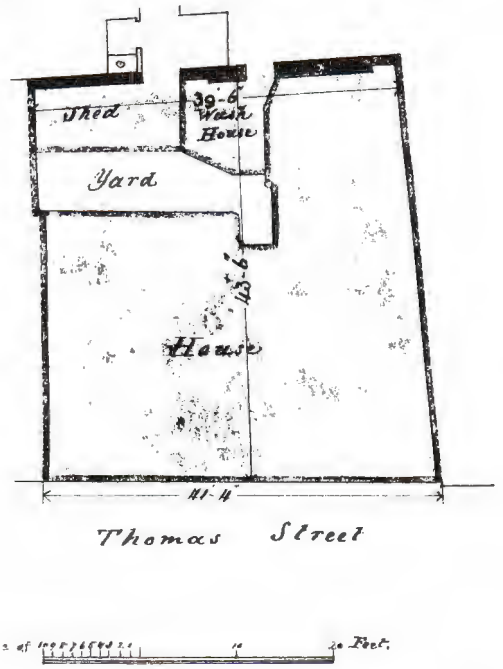

Fig.18 Nos. 90-91 St. Thomas Street in 1846.

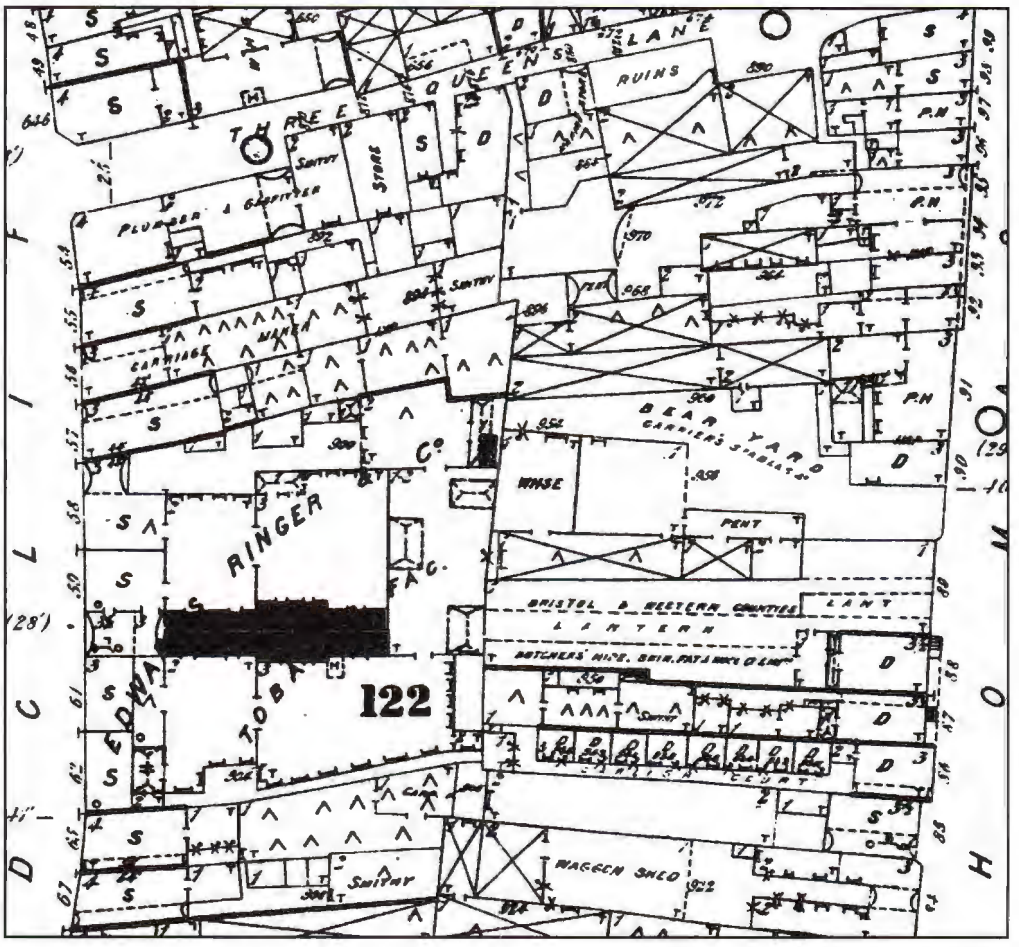

Fig.19
Goad's Insurance Survey, 1887.

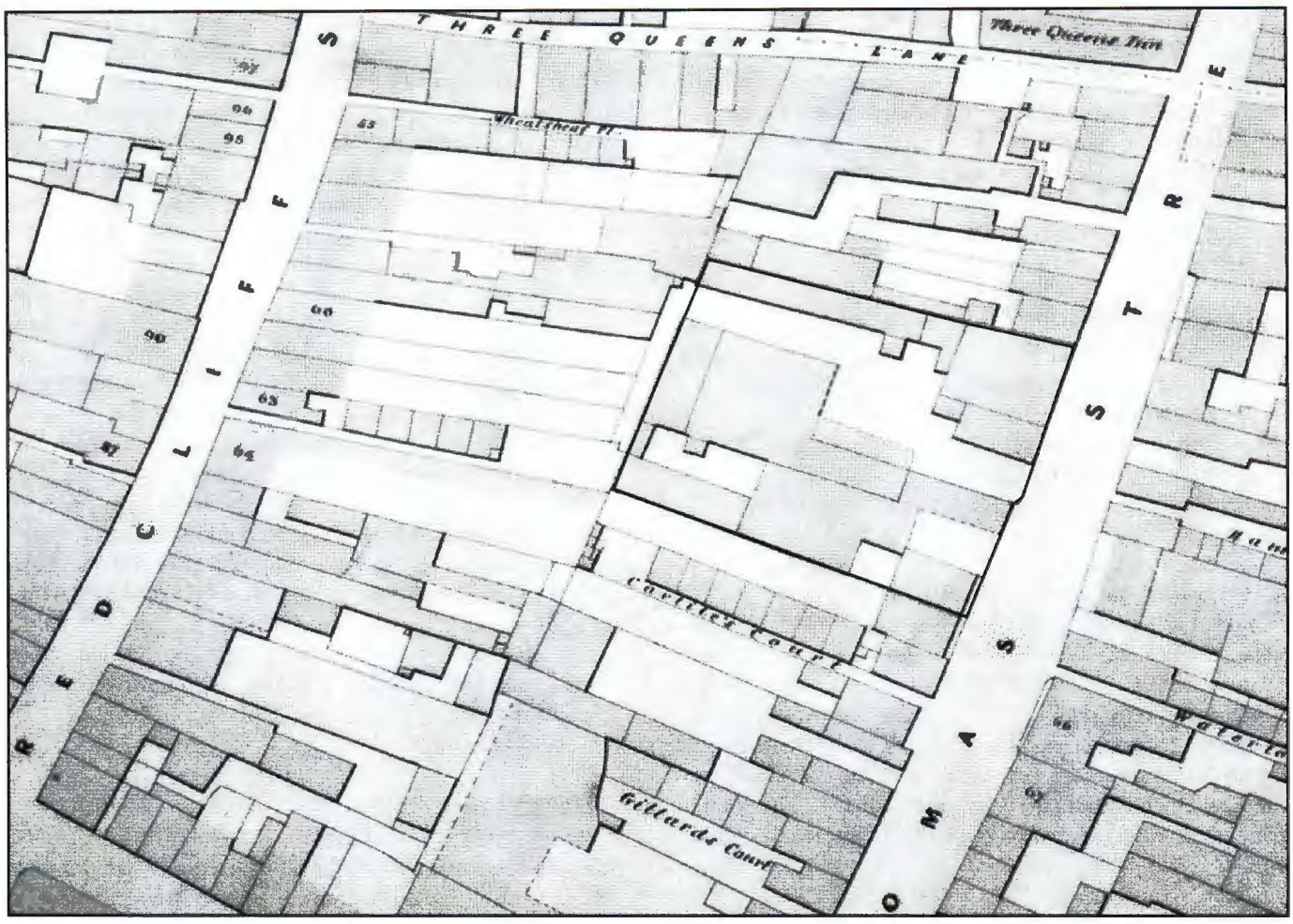

Fig.20 Ashmead's plan 1855.

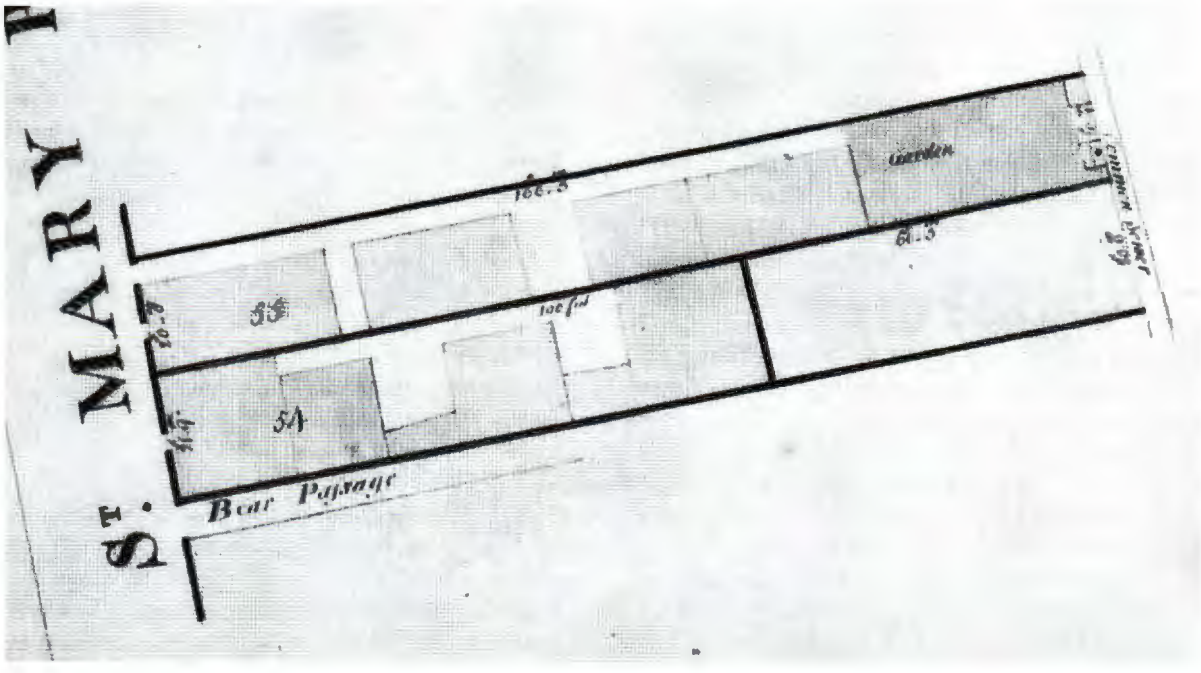

Fig.21 Nos. 56-57 Redcliff Street in 1798.

On the north side of the entrance was a small tenement leased with the Bear Inn yard from 1803 onwards. To the north of this was a larger house, formerly built by Richard Warren and in 1789 the Bacchus public house. To the rear of this was a warehouse, now converted to dwelling accommodation. By 1803 it had been renamed the Duke of York, and was still that in 1889. The property is shown in greatest detail on a plan of 1846 and on the Goad Insurance Survey of 1887 (Figs.18 and 19).

The Frontage to Redcliff Street in the 19th Century

The frontage to Redcliff Street remained subdivided into separate narrow properties until the street widening scheme of 1876-7, the Street Undertaking no. XII in the records of the Urban Sanitary Authority. No overall plan of this scheme has been traced, although plans of the individual properties are to be found in the deeds of those compulsorily purchased. The latest overall plan to show the separate properties is that by Ashmead of 1855 (Fig.20).

Following the street widening scheme only no. 57 remained a separate property. Nos. 58-64 must have all been totally demolished for the construction of the new tobacco factory of Edward Ringer and Co. Plans for the new factory were submitted to the Urban Sanitary Authority in 1883. These provided for extensive cellars beneath the Redcliff Street frontage and at the rear of the site adjacent to the Law Ditch (Building Plans vol.19, fol.18). The overall plan of the site is shown on the Goad Insurance Survey of 1887 (Fig.19).

ARCHAEOLOGICAL BACKGROUND

A number of archaeological excavations over the last twenty years have added to our understanding of the sequence of development and the extent of settlement in the parishes of Redcliffe, St. Thomas and Temple and the changing nature of land use over the centuries.

Excavations were carried out in the vicinity of the present site at 85-87 Redcliff Street in 1980 (Fig.1, No.1; Williams 1981), 68-72 Redcliff Street in 1982 (Fig.1, No.2; Jones 1983), 95-97 Redcliff Street between 1983 and 1985 (Fig.1, No.3; Jones 1986), and at the corner of St. Thomas Street and Portwall Lane in 1989 (Fig.1, No.4; Good 1989).

Of particular relevance are the excavations at 68-72 Redcliff Street, which lay close to the present site on its south-west side, and that on the corner of St. Thomas Street and Portwall Lane nearby to the south.

At 68-72 Redcliff Street four neighbouring burgage plots were uncovered and the evidence suggested that the whole area was probably laid out in a single operation in the late 12th or early 13th century with the boundaries of the medieval burgage plots fixed at that period. The earliest building was of that date and consisted of two ranges - a street range and a larger rear range. A large hearth suggested an industrial rather than domestic use for the building. By the end of the 13th century the area was heavily occupied. Iron working was the predominant industry which was later replaced by copper alloy founding. By the 16th and 17th centuries the medieval structures had been cleared and much of the site was given over to gardens until further buildings were constructed in the late 18th or early 19th century.

At the corner of St. Thomas Street and Portwall Lane the earliest activity, probably dating to the 14th century, was the digging of a number of pits possibly for extraction of the alluvial clay. A drainage ditch was then excavated parallel to St. Thomas Street together with some linear slots, perhaps used as horticultural trenches. It was not until the early 15th century that a large building was erected on the site. The building had been demolished by the mid 16th century, at which time the land reverted to horticultural use. Another building was constructed during the 17th century which was replaced by a terrace of houses in the 18th century.

The overall picture gained from the archaeological work is that settlement started along the main streets during the 12th century and at the same time timber and stone quays began to be constructed on the bank of the River Avon. Initially settlement away from the quays was probably fairly sparse, but by the early 13th century had become more widespread and included a degree of industrial activity especially in the open plots behind the street frontages.

THE EXCAVATION

The medieval and post-medieval archaeology found during the excavation and evaluation work can be divided into four main periods of activity:

Period 1: 13th- to 15th-century occupation
Period 2: 16th-century demolition deposits
Period 3: late 16th-/17th-century gardens
Period 4: 18th- to 20th-century development

The stratigraphical relationship of archaeological deposits, features and structures assisted by dating evidence derived from finds - principally the ceramics - has enabled Periods 1, 3 and 4 to be sub-divided as follows:

Period 1A: pre 1400
Period 1B: 15th century
Period 3A: late 16th/early 17th century
Period 3B: later 17th century
Period 4A: early to mid 18th century
Period 4B: later 18th/early 20th century
Period 4C: later 20th century

In the following description of the results of the excavation the numbers in brackets in the text refer to the context numbers allotted to the archaeological deposits, features and structures. Those in square brackets refer to context numbers given during the archaeological evaluation in Trenches 1 and 2.

Natural

The alluvium underlying the archaeology appears to be generally similar in consistency and colour across the site, with its surface at between 6.8m and 7.1m above Ordnance Datum (AOD) (context 242). A depth of up to 0.5m of this grey-brown silty clay loam was revealed in some areas. The deposit tended to become browner in colour towards its surface where there was often a gradual boundary between the alluvium and the overlying archaeology with no obvious soil horizon surviving between them. There is a possibility that mixing and 'welding' of the buried soil with the overlying archaeological deposits may have removed the evidence for the soil horizons. The pollen assessment of the alluvium supports the view that it was affected by a period of soil development before burial by archaeological deposits. The pollen concentration in the sample from the top 10mm of the alluvium is lower than that from the sample immediately below it suggesting that there was some mixing between the alluvium and the overlying deposits, making the identification of the exact position of the former surface impossible. This now seems more likely than the possibility that any soil accumulation over the marsh surface had been completely removed either by natural erosion or by anthropogenic stripping.

The extreme upper surface of the alluvium in Areas 1 (179) and 2 (202) contained very occasional charcoal flecks, a few sherds of 12th-century pottery and fragments of animal bone hinting at the possibility of occupation close to the site at that time. A thin band of red clay which, over a small area, formed the top of context 179 seemed to derive from flood deposits probably carried by the River Frome which, unlike the Avon, flows through geology including Triassic Mercia Mudstone and Carboniferous Red Coal Measures. However, this was not an alluvial deposit but dumped material obtained from floodplain sediments. Similar material was found during excavations at Redcliffe Backs where it had been used to make up the ground surface during the late 13th/early 14th century (Wilson 2000a).

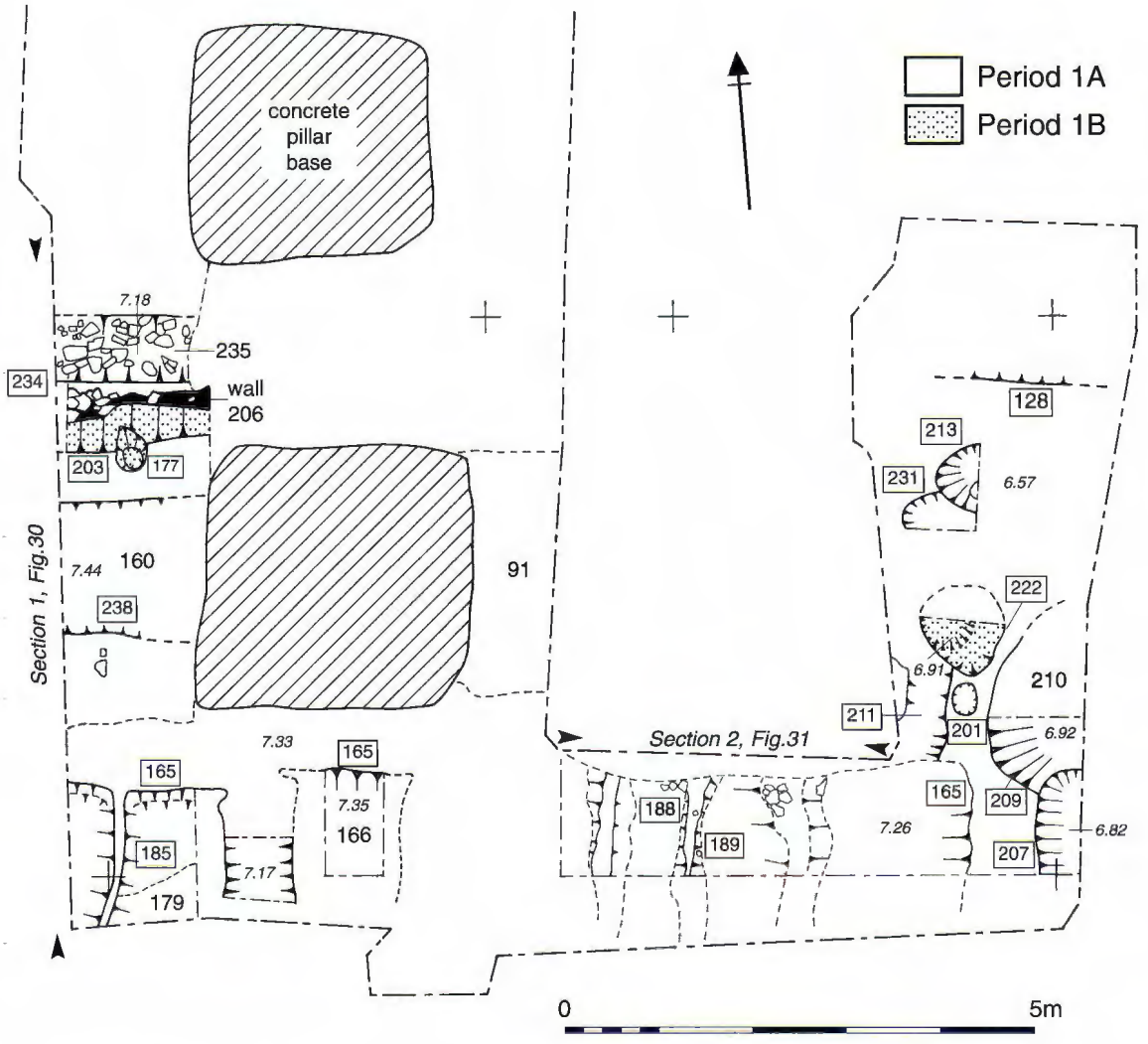

Fig.22 Area 1, Periods 1A and 1B.

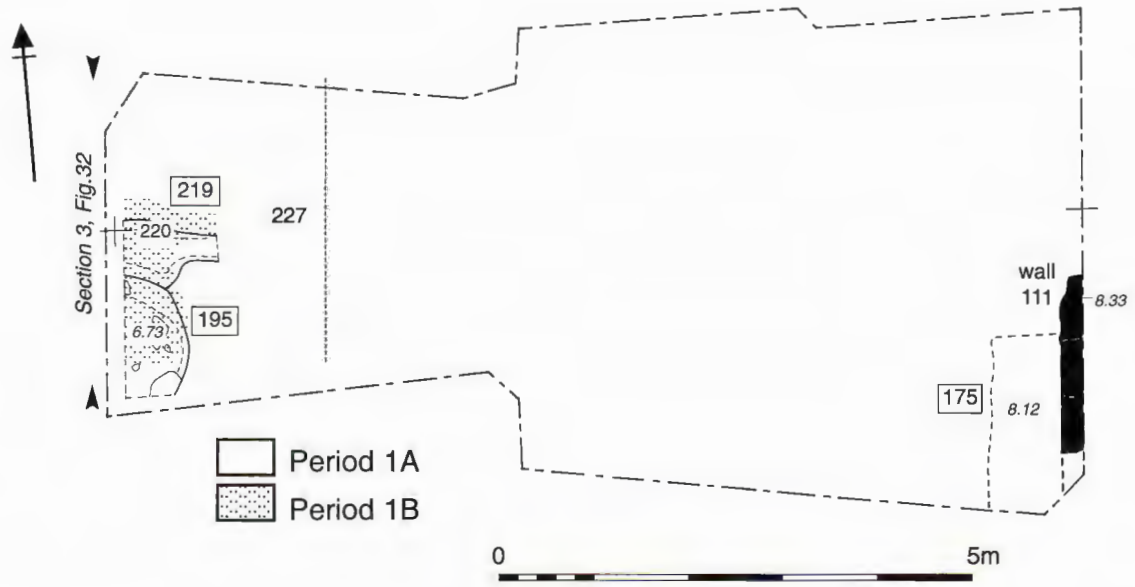

Fig.23 Area 2, Periods 1A and 1B.

Plate 1 Area 2 - west elevation of wall 111, Period 1A.

Period 1A

Pre-1400

(Figs.22-25, 30-32)

The earliest evidence for human activity on the site consisted of a layer of grey-brown silty clay up to 0.3m thick over the surface of the natural alluvium (Area 1:166, 192; Area 2: 198). This layer consisted mainly of redeposited alluvium containing charcoal flecks, occasional fragments of oyster and mussel shell, angular stone fragments up to 0.15m across, a few pottery sherds, bone fragments and small lumps of iron slag. The top of this layer was located between 7.29m and 7.38m AOD at the south end of Area 1, 7.20m AOD at the north end of Area 1 and 7.35m AOD at the east end of Area 2. At the western end

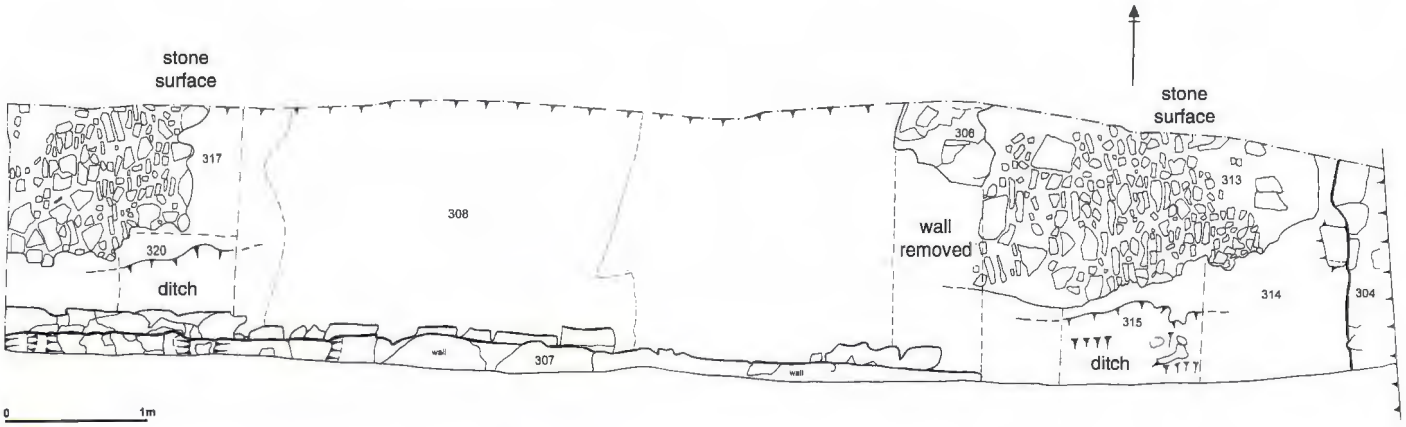

Fig.24 Evaluation trench 3, Periods 1A, 4B and 4C.

of Area 2 the deposit appeared to go much deeper and was at least 0.45m thick (194, 227). It was excavated to a depth of 7.15m AOD but its base could not be reached for safety reasons.

Close to the south-east corner of Area 1 there were five pits, each no more than 0.1m deep, cutting through layers 166 and 179 (207, 209, 211, 213, 231). The largest of these pits (209) lay partly below the east section but was at least 2.2m across. It had been cut by pit 207 which also lay partly below the section. The fills of these two pits produced a relatively large number of sherds of 14th-century pottery kiln waste, kiln furniture and possible kiln lining (191, 198, 208, 210). Pit 211 was apparently cut by the linear feature 165 described below.

A ditch (234), aligned east/west and V-shaped in profile, had been cut through layer 179 into the natural alluvium in Area 1, although it appeared to have a more gently sloping cut at a higher level on its south side. The ditch profile was most clearly visible against the west section where, although it had been truncated by a later re-cutting (203), it was found to be 0.6m wide by at least 0.6m deep. Elsewhere in Area 1 the ditch had been removed by later disturbances although its south edge (128) was just visible below the Period 4B cellar wall (16). The lower fill of the ditch consisted of a very sticky dark grey-brown silty clay containing some pieces of Pennant sandstone with white mortar adhering to them (235), while the upper fill was generally slightly lighter in colour but with frequent lumps and flecks of charcoal (236).

Later in the 14th century a wall some 0.4m wide, constructed of Pennant and red sandstone bonded with a light brown lime mortar (206), had been built on the south side of the ditch. The shallow construction trench (205) for the wall had cut into the upper fill (236) of the ditch. A heap of red-brown silty clay (144) had been dumped against the south side of the wall and both the wall and the dumped material had been cut by the Period 1B re-cutting (203) of the ditch and feature 238.

A distinctive feature occupied the southern part of Area 1 and lay partly below the south and west sections of the area. It consisted of a number of what appeared to be roughly rectangular shaped cuts through layers 166 and 179 into the top of the alluvium (165, 184-189). These rectangular shaped cuts varied in size - those fully exposed within the area of the excavation measured between 0.7m and 1.65m east/west by at least 1.5m north/south - while the narrow ridges left between the rectangular cuts were up to 0.2m wide. The fills of each of these rectangular cuts were identical, consisting of a mixture of red clay, a friable red

Plate 2 Evaluation trench 3, stone surface 313/317 looking west, Period 1A.

Plate 3 Evaluation trench 3, ditch 315/320 looking east, Period 1A.

mortar, quantities of Pennant sandstone fragments and oyster shells (163). At the western end of the area, fill 163 spread north beyond cut 165 for a distance of 1.4m where it was cut by Period 1B feature 238. The purpose of this line of rectangular shaped cuts was uncertain, particularly as only part of it lay within the excavated area. It is possible that the mortar and stone rubble had been deposited on the site to form a firm, dry base for occupation. However, that does not explain why it was necessary to divide the feature into rectangular areas while no walls or post-holes were found which might indicate the presence of a structure in the vicinity.

A medieval wall (111; Plate 1) stood to a height of 1.1m against the east section of Area 2. Aligned north/south the wall had been founded on the disturbed surface of the alluvium (202) and the layer immediately above the alluvium (198) abutted it suggesting an early date for its construction. The wall was built of Brandon Hill Grit and red sandstone bonded with a friable red mortar. Only a 3m length of the wall was recorded; to the north it had been truncated by the construction trench of Period 4B drain 150, while to the south it extended outside the excavated area. It seems likely that this was the rear (west) wall of an early 14th-century building fronting St. Thomas Street, confirming that the medieval street was much narrow than its present day counterpart.

A pitched stone surface was revealed in Evaluation Trench 3 although only two small areas at the west and east ends of the trench were excavated to that level. The surface was composed mainly of Pennant sandstone but incorporated some pieces of yellow freestone (oolitic limestone) and red sandstone (313/317; Plate 2). The pitched stones were set in a light red-brown clay containing sherds of late 13th-/early 14th-century pottery (314). A ditch (315/320; Plate 3) formed a southern boundary to the stone surface, its fill consisting of a loose red-brown clay containing sherds of mid 13th/14th-century pottery. At the west end of the trench the stone surface had been disturbed, probably during the 16th century (318).

It seems likely that the pitched stone surface was part of a yard or passageway between two properties. Although constructed during the 13th/14th centuries, the presence of sherds of 15th-century pottery in a layer (312) compacted into its surface suggests its continued use into the early post-medieval period. The east/west aligned ditch along its southern edge almost certainly provided drainage for the stone surface but may also represent an early property boundary.

Part of a circular stone feature found in Evaluation Trench 5 may have been the top of a well (510; Plate 4) that had been backfilled with a loose dark brown clayey loam (511). To the north and east of the well was a paved surface of large flat slabs of Pennant sandstone (514) bedded in a light brown sandy loam (515). There were no datable finds from either the well or the stone surface but it seemed likely that they belonged to the late 13th or 14th century as a dump of Pennant sandstone rubble mixed with a large number of fragments of 14th-century glazed roof tile (513) filled a cut through the south side of the paved area.

Period 1B

15th century

(Figs. 22 & 23, 30-32)

The line of boundary ditch 234/128 in Area 1 was re-cut during this period, the cut (203) truncating wall 206 and the dump of material (144) to its south. The original V-shaped ditch cut into the alluvium and now backfilled was abandoned, the re-cut ditch being shallower and flat-bottomed. The primary fill of the re-cut ditch consisted of a firm grey-brown silty clay containing many stone fragments (204) while the secondary fill was a brown silty clay with some Pennant sandstone rubble (196). An irregularly shaped post-hole (177) measuring 0.46m north/south by 0.34m east/west had been cut through layer 144 to the south of ditch 203 suggesting that a timber structure, perhaps a fence, reinforced the boundary.

The boundary ditch 203 was replaced by a wall on the same alignment during the 15th century. At the west this was 0.6m wide and was built of Pennant and red sandstone bonded with a light grey-brown mortar (183). It had been laid in a construction trench (182) that had been dug through the upper fill of the ditch. On the east side of Area 1 the Period 4B cellar wall 96 had destroyed the later alterations to the Period 1A boundary ditch. However, an area of rubble discovered during the evaluation work [118/119]

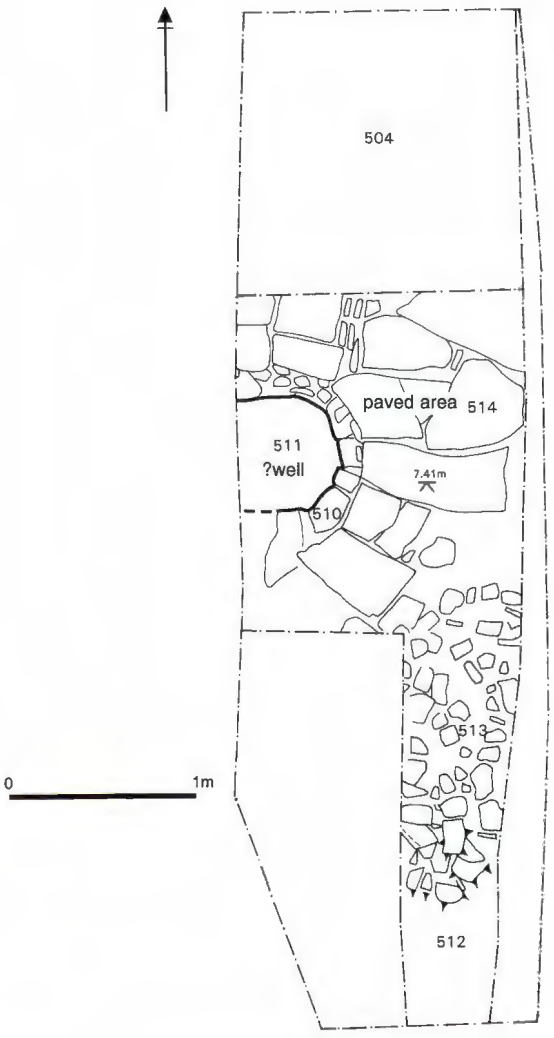

Fig.25 Evaluation trench 5, Period 1A.

Plate 4 Evaluation trench 5, stone surface 514 and possible well 510, looking east, Period 1A.

may have been the disturbed remains of wall 183.

Apparently parallel to the boundary ditch and just to its south was another linear feature up to 1.4m wide and 0.7m deep (238). It had been cut through Period 1A layers 163 and 166 into the top of layer 179. The fill of this feature consisted of a firm red brown silty clay containing Pennant sandstone rubble and flecks of light pink and white mortar (160). The extent and nature of feature 238 could not be determined as it extended beyond the excavated area to the east and west. It was sealed by a layer of Pennant and red sandstone rubble mixed with lumps of a pinky-red mortar, red-brown sand and a grey-brown silty clay (91).

A number of pits (Area 1: 222; Area 2: 175, 195, 219) and layers (Area 1: 161; Area 2: 174, 193, 199) date to this period of occupation.

Period 2

16th century

(Figs. 26, 30-32)

Activity in Areas 1 and 2 during the early to mid 16th century consisted of the deposition of a number of layers of demolition material sealing the medieval occupation. These may have been dumped over a fairly short period and were probably derived from the destruction of a medieval building or buildings on or close to the site.

The earliest in date was a layer of grey-brown silty clay which covered the western part of Area 1 and contained broken roof and floor tiles (117). Overlying that and extending right across Area 1 was a layer of demolition rubble (90/130) which also occurred in Area 2 (180/181). That was in turn sealed by a deposit of clayey silt containing large quantities of Pennant sandstone roof tiles and other building debris (Area 1: 87; Area 2: 157/159). On the east side of Area 1 layer 87 was partly covered by a layer of very fine grey-brown mortar which also extended throughout Area 2 (72/156/174).

A slightly different sequence of demolition debris occurred in the north-east corner of Area 1 where a layer of grey-brown silt containing fragments of freestone (105/106) was sealed by a layer of red-brown clay, red mortar lumps and stone (97).

A linear feature (118) running approximately south-west/north-east across Area 1 was sealed by layer 90. It was 0.7m wide by 0.15m deep and filled with large pieces of Pennant sandstone in a light grey-brown silty clay.

In Evaluation Trench 5 a possible stone-lined drain (505) was associated with a layer of brown sandy loam (504). Beneath drain 505 was a band of light brown mortar and rubble (508) about 1m wide aligned east/west across the trench filling a shallow gully or pit which had been cut into a layer of compacted dark brown clayey loam (509) covering the whole area of the trench. Layers 505, 508 and 509 all produced 16th-century pottery.

Period 3A

Late 16th/early 17th century

(Figs.26, 30-32)

A layer of garden soil sealed the demolition material throughout Areas 1 (54/71) and 2 (155), although in Area 1 it did not extend as far as the west section. The garden soil

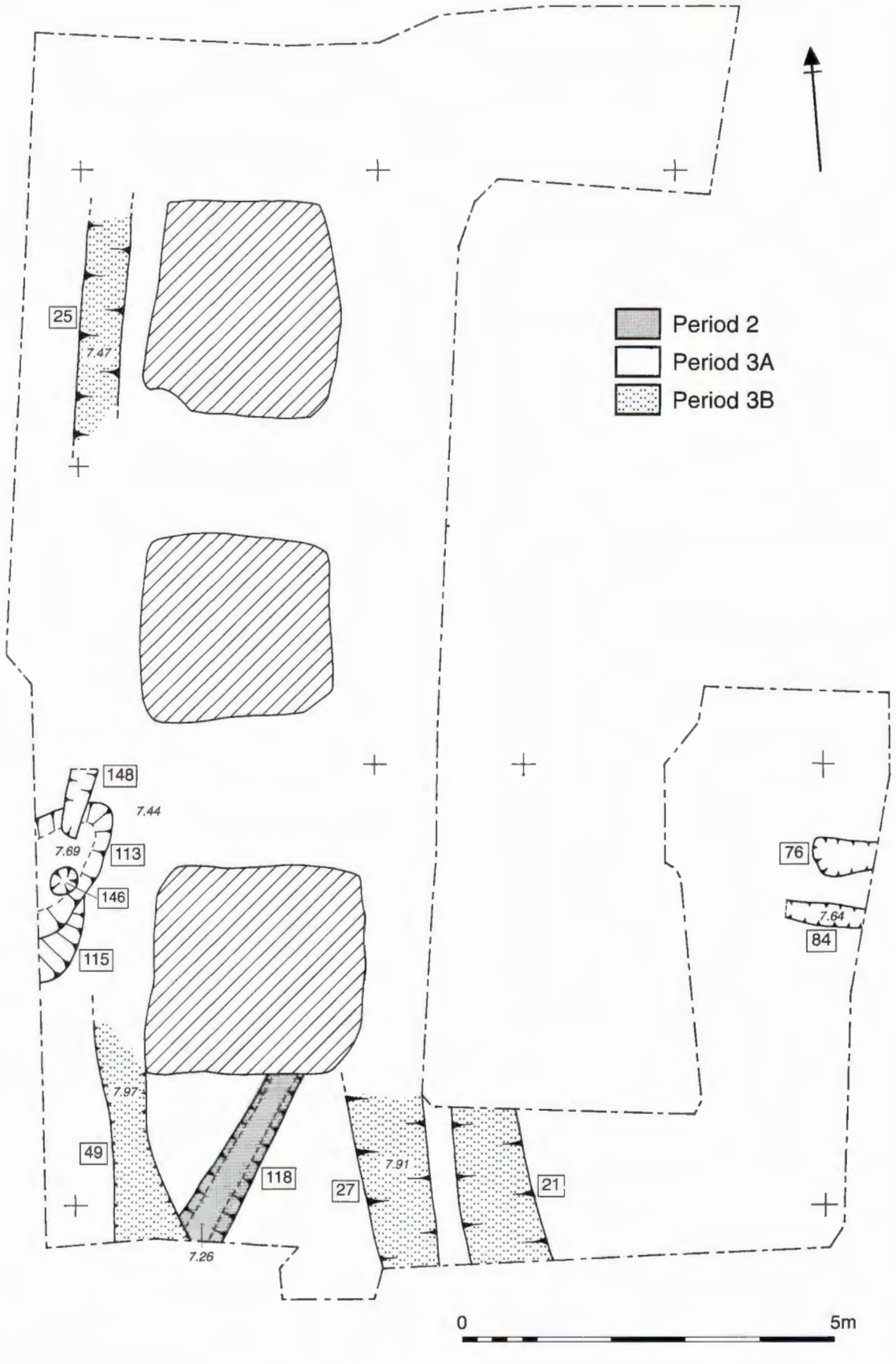

Fig.26 Area 1, Periods 2 & 3.

consisted of a light brown slightly clayey loam containing small stones, oyster shells, animal bones and frequent flecks of charcoal. The pottery from it indicates a date for the deposition and working of the garden soil during the late 16th and early 17th centuries. That general date is confirmed by the clay tobacco pipes found within the layer, the bowl forms of the pipes all belonging to the early 17th century. Two pipe bowls were marked with the initials of the Bristol pipemakers Richard Berriman, who was working from 1619, and Thomas Monkes, who became free in 1626.

In Area 1 the garden soil sealed a number of features cut into the underlying Period 2 demolition levels. These cuts took the form of linear features (84, 148), pits (76, 113, 115) and a possible post-hole (146).

Period 3B

Later 17th century

(Figs.26, 30-32)

A distinct upper layer of garden soil occurred in Areas 1 (20/241) and 2 (82/153) and formed a single layer of garden soil in Evaluation Trenches 3 (308), 4 (411) and 5 (503/504). It took the form of a dark brown, heavily charcoal flecked loam containing small stones, pockets of a soft grey lime mortar, animal bone, oyster shells and large amounts of a lightweight clinker-like material. The pottery from the layer dates the deposition and working of the garden soil to the later 17th and early 18th centuries. That can be refined by a study of the clay tobacco pipe bowls from the layer which date no later than the end of the 17th century.

In Area 1 a number of features were cut into the surface of the garden soil. Three roughly parallel linear features aligned approximately north/south up to 1.1m wide and 0.1m deep (21, 27, 49) were each filled with a similar material to the garden soil but included many fragments of white wall plaster, brick and lumps of iron slag (22, 28, 50). Further north and close to the west section was another linear feature (25) although that had been truncated by the Period 4B cellar wall 5 and oval tank 56.

In Evaluation Trench 3 the garden soil was only excavated at the west and east ends of the trench (308). At the west end it was found to be interleaved with thin bands of grey-brown slightly clayey material, while at the east end it filled a gully (309) some 0.25m deep, aligned east/west along the south side of the trench. This gully had cut through the underlying Period 1A pitched stone surface (311) and was clearly a continuation into the 17th century of the boundary ditch 315/320.

Period 4A

Early to mid 18th century

(Figs.27-29, 30-32)

A substantial wall (414) survived across the west end of Evaluation Trench 4. Constructed of Pennant sandstone bonded with a coarse, hard, buff-coloured mortar, the wall was at least 1.2m wide, although its full width could not be established as its west face lay outside the excavated area. Its east face appeared to be curved and it seems likely that the wall was a small segment of the circular cone of the glasshouse shown in approximately this location on John Rocque's 1742 map of Bristol. There was no direct dating evidence for the construction of the wall but the mortar is typical of that found to have been used in other 18th-century structures excavated elsewhere in the city. The presence of relatively large quantities of glass waste, ash and cinders (413) associated with the wall seemed to confirm it was part of the glassworks. Abutting wall 414 and running away from it to the north-east was another Pennant sandstone wall bonded with a friable white mortar (410), possibly a later addition to the structure of the cone while it was still in use. The width of the wall could not be determined as it lay against, and below, the north section of the trench. However, the fact that it had not been destroyed by the Period 4C foundation trench 404 suggests it was a substantial structure which the later builders found hard to remove. Wall 410 had been built within a foundation trench, the fill of which consisted mainly of large lumps of waste glass and cinders (409).

An early 18th-century wall, some 0.34m wide and aligned north/south, was uncovered in the north-east corner of Area 1 (58) and was apparently the west wall of a building fronting St. Thomas Street. Constructed of Pennant sandstone bonded with a hard pink lime-flecked mortar, the wall had been founded on the surface of the natural alluvium, its construction trench (243) truncating the earlier archaeological deposits. Abutting the east face of the wall was a pitched stone, presumably internal, floor (223) sealing a layer of debris - off-white mortar and small stones - possibly derived from the construction of the building.

The fragmentary remains of a path 0.6m wide, surfaced with an off-white mortar and edged with stone on its northern side, ran north-west/south-east across Area 2 (96/102). It had been cut through the Period 3B garden soil and the upper fill of pit 132 and had in turn been cut by the construction trench for the Period 4B drain 150 and the Period 4C service trench 98.

A number of rubble-filled pits occurred in Area 2. Pit 92 measured 2.4m by at least 2.2m and was filled with stone rubble including some fragments of carved freestone, pieces of ceramic and slate roof tile, lumps of mortar, clinker and glass slag (93/94). It had cut another possible pit filled with similar material (139).

Pit 112 had been dug against the north face of medieval wall 111 and measured 0.5m by 1.14m by 0.76m deep. It was filled with stone rubble including fragments of carved freestone together with lumps of white and red mortar (110).

Pit 132 lay below path 96/102. Its full dimensions could not be determined as it had been cut by the Period 4B drain 150 and Period 4C service trench 98. It was filled with stone rubble and lumps of pink mortar in a brown silty material (109/131).

Pit 133 lay partly beyond the southern section of Area 2 and had also been truncated during the excavation of Evaluation Trench 2, so that its full extent could not be determined. It was only 0.2m deep and filled by a stone

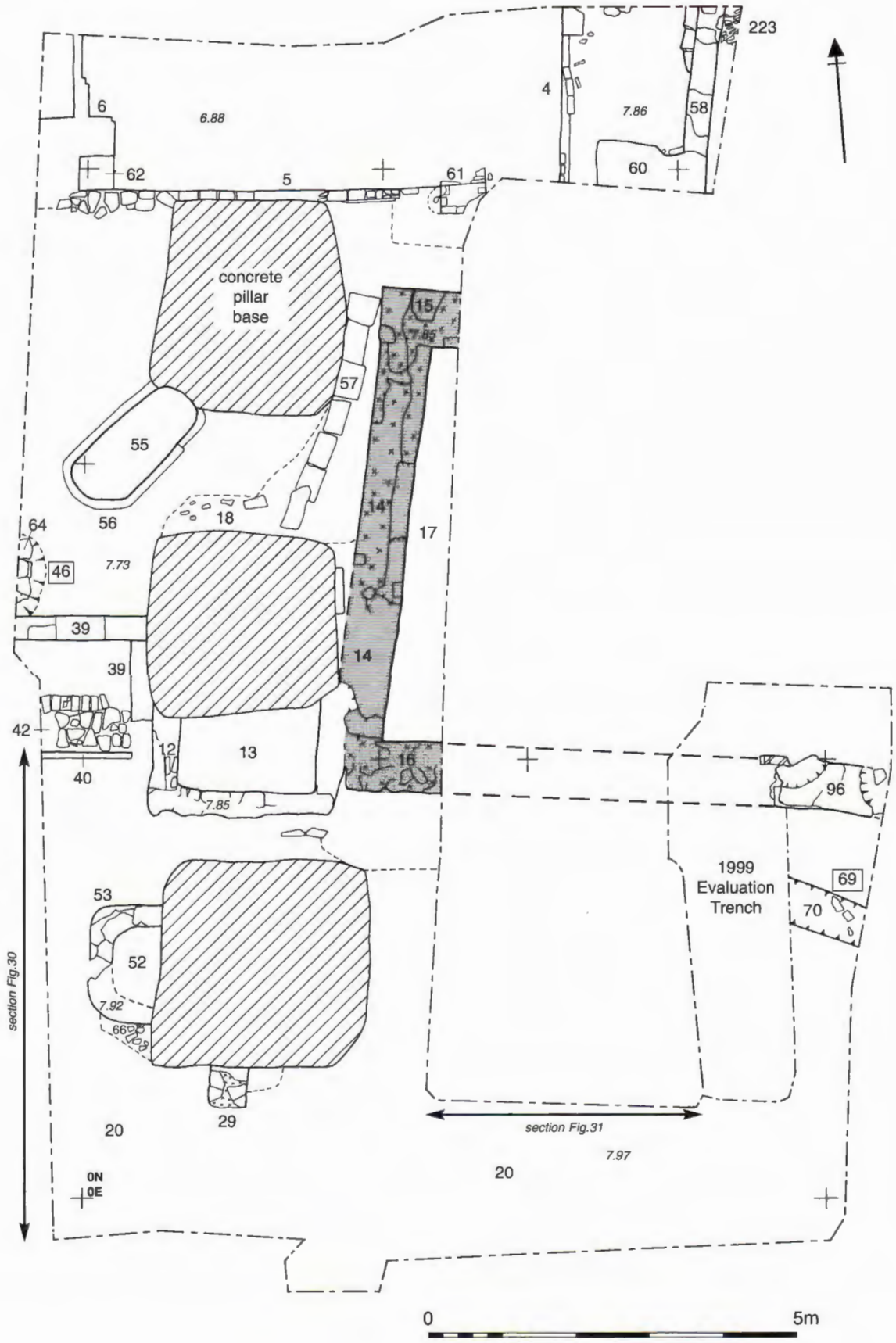

Fig.27 Area 1, Period 4.

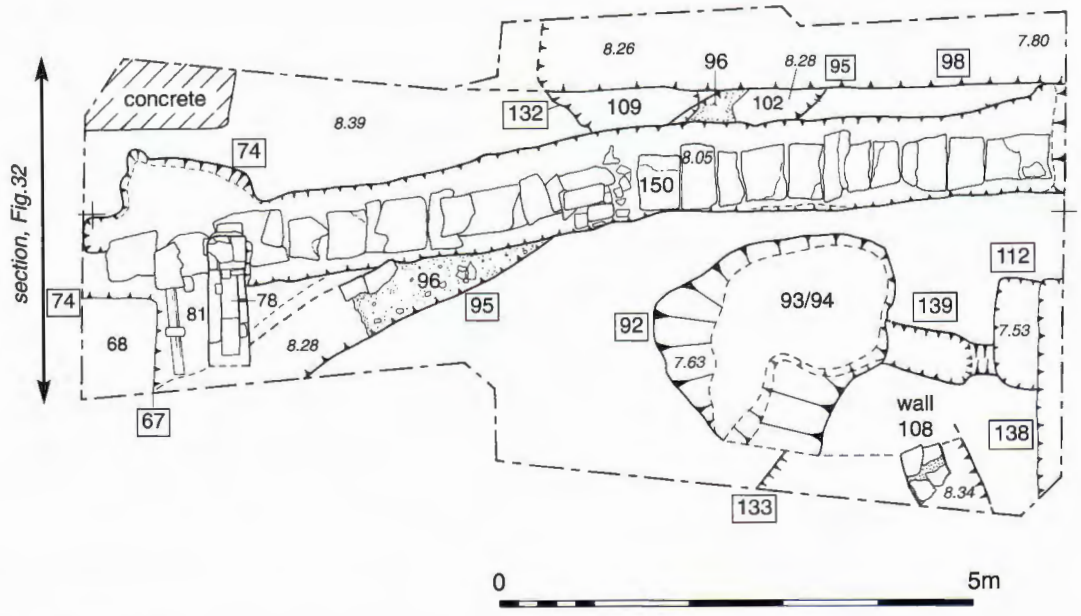

Fig.28 Area 2, Period 4.

structure 0.7m wide bonded with white mortar (108) and also rubble consisting of lumps of white and red mortar (134), the red mortar probably derived from the destruction of medieval wall 111.

It is clear that medieval wall 111 was demolished in the early 18th century as part of the development of the site for the glassworks. Its destruction was represented by layers of red mortar, stone rubble including some worked freestone, roof tile, charcoal and ash up to 0.3m thick which overlay and spread to the south of the wall foundations (103/104/107). A shallow trench filled with red mortar showed that the wall had been partly robbed of stone below contemporary ground level (138).

In the south-west corner of Area 2 a layer composed of cinders and glass slag (68) survived although it had been badly truncated by the construction trenches 67 and 74 for drains 81 and 150. At the east end of Area 2 a layer of domestic rubbish including pottery, bone and clay pipes together with some glass slag (158) covered the foundations of wall 111.

A linear feature almost 0.6m wide and 0.1m deep aligned approximately east/west cut the Period 3B garden soil in Area 1 (69). Its fill consisted of a brown clayey-silt containing fragments of stone, roof tile and brick together with parts of a stoneware pottery saggar (70).

Period 4B

Later 18th century to early 20th century
(Figs.24, 27, 28, 30-32)

In Area 1 two cellars were found probably dating from the later 18th century. One, fronting St. Thomas Street, had walls up to 0.8m thick constructed mainly of Pennant sandstone but with a few brick fragments bonded with a hard, light brown heavily limed mortar (14-16/96). The cellar measured 5.4m north/south and the rear wall lay 8.3m behind the street frontage. Its backfill consisted of layers of mortar, plaster and stone and brick rubble (17). The floor of the cellar was not reached but the construction of the cellar had clearly destroyed all earlier archaeological deposits.

Another cellar lay to the north. Its east wall was set back 6.5m from the street frontage. The cellar measured 6.4m east/west by at least 2.6m north/south internally although the north wall of the cellar lay outside the area of the excavation. It had been constructed by digging out the required area to a depth of 6.88m AOD and then lining the hole with single thickness brick walls bonded with a friable white mortar (4-6). A gap at the east end of the cellar's south wall, bounded on its west by a short section of north/south wall built of brick and stone bonded with a greyish-white mortar (61), may have been an entrance to the cellar. The floor of the cellar had been removed but the brown mortar bedding for the floor slabs remained (7). The backfill of the cellar consisted of brick and stone rubble (2).

Part of a water tank was excavated in Area 1. It was probably square, measuring 1.8m across internally and its floor was located at 6.85m AOD. Its sides, between 0.3 and 0.4m thick, were built of brick bonded with a hard white mortar had been cement rendered internally (12). The backfill of the tank consisted of brick, stone and plaster rubble (13).

The remains of another possible water tank were located in Evaluation Trench 4. A north/south aligned wall up to 0.55m wide and constructed of Pennant sandstone and brick bonded with a hard grey mortar (402) formed the western end of the tank which occupied the east end of the trench. Part of the brick-arched roof of this tank, which had been backfilled with rubble, remained against the northern section of the trench.

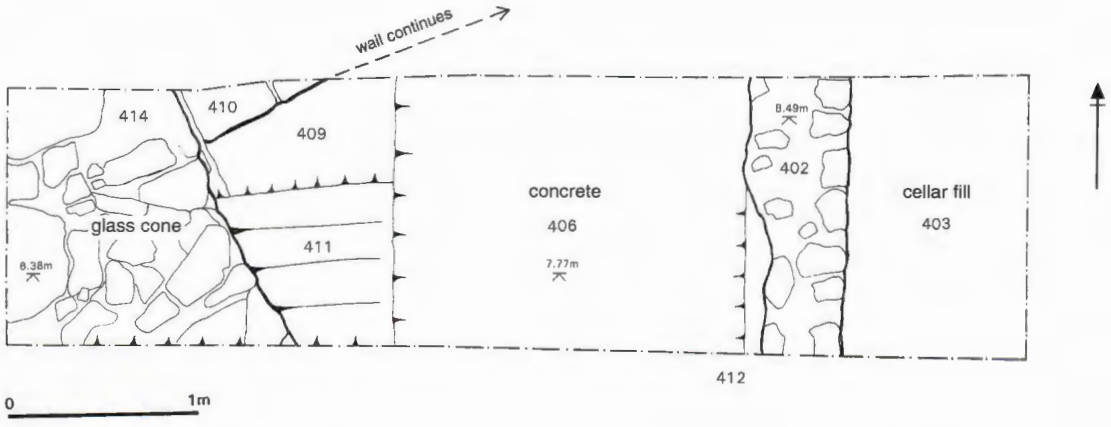

Fig.29 Evaluation trench 4, Period 4.

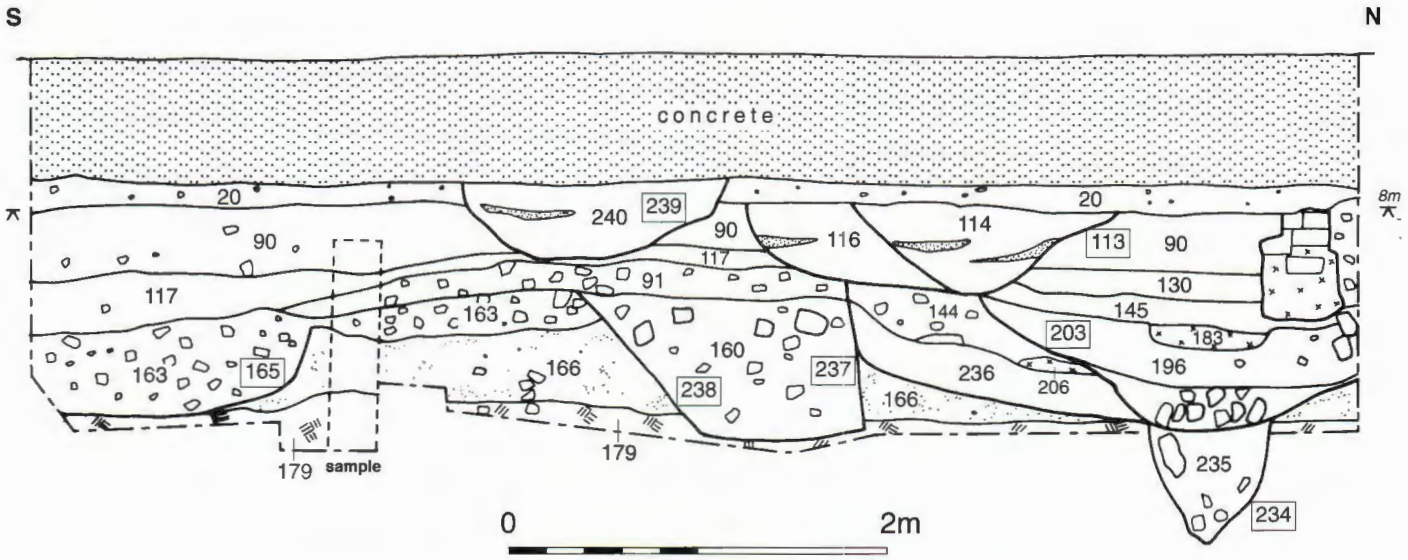

Fig.30 Section 1, east-facing in Area 1.

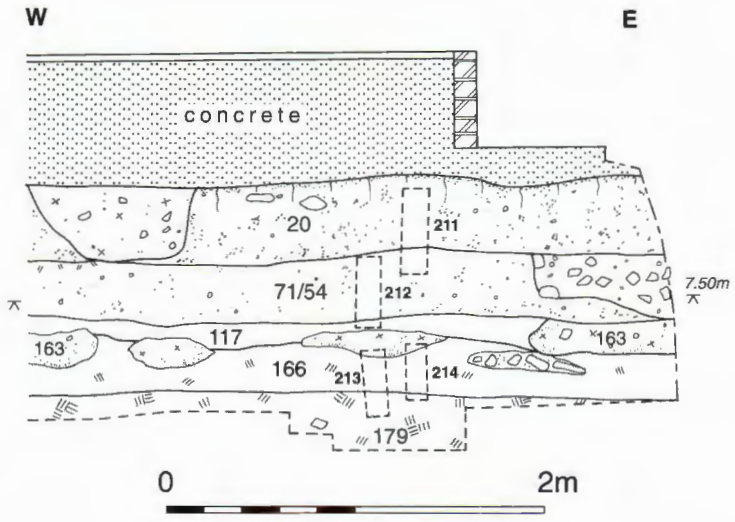

Fig.31 Section 2, north-facing in Area 1.

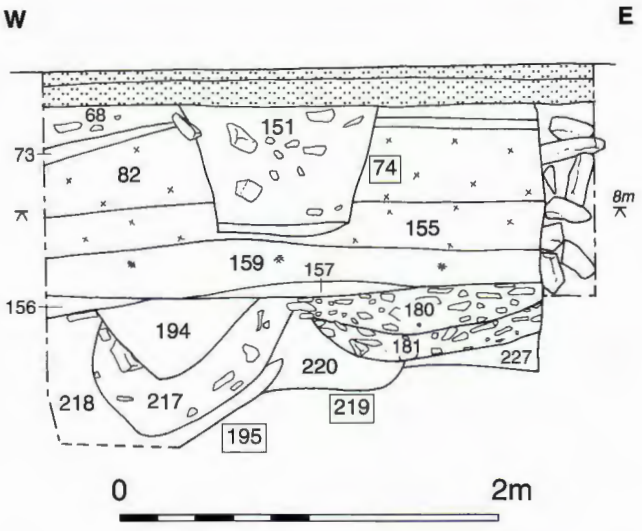

Fig.32 Section 3, east-facing in Area 2.

In Area 1, close to the west section, was a roughly oval shaped structure aligned north-east/south-west measuring 1.9m by 0.8m internally. Its wall was 0.15m wide and constructed of Pennant sandstone bonded with a hard white mortar (56), except at its north-east end where it had been repaired using bricks bonded with a light grey mortar. The rubble fill of this feature (55) was not excavated for safety reasons so its depth was not determined. The purpose of this structure is unknown but it may have been a tank used to store liquid in connection with some industrial process.

Also in Area 1 were three stone and brick structures, only partly excavated, that may have been connected with industrial processes or formed the bases for machinery used in the 19th-century factory.

The largest of these was an L-shaped stone wall (39) associated with a single thickness brick wall (40), both walls being bonded with a soft light brown mortar. The area between the walls had been filled with a coarse black loam containing many brick and stone fragments (44). Pennant sandstone slabs and a few bricks bonded with an off-white, coal flecked mortar had been laid over the southern part of the fill.

A roughly rectangular structure of Pennant sandstone and some brick bonded with a hard grey mortar (52/53) had been cut through all the earlier archaeological deposits and was founded on the natural alluvial clay. A short length of grey mortared wall (29), lying within construction trench 30, was probably associated with the structure.

Just protruding from the west section of Area 1 was a short length of wall roughly built of Brandon Hill Grit bonded with a friable off-white mortar (48). A construction trench for this wall was filled with fragments of window glass (46).

It seems likely that the Period 3B wall 58 in the north-east corner of Area 1 was demolished during the late 19th century when a layer of off-white mortar, stone and brick fragments (60) was dumped over its remains.

Plate 5 Cover slabs of drain 159 and brick drain 78, Period 4, looking east.

A large drain (150; Plate 5) 0.3m wide by 0.4m deep ran from west to east through Area 2. The sides of the drain were built of brick bonded with a hard white mortar, the base was formed of overlapping ceramic roof tiles and it had been capped with large slabs of Pennant sandstone. The drain had clearly been cleaned out on at least one occasion as its silt fill (151) produced only 19th-century pottery. Towards the west end of Area 2 drain 150 was joined from the south by a small brick-sided drain (78) 0.2m wide which had been blocked at a later date, possibly when it was replaced by the Period 4C ceramic sewer pipe (81) immediately to its west.

Two walls of Pennant sandstone bonded with a hard grey lime mortar in Evaluation Trench 3 formed the south-east corner of a 19th-century building (306, 307). It must have been a flimsy structure as it effectively had no foundations, the walls resting on the soft 17th-century garden soils.

Period 4C

Later 20th century

(Figs. 24, 27-29, 30-32)

A number of late 19th-/20th-century service trenches containing ceramic sewer pipes truncated the archaeological deposits and structures in Areas 1 and 2. These may be summarised as:

Cut 10, fill 11; cut 18, fill 19 (the pipe being laid on rectangular slabs of Pennant sandstone 57); cut 67, fill 81 (running into the Period 4B stone-lined drain 150); and cut 98, fills 99, 100, 101.

Immediately below the modern concrete floor at the east

end of Evaluation Trench 3 was a brick wall bonded with black mortar (303). Clearly of 20th-century date its function could not be determined.

In Evaluation Trench 4, a north/south cut some 1.8m wide had been made to the north of wall 402. This was the foundation trench (404) for a line of metal columns supporting the roof of the present building, and it was filled with rubble over a concrete base (405).

SPECIALIST REPORTS

The finds recorded below are those from the excavation of Areas 1 and 2.

Numbers prefixed with SF indicate that the item is a Small, or Special Find, the number being that assigned to the object in the site archive.

The archive contains an assessment of the pollen from the column samples by Dr Heather Tinsley and a report on the mollusca remains.

The Pottery

by Rod Burchill

Introduction (Figs.33-34)

The ceramic material recovered from the excavated contexts was quantified by sherd count and weight. The fabrics were visually examined using a hand lens (x10) and, where necessary, a binocular microscope (x30) and identified by comparison with the Bristol Pottery Type Series (BPT). The full details of the Type Series (Ponsford 1988, Ponsford 1998) which has recently been updated and amended by the present writer is not described here. However, the Type Series entry for each of the pottery types present is included below.

The material was allocated to groups of broadly contemporary contexts associated with the various phases of site development as defined in the excavation report:

Period 1: Medieval
Period 1A: pre 1400
Period 1B: 15th century
Period 2: Post-medieval demolition deposits c.1550-1600
Period 3: Post-medieval gardens
Period 3A: late 16th/early 17th century
Period 3B: later 17th century
Period 4: Post-medieval development
Period 4A: early to mid 18th century
Period 4B: later 18th/early 20th century
Period 4C: later 20th century

All the pottery recovered during the excavations was examined. However, only the pottery from Periods 1, 2 and 3 in Areas 1 and 2 is discussed here.

The Assemblage

The total pottery assemblage consisted of some 2,083 sherds weighing 43,881 gms. Out of this total, 21 sherds (1%) were unstratified and 344 sherds (16.5%) belonged to Period 4 and were therefore not subject to further study.

Area 1

Period 1A

A group of 656 sherds, some 375 sherds (57%) of which came from the fills of two large pits 207 and 209 (contexts 191, 208 and 210).

Bristol/Redcliffe wares dominated the Period 1A assemblage comprising 82% of the group. These were mostly the standard green glazed jug BPT118 (525 sherds), although the group also included the finer BPT120 and small jars (BPT85). Six sherds might be in the later BPT118L fabric but were very similar to much of the misfired waste material.

Three hundred and forty-three sherds of BPT118 came from the fills of pits 207 and 209 and of these at least 195 sherds represented waste material (see below). A further 63 sherds of waste material came from contexts 166 and 214.

Imports were few in number - 25 sherds (3.8% of group) - and consisted of South-West French jugs, mostly the ubiquitous mottled green glazed ware (BPT156 and 157) but also sherds from a finer metallic green glazed jug (BPT40) and the slightly later partially glazed ware BPT160.

The presence of wheel-thrown vessels in the North-West Wiltshire lime gritted fabric (BPT84) and a quartz gritted jug of probable South Gloucestershire origin (BPT121) suggest a date between 1300 and c.1350 for the group.

Residual 12th-century wares accounted for c.8.8% of the Period 1A assemblage.

Period 1B

Pottery associated with Period 1B comprised a small group of 77 sherds, mostly Bristol/Redcliffe wares (BPT118) which accounted for some 40% of the pottery recovered from this period.

The fill of a ditch (context 204) produced two sherds from a jug with patchy green glaze in a micaceous flint tempered fabric (BPT134). It is similar to that of the quartz and flint tempered jars produced around the Warminster area of West Wiltshire (Burchill 1996) and these jugs may be from a similar source. From context 161 came a sherd of a tripod pitcher in a quartz and limestone gritted buff brown fabric decorated with an applied strip and combed grooves under a clear (brown) lead glaze (BPT244) - a very rare type.

A single sherd of Tudor Green in context 196 - the upper fill of ditch 203 - and sherds from at least three Malvernian vessels date the group to the 15th century.

Period 2

An assemblage of 224 sherds, mostly residual medieval wares, Period 2 saw the first appearance of the products of the Somerset pottery industry, principally that of Nether Stowey (BPT280) but including three vessels from the Wanstrow (East Somerset) kilns. The Somerset wares first make their appearance c.1550 (Good 1987) and soon

POTTERY DISTRIBUTION BY CONTEXT

AREA 1

	Period 1A														Period 1B								Period 2							Period 3A		Period 3B			
Context	160	162	163	166	173	179	191	192	208	210	212	214	232	235	91	122	127	161	178	196	204	221	72	87	90	105	117	119	130	156	54	149	20	22	28	Total
BPT																																				
18			1	2				1		5	1											1			4	1	3									19
26			1	3			1	1				1																								7
27				4			1	5		1								1						2												14
32				1		2	2	1				1							1						3	1										12
40								3																												3
46				8		6	1	3		1							1	1									1									22
84	1			10			10	5						1			9				2			3	1		2					1			45
85	1			3			3																		1		1								9
93																									5											5
95																																	2	1		3
96																								1	2				1		2		8			14
99																																	6	9	1	16
100																																	5	2		7
108																																	2			2
112																																	5	6	1	12
114				1		1																			1											3
118	6	3	4	61		3	136	14	1	13	2	16	7	1	2	1	11	7	1		4	5	2	9	31	2	31	2					4	1		380
118 Late				4			2										1							1	1				1				1			11
118 Waste				54			193			2		9					2	7																		267
120				2			1																				1									4
121				4																																4
123								1																												1
134																					2															2
156	1		1	2		1		2		2	1	2						2							3		1		1						19
157					1			5			1														1		1									9
160							1	2									3								1											7
168																																				0
182																				1				1		1							1			4
197																	2	1		3	1	1		8	43			4	7	1	1	3	4			79
201																																		1		1
244																		1																		1
254								2										1																		3
264																																	9	2	5	16
266																									2											2
268																																	1	1		2
275																																	1			1
277																												1					7			8
280																								2	25				4		1		30	5		67
281																									1											1
282																											1									1
285																											1									1
286																									9											9
294																									1											1
Total	9	3	7	159	1	13	351	45	1	24	5	29	7	2	2	1	29	21	2	4	9	7	2	27	135	5	43	7	14	1	4	3	87	28	7	1094

Table 1 Area 1. Distribution of Bristol Pottery Types by context.

dominate the Bristol markets. None of the present examples need be later than c.1600.

The group also included two sherds from a manganese-glazed cup (BPT266), a type possibly made at Falfield, South Gloucestershire (Fowler & Bennett 1974).

Imports were few in number and comprised mostly residual medieval French wares. However, two Spanish vessels, both of 16th-century date, were found: in context 90 was a fragment from a large green glazed bowl (BPT281) and in context 117 part of a Merida-type vessel of uncertain form (BPT282).

Large green glazed bowls, probably from Seville, were found in some quantity in the infilled docks at Narrow Quay (Good 1987) where they were thought to have been imported as containers, perhaps for dried fruits. Merida-type ware, although not common, is the most often seen Iberian pottery on Bristol sites and probably represents the only ware that was truly traded into Bristol from the peninsula. It is most likely that the majority of Spanish and Portuguese ceramics found on Bristol excavations have arrived in the city as one-off items or souvenirs (Ponsford & Burchill 1995).

Also from context 90 came the first import from the Rhineland - nine sherds of Frechen salt-glazed stoneware (BPT286), although it was not clear how many vessels these sherds represented.

Period 3A

This consisted of a small group of seven sherds comprising later Malvern ware and Somerset wares of late 16th- or early 17th-century date.

Period 3B

An assemblage of 123 sherds of typical late 17th- or early 18th-century wares including tin-glazed earthenware of Bristol origin (BPT99), local brown stoneware (BPT277) and later Somerset wares. The only imported material found were three sherds from two vessels from the Westerwald in the Rhineland.

Residual pottery amounted to some 10% of the assemblage; mostly medieval in date there was also a sherd of Tudor Green and of Tudor Brown (BPT275).

None of the pottery in this group is likely to date to after 1720.

Area 2

Period 1A

As with the pottery recovered from the Area 1 contexts of this period, the small assemblage of 98 sherds from Area 2 was dominated by the products of the Bristol/Redcliffe industry (BPT 85, BPT118 and 118L) - 57 sherds representing 58% of the assemblage. There were three sherds of BPT118L - two in context 199 and one in 228, although that in 228 might be intrusive.

Most of the pottery, 53 sherds (56%), was recovered from a layer overlying the natural alluvium (context 198) including a fragment of a Worcester jug (BPT168) and two sherds from a South-West French jug (BPT156).

As a group the pottery is probably dated towards the end of the second quarter of the 14th century.

A further 27% of the group consisted of residual 12th-century wares.

Period 2

Pottery attributed to this period consisted of a small group of fabrics from just two contexts: 180 and 181. Of the 30 sherds recovered, 11 (36%) were residual early 14th-century wares. Of the remainder 11 sherds were from Somerset vessels (BPT268 and 280), five were from the Malvern Chase area (BPT197) and two were Tudor Green from the Hampshire/Surrey border (BPT 182). A single sherd from a Merida-type vessel (BPT282) was recovered from context 181.

Period 3B

An assemblage of 216 sherds mostly of typical late 17th- or early 18th-century wares including tin-glazed earthenwares of Bristol origin (BPT99), North Devon Gravel Tempered ware (BPT112) and later Somerset wares. Imported material included six sherds of Westerwald origin (BPT95), two sherds from Merida-type vessels (BPT282) and single sherds from a Spanish oil jar (BPT81) and a Frechen stoneware drinking jug (BPT286), the last three types being residual in these contexts.

Residual pottery amounted to some 15% of the assemblage. Mostly medieval, there were also sherds of Tudor Green (BPT182) and Tudor Brown (BPT275) along with Malvern wares (BPT197) and a fragment from a Donyatt black-glazed cup (BPT269).

The 14th-Century 'Redcliffe Ware' Kiln Waste Pits

The fills (contexts 191, 208 and 210) of two large pits (cuts 207 and 209) were found to contain a considerable quantity of waste pottery, kiln furniture and probable kiln lining. Further small quantities of waste pottery were found in adjoining contexts. In addition the pits and the adjoining contexts contained 18 fragments of floor tiles many of them clearly a waste product (Table 3).

Associated with the waste pottery were fragments of waste roof tile some of which had been used as kiln furniture or possibly part of the kiln structure, clay slabs that had been used as separators possibly to keep vessels off the base of the kiln, and numerous lumps of fired clay. Also found was a quantity of a fired sandy clay material, which in many respects resembled bell-mould but was possibly a kiln lining.

Previous Finds

Redcliffe ware (BPT118) has long been recognised as forming a major part of medieval pottery assemblages in Bristol and from around the Irish Sea but, as yet, Bristol has produced no physical evidence for kiln structures themselves or for associated buildings. However, a rescue excavation on Redcliff Hill in 1970 (Ponsford unpublished

POTTERY DISTRIBUTION BY CONTEXT														
AREA 2														
	Period 1A						Period 1B		Period 2	Period 3B				
Context	198	199	202	218	227	228	180	181	176	82	153	155		Total
BPT														
18	5		1			1								7
26	1													1
27				1								1		2
32	3			2										5
46	4	2	2	2	2		1							13
81										1				1
84		1			3		5					2		11
85	2													2
95										3	3			6
96										6	1	7		14
99										28				28
100										3	1			4
108										1	1	1		3
112										32	4	1		37
118	32	6			4	10	3	2	2	3		9		71
118 Late		2				1				1				4
121	2								1					3
156	2	1								1				4
168	1													1
182							1	1		1				3
197							5			2		7		14
211										1				1
254									1					1
264										13				13
268							1			15	3			19
269												1		1
275												1		1
277												3		3
280							10			37	1	8		56
282								1		1		1		3
285										4		3		7
286										1	1			2
Miscel	1													1
														0
Total	53	12	3	5	9	12	26	4	4	154	15	45		342

Table 2 Area 2. Distribution of Bristol Pottery Types by context.

typescript) recorded what was clearly a waster pit containing pottery waste, kiln furniture and lumps of fired clay. The excavator, Mike Ponsford, subsequently coined the name 'Redcliffe ware' for the pottery and suggested the kilns lay nearby on Redcliff Hill.

Another group of waste pottery sherds was also found in 1970 redeposited in a probable 14th-century construction trench at St. Peter's Church, Bristol (Dawson et al 1972). There the waste material was found associated with wheel thrown Minety (North-West Wiltshire) type jars.

Unlike the finds from St. Peter's Church, where waste pottery had been used to backfill a trench, the St. Thomas Street material clearly came from waster pits similar to those found on Redcliff Hill in 1970. Whilst Ponsford's suggestion of a kiln site on Redcliff Hill remains valid the presence of an almost indentical waste pit in St. Thomas Street some 400m to the north must raise the possibility that the production site was located elsewhere.

The St. Thomas Street Waste

Of the 376 pottery sherds found within pits 207 and 209, 345 were in the so-called Redcliffe fabric (BPT118). The remaining 31 sherds were residual 12th-century wares along with a single sherd from a South-West French jug

(BPT160). Of the 345 BPT118 sherds, only 195 were certainly waste although many of the other 150 sherds also probably fit into that category. Pottery waste was also found in contexts 166 and 214.

As at Redcliff Hill and St. Peter's Church, many of the sherds (141) were coated with an under-fired red clay. Ponsford (unpublished typescript) suggests that this was the result of the sherds being mixed with clay and used to form a temporary capping for the kiln. Examples of roof tile also exhibit the same red clay deposits.

The Pottery Fabric

The waste pottery from St. Thomas Street is a very hard fired buff fabric containing abundant quartz, sparse to moderate unhomogenised clay pellets, rare red iron ores and sparse black shale grits. The sherds were usually fired uniformly right through except where they were thicker. Other, less highly fired sherds appeared as the normal BPT118 fabric. Sherds exhibited typical over-fired powdery or bubbly glazes and frequently had glazed fractures or were misshapen.

Seven pottery sherds, two from the Redcliff Hill waster pit, four from the present site and a single sherd of the standard ëRedcliffeí fabric (BPT118) to act as a ëcontroli were submitted to the Department of Archaeology, University of Southampton for thin section analysis. The aim of this analysis was to ascertain whether the St. Thomas Street pottery waste is the same fabric as the waste sherds found by Ponsford on Redcliff Hill in 1970 and the fabric now designated as BPT118 in the Bristol Pottery Type Series. The analysis was undertaken by Kathryn Knowles and is reported below.

Petrological analysis showed all the waste fabrics to have the same (although not identical) fabric as the standard 'control' fabric. The analysis recorded slight textural and compositional differences between the sherds but overall the sherds had the same very distinctive clay fabric with a isotropic cryptocrystalline clay matrix, characteristic light coloured clay and aplastic inclusions of quartz, quartzite, sandstone, subrounded light coloured clay pellets, iron ores and decomposed limestone.

Pottery Forms

The pottery appeared to be mostly jugs although a single waste jar type (BPT85) occurred in context 166.

Rims were mostly the standard collar type with bridge spout, although examples of simple rims with pulled spouts were noted, as were examples with anthropomorphic heads.

Bases were typically rounded splay although frilled and simple bases were present. Handles included both grooved and slashed forms.

Decoration, where present, was mostly applied self-coloured or contrast strip.

Roof Tile

Sixty-six sherds of roof tile were found associated with the waste pottery. 88% were Bristol Roof Tile Fabric (BRF) 1 with the remainder BRF 2. Of these, 29 had deposits of red clay on their surfaces and had probably been used to cap the kiln, three had been used as pot separators and the remainder were waste sherds.

Kiln Furniture

The kiln firniture found with the waste pottery consisted of five clay slabs or 'tiles'. All were misshapen and one appeared to have been repeatedly fired. The tiles were around 25mm thick; three were in a fabric similar to the pottery waste and the other two were in a red brown fabric with abundant quartz and iron ores. All were covered in runs of thick green glaze with numerous stacking scars - in the case of two of the tiles, stacking scars occurred on both horizontal faces.

Fired Clay

Fired clay was found in a number of contexts. This material was of two distinct types.

A brown fired clay with no added inclusions and a rather open clay tempered with abundant quartz sand, common iron ores, rare limestone and possibly some burnt-out vegetable matter. The fabric was brown in colour, often burnt black on one surface and appeared to have been subjected to very high heat. The lack of heat damage on some examples suggested they had been fired to a lower temperature. Although the material resembles bell-mould, it is only c.25mm thick and lacks a smooth inner surface. Its association with the waste pottery suggests it represented some kind of kiln lining.

Discussion

Apart from the kiln waste from Area 1, the analysis of the ceramic assemblage has shown no real surprises. The pottery types present are much as would be expected from any site in the city.

As elsewhere in St. Thomas Street (Burchill 1989) the residual 12th- and 13th-century pottery is probably more indicative of occupation in the neighbouring area than on the site itself. The paucity of Malvernian and Tudor Green wares, which are normally so common throughout the city, suggests a decline in activity on the site in the 15th century.

As has been seen elsewhere (e.g. Burchill 1987; Good 1987) the products of the Somerset pottery industry dominate the Bristol scene in the second half of the 16th century (Period 2).

From the middle 17th century onwards the pottery consists of typical 17th- and early 18th-century wares mostly the products of a resurgent Bristol industry.

None of the imports is particularly unusual. The early French wares are typical imports into Bristol, whilst stonewares from the Rhineland are what would be expected for the post-medieval/late medieval periods. The few Spanish wares present should not be considered unusual although Spanish ceramics are not common in Bristol and only ever occur in small numbers (Ponsford & Burchill 1995).

DISTRIBUTION of POTTERY KILN WASTE ETC by CONTEXT						
Material Type		Pottery	Roof Tile	Furniture	Lining	Fired Clay
Context						
87				1		
127			2			y
161		60	1	1		y
166			16		y	
179					y	
180					y	
191		212	45	3		y
199					y	
210					y	y
214		9	2			
217					y	
y = present						

Table 3 Distribution of pottery kiln waste and kiln furniture by context.

Of considerable importance is the presence of pits containing a substantial quantity of kiln waste. A pit containing similar material was found on Redcliff Hill in 1970, which led Ponsford to identify that site as the production site for his pottery type 118. However, thin-section analysis has shown the waste pottery recovered from St. Thomas Street to be petrologically identical to the waste found at Redcliff Hill. Moreover, the type and form of waste found in the St. Thomas Street pits appear to be identical to that found by Ponsford in 1970.

The presence of pottery waste in St. Thomas parish identical to that found on Redcliff Hill must question Ponsford's suggestion that the kilns producing this fabric lie on Redcliff Hill. Neither site has produced physical evidence for the kiln structures themselves or for associated buildings, and the fact remains that based on the available evidence the kilns producing the so-called 'Redcliffe ware' might as easily have lain in St. Thomas as on Redcliff Hill or indeed another location. Whilst it is unlikely that the kiln waste would have travelled far, there is at present insufficient evidence to identify either Redcliff Hill or St. Thomas as the production site of BPT118.

Bristol Pottery Types Present

Tables 1 and 2 show the distribution of Bristol Pottery Types by context for Areas 1 and 2.

BPT18 Hand made limestone gritted wares made on the east Cotswolds. Same as Gloucester TF44. 1080-1300.
BPT26 Ham Green A jugs. 1120-1160s.
BPT27 Ham Green B jugs but including the Intermediates. 1170-1300 (can be dated by style and quality).
BPT32 Ham Green jars. 12th/13th century.
BPT40 Saintonge metallic green glazed jugs. 1280-1320.
BPT46 Micaceous, calcareous, flint and quartz tempered fabric. Same as Bath A. Mostly 12th/13th century in Bristol.
BPT81 Spanish oil jars. 1500-1700 according to type.
BPT84 As BPT18 but wheel thrown jars and jugs. 1300-1500.
BPT85 Bristol/Redcliffe small jars. Late 13th/14th century.
BPT93 Unsourced black-ware cups in the Cistercian tradition. 1500-1700.
BPT95 Westerwald stoneware. 1600-1800.
BPT96 Wanstrow (East Somerset) post-medieval redware. 1500-1800 by form.
BPT99 Tin-glazed earthenware, mostly Bristol. 1650-1780 by form and decoration.
BPT100 Bristol or Staffordshire yellow slipware. 1650-1780.
BPT108 North Devon slip and sgraffito wares. 1625-1750.
BPT112 North Devon gravel tempered wares. 1600-1800.
BPT114 Similar to BPT32 but coarser with sparse larger quartz grains and calcareous inclusions. Possibly a Pill, North Somerset product. 12th century.
BPT118 Standard Bristol/Redcliffe fabric. 1250-1350. Jugs post-1350 are described as late (L).
BPT120 Bristol jugs in a smooth buff fabric with yellowish glazes. 1300-1350.
BPT121 Jugs and pitchers in a sandy quartz gritted fabric with a patchy green glaze. Possibly made near Thornbury, South Gloucestershire (M.Ponsford personal observation). 1300-1350.
BPT123 As BPT118 but softer pink fabric. 1300-1400.
BPT134 Glazed version of BPT46. 1250-1350.
BPT156 Saintonge overall green glazed jugs. c.1250-1350
BPT157 As BPT156 but quartz gritted. Probably a little earlier than BPT156.
BPT160 As BPT156 but unglazed or partially glazed. Mostly c.1350-1500.
BPT168 Worcester jugs. 1250-1350.
BPT182 Tudor Green ware. c.1420-1500.
BPT197 Malvern Chase red wares. 1400-1700 depending on form.
BPT201 Flower pot or other garden red wares. 18th century or later.
BPT211 Bristol/Staffordshire 'Tiger ware'. 18th century.
BPT244 Tripod pitcher in buff brown fabric with clear lead glaze and applied strip and comb decoration.
BPT254 Orange pink rose quartz gritted fabric. 1300-1500.
BPT264 Late post-medieval redware. 18th/19th century.
BPT266 Falfield 16th-century Cistercian-type wares.
BPT268 Donyatt post-medieval red ware. 1550-1800.
BPT269 Donyatt black-glazed cups. 16th century.
BPT275 Tudor brown Cistercian-type cups. 16th century.
BPT277 English brown stoneware. Late 17th and 18th century.
BPT280 Nether Stowey post-medieval red ware. 1550-1750.
BPT281 Spanish green glazed bowls. 13th-17th century.
BPT282 Merida-type ware. 13th to 17th century, most commonly 1550-1650.
BPT285 Unsourced Somerset post-medieval red ware.
BPT286 Frechen pre-Bellarmine stoneware. 1550-1600.
BPT294 Pink-red jug fabric. 16th century.

Catalogue of Pottery Waste and Kiln Furniture
Table 3 shows the distribution of pottery kiln waste and kiln furniture by context.

Pottery
Note: w = waste; pw = probable waste

1. Fig.33.1 Collar rim with clay pad and vertical strip decoration. Very hard fired. Red clay on surfaces. (w)

2. Fig.33.2 Squared simple rim. Kiln debris on external surface. (w)

3. Fig.33.3 Misshapen anthropomorphic face-spout with features picked out in contrasting clay. Glaze is generally good but is missing from part of spout. (pw)

4. Fig.33.4 Stalk decoration with fused red clay on surfaces. (w)

5. Fig.33.5 Collar rim with handle root. Burnt glaze with patches of red clay. (w)

6. Fig.33.6 Frilled splay base, bubbled glaze with red clay on surface. (w)

7. Fig.33.7 Simple rim with pulled spout and thumbed strip below rim. Glaze runs over broken surfaces. Kiln debris fused to glaze. Vessel clearly broken in kiln. (w)

8. Fig.33.8 Simple, slightly obtuse, base with treacly glaze. A large amount of kiln debris adhering to surface. (w)

9. Fig.33.9 Splay base with red clay and kiln debris adhering to surface. (w)

10. Fig.33.10 Base of candlestick? Patchy green glaze on grey fabric, not well made. (pw)

11. Fig.33.11 Simple base with glaze over broken edges. (w)

12. Fig.33.12 Patchy green flecked yellowish glaze. Underfired. (pw)

13. Fig.33.13 Simple base with kiln debris fused to surface. (w)

14. Fig.33.14 Splayed foot with slash decoration. Glaze splashes on broken surfaces. Some kiln debris. (w)

15. Fig.33.18 Wide grooved strap handle with diagonal slash decoration. Poorly finished with thick treacly glaze. Kiln debris adhering to surface. (w)

16. Misshapen splay base. Some kiln damage to underside of base. (w)

17. Three sherds with contrast slip. Burnt bubbly glaze. (w)

18. Part of bridge-spout - pale bubbly glaze. Sherd covered with red clay. (w)

19. Simple collar rim with thumbed strip below. Glaze runs over broken edges. (w)

20. Base with slight splay. There is a scar on underside of base and red clay on surface. (w)

21. Simple base with thin poor glaze covered with patches of red clay. (w)

22. Rounded splay base. Heavily encrusted with kiln debris. (w)

23. Jar rim with patchy green glaze which has run over broken edge. Some red clay on surface. (w)

24. Collar rim with bridge-spout springing. Decorated with clay pads and vertical strips. Thick glaze covered with kiln debris. (w)

25. Simple base with bubbly glaze which has run over broken edges. Kiln debris on surfaces. (w)

26. Simple base with rough glaze. Coated with red clay. (w)

27. Simple base with chamfered edge. Red clay adhering to external surface. (w)

28. Simple, poorly made base. Rough glaze coated with red clay. (w)

29. Simple base with poor internal glaze. (pw)

30. Simple base with kiln debris fused to glaze. (w)

31. Base with thumb-nail decoration. Kiln debris fused to glaze. (w)

32. Misshapen rim sherd with handle root and burnt glaze. (w)

33. Simple rim with springing for bridge-spout. Thick glaze, some red clay adhering to surfaces. (w)

34. Collar rim with bridge-spout springing, decorated with contrast pellets and yellow-fired glaze. Kiln debris adhering to glaze. (w)

35. Wide strap handle with badly degraded surfaces. (w)

36. Narrow grooved strap handle. Treacly glaze with much kiln debris and red clay on surface. (w)

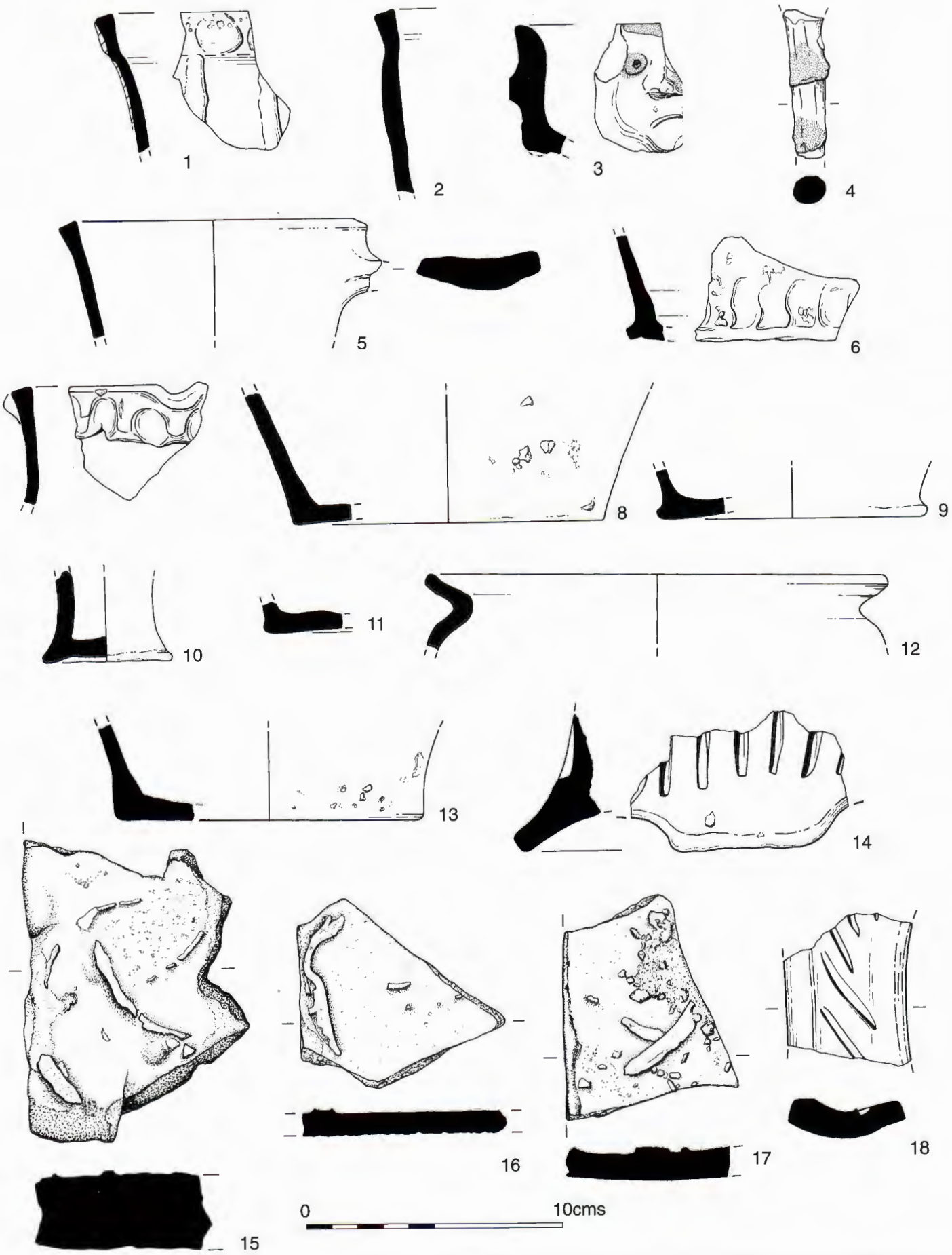

Fig.33 Medieval (Period 1A) pottery wasters and kiln furniture, half life-size.

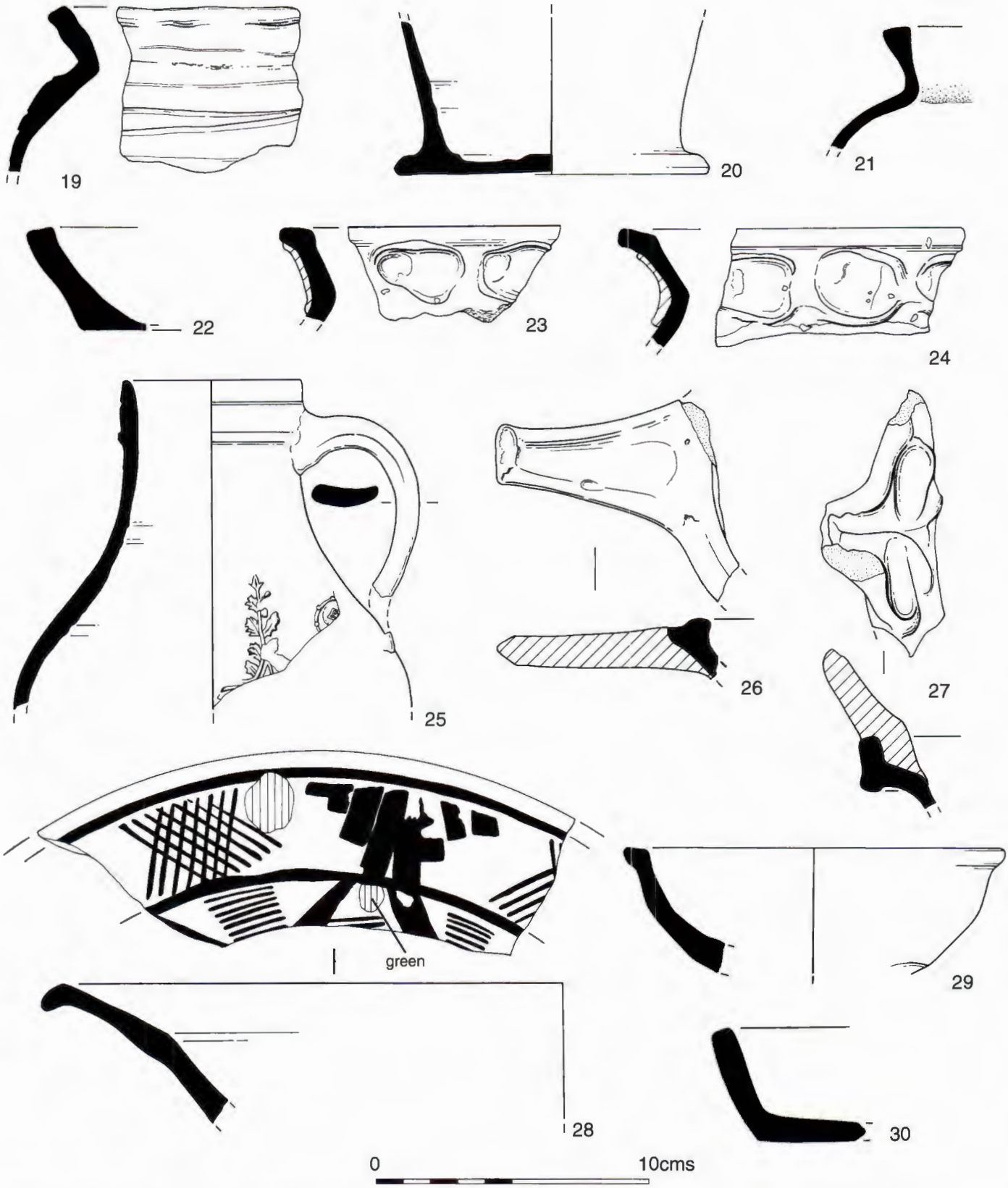

Fig.34 Medieval (Period 1A) pottery wasters and post-medieval pottery, half life-size.

37. Plain strap handle with burnt and bubbly glaze with traces of red clay. (w)

38. Narrow strap handle with good glaze which has run over a broken edge. Scars on upper surface. (w)

39. Anthropomorphic face-spout, badly damaged in kiln. (w)

40. Fragment of grooved strap handle with dull glaze. (pw)

41. Slight splay base. Burnt glaze. (w)

42. Strap handle root with slash fixing. Burnt glaze with red clay adhering to surface. (w)

43. Simple base. Burnt glaze with red clay on surface. (w)

Kiln Furniture
The following three examples are a representative sample of the stone slabs and rooftile used as kiln furniture.

44. Fig.33.15 Sandstone slab approximately 25mm deep used as a kiln separator. Dribbles of thick green glaze and numerous stacking scars. Context 87.

45. Fig.33.16 Fragment of roof tile. Large stacking scar and fragments of kiln debris. Bristol Roof Tile Fabric 17 (same as BPT118). Context 191.

46. Fig.33.17 Fragment of roof tile used as kiln separator. Probably Bristol Roof Tile Fabric 1. Severe heat damage to fabric. Heavy encrustation of kiln debris and stacking scars. Context 191.

Other Illustrated Pottery
47. Fig.34.19 Ham Green jar. Everted rim with slight external bead and grooved decoration to the shoulder. BPT32. (Context 179, Period 1A).

48. Fig.34.20 South-west French jug with splayed base. The surface exhibits extensive spalling of the glaze. EPT156. (Context 192, Period 1A).

49. Fig.34.21 Jar in quartz free South-west French fabric BPT156. The vessel has a slightly everted clubbed rim with shallow internal concavity. This form is uncommon amongst Bristol imports. (Context 212, Period 1A).

50. Fig.34.22 Fragment of a shallow dish in the ubiquitous Bristol/Redcliff fabric with internal green glaze. The vessel, possibly a meat dish, is sooted externally. BPT118. (Context 161, Period 1B).

51. Fig.34.23 Large storage jar with everted rim decorated externally with thumbed neck band. Glazed internally with a green flecked amber glaze. Malvern Chase, BPT197. (Context 196, Period 1B).

52. Fig.34.24 Large jar with everted rim and thumbed decoration to neck. Green flecked amber glaze. Malvern Chase, BPT197. (Context 204, fill of re-cut ditch 203, Period 1B).

53. Fig.34.25 Stoneware drinking jug (Krug). Pale grey fabric with mottled brown salt-glaze. Decorated with oak leaves. Probably Frechen but decoration is typical of Cologne. BPT286. Mid to late 16th century. (Context 90, Period 2).

54. Fig.34.26 Skillet handle. Malvern Chase, BPT197. (Context 130, Period 2).

55. Fig.34.27 Plate support from a chafing dish with greenish amber glaze. Nether Stowey, BPT280. (Context 20, Period 3B).

56. Fig.34.28 Dish with white slip and sgraffito decoration under a lead glaze. Patches of applied copper staining. Donyatt, BPT268. (Context 153, garden soil, Period 3B).

57. Fig.34.29 Small internally glazed rounded bowl ñ diameter 140mm. Possibly part of a pedestal-based vessel. Bristol/Redcliffe, BPT118. 14th century. (Context 190, Period 4).

58. Fig.34.30 Meat dish with all-over green glaze. Bristol/Redcliffe, BPT118. 14th century. (Context 190, Period 4).

Ceramic Roof Tiles

by Rod Burchill

The ceramic roof tile recovered from excavated contexts was quantified by sherd count. The material was visually examined and identified by comparison to the Bristol Roof Tile Fabric Series (BRF) originally compiled by Williams and Ponsford (1988) and subsequently expanded by the present writer (Burchill forthcoming).

The assemblage of 126 sherds consisted mostly of common, locally made 14th-century types (BRF1, 2, 4, 9 and 17), probably products of the Bristol kilns. Small numbers of BRF7, 10, 11, 12 and 18 were also recovered. BRF7 tiles were made in the Malvern Chase area (Vince 1977) and BRF11 in the Barnstaple area of North Devon. BRF10 and 12 are currently unsourced.

A number of roof tile fragments were found associated with the Period 1A kiln waste. There was evidence to suggest they had been used both as separators and, mixed with clay and pottery sherds, to form an easily removable cap to the kiln.

None of the tiles was complete and none warranted illustration.

Roof Tile Types Present
Table 4 shows the distribution of Roof Tile Types by context.

BRF1 Fabric variable in colour, containing lumps of unhomogenised clay up to 4-6mm. Glazed with knife cut crests with simple stabs to sides. Bristol, 14th century.

BRF2 Grey/black fabric with large inclusions of coal-measure shale. Crests lower than BRF1 and stabbed with a pointed tool. Green glaze. Bristol, 14th century.

BRF4 Dark fabric with abundant white quartz fragments. Crests similar to BRF2. Occasionally decorated

DISTRIBUTION of ROOF TILE by CONTEXT																																									
	Period 1																				Period 2								Period 3												
Context	91	127	145	160	161	162	166	179	180	190	191	192	196	198	199	210	214	217	221	228	87	90	105	117	119	130	22	54	59	82	Total											
BRFT																																									
1	2	1			5	1	6	1	1	2	19	1	1	1			5	1	3	1		3	3	5		1		1		1	65										
2				1	2		2				3									2		3			2	1					16										
4			1								5				2									1							9										
7														1								1			1		1		1	1	6										
9							3		1			1				6							1								12										
10																														3	3										
11																														1	1										
12																						1									1										
13																													1		1										
17	1												1	1	1				1		1	1		1							8										
18							2															1									3										
Total	3	1	1	1	7	1	13	1	2	2	27	2	2	3	3	6	5	1	4	3	0	1	10	4	7	3	2	0	1	1	2	6	125									

Table 4 Distribution of roof tile types by context.

with thumbed strips. Green glaze. Bristol, late 13th/14th century.

BRF7 Malvern tiles as described by Vince (1977).

BRF9 Macroscopically similar to BRF2. Thin section analysis (D. Williams forthcoming) has shown that BRF9 is noticeably different, as it contains no limestone. Tall knife cut crests with thumbed applied strips. Bristol, 13th/14th century.

BRF10 Fairly hard orange/brown fabric, poorly mixed containing unhomogenised clay lumps, iron ores and rock fragments. Glazes patchy and purplish brown.

BRF11 Tiles in North Devon gravel tempered fabric.

BRF12 Orange brown fabric containing abundant quartz sand and rare coal measure shale.

BRF13 Pan-tile.

BRF17 Roof tile in the Bristol/Redcliffe pottery fabric

BPT118 Knife cut crests and pale green glaze.

BRF18 Coarse red fabric tempered with quartz, quartzite and rare quartzitic sandstone. Occasional sparse glaze.

The Medieval Floor Tiles

by Bruce Williams

A total of 29 partially complete and fragmentary floor tiles were found in the fills of pits and other deposits associated with the Period 1A occupation of the site, dating from the 14th century, and from Period 2, dating from the 16th century (Table 5 and Fig.35).

The tiles were sorted macroscopically into fourdifferent fabrics by R. Burchill (Groups 1-4). Four fragments were subsequently sent for petrological examination to the University of Southampton, all of which proved to have different fabrics (see petrological report, nos.8-11), though as Knowles states in her report below nos. 8 and 9 may have been manufactured from a similar clay and be in the same group.

Of particular significance with the Group 2 tiles are three or possibly four pieces that are kiln waste.

Group 1, Fig.35.1-3

Grey fabric with red-brown surfaces. Abundant sub-angular and sub-rounded quartz, moderate white grits and sparse to moderate red iron ore up to 4mm across.

Fifteen tiles (including some very small fragments), one with a measurable side of 107mm. Thicknesses vary between 10 and 14mm; all have inward bevelled sides and small, scooped keys in their backs. The tiles are patterned and the glaze on all but one has a characteristic green hue.

Group 2, Fig.35.4-6

Orange, poorly mixed fabric, with common fine to medium quartz, rare red iron ores and rare calcareous pellets.

Twelve tiles, one with a measurable side of 95mm. All have inward bevelled sides and, where complete enough, small scooped keys in their backs. Glaze is mostly greenish in colour, similar to Group 1. All the tiles except one are decorated.

Three or possibly four of the tiles are kiln waste; three are thin fragments, two of which are glazed on both sides, while the third has a concretion of glaze on its upper decorated surface.

Group 3

Orange fabric, sparse quartz grits, rare iron ore and sandstone and rare chert/flint fragments.

One small, plain fragment 25mm thick, with sharply bevelled sides. Glaze worn from upper surface.

Group 4

Pale brown to orange fabric with moderate quartz, sparse iron ores and rare dark grits.

A single, very small fragment having a thickness of 26mm.

Discussion

The designs of the tiles are unremarkable having familiar floral, geometric and heraldic motifs, some of those in Group 1 being paralleled at the Dominican Church and the Lord Mayor's Chapel in Bristol, although different tile stamps were used.

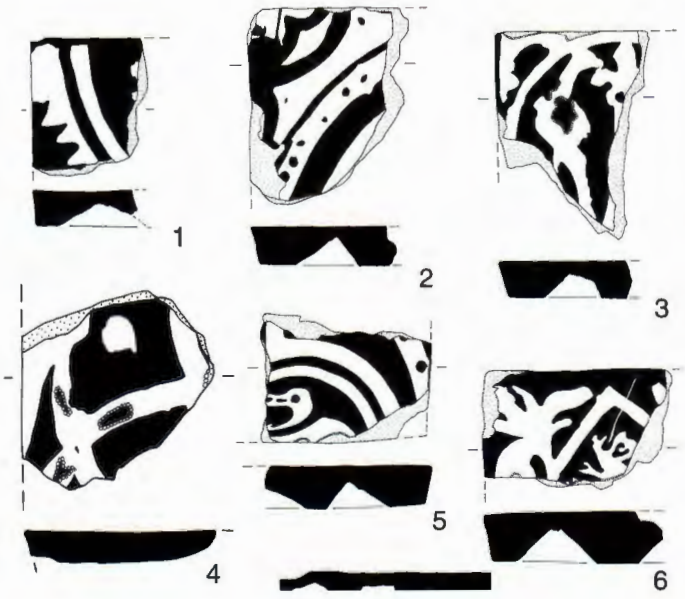

Fig.35 Medieval floor tiles, by group.

Tile Group	Context	No. of Tiles
1	171	2
1	160	1
1	176	1
1	191	8
1	199	1
1	214	1
1	221	1
2	87	1
2	117	1
2	166	1
2	191	9
3	90	1
4	193	1
	Total	**29**

Table 5 Analysis of the medieval floor tiles.

However, significant amongst the tiles from the excavation are the waste tiles in Group 2. These are the only waste tile products to have been found in Bristol, and their occurrence on the site amongst sherds of waste pottery, kiln furniture and possible fragments of kiln lining in a known Bristol fabric is particularly interesting. A discussion of the so-called Redcliffe ware/St. Thomas ware can be found in the pottery section of this report and will not be repeated here. It is important to note that the petrology of the tiles in Group 2 bears no resemblance to the petrology of the so-called Redcliffe ware/St. Thomas ware pottery, the same clay source not having been exploited for both. It is difficult to know what conclusions can be drawn from this analysis, but that the tiles were made locally is difficult to dispute.

As for the occurrence in Bristol of floor tiles with the same fabric as those in Group 2, only a single tile in the collections of Bristol City Museum and found at Thomas Lane in 1957 bears any resemblance at all (BRSMG Acc No 122/1957).

Petrological Report on the Pottery and Floor Tile
by Katherine Knowles

Introduction (Figs.36 and 37)
Eleven samples were submitted for petrological examination from excavations at both Redcliff Hill and St. Thomas Street. Seven are pottery sherds and the other four are floor tiles.

The sections were examined using a polarising petrological microscope at magnifications x20, x40 and x100. The inclusions (minerals, rocks, temper, organic material and argillaceous inclusions) within the clay matrix were identified and estimates of the relative frequency, size, shape, and degree of sorting were recorded (using the visual identification charts outlined in the Prehistoric Ceramics Research Group, 1992). Detailed identification of the cryptocrystalline clay matrix was not possible since this would have involved the use of a scanning electron microscope.

(Note: Detailed petrological descriptions of the fabrics have been provided and are available for examination in the site archive).

Macroscopic Examination
Eleven samples were submitted for examination, of these, seven are pottery sherds. The first pottery sherd (no. 1) is a 'control' sherd of a standard Bristol/Redcliffe fabric, two sherds (nos. 2 & 3) are from a small dump of pottery waste recovered during a rescue excavation at Redcliff Hill, Bristol in 1970 and the other four (nos. 4-7) have been taken from a waste pit containing pottery and tile in the excavation at 30-38 St. Thomas Street (about 500m from the Redcliff Hill site). It was hoped that petrological examination would ascertain whether the waste pottery from 30-38 St. Thomas Street is the same as that found in 1970 and to further establish if both are the same as the standard 'control' fabric. In addition, four floor tiles (nos. 8-11) were submitted for examination and these will be compared to the standard pottery fabric (no. 1). Comparison was also made within the floor tile group to see if they related to each other.

No. 1 'Control' sherd of standard Bristol/Redcliffe fabric (BRSMG Accession No. 1998.75).
No. 2 Sherd of 1970 Redcliff Hill pottery waste.
No. 3 Sherd of 1970 Redcliff Hill pottery waste.
No. 4 Sherd of Bristol/Redcliffe pottery waste (30-38 St. Thomas Street).
No. 5 Sherd of Bristol/Redcliffe pottery waste (30-38 St. Thomas Street).
No. 6 Sherd of Bristol/Redcliffe pottery waste (30-38 St. Thomas Street).
No. 7 Sherd of Bristol/Redcliffe pottery waste (30-38 St. Thomas Street).
No. 8 Sherd of floor tile (30-38 St. Thomas Street).
No. 9 Sherd of floor tile (30-38 St. Thomas Street).
No. 10 Sherd of floor tile (30-38 St. Thomas Street).
No. 11 Sherd of floor tile (30-38 St. Thomas Street).

Petrological Examination - The Pottery Vessels

Petrological examination of all seven pottery sherds revealed a distinctive light coloured isotropic cryptocrystalline clay matrix comprising quartz grains and occasional muscovite mica, less than 0.1mm in size. In addition, all fabrics contained larger aplastic inclusions of quartz, quartzite, sandstone, iron ore and light coloured clay pellets. Limestone inclusions were also present in varying quantities (often partially decomposed or remaining as voids).

Although sherd nos. 2-7 are not identical to the standard 'control' fabric no. 1, they all have a similar distinctive light coloured isotropic clay matrix and aplastic inclusions suggesting that the clay has been taken from a similar clay source or geological formation. Any differences between the fabrics are textural ones, often reflected in the varying abundance of inclusions such as quartz and also in the size of others, such as the larger sandstone inclusions in no. 2. Although all the fabrics could be grouped together as one, this report has subdivided these fabrics in order to reflect the minor differences in size, texture and abundance.

No. 1 - Control sherd of standard Bristol/Redcliffe fabric.

Petrological examination revealed a light coloured isotropic cryptocrystalline clay matrix comprising moderate quartz grains and occasional mica less than 0.1mm in size. Larger aplastic inclusions, all relatively well sorted and ranging between 0.1-0.6mm include common, subangular to subrounded monocrystalline quartz, moderate polycrystalline quartz and quartzite (the larger of which appear to be metaquartzite) and moderate subrounded iron ore. Occasional, subrounded sandstone with a fine grained siliceous matrix were also present, in addition to moderate to common, subrounded to rounded distinctive light coloured clay pellets. Occasional limestone inclusions 0.2mm in size may also be present although now mostly decomposed leaving voids.

No. 2

Petrological analysis again revealed a distinctive light coloured isotropic cryptocrystalline clay matrix comprising abundant quartz grains and occasional mica, 0.1mm and smaller in size. However, it is the abundance of quartz grains in the clay matrix and the reduction of larger aplastic monocrystalline quartz, to moderate, subangular to subrounded grains, which has led to this fabric being subdivided from the others. A further distinguishing feature is its common, large sandstone inclusions which are subangular to subrounded grains, all sizes from 0.2mm up to 2.8mm in size. As with the other pottery fabrics this fabric comprises common, subrounded light coloured clay pellets, moderate grains of iron ore and occasional subrounded limestone inclusions (mostly remaining as voids).

Nos. 4-6

Petrological examination yet again revealed a distinctive light coloured, isotropic, cryptocrystalline clay matrix,

Fig.36
Thin section of pottery sherd No 4.

Fig.37
Thin section of floor tile No 11.

which comprised occasional angular quartz (less common than in no. 1) and sparse to occasional mica, smaller than 0.1mm in size. The larger aplastic inclusions are well sorted and in the region of 0.1-0.5mm in size and include common to abundant, subangular to subrounded monocrystalline quartz (more abundant than in standard control sherd no. 1), occasional polycrystalline quartz and quartzite and occasional to moderate iron ore. Two types of sandstone are present, the first, with occasional to moderate subrounded to subangular inclusions comprises abundant quartz grains and occasional dark iron ore smaller than 0.1mm in size in the matrix. The second sandstone with occasional subrounded inclusions (often extending up to 1.2mm in size) comprises quartz grains 0.1mm and smaller set in a dark brown matrix. Moderate to common, subrounded light coloured clay pellets are again present, occasionally extending up to 2.0mm across. This clay differs from No 1 having occasional to moderate subrounded to rounded limestone inclusions (often partially decomposed) which can be found in the same size range as the quartz inclusions.

Nos. 7 and 3

Nos. 7 and 3 are also very similar to the above fabric except they contain decreasing amounts of quartz. No. 7 comprises moderate to common quartz grains whereas no. 3 contains moderate amounts.

Petrological Examination - Floor Tiles

Petrological examination of the four floor tiles has revealed that none of these fabrics was manufactured from the same Carboniferous Coal Measures clay which was likely to have been used for the pottery fabrics. The clay used for the floor tiles has a characteristic red appearance rather than the light buff colour of the pottery fabrics and is most frequently anisotropic to isotropic in nature. Of the four tiles thin sectioned, no. 8 is perhaps the most similar texturally to the

pottery fabrics, but also includes chert/flint and feldspar inclusions. This report has placed floor tile nos. 8 and 9 into a separate subgroup based on the well-sorted nature of the fabric, the similarity of the inclusions and their close textural characteristics. Floor tile nos. 10 and 11 have been placed into another due to their poorly sorted fabric and the absence of limestone or calcareous sandstone.

Nos. 8 and 9

No. 8

This fabric has an anisotropic to isotropic cryptocrystalline clay matrix with moderate to common quartz and occasional mica less than 0.1mm and smaller in size. The larger aplastic inclusions are relatively well sorted and include common, subrounded to subangular inclusions of quartz limestone of similar size and abundance to those in pottery fabric nos. 5 and 6. There are three types of sandstone present within the fabric, the most diagnostic of which is the calcareous sandstone. In addition to the above, the iron ore is slightly larger and more common. Inclusions which were not present in the pottery fabrics but occur in the tile fabrics include occasional subangular chert/flint fragments often iron stained, occasional to moderate feldspar and moderate subangular calcareous sandstone inclusions.

No. 9

This fabric like no. 8 above, has an anisotropic and isotropic cryptocrystalline clay matrix with moderate to common quartz and occasional mica less than 0.1mm and smaller in size. However, it is not the same fabric as no. 8, but does have similar textural and compositional characteristics. This fabric differs from no. 8, by having less common, subangular limestone inclusions and more frequent grains of feldspar. Chert/flint is absent and although sandstone is present it is not the diagnostic calcareous variety.

Nos. 11 and 10

The fabric of nos. 11 and 10 are significantly different to tile nos. 8 and 9 and bear little resemblance to the pottery fabrics apart from comprising several of the same types of inclusions. These tiles again have a red coloured fabric which is moderate to poorly sorted and typically anisotropic in nature. Moderate to common, subangular to subrounded, quartz and quartzite are again present but are also found alongside various types of feldspar, notably, subangular orthoclase, plagioclase and possibly microcline. Occasional to moderate sandstone is also present, occasionally extending up to 1.8mm in size and comprising distinctive angular grains of quartz and iron ore 0.1mm and smaller in the matrix. Occasional, subrounded argillaceous inclusions can also be detected, often containing the same inclusions as the clay fabric. These inclusions are likely to be grog or small clay pellets accidentally introduced into the fabric during its manufacture.

No. 10 differs from no. 11 in an addition of occasional to moderate chert/flint fragments which are often brown stained. Monocrystalline quartz is also of a larger size which is often rounded to subrounded and extending up to 1.0mm in length.

Geology

The two sites, Redcliff Hill and St. Thomas Street, mentioned in the report are located south of the River Avon near the Floating Harbour. The geology of that area includes Estuarine Alluvium on which St. Thomas Street rests and Redcliffe Sandstone and First Terrace (Gravel) in the area of Redcliff Hill.

The Estuarine Alluvium and River Terrace Gravels comprise detrital sands and gravels. The terrace deposits particularly comprise sand and gravel, the latter consisting of 'Bunter' quartzite pebbles, flints and rolled fragments of local rocks (Green 1992, 158). The Redcliffe Sandstone formation of the Keuper Triassic is perhaps more diagnostic, it comprises dark red calcareous and highly ferruginous sandstone particularly around Redcliffe. It contains no fossils and is strongly calcareous with a ferruginous character (Kellaway and Welsh 1993, 131).

Further afield, to the north and north-east of Bristol are the Carboniferous outcrops which include the Coal Measures, a `sequence which consists of rhythmic alternations of mudstones, silty mudstone, siltstone and sandstone interspersed with numerous coals of varying thickness' (Kellaway and Welsh 1993, 67). This sequence also includes the Pennant Measures of the Upper Westphalian which yields a hard, fine feldspathic sandstone or subgreywacke known as Pennant sandstone which varies in colour and texture (Watson 1911, 133).

Discussion and Conclusions

Pottery vessels

Petrological analysis of the seven pottery sherds submitted for examination reveals that all have the same (although not identical) fabric to the standard 'control' fabric (no. 1). There are slight textural and compositional differences between the vessels, but the overall clay fabric is very distinctive with its isotropic cryptocrystalline clay matrix (fired at a high temperature), characteristic light coloured clay and aplastic inclusions of quartz, quartzite, sandstone, subrounded light coloured clay pellets, iron ore and decomposed limestone.

Vince (1984, 49) in his analysis of Bristol/Redcliffe ware mentions that the quantity of inclusions can vary from vessel to vessel and this is clear from our petrological examination. He also suggests (through the examination of clay samples in the region) that Bristol/Redcliffe ware is a 'typical coal-measure light-firing fabric' (ibid, 51) from the Carboniferous deposits. The closest outcrops of Carboniferous Coal Measures are 3km to the north and north-east of Bristol and as such Vince suggests that the clay was not local to the Redcliffe potteries at Bristol but must have been transported to these kiln sites (ibid, 51). Until an extensive clay sampling strategy of the area around Redcliff Hill has taken place, we have to assume that the potters were not extracting clay local to the sites.

Floor tiles

The floor tile fabrics are not comparable to the standard pottery fabric no. 1 or indeed any of the pottery fabrics submitted for analysis. All four tile fabrics are characteristically red in colour, frequently anisotropic to isotropic and compositionally different to the lighter buff coloured, isotropic pottery fabrics. For this reason, the clay used for the floor tiles is not the same as the one expolited for the pottery vessels.

Examination of each tile fabric reveals compositional and textural differences between them all. However, there is a possibility that nos. 8 and 9 may have been manufactured from a similar clay due to the well sorted fabric and limestone inclusions. No. 8 is particularly distinctive since it contains calcareous sandstone inclusions which may have come from the Redcliffe Sandstone Formation which underlies Redcliff Hill, equally the rock may also be present in the river terrace gravels and alluvium deposits of the area.

Vince (1984, 45) in his description of Bristol Pottery Fabrics A and B gives a description of a fabric which is very similar to floor tile fabric no. 8 (the ëfine grained limestone with angular quartz and brown amorphous inclusions that Vince (1984, 45) refers to may well be the same one described as calcareous sandstone in the petrological description of floor tile no. 8). He also mentions that the Bristol A and B fabric may have been taken from a source close to Bristol and suggests that the sand tempering was partially derived from the Carboniferous rocks (again to the north and north-east of Bristol), but that 'the roundness of the inclusions and the variety of the rock types suggests a river or beach sand'. It is possible therefore, that the potters were either exploiting the clay directly from Carboniferous outcrops to the north and east of Bristol or that the larger aplastic inclusions (particularly the more rounded ones) may have been transported down the River Avon from the Carboniferous rocks upstream and deposited in the river terrace gravels or alluvium along the River Avon. Certainly the occurrence of feldspar in these fabrics may have resulted from the erosion of the Pennant formation of the Carboniferous period, and the relatively rounded nature of these feldspar inclusions might suggest transportation by water.

If the latter explanation is the case, then all four fabrics may well have had their clay taken from river terrace and gravel in the vicinity of Bristol and thus are likely to be very different to one another both compositionally and texturally. Unfortunately, however such an assumption cannot be proved without an extensive programme of clay sampling taking place in the vicinity of Redcliff Hill, St. Thomas Street and at regular intervals along the River Avon. For the present time, one can only speculate on the clay provenance of the floor tiles.

The Clay Tobacco Pipes

by Reg Jackson

The post-medieval contexts in the area excavations and evaluation trenches produced a large number of clay pipe stem fragments and pipe bowls. There were a total of 211 complete or fragmentary pipe bowls of which 50 (23.7%) were marked with the full name or initials of the pipemaker or a decorative motif. The stem fragments were not quantified.

Those pipes bearing the names or initials of pipemakers were, with only a few exceptions, all made by known Bristol manufacturers. The unmarked bowls were typical in form to those made in the city. As Bristol was a major pipe manufacturing centre there would have been no need for the inhabitants to have imported pipes from elsewhere.

All the identifiable pipe bowls were apparently 17th-century in date with none certainly dating to the later periods of occupation on the site, although some are residual in later contexts.

One small early 17th-century bowl had the initials 'AN', with a stylised fleur-de-lis decoration between the initials, incuse on its heel (Area 2, Context 158, Period 4A). These initials cannot be identified with any known Bristol pipemaker, although the bowl form appeared to be of a local type. Pipes with the initals 'AN' are known from other sites in the city (e.g. Jackson & Price 1974, 103, nos. 185 & 186). Although the Bristol documentary sources have been very thoroughly examined for references to pipemakers and the results published, it is possible that some early 17th-century pipemakers are unknown to us.

Two pipes were made outside Bristol.

One forward projecting bowl had the three line mark 'RICH/GREN/LAND' incuse on the heel (Area 2, Context 103, Period 4A). It was made by Richard Greenland who was working as a pipemaker in Norton St. Philip, Somerset, from 1664 until his death in 1710 (Marek Lewcun pers. comm.).

Another bowl with a 'tailed' heel had the two line mark `IOHN/LEGG' in relief in a rectangular stamp on the heel (Area 2, Context 82, Period 3B). It was made by John Legg who worked as a pipemaker in Broseley, Shropshire in the late 17th century (Atkinson 1975, 66).

Some pipes had decorative motifs instead of makersí initials or names.

Three early to mid 17th-century bowls had a hand or `gauntlet' mark incuse on the heel (Area 1, Context 20, Period 3B; Area 2, Context 75, Period 4B; Area 2, Context 155, Period 3A). While pipes bearing the ëgauntletí mark are particularly common in Wiltshire and were obviously made there, the Mould Size Agreement of the Bristol pipemakers, written in 1710, referred to a type of pipe they were making as 'Gauntletts' (Jackson & Price 1974, 85).

Two small early 17th-century bowls had a fleur-de-lis mark in relief stamped on their heels (Area 2, Context 82, Period 3B; Area 2, Context 158, Period 4A). Possibly made locally the identity of the pipemaker is unknown.

Pipemaker's Name	Working Dates	Mark Description and Number of Examples in Assemblage in Brackets
Richard Berryman	c.1619, to at least 1652	Initials 'RB' incuse on heel (4) Initials 'RB' incuse on heel separated by dagger and heart (8)
John Bladen I (?)	Free 1657, to at least 1689	Initials 'IB' with decoration above and below incuse on heel (1)
WC (one of a number of makers)	Mid 17th century	Initials 'WC' with decoration above and below within a dotted circle all incuse on heel (1)
Philip Edwards I or Philip Edwards II	Free 1650, dead by 1683 Free 1681, to at least 1696	Initials 'PE' incuse on back of bowl (1)
Llewellin Evans		Initials 'LE' incuse on back of bowl (5) Stem fragment with rouletted diamond decoration incorporating the initials 'LE' (1)
William Evans I or William Evans II	Free 1660 One or both to at least 1713	Initials 'WE' with dot between and decoration below incuse on back of bowl (1) Initials 'WE' with diamond(?) between incuse on back of bowl (1)
Flower Hunt	Free 1651, died 1672	Initials 'FH' in a circle all incuse on heel (1) Initials 'FH' with decoration above and below all incuse in circle on heel (2)
Edward Lewis I	Free 1631, dead by 1652	Initials 'EL' incuse on heel (2) Initials 'EL' with decoration above (below damaged) incuse on heel (1)
Thomas Monkes	Free 1626, to at least c.1670s	Initials 'TM' incuse on heel (1)
Richard Nunney	Free 1655, dead by 1713	Initials 'RN' with decoration above and below all incuse in circle on heel (1) Initials 'RN' with dot between and with decoration above and below all incuse in circle on heel (3) As above but the initial 'N' is reversed (1)
Humphrey Partridge	Free 1650, late of Bristol in 1654	Initials 'HP' (joined) incuse on heel (1)
John Sinderling (?)	Free 1668, dead by 1699	Stem fragment with rouletted diamond decoration incorporating the initials 'IS' (1)
Robert Tippet I	Free 1660, dead by 1687	Initials 'RT' incuse on back of bowl (1)
John Tucker	Free 1662, dead by 1690	Initials 'IT' with dot between within a dotted circle all incuse on heel (1)

Table 6 The occurrence of marked clay tobacco pipes and the identity of their makers.

Four small early 17th-century bowls had identical incuse marks on their heels consisting of a diamond with concave sides in which were four sprays of (?)leaves, one in each quarter of the diamond, their stems meeting in the centre (Area 1, Context 20, Period 3B). The bowls are of a typical Bristol form but the mark is previously unrecorded in the city and the identity of the maker is not known.

The products of the Bristol pipemakers represented in the clay pipe assemblage are shown in Table 6. The information on the working dates of the pipemakers is taken from Jackson & Price (1974) and Price & Jackson (1979).

Coins and Tokens

by Rosie Clarke

1. Edward I silver penny. Minted in London (1279-1307). (Area 1, SF35, Context 161, Period 1B).

2. Token or jetton. Detail illegible. (Area 1, SF58, Context 166, Period 1A).

3. Jetton. Nuremberg (1530-1540). (Area 1, SF23, Context 130, Period 2).

Copper-alloy Objects

by Rod Burchill

1. Fig.38.1 Tweezers with in-turned terminals to the blades and suspension ring. Length 80mm. (Area 1, SF33, Context 179, Period 1A).

A similar object is described by Egan & Pritchard (1991, no.1775) as a Type II earscoop/tweezers - although in the present example the presence of a suspension ring would appear to mitigate against the use of the looped end as an earscoop.

2. Fragment of copper-alloy sheet, possibly cast. 120mm x maximum 55mm. Possibly part of a cooking vessel. No detail visible on X-radiograph. (Area 2, SF75, Context 202, disturbed alluvium, Period 1A).

3. Sub-triangular object of unknown function. Length 55mm x maximum width of 18mm. (Area 1, SF45, Context 192, Period 1A).

4. Incomplete copper-alloy nail. Length 40mm. (Area 1, SF21, Context 91, Period 1B).

5. Length of copper-alloy tubing. Surviving length 60mm. Function uncertain. (Area 1, SF33, Context 91, Period 1B).

6. Incomplete (probable) finger ring in five fragments. Insufficient remains to estimate diameter but approximately 2mm thick. (Area 1, SF28, Context 117, Period 2).

7. Fragment of copper-alloy, possibly a brooch pin. (Area 1, SF32, Context 117, Period 2).

8. Fig.38.2 Ring with flattened facet. Possibly a harness or suspension ring. Diameter 30mm. (Area 1, SF6, Context 20, Period 3B).

9. Fragment of sheet metal. Possibly an off-cut. (Area 1, SF11, Context 20, Period 3B).

10. Foot from a small cooking vessel, e.g. a pipkin. (Area 2, SF62, Context 82, Period 3B).

11. Fragment of coiled wire. (Area 2, SF57, Context 94, Period 4A).

Iron Objects

by Rod Burchill

1. Incomplete horseshoe with four rectangular nail holes. Surviving length 100mm x approximately 25mm; nail holes 10mm x 8mm. (Area 1, SF38, Context 166, Period 1A).

2. Incomplete door stud - point missing. Shaft 42mm x maximum 10mm (tapering), head diameter 35mm. (Area 1, SF36, Context 161, Period 1B).

3. Concreted iron object, possibly a strap or hinge fragment. (Area 2, SF70, Context 190, Period 1B).

4. Fragment of spike - heavily concreted. Length 130mm. (Area 2, SF71, Context 190, Period 1B).

5. Fig.38.3 Rowel spur. The D-section sides follow a shallow curve below the wearer's ankle rising towards the figure-eight terminals, which survive only on one arm. The sides join in a pointed crest above a low-set neck. The rowel and rowel bosses appear to survive within the rowel box. (Area 1, SF19, Context 90, Period 2).

6. Length of wire. 120mm x 4mm diameter. (Area 1, SF29, Context 117, Period 2).

7. Fragment of strap or band with two rivet holes. Details visible only on X-radiograph. (Area 1, SF7, Context 20, Period 3B).

8. Incomplete spike, tapers towards the missing point. Length 130mm x maximum 10mm. (Area 1, SF8, Context 20, Period 3B).

9. D-shaped buckle with pin. A simple frame, the pin is attached by wrapping one end around the bar of the D. Length 72mm by max 40mm deep. (Area 1, SF55, Context 229, Period 3B).

10. The following small finds consisted of amorphous lumps of iron corrosion with no distinct form visible under X-radiograph:
SF18 (Area 1, Context 90, Period 2)
SF46 (Area 1, Context 191, Period 1A)
SF56 (Area 2, Context 199, Period 1B)
SF79 (Area 1, Context 166, Period 1A).

Iron Nails

A small assemblage of thirty-eight nails was recovered from Period 1, 2 and 3 contexts. The nails were mostly rectangular-headed and varied in size, most commonly 40mm, 50mm, 55mm and 65mm long. After excavation each nail was given a small find number and full details of each nail can be found in the appropriate archive list.

The Glass

by Rod Burchill

Excluding small finds SF13 and SF14 recovered from Context 90 (Period 2), all the excavated glass came from Period 3 and 4 contexts and consisted mostly of wine and spirit bottles of late 17th- and 18th-century date. The glass was very fragmentary and heavily weathered. None was intrinsically interesting.

1. Fig.38.4 Fragment of a goblet in clear glass containing frequent bubbles. Decorated with opaque white cane - cable twist between two plain verticals. Venetian: 1550-1600. (Area 1, SF13, Context 90, Period 2). A vessel with similar decoration was found in a context of comparable date at Southampton (Charleston 1975, Fig.225.1579).

2. Fragment of a drinking glass base. Very thin purple-blue glass with frequent bubbles and ridges. Pale blue iridescence from weathering. Probably late 16th century. (Area 1, SF14, Context 90, Period 2).

Bone Objects

By Rod Burchill

The excavation recovered only six bone objects three of which, SF1, SF2 and SF3, were unstratified and consisted of eating utensil handles of probable late 19th-century date. Of the remaining three items only two could be identified:

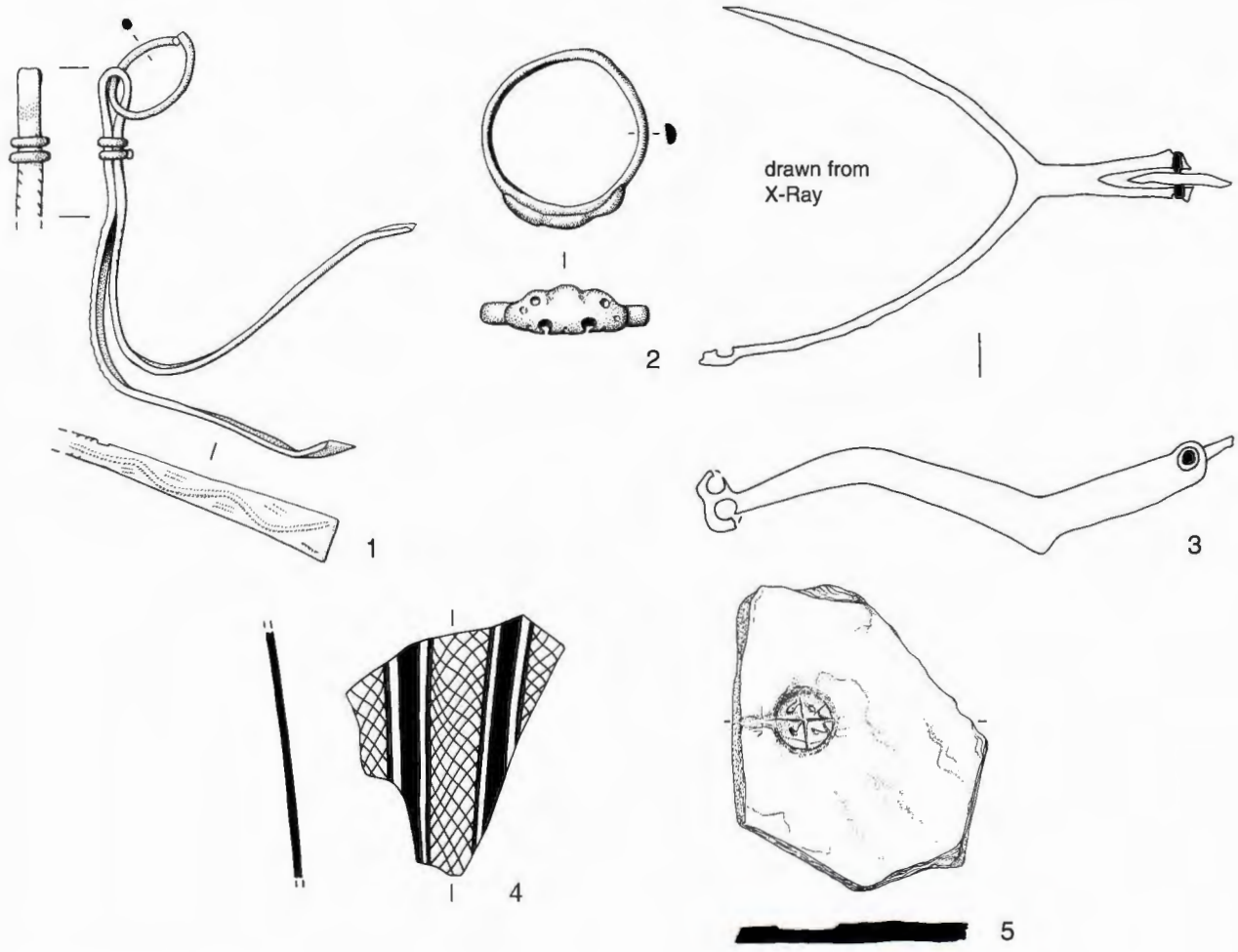

Fig.38 Small finds - 1,2 (copper alloy), 4 (glass) are life size, 3 (iron) and 5 (stone) are half life-size.

1. Two fragments of hollowed bone. Function uncertain but clearly worked. Lengths 31mm and 40mm, diameter 8mm. (Area 1, SF39, Context 166, Period 1A).

2. A large needle, possibly for sail-making. Highly polished but point missing. Length 135mm and maximum width 15mm, with a circular hole 5mm in diameter. (Area 1, SF119, Context 166, Period 1A).

3. Bone splinter sharpened to a point. Length 62mm with a maximum width of 7mm. (Area 1, SF118, Context 166, Period 1A).

4. Fragment of a circular section of long-bone, part of a larger object. Diameter of approximately 18mm, width 4mm, thickness 2mm. The outer edge has fine incised decoration consisting of groups of two or three lines. (Area 1, SF117, Context 214, Period 1A).

5. A probable lace bobbin. Late 16th century. (SF3, unstratified).

Stone Object

by Rod Burchill

A single stone object was recovered from the site:
Fig.38.5 Slate fragment with inscribed circular depression. Probably part of a mould for a button or counter. Diameter of depression 17mm. (Area 2, SF59, Context 82, Period 3B).

An Assessment of the Bulk Soil Samples from the Medieval and Post-Medieval Deposits.

By Julie Jones

Introduction

The site at St. Thomas Street lies in the suburb of Redcliffe in Bristol some 170 metres from the River Avon. The excavations revealed deposits ranging from the medieval occupation of the site to thick deposits of garden soils of 17th-century date. Bulk samples were taken for general palaeoenvironmental assessment from a range of deposits to coincide with samples taken by Terra Nova for soil and pollen assessment.

Methodology

Twenty-three bulk samples were wet sieved. The samples averaged 32kg/28 litres for the 17th-century garden soils and 37kg/31 litres for samples from medieval features and the pre-settlement ground surface. In addition to these, a column of samples was taken from the south facing section in Area 1 to coincide with soil monoliths taken by Terra Nova. These samples were all 5kg/4 litres and were taken from 5cm intervals into the alluvium (context 242) as well as the overlying 13th- to 14th-century surface (context 166).

All samples were wet sieved to a 250 micron float and 500 micron residue and both float and residue were allowed to dry. The residues were sorted for animal bone, shellfish and any larger plant remains, as well as for finds. The floats were scanned under a low powered microscope and the plant remains assessed on a scale of abundance. Both charred and waterlogged preservation was noted, although overall concentration of both types of material was low. Preservation of the waterlogged seeds was good, with the charred remains being variable. In general, the condition of much of the grain, especially from the garden soils was poor with distorted grains and evidence of abraded surfaces, although many of the weed seeds were in good condition. All samples contained charcoal.

Full details of the assessment tables showing abundance of plant macrofossil remains can be found in the site archive which is located in the Dept of Archaeology, Bristol City Museum. For the purposes of this report only two tables are included showing the charred and non-charred taxa recovered from the late 16th-/17th-century garden soils. Plant nomenclature and habitat information is based on Stace (1991).

Results

Period 1

Valley floor alluvium (Context 242)

The small bulk samples taken from the south facing section in Area 1 adjacent to Terra Nova's monolith included four samples from the valley floor alluvium (context 242), which here lay at between 6.8m and 7.1m AOD. The 4 litre samples only produced small floats which decreased in volume from 20ml at the uppermost surface of the alluvium to only 2ml, 20cm below this. All of the samples included fragments of bone, egg shell, shellfish, with some fish scales, concentration again decreasing with depth. Charcoal was present in all samples, with only occasional occurrences of charred cereals and weeds.

The waterlogged plant remains included examples of species, such as elder (*Sambucus nigra*), henbane (*Hyoscyamus niger*) and annual mercury (*Mercurialis annua*), which appear to be more resistant to decay and which are present throughout deposits from all periods. These plants could all have thrived locally in waste ground as part of a scrub type vegetation, which may have existed on the valley floor. However the addition of seeds and fronds of duckweed (*Lemna* spp), with rush (*Juncus* spp) seeds in the lowest sample (25-30cm), provides evidence for wetter conditions. Duckweed is an aquatic plant of both fresh and brackish waters and may have existed in areas of standing, perhaps even temporary water, while rush is more typical of damp marsh or grassland and is likely to have commonly occurred on these alluvial marshes.

13th- and 14th-century deposits (contexts 166 and 193)

The overlying 13th- and 14th-century levels (context 166) were also sampled in the monolith section (0-5cm and 5-10cm). A similar range of material in the residues included increased quantities of animal bone, shellfish and eggshell, with the addition of pottery sherds. Duckweed fronds and elder seeds were again present in low numbers, although the concentration of charred material increased here together with the other domestic waste. Bigger bulk samples were also taken from context 166 in Area 1 and from context 193 in Area 2.

The samples from all of these early layers produced assemblages of charred cereal grain and weed seeds. As with other sites examined in the city, where charred assemblages occur, no cereal chaff was found. The range of cereals known to have been cultivated in the medieval period are here, with grains of wheat (*Triticum* sp), barley (*Hordeum* sp), rye (*Secale cereale*) and oats (*Avena* sp), wheat being by far the most common. We cannot be certain whether the oats represent a crop without the necessary chaff to confirm whether these were a wild or cultivated variety, as they may easily have occurred as contaminants along with some of the other charred weeds present. Examples of arable weeds found include black bindweed (*Fallopia convolvulus*) and stinking chamomile (*Anthemis cotula*). Other food remains include charred fragments of horse bean (*Vicia faba*), a possible pea (c.f. *Pisum sativum*) and a grape pip (*Vitis vinifera*). The non-charred seeds from the bulk samples again include plants which are likely to have been growing locally to the site and include elder, hemlock (*Conium maculatum*) and broad-leaved dock (*Rumex obtusifolius*), all typical of waste ground, hemlock also tolerating damp conditions such as ditch sides.

Samples from medieval and early post-medieval features

Four bulk samples were taken from:

- The fill of a late 13th-/14th-century ditch (context 235).
- The fill of a late 13th-/14th-century pit (context 214).
- The fill of a 15th-century linear feature (context 168).
- The fill of a 15th-century pit (context 220).

These produced a similar suite of organic remains including animal bone, shellfish and eggshell, as well as pottery and metalwork. The charred remains included a low abundance of cereal grains and weed seeds. Additional crop weeds include brome (*Bromus* sp) and orache (*Atriplex* spp). The single occurrence of a charred nutlet of great fen-sedge (*Cladium mariscus*) is interesting. This is a tall sedge, up to 3 metres high, which forms dense stands in reedswamps and wet fens. It is unlikely to have grown anywhere within the medieval city area and must have been brought in from further afield, perhaps for thatching, its traditional use today

in areas of Norfolk (Storer 1990). A single charred example was also found in one of the early 14th-century waterfront deposits at Redcliffe Backs.

The bulk samples from both the 13th-/14th-century deposits and the medieval features also included the fragmented remains of shellfish. Much of this is common oyster (*Ostrea edulis*) and common mussel (*Mytilus edulis*). Common cockle (Cerastoderma edule) also frequently occurs in some samples, with a single common periwinkle (*Littorina littorea*) present in one of the pit fills, as well as several other unidentified species. Oysters are ubiquitous on most of the medieval excavations in the city with fragments of mussels also commonly occurring, cockles and other shellfish being less common. Both shellfish and fish were a major element of the urban diet in the medieval period (Wilson 1973) but evidence often tends to rely on hand retrieved material, which may not give a full picture of the range of shellfish available for consumption.

The late 16th-/17th-century garden soils

The late 16th-/17th-century garden soils were sampled in two spits from eight, one metre squares in Area 1. The upper spit, between 0.2 and 0.3m deep, was from context 20 and the lower spit, between 0.1 and 0.2m deep, from context 54. The garden soils were of a homogenous mid-brown loam with inclusions of domestic and industrial waste, the soils varying in depth across the site.

As may be expected from the homogenous nature of these deposits the inclusions in the bulk samples were very similar. Animal and fish bone were recovered in quantity, with limited amounts of shellfish also present, together with a low abundance of charred plant remains. The shellfish present is limited to the fragmented remains of oyster and mussel, with only occasional complete valves present, plus single occurrences of cockle and common whelk (*Buccinum undatum*). The bulk of the floats consisted of a lightweight clinker-like material, some samples including charcoal, with many fragments showing signs of exposure to intense heat,

Charred taxa recovered from the garden soils

Grain		
Triticum sp	Wheat	#
Hordeum sp	Barley	#
Avena sp	Oat	#
Weeds		**Habitat**
Aethusa cynapium L.	Fool's Parsley	C
Agrostemma githago L.	Corncockle	C
Anthemis cotula L	Stinking Chamomile	CDn
Atriplex spp	Orache	CD
Carex spp	Sedge	GMPRW
Dipsacus spp	Teasel	
Filipendula ulmaria (L.)Maxim	Meadowsweet	w
Lathyrus/Vicia spp	Pea/Vetch	DG
Malus/Pyrus spp	Apple/Pear	HSW#
Medicago lupulina L.	Black Medick	GR
Persicaria maculosa Gray	Redshank	Cdo
Plantago lanceolata L.	Ribwort Plantain	G
Poaceae indet	Grass	G
Ranunculus acris/repens/bulbosus spp	Meadow/Creeping/Bulbous Buttercup	DG
Rosaceae indet (thorn)	Rose family	DHSW
Rubus sect Glandulosus Wimmer & Grab	Bramble	DHSW
Rumex spp	Dock	DG
Trifolium/Medicago spp	Clover/Medick	DG
Vicia faba L.	Celtic/Horse Bean	#

Habitats

C: Cultivated/Arable. D: Disturbed. G: Grassland. H: Hedgerow. M: Marsh.
P: Ponds, ditches - stagnant/slow flowing water. R: Rivers, streams.
S: Scrub. W: Woodland.
d: dry soils. n: nitrogen rich soils. o: open habitats. w: wet/damp soils.
cultivated plant/of economic importance.

Table 7 Species recovered from the garden soils.

Non-charred taxa recovered from the garden soils		Habitats
Atriplex spp	Orache	CDn
Carex spp	Sedge	GMPRW
Euphorbia helioscopia L.	Sun Spurge	CD
Euphorbia peplus L.	Petty Spurge	CD
Ficus carica L.	Fig	#
Fumaria spp	Fumitory	CDH
Hyoscyamus niger L.	Henbane	Bw
Lamium purpureum L	Red Dead-nettle	CD
Lathyrus/Vicia spp	Pea/Vetch	DG
Mercurialis annua L.	Annual Mercury	CD
Ranunculus acris/repens/bulbosus	Meadow/Creeping/Bulbous Buttercup	DG
Rubus sect Glandulosus Wimmer & Grab	Bramble	DHSW
Rumex obtusifolius L.	Broad-leaved Dock	BCDG
Rumex spp	Dock	DG
Sambucus nigra L.	Elder	DHSWn
Sison amomum L.	Stone Parsley	GH
Stachys c.f. sylvatica L.	Hedge Woundwort	HSW
Viola odorata L.	Sweet Violet	HSW
Viola palustris L.	Marsh VioletHabitats	FMW, E-wet

Habitats
B. Bankside. C: Cultivated/Arable. D: Disturbed. E: Heath/Moor. G: Grassland. H: Hedgerow. M: Marsh. P: Ponds, ditches - stagnant/slow flowing water. R: Rivers, streams. S: Scrub. W: Woodland.
n: nitrogen rich soils. w: wet/damp soils. # cultivated plant/of economic importance.

Table 8 Species recovered showing habitat preferences.

causing distortion and loss of structure. Some cereal grain was similarly affected, with loss of surface structure, resulting in some of the grains being unidentifiable.

The charred plant remains include grains of wheat, barley and oats, again with no cereal chaff. The only evidence for other food remains are a few charred apple/pear (*Malus/Pyrus*) pips, plus a few horse beans. The charred weed assemblage includes corncockle (*Agrostemma githago*) and stinking chamomile, both typical of cornfields, along with other arable weeds, fool's parsley (*Aethusa cynapium*), redshank (*Persicaria maculosa*) and orache. Other charred weeds are of plants more typical of grassland habitats such as ribwort plantain (*Plantago lanceolata*), black medick (*Medicago lupulina*), buttercup (*Ranunculus acris/repens/bulbosus*) and clover/medick (*Trifolium/Medicago*). While some of these may have been gathered with the cereal crops from field edges, or represent the import of hay onto the site, some may also have grown locally as buttercup, for example, also occurs in a non-charred form. The list of species recovered is shown in Table 7.

The non-charred weed assemblage includes some of the same waste ground species, which occurred in the earlier medieval deposits. Table 8 lists the species recovered, showing details of habitat preferences.

Elder, annual mercury and henbane are present with other taxa from similar habitats such as sun spurge (*Euphorbia helioscopia*), petty spurge (*Euphorbia peplus*) and red dead-nettle (*Lamium purpureum*). Hall (1988) describes the problems of interpreting plant remains from assemblages recovered on urban sites, and deciding how representative these are in trying to reconstruct past urban floras and vegetation.

Garden soils pose their own problems of interpretation. By their very nature, garden soils are formed as a result of mixing of both plant materials and other remains, both by natural means (earthworms and other soil micro-organisms) and by intensive human activity. The material which becomes incorporated into the soil comes from a range of sources and in the deposits from St. Thomas Street, includes not only organic matter such as animal bone and shellfish, but also other domestic waste such as fragmented pottery, clay pipe and building materials. In view of this, it is therefore difficult to be certain what represents the *in situ* remains of plants recovered from deposits such as these. We can certainly suggest that where there are charred plant remains present, these are likely to represent plants brought onto a site, for example with a cereal or hay crop, or with other plants useful to man, such as bracken or heather used for animal litter or bedding. Once all these 'useful' plants are excluded from the species list, there is often a group left which are most likely to represent the vegetation growing on the site.

Some of the most frequently and consistently occurring

of these plants are annuals, some of which are more resistant to decay and can remain viable over many years. In his classic work, Salisbury (1961) points out that many of these annuals are often associated with the cultivation of garden soils and are what we would normally call 'weeds'. Many of them are dependant on conditions created by human activities, an important factor in their spread being a degree of soil disturbance and in the early stages of colonisation, little competition from other plants, conditions which are continually present in a garden soil. As a result of having sampled the garden soil at St. Thomas Street fairly intensively in Area 1, in one metre squares and in two spits, we have a fairly consistent spatial picture over this relatively small area of the site. The same few species are consistently present, although unfortunately these only represent a 'weed flora'. None of the species present are likely to be the result of plants deliberately cultivated which is somewhat disappointing, as Millerd's map of 1673 shows part of this area of St. Thomas Street laid out as gardens.

The only comparative site in Bristol where garden soils have been studied in depth is Victoria Street (Ennis, Rackham & Richmond 1997), in the adjacent parish of Temple. Here the bulk of the material recovered was bone, particularly fish bone, with limited charred cereal assemblages and the uncharred material restricted to elder and bramble (Rubus sect. Glandulosus). It would appear that suitable conditions for the preservation of plant macrofossils are rarely seen to be present in garden soils studied to date and it is only those species which are more resistant to decay which survive. Some degree of success was obtained with assemblages of late medieval to early modern date at Sewer Lane in Hull (Crackles 1986). Here lists of possible cultivated species, including an extensive range of fruits, herbs, flowers and vegetables were recovered from pits used partly for disposal of waste from nearby gardens, rather than the garden soils themselves.

The Faunal Remains

by Lorrain Higbee

Introduction

A small assemblage of animal bone was recovered during the normal course of hand excavation. The majority of this material is from contexts dated to the late 13th/14th and 17th/18th centuries. An additional quantity of bone was recovered from the wet sieving of bulk soil samples (Table 9).

Condition of Material

The overall preservation of the assemblage is excellent as indicated by the survival of so many fragile fish bones and the relatively high number of diagnostic fragments. However, the bone recovered from a handful of deposits exhibits weathering in the form of edge abrasion and exfoliation. These types of weathering have reduced the number of diagnostic fragments and effaced butchery marks. A further taphonomic factor to consider is the bone chewing habit of the domestic dog, which may have had a similar effect on the assemblage.

Period	Bulk Finds (frag. count)	Sample Residue Weight (grams)
1A Late 13th/14th century	500	834
1B 15th century	325	1,083
2 15th/16th century	238	0
3A Late 16th/17th century	15	0
3B 17th/18th century	402	2,491
4 18th/20th century	100	0
Total	**1,580**	**4,408**

Table 9 Quantity and provenance of faunal remains.

Despite the overall excellent state of preservation the potential for more detailed analysis of this material was limited due partly to its overall size (1,580 fragments) and the low frequency of zoo-archaeologically significant specimens from each phase (Table 10; Note: specimens that are complete enough to provide more detailed information (age and mensural data) for interpretation and intra-site comparisons). For these reasons the assemblage was merely assessed and the available information quantified. The results of this assessment are presented in this report and contained within the site archive.

Methods

The entire assemblage was assessed by rapid scanning and the following information recorded; species, skeletal element, age related features, completeness for biometric analysis, as well as more general observations on butchery, taphonomy and pathology. This information was entered into a database for dissemination and is available in the site archive. For a full description of the methods used see Davis (1992).

Results

Approximately 72% of the assemblage can be identified to species, a further 21% can be assigned to general size categories (i.e. ëcattle-sizedí) and the remaining 7% is represented by undiagnostic splinters of bone greater than 1cm. The three common domestic food species, cattle, sheep (or goat) and pig, dominate the assemblages from all phases (Table 11). Other species identified include horse, dog, cat, chicken, goose, mallard, two species of deer (fallow and roe), rabbit and hare. Diagnostic bone from sample residues includes fish, rodent and frog (or toad) as

Period	Mensural data %	Ageing data %
1A Late 13th/14th century	7	17
1B 15th century	9	21
2 15th/16th century	16	30
3A Late 16th/17th century	0	0
3B 17th/18th century	12	23

Table 10 Quantity of zoo-archaeologically significant bones expressed as a percentage of the total number of fragments by phase.

Species	L.13/14	15th	15/16	L.16/17	17/18	18/20
Domestic						
Cattle	86	85	79	7	106	30
Sheep/Goat	72	48	61	3	86	28
Sheep	1	0	2	0	0	3
Goat	0	0	0	0	1	0
Pig	21	21	15	1	31	9
Horse	2	1	0	0	0	0
Dog	4	1	1	0	0	1
Cat	0	1	2	0	2	0
Birds						
Chicken	17	8	3	0	22	0
Goose	5	5	3	0	2	0
Mallard	0	1	2	0	0	0
Bird indet	3	4	1	0	12	0
Wild						
Fallow deer	1	0	0	0	0	0
Roe deer	1	1	1	0	0	0
Rabbit	2	2	0	0	7	0
Hare	0	0	0	0	1	1
Rodent	0	0	0	0	3	0
Frog/Toad	1	1	0	0	3	0
Fish	*	*			*	
Cattle-sized	60	41	33	3	52	20
Sheep-sized	31	18	22	1	41	5
Unidentifiable	51	114	16	0	32	3
TOTAL	**358**	**252**	**167**	**15**	**277**	**72**

*Denotes fish bone present in sample residue.

Table 11 Number of identified specimens per species (NISP) by Period.

well as some of the smaller bones from domestic species.

For the purpose of this report phases 1 (A and B) and 2 will be referred to as the medieval assemblage and phases 3 (A and B) and 4 as the post-medieval assemblage.

Medieval Period

A large number of medieval deposits produced animal bone, these include layers, dumps of material and the fills of cut features, mostly pits and linear features. The character of the material recovered from pits and layers reflects the deliberate discard of domestic food waste. The low frequency of bone finds from linear features coupled with the abraded condition of these bone fragments suggests the random accumulation of surface detritus into open features.

All portions of the beef and mutton carcass are represented in the medieval assemblage, and this forms the bulk of the animal base protein consumed and discarded at St. Thomas Street. The proportion of cattle represented by the different phases in the medieval assemblage ranges from 40-47% and the proportion of sheep (or goat) from 27-36%. Pig is present in low frequencies throughout these phases (9-12%) and the skeletal element distribution is biased towards cranial fragments (mostly loose teeth) and selected bones from the fore and hind limb. This may reflect selective procurement of specific meat joints (i.e. hams); alternatively it may reflect selective preservation of more robust skeletal elements given the frequency of immature pig bones recorded in the assemblage.

Chicken, goose, duck, rabbit and venison were also consumed. Bird bones account for between 5-12% of bone fragments from the medieval phases. The skeletal element distribution for the three domestic bird species is biased towards bones from the leg, wing and main trunk (i.e. synsacrum and sternum) and would seem to suggest that dressed carcasses were purchased. Both fallow deer and roe deer bones have been identified from the assemblage. Both are represented by bones from the hind limb, and one off-cut of roe deer antler was recovered from 15th-/16th-century layer 117.

Other domestic species identified from the assemblage include horse, dog and cat. They occur in low frequencies but enhance the overall view of urban life during these phases. Canid gnaw marks were observed on a small proportion of specimens in the sample (2-7%). However, this habit may account for the obliteration of some of the more fragile bones (i.e. bird bones or bones from immature animals) from the assemblage.

Post-medieval Period

The majority of the post-medieval sample is from deposits of 17th-/18th-century date, mostly layers, and the fills of pits and linear features. Poorly preserved bone fragments were recorded from some deposits most notably the garden soil 20 and 54 and layer 158. These fragments were recorded with edge abrasion indicative of rolling and trampling on the ground surface. Other fragments had suffered minor surface exfoliation from the effects of sub-aerial weathering.

As in earlier phases domestic stock species dominate the assemblage and are present in similar proportions. The proportion of cattle varies from 39-42%, sheep (or goat) from 33-43% and pig from 12-13%. All portions of the beef and mutton carcass are represented; pig however is represented by very few skeletal elements. This pattern is also very similar to the medieval assemblage.

Chicken, goose, rabbit and hare have also been identified from the post-medieval assemblage. The birds are represented by a wider range of skeletal elements in comparison to the medieval assemblage, however it would seem that dressed carcasses were also purchased. The absence of deer bones may indicate a general decline in status of the tenement owners whose food waste is represented by the assemblage.

Deciduous cat teeth and the tibia from a small dog have also been identified, as in the previous phase their occurrence enhances our overview of the urban environment. Canid gnaw marks were observed on approximately 10% of the post-medieval assemblage.

Age at death, skeletal abnormalities and butchery marks

Gross observations of some the more detailed information indicate that veal and lamb meat was consumed, and that the majority of domestic stock species were culled at the optimum age for meat production. Pathological conditions recorded on cattle bones further suggest that oxen (male castrates) were culled after a short working life. This

evidence takes the form of a metacarpal (foot bone) from late 13th-/14th-century pit fill 173 with a condition known as spavin. This condition has many initiating factors however, it occurs most frequently in animals used for traction. The other occurrence of a pathological abnormality characteristic of the use of cattle as beast of burden is from the late 16th-/17th-assemblage. This specimen, a metacarpal, was recorded with a flared lateral-distal condyle, the result of repeated stress during the animal's life.

Butchery evidence is uniform throughout the assemblage and is fairly standard for an assemblage spanning this time period. Chop marks from a cleaver were recorded with the greatest frequency on cattle bones and are consistent with primary carcass dismemberment and the reduction of the carcass into smaller joints of meat. Butchery marks were less commonly observed on sheep and pig bones, this is probably due to the practise of jointing out the carcasses of smaller animals with a fine knife a technique that leaves very few marks on bone. Vertebrae were recorded split along their dorso-ventral aspect thus reducing the main trunk of the carcass into left and right sides. The further reduction of these racks of beef, mutton and pork into cutlets (or chops) is recorded in the butchery observed on rib fragments. Horn cores are scarce within the assemblage and only two survive intact enough to determine that they had been cleanly removed from the skull perhaps for further working.

Sample Residues

Animal bone was recovered from 23 environmental samples, this include 16 samples from the 17th-/18th-century garden soil (contexts 20 and 54) as well as seven samples of medieval deposits, layers 166 and 193, timber slot 168 and pit fills 220, 214 and 235. This material is well preserved and included many of the species recovered by general hand excavation methods however, several other species not represented in the bulk finds were recovered from samples. These include cat, rabbit, hare, bird, fish, rodent and amphibian bones. The species and skeletal element distribution of this material is therefore a good indication of the recovery biases affecting the bulk finds. Whereby the small bones of large mammals (i.e. loose teeth, carpals and tarsals) and the bones of small mammals, birds and fish are under-represented. The bone recovered from the samples therefore, redresses the recovery bias observed in the bulk finds.

Samples from the 17th-/18th-century garden soil represents the richest deposit sampled in terms of the quantity of bone recovered. The general characteristics of the medieval samples suggest kitchen/table refuse due to the number of calcined (white) and charred (black) fragments, and the presence of food species such as chicken and fish. Frog (or toad) and rodent (Mus sp. and Arvicola sp.) bones recovered from pit fills (samples 21-23) probably represent natural fatalities that fell into open features.

A significant quantity (122 grams) of fish bone was also recovered from medieval and post-medieval contexts (section below).

General Summary

Analysis has revealed that the bulk of the assemblage represents kitchen/table waste and that beef and mutton were the commonest forms of animal based protein consumed. All fractions of the beef and mutton carcass were utilised. Pork appears to have been selectively procured and dressed bird carcasses were purchased. Venison formed a small part of the diet in the earliest phases. The low frequency of horn cores and antler fragments suggests that these were valued items removed for working elsewhere. Pathological evidence on cattle bones suggests that they were used as beasts of burden. The presence of cat and dog bones adds to the general overview of urban life during these periods.

The Fish Remains

by Dr. Rebecca A. Nicholson

Introduction

Fish remains were recovered from all of the 23 bulk soil samples taken on site from seven contexts. Of these, six samples derived from contexts dating to periods 1A and 1B (late 13th/14th century and 15th century) while the remainder were obtained from garden soils dating to periods 3A and 3B (contexts 20 and 54, 16th - 18th centuries). No bones were recovered by hand collection on site. In total, around 400 bones were identified to taxon, of which around half derived from layers and the fills of features dating to periods 1A and 1B (contexts 166, 168, 193, 214, 220 and 235). The fragments of bone considered non-identifiable comprised mainly small fragments of cranial bones and fragments of spines, ribs, rays and branchial bones. Fish size was estimated from reference specimens of known length and weight since no bones were suitable for biometrical analysis. Where sizes are indicated for gadid fish (fish of the cod family, Gadidae) the following sizes apply: tiny (under 0.15m length), small (0.15-0.35m), medium (0.35-0.6m), large (0.6-1m), extra-large (over 1m). Bone preservation ranged from poor (bones eroded and fragmentary) to good (bones usually intact, or nearly so, with minimal erosion). The best preserved assemblage derived from context 193, a 15th-century layer directly overlying alluvium, while eroded specimens were generally found in the post-medieval garden soils. Identifications by context are given in Table 12, with identifications by individual sample and other information available in spreadsheet format in the site archive.

The late 13th-/14th-century and 15th-century deposits

Samples from the layers and fills of medieval date contained a wide range of fish taxa, considering the limited numbers of bones. Sample 23, from context 235 (a ditch fill from Period 1A, pre 1400) contained few bones: herring *Clupea harengus*, small dogfish or ray (*Elasmobranchii*), large

Context	20	54	166	168	193	214	220	235
Samples	1,3,5,7,9,11,13,15	2,4,6,8,10,12,14,16	18,19	17	20	22	21	23
Vol. Soil (Litres)	248	209	77	26	52	21	22	25
Phase	3B	3A	1A	1B	1B	1A	1B	1A
Elasmobranch nfi.	0	1	1	0	0	3	0	1
Ray nfi	0	1	0	0	2	0	0	0
Thornback ray	3	1	3	0	3	0	4	0
Eel	3	4	0	0	4	0	3	0
Conger eel	2	1	2	0	1	0	0	1
Clupeid	1	0	0	0	0	0	0	0
Herring	42	31	32	5	3	0	19	4
Sardine/Pilchard	2	0	0	0	0	18	0	0
Salmonid	0	0	0	0	1	0	0	0
Cyprinid	0	1	0	0	0	0	0	0
?Gudgeon	1	0	0	0	0	0	0	0
Dace	0	0	0	0	0	1	0	0
Gadid nfi	8	5	4	1	3	1	3	0
Large gadid nfi.	0	1	1	1	1	0	0	0
Small gadid nfi	5	2	0	0	1	0	1	0
Cod	2	3	0	0	0	0	1	0
Whiting	1	0	0	0	4	0	0	2
Cod/Whiting	1	0	2	0	0	0	1	0
Haddock	0	0	0	0	1	0	0	1
Ling	0	0	2	0	2	0	1	0
Hake	1	2	0	0	4	0	1	0
Gurnard nfi.	2	4	2	0	2	0	1	0
Tub gurnard	0	0	1	0	0	0	0	0
Sea Bream nfi	0	0	0	0	0	0	1	0
Red Sea Bream	0	0	0	0	0	0	1	0
Thin-lipped Grey Mullet	0	0	0	0	1	0	0	0
Mackerel	1	0	0	0	3	0	2	0
Right-eyed flatfish	6	9	4	0	10	0	8	0
Plaice	1	0	0	0	1	0	0	1
Plaice/Flounder	1	1	0	0	2	0	0	0
Flatfish nfi.	0	5	2	1	0	1	1	0
Unidentified	4	7	2	0	4	0	0	2
Total	**87**	**79**	**58**	**8**	**53**	**24**	**48**	**12**

Table 12 Numbers of identified fish bones (and scales) in each sample.

conger eel *Conger conger*, whiting *Merlangius merlangus*, haddock *Melanogrammus aeglefinus* and plaice *Pleuronectes platessa*. Sample 22, from the fill of pit 213, also contained few bones, mainly from herring, but also included a single pharyngeal bone from a small freshwater fish, the dace *Leuciscus leuciscus*. Samples from context 166, a layer immediately overlying alluvium and dating to Period 1A included very large ling *Molva molva* (over 1.2m) and other large and smaller gadids including cod *Gadus morhua* and whiting, herring, large and small conger eels, plaice and other medium and small-sized right-eyed flatfish (*Pleuronectidae*), thornback ray *Raja clavata* and other small Elasmobranch(s) and gurnard(s) (*Triglidae*). One gadid vertebrae was crushed and eroded in a manner characteristic of digested bone.

Similar fish assemblages derived from contexts dated to the 15th century: sample 21, from the fill of pit 219, contained 48 identifiable fragments from 10 fish species including: herring, eel, large ling and hake Merluccius merluccius, medium-sized cod and smaller gadids, thornback ray, mackerel (*Scomber scombrus*), gurnard, right-eyed flatfish and red sea bream (*Pagellus bogaraveo*). Sample 17, from context 168, the fill of a linear feature, contained fragments, from herring, large cod and a possible large indeterminate flatfish. Sample 20, from context 193, a 15th-century layer, produced the best preserved and most diverse assemblage of fish bones. In all over 50 bones were considered identifiable, from a minimum of fourteen species of fish. The identified taxa included large and medium sized cod, large hake (one vertebra was chopped), large ling, haddock, whiting, herring, conger eel, eel, mackerel, gurnard, plaice and other indeterminate small flatfish, thornback ray and indeterminate ray, a salmonid (salmon, *Salmo salar* or sea trout *Salmo trutta*) and a single vertebra from the thin-lipped grey mullet *Liza ramada*. Thin-lipped grey mullet are rarely found north of the channel coasts,

with the exception of southern Ireland. It is usually found close to the shore, but will also penetrate fresh water (Wheeler 1978, 274).

The late 16th-/17th-century garden soils

Unsurprisingly, samples from the post-medieval garden soils (context 20, an upper garden soil dated to the later 17th century and context 54, the lower garden soil) generally contained relatively few identifiable fish remains (average < 1 fish bone per 2 litres soil), and bone preservation was often poor. As with the other organic components from these deposits, the taxa identified in each sample were fairly similar, with herring, small and larger gadids and small flatfish being the most commonly represented fish. Other species represented were similar to those identified in the medieval samples, indicating either the reworking of earlier deposits, or the relatively stable nature of the local fishery through the centuries. Soil analyses suggest that context 20 was formed as domestic waste and was tipped over material (including building debris in context 54) which may have been redeposited, indicating a primary origin for at least the bones in context 20. Identified taxa from context 20 include large hake, medium-sized and small gadids including cod and whiting, herring and sardine *Sardina pilchardus*, eel, conger eel, mackerel, gurnard (s), thornback ray and small (under 25cm) flatfish. A single vertebra may have derived from a freshwater fish: the gudgeon, *Gobio gobio*. The fish assemblage from context 54 was very similar in composition.

Discussion

Although the assemblage from St. Thomas Street is relatively small, a large variety of fish species are represented particularly in contexts 193 and 220, representing the 15th century. If, as seems likely, the fish assemblage from these contexts represents domestic kitchen and table refuse, then it is clear that the inhabitants had access to, and consumed, a wide range of fish. The mammal and bird remains from the medieval deposits similarly indicate the consumption of a wide range of meats and together the animal remains suggest wealthy local residents, with access to well-stocked regional markets. Most of the fish identified from the samples were probably caught locally, and the combination of taxa suggests a year-round fishery. Hake and conger eel are particularly indicative of fisheries from the south and south-west of Britain (Smith 1995, Wilkinson 1979), while the thin-lipped grey mullet identified in context 193 may represent fishing prosecuted in Irish waters. The large specimens of ling could indicate the importation of fish caught in the North Sea, since large ling are not common in the warmer southern waters. Ling were imported as salted and dried stockfish, a staple of the medieval diet and widely traded, however insufficient bones from large cod and ling were recovered to determine whether these fish were landed whole or as stockfish.

The small size of many of the flatfish suggests that these fish were captured very close to the shore, possibly by the use of a shore net or a many hooked line laid across the beach at low tide. Flounders in particular are commonly found in estuaries and even tolerate fresh water, while the anadromous eel is commonly found in river mouths as well as further upstream, in rivers, streams and lakes. Most of the eel bones represented at St. Thomas Street were from immature fish. The presence of cyprinids (the dace and possibly gudgeon) suggests that even small freshwater fish were available and eaten by the townsfolk of Bristol.

The fish assemblage from 30-38 St. Thomas Street can be viewed alongside other recently studied fish assemblages from medieval Bristol. Samples from 82-90 Redcliff Street, 98-103 Redcliff Street and 1-2 King Street (Nicholson forthcoming a, b & c) contained very similar fish species. Fish bones from excavations at 76-96 Victoria Street were more numerous, and were also medieval in date (the excavated tenements ranged in date from the 12th to 17th centuries, but most fish were recovered from the late 14th-century deposits). Again the range of taxa identified was very similar to that identified from St. Thomas Street, comprising a mixture of locally available large and small marine species, some larger fish which may have been imported from further afield as stockfish, and a small quantity of estuarine and freshwater fish probably caught in the Avon or its tributaries (Locker 1999).

As more fish assemblages are studied from medieval Bristol, a consistent pattern emerges. A wide range of fish was clearly available to the townsfolk, and documentary evidence indicates that while some of the fish represented in the assemblages were relatively cheap (eg. herring), others were prized and expensive (Carus-Wilson 1951, 199). Port records reveal that during the 15th century fish entered Bristol from a variety of localities: miscellaneous fresh fish, herring and saltfish (stockfish, including cod and hake) came from Ireland, unspecified fish were brought from the coasts of Devon and Cornwall and stockfish were imported from Iceland (ibid.). Many of the fish found together in the samples from St. Thomas Street were probably landed together, in boats fishing off the coasts of south-west Britain and southern Ireland. Herring is the main exception, since the shoaling, migratory, herring have been the source of a targetted, seasonal fishery in England probably since Saxon times. Port records from the 15th century (ibid.) show that both fresh or salted (white) and smoked (red) herrings were extensively imported from Ireland. The lack of documentary evidence for fish landings in Bristol before the 15th century is likely to indicate that the fish trade was largely in the hands of local merchants (Littler 1979, 209).

Records from 1488 show that the king was entitled to 'a prise of six fish from every boat with thirty or more fresh milwell (cod), ling, hake, ray, conger, and of twelve fish from every boat with thirty or more fresh gurnard, haddock, whiting, (sea)bream, mackerel, plaice or other small fish'. (Carus-Wilson 1951, 197). Comparing this inventory with the fish remains from each of the sites so far studied, including St. Thomas Street, demonstrates that the fish due to the king were also available to, and consumed by, the townsfolk of Bristol. The diversity of fish available in Bristol provided the townsfolk able to afford it with a menu

more varied than that consumed by most of medieval England. Fish remains from towns further north and east are generally more clearly dominated by bones from herring, eel and cod family fish.

In conclusion, the remains from 30-38 St. Thomas Street are consistent with urban refuse probably typifying fish consumption in the wealthier households of Bristol. The variety of fish represented in the relatively small number of samples is consistent with documentary evidence for the landing of mixed fish catches from boats fishing in seas around the coasts of south-west of England and Ireland as well as for the importance of the seasonally available herring. The small but consistent presence of freshwater and estuarine fish in assemblages from medieval Bristol indicates that local fishing activity was also successfully prosecuted in the rivers and river mouths, probably using a combination of techniques: hook and line, traps, weirs and stake nets.

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The Geoarchaeology of the Alluvial Sediments and Soils by Clare Wilson, Terra Nova Ltd

Aims

This study examines the alluvial deposits and early soil profile at 30-38 St. Thomas Street. The aim was to provide a better understanding of the relationships between the alluvial deposit, the early soil profile, and the archaeological strata, in order to provide information about the environment of the area at the time of occupation.

Background

The site at St. Thomas Street lies to the south of a meander in the River Avon, in the medieval district of Redcliffe, Bristol. It is set back from the modern course of the river by approximately 170m, and from its medieval course by over 100m. The top of the alluvium is at a height of around 7.1m AOD; this is above the modern and the supposed medieval High Water Mean Spring (HWMS). The river's tidal regime, therefore, is expected to have had less influence on the development of this site than on the waterfront sites along Redcliff Street and Redcliff Backs. It was noted by the excavator that the height of the water table appeared to vary with the water level in the nearby Floating Harbour (Jackson, pers.comm.). These fluctuations in the water level will have implications for the preservation of the site.

This part of the Redcliffe district is built on a promontory of low-lying alluvium that was once marsh. To the south, the ground level rises towards the red sandstone cliff on which St. Mary Redcliffe church is built. The geology of the immediate area consists of Triassic Redcliffe Sandstone covered with alluvium. More widely the city is underlain by Pleistocene gravel, Redcliffe Sandstone, Mercia Mudstone, Jurassic clay and limestone, and Carboniferous coal measures (Farrant & Strange 1998). A wide range of local 'natural' materials, therefore, may form the parent materials of this site. These are likely to have been augmented by fluvial deposits from the Avon whose headwaters cut through the Jurassic clay and oolitic limestone to the east of the city, and by marine and estuarine deposits brought in by the highest tides. Archaeological materials have also helped to form the site, some of which may have been brought in from further afield.

Methodology

The analyses were chosen to provide the greatest possible amount of relevant archaeological information. The following techniques and analyses were applied; bulk examination, sand mineralogy, thin section micromorphology, particle size distribution, magnetic susceptibility and phosphate analysis.

Bulk examination

Undisturbed monolith samples from the alluvium were examined and described using the soil survey terminology of Hodgson (1976). Two contrasting areas of alluvium were examined (see sections drawings, Figs.30 and 31). Descriptions were made of the relevant contexts, and changes in soil properties were noted over the length of the columns. Attention was paid to the determination of parent materials, the identification of sedimentary evidence, and the understanding of post depositional processes of alteration.

Sand grain mineralogy

2g samples of air-dried fine earth were suspended in a dilute solution of Calgon and then wet sieved through 251µm and 178µm sieves. The grains retained on each sieve were dried and sub-samples were mounted on microscope slides in glycerine. Mineralogical identifications of the sand fraction were made using binocular and petrological microscopes at magnifications of between x2 and x400. Where possible, at least 200 grains were counted from each sample. The mineralogy of the sand fraction was determined using a petrological microscope, whilst grain shape and the presence of coatings on the grains were identified with the aid of the binocular microscope and oblique lighting. Samples from depths through each context were analysed as replicates so that the variability in mineralogy could also be assessed.

Micromorphology

Three undisturbed samples were cut from the monolith tins in standard kubiena tins (8x6x5cm). The samples were taken from the alluvium, across the boundary between the alluvium and the reddish unit, and across the boundary between the reddish unit and the known archaeology. The soil blocks were sent to Stirling University where they were manufactured following the methods of Murphy (1986). The samples were dried in acetone and impregnated under

vacuum with 17449 Crystic resin thinned with acetone, using a MEKP LA3 catalyst. The samples were left to cure, after which they were sliced, bonded to glass slides, and then lapped to a thickness of 30μm. Finally the slides were cleaned, polished and coverslipped. Slides were analysed by Terra Nova using a Prior MP3 petrological microscope at magnifications of x20 and x400 in plane polarised light (PPL), cross polarised light (XPL) and oblique incident light (OIL). Description followed the International scheme of Bullock et al (1985) and Stoops (1998) and interpretations were made by reference to the relevant literature (e.g. Courty et al 1989).

Particle size distribution

Particle size was determined using the sedimentation method of Smith and Atkinson (1975). 25g samples of air-dried fine earth were pre-treated with hydrogen peroxide (30 vol) and 2M HCl to remove organic material and carbonates; they were then dispersed in 'Calgon' solution. The pre-treated samples were suspended in deionised water within measuring cylinders. Changes in density were measured over time using a calibrated hydrometer and the readings were corrected for temperature and the density of Calgon. The mass of the sand fraction was determined by wet sieving the sediment through 0.25, 0.17 and 0.063mm sieves and weighing the dried residue.

Magnetic susceptibility

The magnetic susceptibility of 10g samples of air-dried, fine earth samples was measured at low (0.46 kHz) and high (4.6 kHz) frequencies using a Bartington MS2 meter and MS2B lab coil. Samples were taken at intervals down the monoliths.

Phosphate

A simple test for inorganic phosphate concentration was used to assess the relative phosphate concentration of the alluvium, red clay and archaeological strata. 1g of air-dried fine earth was placed in a test tube with 2ml of 1M HCl, shaken and left overnight. 10ml of deionised water was added and the samples were shaken then left to settle. When the liquid had cleared 0.5ml was withdrawn and placed in a cuvette. To this was added 1ml of ammonium molybdate solution (5g ammonium molybdate in 130ml of 2M HCl). After 30 seconds 0.5ml of ascorbic acid (0.5g ascorbic acid in 100ml deionised water) was added and the colour change was measured colorimetrically after a further 30 seconds at a wavelength of 730nm.

Results

The detailed results of the analyses are contained in the site archive but are summarised below.

The soil and soil sediments at St. Thomas Street

Natural and surface of natural (Period 1A: contexts 242, 179 and red clay in 179)

The pre-13th-century alluvial deposits are fine-grained, well sorted silty clays and seem to have originally been very finely laminated. Mineralogically they are dominated by quartz grains with small amounts of feldspar and muscovite mica. The deposits appear to have been laid down under low energy conditions and the fine stratification of alternating silts and clays (flood couplets) is typical of over bank flood deposits. The top of the alluvium at a height of c.7.1m AOD is above the presumed MHWS level in the medieval period of around +6.5m AOD (Jones & Watson 1987). Hence, even allowing for truncation and compression flooding would have been relatively rare at the time this area was being developed. Evidence of soil development was identified at the top of the alluvium (context 179), but the upper A/Ah horizon of the soil profile was missing.

The upper portion of the alluvium was disturbed (context 179), charcoal was common and occasional artefacts dating to the 13th century had been recovered, suggesting a date for activity at the ground surface. At the very top of the grey alluvium, between this and the red clay layer (both part of context 179) was a lens of dark grey-brown, poorly sorted loamy material that included charcoal, sandstone, pot and bone. It is possible that this is the heavily disturbed Ah horizon of the old land surface, but it could also be post-depositional. When earthworms penetrate through a relatively resistant layer such as the red clay layer, it has been observed on many sites (for example, Wilson 2000b) that they then spread out horizontally keeping close to the base of the resistant layer. This creates a lens of granular material at the boundary that has been brought down from the overlying strata. Channels filled with material derived from the overlying archaeological strata (context 166) were observed in thin section. The evidence suggests that in this case the lens of material is probably post-depositional, and may in part have destroyed the Ah surface horizon of the old soil profile.

Without the upper soil horizon, the amount of information that can be retrieved concerning the nature of the soil profile, is limited. However, we can say that the depth of soil development seems to have been shallow, probably restricted by a relatively shallow water table. Although there is evidence of biological activity associated with the development of the old soil profile, this would have been considerably less than in fine textured calcareous soils in drier positions. The shallow water table may also have inhibited root growth at depth, although not enough to prevent vegetation colonisation. The old soil profile would almost certainly have been prone to periodic wetness, and there may have been a shallow accumulation of organic matter at the surface. However, the upper soil surface appears to have been greatly modified by 13th-century disturbance, which may also have led to its truncation. Since the 12th century the river has been progressively narrowed with the construction of a series of river walls, these would have influenced soil wetness and flood frequency at the site, probably creating drier more stable conditions.

Pollen assessment had identified a possible second

surface deeper within the alluvium. In thin section slightly increased levels of biological activity, structural development and organic matter supports this finding, although the degree of soil development appears to be slight. A short phase of stabilisation when plants and earthworms were able to colonise the ground surface, which was soon buried by a further phase of alluviation, is suggested. This earlier surface has then been incorporated and therefore hidden within the sub-soil of the later soil profile. This mixing of the two soil profiles means that environmental evidence from the alluvium should be interpreted with care. It is possible that numerous stabilisation layers are present within the alluvium, some may have been very short-term surfaces, whilst others may represent well-established surfaces. In a dynamic floodplain environment it is likely that the occurrence of these old land surfaces may be quite localised.

Within the top of context 179 (see section drawing illustrated at Fig. 31 only), there was a unit of red clay that appeared insubstantial in the field and was thought to represent a phase of further alluviation. This layer was well sorted with a finer texture and a slightly different mineralogy - it contained calcitic silts - to that of the grey alluvium. Magnetic susceptibility and thin section analysis showed that the red colour was not due to heating or post-depositional oxidation processes. Particle size analysis revealed the presence of a red colloidal material. The sorting and relic stratification showed that this was indeed an alluvial deposit, but the colouration indicated that it must have a different source to the underlying alluvium.

One possible source for this material could be the River Frome whose valley cuts through a complex sequence of geologies including Triassic Mercia Mudstone and Carboniferous red coal measures. The River Frome originally drained into the River Avon slightly upstream of St. Thomas Street, but was diverted westwards in 1240 (Jones & Watson 1987). It is possible, therefore, that alluviation in the early to mid 13th century could have included redder material eroded from the Frome valley. Diatom and foramenifera analysis might be able to distinguish between sediments from the tidal Avon and the freshwater Frome.

However, the red clay had a number of characteristics inconsistent with an alluvial deposit. For example, the limited extent of the deposit - it was only found in the section shown in Fig.31 - and the sharp depositional boundary between itself and the grey alluvium (which was difficult to see in the field). The magnetic susceptibility and phosphate levels of the material were very low suggesting minimal anthropogenic disturbance. However, in thin section we could see randomly oriented blocks of stratified silts and clays which clearly had been reworked. Over bank, flood deposition could not produce such a pattern and this is almost certainly a dump deposit derived from alluvial floodplain sediments. Similar material was found at the Redcliffe Backs site where it had been used to make up the ground surface (Wilson 2000a; context 2114, phase II.2, late 13th/early 14th century).

Compaction at the surface of the red clay had produced a thin band of horizontally stratfied silts and clays; this could be the result of trampling or post-depositional compression following burial. However, the enhanced magnetic susceptibility and the inclusion of sand grains that mineralogically mimic the archaeological deposits suggest some archaeological activity on this surface.

Period 1A (context 166 in Figs.30 & 31)

The 13th-/14th-century strata (context 166) consist of intimately mixed clay loam containing bone, shell, pot, charcoal, limestone, red sandstone and mortar. A mixture of building debris and occupational refuse form the basis of this unit. Bands of mortar and charcoal in the section shown in Fig.30 suggest that this 30-50cm deep layer was originally stratified. The depositional structure has since been destroyed as the different strata have been mixed together (welded) by earthworms. Earthworm activity has also welded together the archaeological strata and the underlying alluvium, destroying evidence of earlier soil profile. It would seem that the dense red clay layer has reduced earthworm penetration and prevented the complete loss of the old ground surface in this part of the site. The high level of earthworm activity in the lower archaeological deposits elsewhere on site suggests that the ground surface was open and not built up during the time they were accumulating.

The early environment of the Redcliffe Area

The soils and sediments at St. Thomas Street can be compared with those elsewhere in the Redcliffe district in order to build a picture of early environmental conditions in the area.

The deposits at St. Thomas Street are very different from those at the Redcliff Backs site on the 13th-century waterfront. A similar suite of analyses has been applied to the deposits at Redcliff Backs as here at St. Thomas Street (Wilson 2000a) and this has allowed their comparison. Partly the contrasting deposit characteristics are due to differences in archaeological process and parent materials, and partly they relate to depositional and post-depositional processes. Many of the differences can be explained by environmental conditions at the two sites resulting from their differing proximity to the river. All these processes have affected the appearance and preservation of the archaeological strata.

The alluvial deposits at the two sites have similar quartz based mineralogies and particle size distributions. The fine stratification of silts and clays at both sites suggests that the alluvia underlying the site of Redcliff Backs were deposited on a floodplain. This was later eroded by the river channel and then reburied by anthropogenic dump deposits which suggests some movement of the River Avon across its floodplain in the past.

The alluvial surface at St. Thomas Street is sufficiently high above the MHWS tide level, and the local water table,

that it was colonised by vegetation and soil fauna, and soil development was able to occur modified by human activity. Such soil development is absent from Redcliff Backs, which would have been close to the active river channel.

Deposition behind the river walls at Redcliff Backs was very different from the accumulation of demolition debris and occupational wastes at St. Thomas Street. The active deposition and fluvial reworking of a range of industrial wastes to make up the ground surface produced a more varied, finely stratified suite of deposits. The increased wetness of the sites closer to the river has inhibited earthworm activity and hence the industrial strata, that have been destroyed at St. Thomas Street, have survived at these sites.

Preservation of depositional strata and organic matter is going to be generally better at the waterlogged sites from the early channel and channel edge, when compared to the heavily mixed and humified residues at St. Thomas Street. However, to concentrate effort on these well preserved sites would give a strongly biased view of the early environment of this area as only the channel edge deposits and the archaeological activities associated with this area would be recorded. There is a pronounced environmental gradient across the Redcliffe area associated with land height and distance from the channel edge. These factors would not only influence the early environment, but also the archaeological use of different areas. Within these sites areas where the water table may have been locally higher, or where relatively resistant strata may have impeded earthworm disturbance, are likely to be better preserved. The fluctuating water table noted at St. Thomas Street in response to changing levels in the Floating Harbour may be one way in which localised conditions of better preservation may have occurred.

Conclusions

The alluvial deposits at St. Thomas Street have accumulated slowly through the vertical accretion of overbank flood deposits. When the frequency of flooding was sufficiently low, the surface deposits dried and vegetation and soil fauna began to colonise the alluvial silts. This led to the onset of a number of soil-forming processes and the development of a soil profile. More than one phase of relative stability was identified in the alluvium. These soils have been heavily truncated, most probably by post-burial biological and chemical ëweldingí processes. However, the soils appear to have been quite shallow and would have been prone to wetness with the shallow, fluctuating water table, and the fine grained, slowly draining substrate. It is difficult to tell whether the lens of charcoal rich material at the very top of alluvium is the remnants of a strongly disturbed Ah-horizon of this soil. On balance, it appears to be archaeological material brought down by earthworms from the 13th- to 14th-century strata above. However, the concentration of 13th-century material within the upper 10-15cm of the alluvium does perhaps suggest some archaeological activity on the now absent surface of an earlier soil.

A red alluvial deposit buried the old soil profile in parts of the site. This stratum, although of alluvial origin, is clearly an archaeological dump deposit. This material is unlike that of the buried deposits in texture and mineralogy, and possibly originates from the Frome valley. Similar textured materials were present at Redcliff Backs where they had been used as make-up deposits in the late 13th and early 14th century.

The 13th- to 14th-century archaeological strata have been heavily mixed. Where the resistant clay layer is absent the archaeological strata have also been mixed into the top of the alluvium, destroying any soil profile that may once have existed. The relatively dry conditions here, compared to the waterfront site at Redcliff Backs, have led to the decomposition and humification of organic matter. Preservation is generally poorer here than in the lower lying sites closer to the water edge.

Despite the poorer stratigraphic and organic preservation, this site has provided a valuable opportunity to study the early environment and human use of this higher lying land behind the main river frontage.

The Geoarchaeology of the Post-Medieval Garden Soils

by Clare Wilson, Terra Nova Ltd

Aims

The aim of this study was to help clarify the origins and formation processes of the late 16th-/17th-century garden soils at 30-38 St. Thomas Street, Bristol. This, it was hoped, would add to our understanding of the potential of such ëgarden soilsí as sources of archaeological information about the processes of their formation, management and use.

Background

The early alluvial soils and archaeological deposits have been discussed above. Overlying the medieval deposits, however, was a series of granular soils, termed garden soils, dated to the late 16th/17th century and this report is based on their analysis and interpretation.

Garden soils are often largely ignored as a potential source of archaeological information because they are assumed to have been heavily reworked by earthworms, soil formation and cultivation. However, the term garden soil that is applied to these dark organic rich deposits does not recognise the full complexity of their different parent materials, methods of deposition, and their use and management. It is important that we understand the origins of such deposits if we are to know how to treat the environmental and archaeological evidence they contain.

Methodology

The soils were initially examined, briefly described and sampled. Samples were taken from the section shown in Fig.30 (Area 1) and from the south facing section of Area 2 (not illustrated). Post-excavation analysis of the bulk, monolith and kubiena samples has included thin section micromorphology, bulk analysis, mineralogical analysis and

magnetic susceptibility. These techniques have helped to identify relict stratigraphy in heavily reworked deposits elsewhere.

Bulk analysis

Undisturbed monolith samples were examined and described using the soil survey terminology of Hodgson (1976). Descriptions were made of the relevant contexts, and changes in soil properties were noted over the length of the columns. Attention was paid to the determination of parent materials, the identification of sedimentary evidence, and the understanding of post depositional processes of alteration including cultivation and soil treatments.

Mineralogy

Two-gram samples of air-dried fine earth were suspended in a dilute solution of Calgon and then wet sieved through 572µm and 87µm sieves. The grains retained on each sieve were dried, and sub-samples were mounted on microscope slides in glycerine. Mineralogical identifications of the sand fraction were made using binocular and petrological microscopes at magnifications of between x2 and x100. Wherever possible, at least 100 coarse sand grains and 150 fine sand grains were counted in each sample.

Micromorphology

Undisturbed blocks of soil were cut from the section using standard kubiena tins (8x6x4cm). Three samples were taken, all from garden soil in the south facing section in Area 2. These samples were treated in the same way as those described above.

Magnetic susceptibility

A rapid assessment of low frequency magnetic susceptibility was made using a Bartington MS2-F small field core. Measurements were made across the surface of the undisturbed monolith samples. This allowed a rapid evaluation of depth trends and the inherent spatial/lateral variability of magnetic susceptibility. Frequency dependence magnetic susceptibility was studied using weighed, 10ml samples of air-dried, fine earth; the magnetic susceptibility was measured at low (0.46 kHZ) and high (4.6 kHZ) frequencies using a Bartington MS2 meter and MS2B lab coil. Samples were taken at 10cm intervals down the monoliths.

Results

The detailed results of the analyses are contained in the site archive but are summarised below.

Often 'garden soils' have been neglected as a potential source of archaeological information concerning the formation of a site because of their reworking by earthworms, soil formation processes and cultivation. However, the 17th-century garden soils examined from 30-38 St. Thomas Street appear to have retained at least some information concerning their parent materials and deposition.

The garden soil in the south facing section in Area 2 was interesting because it clearly contained a deep build-up of material within which were numerous fine strata of charcoal, ash and other anthropogenic materials.

Context 72/156/174 (Period 2) was markedly different from contexts 82/153 (Period 3B) and 155 (Period 3A) and predates the 17th-century garden soils across the site. The granularity of the deposit tells us that this soil has been subject to processes of soil formation at a time when the ground surface must have been open, but there is no evidence surviving that would indicate its cultivation. The increase in haematite coated sand grains and the reddening of the fine material towards the base of the unit suggest that context 72/156/174 and the underlying rubbly layer context 180/181 (Period 2) have been ëweldedí together by earthworms. The mixing of the two deposits probably occurred during the period of soil formation in context 72/156/174.

Inclusions and mineralogy suggest that building debris forms a significant part of this deposit with sandstone, gritstone and limestone fragments together with pink mortar and plaster. Occupational residues in the form of charcoal, bone and shell appear to have been much less important. Some of these building residues could have been inherited from the rubble layer of context 180/181, but there also appears to have been significant inputs of stone distinct from these.

Contexts 82/153 and 155 are similar in the nature and mineralogy of their coarse inclusions, but differ from one another in their structure, texture and variability. Both contexts are dominated by charcoal and contain coal, bone, plaster and a greyish/cream mortar. Charcoal is also dominant in the sand fraction of both contexts. The main difference between these two units is the fine stratification that survives in context 155 but that is rare in context 82/153. The rare bands of charcoal and mortar, however, do suggest that this unit was also originally stratified.

In thin section, the destruction of strata appears to have been the result of biological activity, notably earthworm mixing. Earthworms not only eat the fine soil fraction ejecting it as casts in their burrows and on the soil surface, but their channels also undermine larger inclusions resulting in the movement of all components through the soil. Although fewer identifiable excrements were present in context 82/153 than 155, the finer texture and matrix supported arrangement of this deposit makes it more liable to compression and coalescence. The coarse charcoal in context 155 has created a clast-supported structure within which the excremental aggregates are protected from compression and hence are better preserved despite being uncohesive and more liable to disintegration.

The higher organic content, poorly preserved bone and shell, the dark homogeneous appearance, and granular structure of context 82/153 all suggest this was a topsoil horizon. The similar mineralogies of contexts 82/153 and 155 and the evidence suggesting former stratification of this deposit all suggest that this topsoil formed in the top of context 155, the surface of which would originally have been higher than the present boundary between the two

contexts. Although earthworm activity has been less severe in context 155, there has still been a loss of depositional evidence, particularly towards the top of the unit and of the fine soil matrix.

Charcoal, ash, coal and clinker are significant components of contexts 82/153 and 155, and could originate either from domestic fires and ovens or from industrial processes. The presence of bone, clay pipe and shell does indicate the inclusion of at least some domestic waste. Although there is also plaster, mortar, sandstone and gritstone; building debris does not appear to have been a major component of these deposits. The lack of horizons of soil development within context 155 suggests that these tips of material accumulated relatively rapidly and inhibited soil formation. Once deposition had stopped, earthworms and vegetation were able to colonise the surface and a topsoil developed in-situ within the upper 30cm of context 155, eventually forming context 82/153. The lack of mineralogical differentiation between contexts 82/153 and 155 means that it is unlikely that soil materials have been brought onto the site from elsewhere. It would appear that this soil surface was open until it was sealed beneath the layers of later post-medieval made ground and concrete.

The sections illustrated in Figures 30 and 31 (Area 1) contained 'garden soil' deposits that had been strongly reworked and seemed to retain far less of their original depositional structure. These deposits are far more typical of those types of deposits that are normally termed 'garden soils'.

The lower garden soils in Fig.30 appear to consist of two quite different deposits. The lower of these, context 54/71, is dominated by quartz sand and very fine charcoal fragments and contained coarse inclusions of charcoal, plaster, mortar, sandstone and limestone. By contrast, context 20 contains a much higher proportion of coarse charcoal, shell and bone and far less sandstone and limestone. There is also a very clear division between the magnetic susceptibility of the two deposits with high susceptibility in context 20 and consistently lower susceptibilities in context 54/71. These two materials, therefore, clearly have very different origins, whilst the sharp divide in mineralogy and magnetic susceptibility suggests that there has been very little mixing between them. Context 54/71 seems to contain a greater proportion of building debris, and context 20 contains more domestic residue. However, both deposits have been strongly reworked and much of the subtler depositional evidence has been destroyed by earthworms. The fact that both deposits have clearly been subject to earthworm activity but have not become 'welded' together, suggests that there have been at least two phases of deposition and soil development. Weak bands of coal, charcoal and mortar in both contexts, however, do suggest that they are formed from a series of tip deposits that accumulated over time. It also suggests that context 54/71 was buried relatively rapidly beneath the deposits which now form context 20.

The Roman dark earth soils are similarly homogeneous, soily deposits (Macphail 1983) and have sometimes been shown to contain soil materials imported onto the site from elsewhere to provide a suitable growing medium. No soil aggregates are identified in these samples that would suggest the addition of 'soils' brought onto the site from elsewhere, however, these deposits have been so strongly reworked that any evidence could have been destroyed. Thin section analysis might have helped to distinguish between granular structures inherited from parent soils and granularity that has developed in-situ.

Indicators of cultivation may include soil structure, movements of clay and silt through the profile, evidence of manuring, surface morphology and soil depth. Soil structure is a relatively impermanent soil property. Reworking, compression and exposure to rain splash can destroy structures associated with cultivation practices. The movement of clay and silt and their deposition as coatings around channel voids appears to be soil specific, i.e. only soils with certain chemical and physical properties are susceptible. In urban soils, where occupation and cultivation occur side by side, it can be very difficult to distinguish manuring residues from materials incorporated into a soil from its 'parent' deposits. Whilst surface morphology (for example ridges and furrows) and soil depth are very much dependent on the type of cultivation. Identification of the former cultivation of a soil, therefore, can be far from straightforward.

There are no structural, morphological or micromorphological indicators of cultivation surviving in the soils examined from 30-38 St. Thomas Street. The organic components of manures added to a soil is usually very strongly humified and is rarely identifiable. Manured soils may be darker in colour because of their increased organic content but if they are intensively cultivated then there may be no discernible difference between the cultivated and non-cultivated topsoil. There is, however, usually a proportion of more resistant cultural material that is incorporated along with the manure, either accidentally or deliberately as a soil treatment. Ash, for example, may be added to raise pH and improve soil fertility. Ash, and associated fine charcoal, was common in these soils, but probably had not been added deliberately as a soil improver. It is more likely, certainly in the garden soil in the south facing section in Area 2, that this material had been inherited from the deposits in which the soils have formed, and in these anthropogenic soils no further mineral amendments would be required. In these soils, therefore, there is strong evidence that they were cultivated, though this is not ruled out.

These soils would have formed the gardens/back yards of a number of properties fronting onto St. Thomas Street. Differences in use between and within the garden soils of these properties, therefore, should be reflected in the soil characteristics. The marked differences between the ësoilsí in between Areas 1 and 2 seem to confirm this. Differences in soil properties over time (contexts 54/71 and 20, and contexts 82/153, 155 and possibly 72/156/174) suggest that

the function and use of these areas also varied over time. Although the subtleties of how these soils were being formed and used have been lost by reworking and post-depositional processes.

The garden soil in the south facing section in Area 2 records a sequence of tip deposits of ash, charcoal, clinker and coal with lesser amounts of bone, shell and other domestic refuse. These deposits appear to have accumulated rapidly and to a depth of between 0.4 and 0.6m. The surface of this deposit then seems to have been left open, and a soil developed as earthworms and vegetation colonised its surface. It is hard to imagine that these coarse ashy deposits would have provided a good growing medium and there is no evidence surviving in the soil to indicate that any attempts were made to improve it. However, the development of the topsoil (context 82/153) would have provided a material that could have later been worked. These soils are relatively uncohesive and we might expect that cultivation would have resulted in the movement of clay and silt and the formation of clay coatings. None were identified in the samples and cultivation, therefore, seems unlikely.

The section in Fig.30 records a different sequence of events. These deposits have been more heavily reworked and hence less depositional evidence survives, but the first soil context (context 54/71) formed in a series of tip deposits, which included a high proportion of building debris. A later phase of deposition, including a higher proportion of domestic waste then accumulated over the top of soil 54/71, and a new soil developed within these deposits forming context 20. No evidence of cultivation was identified in either of these deposits. However, these finer textured deposits would have provided a better growing medium than contexts 82/153 and 155, and it is possible that with biological reworking and the temporary nature of many cultivation indicators in soils, any evidence could easily have been destroyed. The different soil properties of context 20 from the sections illustrated in Figs.30 and 31 suggests that even within a very small area there are differences in the soil parent materials and therefore their processes of formation and possibly their use. However, the disturbed recovered samples from the section shown in Fig.31 do not provide structural information which could allow us to say more about what these processes may have been. There also seems to have been a general trend in the parent materials of these deposits over time from building materials - some of which may have been inherited from the earlier rubble and destruction layers - to domestic wastes.

The deposits in the sections shown in Figs.30 and 31 appeared homogeneous in the field, but careful analysis has shown that although the fine material - dark amorphous organic matter and clays - have been homogenised, some of the coarser inclusions do retain their original depositional stratigraphy. In the garden soil in the south facing section in Area 2, the depositional structure appeared to have been very well preserved when here too the fine matter had been essentially homogenised, leaving relict strata of coarse inclusions. The difference between these sections appears to have been in the proportion of fine matter. The appearance of the finer textured deposits being dominated by the homogenised fine matter, whilst in the coarser textured deposits it was the stratified coarse inclusions which dominated how the deposits were seen by the excavator. The field colour of the earlier 17th-century deposits seems to have been dominated by the dark charcoal, plaster and mortar. When the soil is cut and cleaned these components produce a greyish colour. In the later soils the higher organic content and lesser amounts of plaster and mortar produced a predominantly brown rather than greyish colouration.

Conclusions

The garden soils at 30-38 St. Thomas Street seem to have been formed from, and in a series of, tip deposits consisting primarily of building debris, domestic waste and ash. The nature of these deposits appears to have varied spatially and through time and to have given rise to a series of soils which would have been quite different in their properties and their suitability as growing media. No evidence of cultivation, deliberate manuring, or importation of soils has survived in these soils. To attempt to determine whether this is because reworking has destroyed the evidence or whether no cultivation was being practised would require much wider reaching analysis involving a range of environmental specialists.

Despite the obvious over-simplification of the term 'garden soil', these deposits are rarely investigated further because it is assumed that they have been heavily reworked. The garden soil deposits from 30-38 St. Thomas Street have shown that even where little obvious depositional structure survives, analysis of these soils can reveal important archaeological information about their parent materials and depositional processes. However, reworking may have destroyed finer depositional structure and evidence of subtle cultivation indicators. Although the interpretation is compromised by reworking, much useful archaeological information has been gained from these deposits and it certainly indicates that the potential of such deposits for further investigation should not automatically be discounted.

TENEMENT HISTORIES

by Dr Roger H. Leech

Notes

1. All alphanumeric references not prefixed with a source or location are to material in the Bristol Record Office.
2. Bibliographic references cited in the text can be found in the main Bibliography at the end of this report.
3. Christian names have generally been standardised throughout, surnames are usually as cited in the original texts.
4. Unless otherwise noted, individuals cited from deeds

and analogous documents are described as of Bristol.
5. The post-medieval term 'Corporation' has generally been substituted for other often earlier terms occurring in the sources, such as 'mayor and commonalty' and 'chamber'.
6. All references to 1775 are to Sketchley's Directory unless otherwise indicated.

Abbreviations Used in the Text

*	fixed or known tenement
ft and ins	feet and inches
BL	British Library
PRO	Public Record Office

Redcliff Street

Nos. 56-7, property of St. Mary Redcliff *

In 1337 this was the tenement bequeathed by Hugh le Proute to Agnes his wife, in 1338 leased by her to Hugh de Clere, granted in 1346 by her to Hugh de Clere for a chaplain in St. Mary Redcliff to celebrate masses for the soul of her husband. In 1366 and 1378 these were the two tenements extending to the Law Ditch quitclaimed by John Freo and Margaret his wife to Master Nicholas Geyl clerk, and Robert Spelly and William Brent, in 1401 by Simon Uphulle and Walter Newcombe to Henry Brent and Robert Brous. In 1441 these were the two shops and gardens, leased [rent 20s] by the wardens of St. Mary Redcliff to Henry Bowcher weaver (5163 (104, 109, 162, 208, 233)).

No. 56, property of St. Mary Redcliff *

In 1754 this was the tenement heretofore divided into three known as the Three Boars Heads, now of William Young cordwainer, extending back to the Law Ditch, by 1776 in the occupation of Peter Hickes (P/StMR/D/1/15 and 16; abuttals from nos 55 and 57).

No. 57, property of St. Mary Redcliff, the Abby or King's Head *

By 1617 this was the tenement known as 'the Abby' leased to John Thomas mercer. By 1660 it was the tenement in the occupation of Edward Hopkins known as the King's Head. In 1754 it was still referred to as 'the Abby' in the deeds of St. Mary Redcliff, perhaps using an otherwise long abandoned name for the property, heretofore of Elizabeth Harper, after of Edward Hopkin smith, since of John Templeman and late of John Weaver Grace victualler. In 1775 and by 1776 it was of Edward Sanders grocer as tenant to William Acraman lighterman. By 1787 it was of --- Bishop distiller (P/StMR/D/1/15 and 16; abuttals from no 58).

No. 58, property of St. Augustine's Abbey, then of the Dean and Chapter, the Bear *

By 1378 this was the tenement of St. Augustine's Abbey; by 1441 it was held by John Vyelle (abuttals from nos. 56-7).

From 1660 it was leased to William White cooper, from 1680 to James Coles clothworker and from 1687 to Paul Moone innholder who now lived there, his lease being renewed in 1701 (DC/E/1/2 fol.29, DC/E/1/3 fols.108 and 295, DC/E/1/4 fol.75). By 1752 it was known as the Bear and by 1754 was of Robert Jeffery innholder (P/StMR/D/2). From 1773 it was leased to William Acraman of Bedminster lighterman, and from 1787 to William Coram innholder and Mary Savery widow, now known as the Bear. It is shown on plans of the early 19th century with the passage to the Bear Inn on the north side (DC/E/1/6 fol.107; DC/E/3/4 fol 152; Church Commissioners lease 220, where shown on plan of 1863 as no. 58). The last lease from the Dean and Chapter was of 1857 to John Williams, of two tenements formerly one and known as the Bear, subsequently of Thomas Short hatter and Robert Davy, after of Isaac Davis and Charles Jefferies and one now of Thomas Williams plumber and glazier, the other void. The property was purchased for street widening in 1876 (05832).

No. 59 *

By 1660 this was the tenement of Tobias Davies, by 1687 of John Richards. In 1719 this was the tenement of the assignees of the estate of Francis Brittain decd. Now granted to Edmund Lewis baker, formerly of Manasses Boult, since of Morgan Thomas brewer and now of Ann Knight widow. Lewis was there in 1739. By 1775 it was occupied by Edward Linford engraver. In 1787 it was of --- Allen widow. In 1790 it was granted by Mary Lewis widow to John Birtill currier and George Biggs accountant. In 1801 it was granted by John Birtill to John Wilmot Lancaster, now occupied by Lancaster and Birtill, in breadth 13ft and in depth 163ft. By 1876 it was occupied by Jacob Joel bootmaker, at no. 59 in the 1876 street directory (abuttals from no 58; 05834; no. 29 on the street improvement plan of 1876).

No. 60, the City of Bristol *

In 1712 this was the tenement lately built by Joab Knight, where he lived, one moiety of this being demised in his will to Anne his wife. In 1719 it was of Anne Knight. In 1739 it was the tenement with two small tenements behind, by 1749 formerly of Ann Knight and now of Robert Watson victualler, known by the sign of Bristol, the two small tenements behind occupied by --- Love cordwainer and by --- widow. By 1801 it was of John Birtill and James Clarke grocer (abuttals from no 59). The property was purchased for street widening in 1876, nos. 26-7 on the plan for the scheme (05822, 05842).

No. 61, the Sugar Loaves *

In 1640 this was the tenement formerly of Robert Brinkworth cooper and now of William Snow feltmaker, by 1668 the land late of John Clarke and after of Edward Hitchins (abuttals from no. 62), in 1718 sold by Ann Knight widow to Katherine Tylee. By 1712 and in 1739 this was the tenement of Thomas Ross soapmaker, father of Josiah Ross (abuttals from nos. 60 and 62); from 1748 the property was held by Josiah Ross (05850). By 1775 it was occupied by John Cook soap-boiler and chandler. From 1777 it was

held by Messrs. Randolph and Oliver, from 1798 by James Clark grocer and Joseph Dyer distiller, the property shown on a plan of that date. In 1845 it was described as being only 16ft on the street frontage, widening to 39ft at the rear, the premises behind now a sugar house. John Clark's mortgage to William Rees included the sugar pans, coppers, furnaces and other fixtures together with the warehouses and sugar house, all formerly of James Clark and after of Messrs. Savery and Seward sugar bakers. By this date the part on the street front had been used for many years past as a spirit shop and public house known as the Sugar Loaves, formerly of James and then of John Clark, now tenanted by William Wookey. The property was purchased for street widening in 1876, no. 25 on the plan for the scheme (05850).

Nos. 62 and 63 *

In 1640 these were the two tenements one formerly of John Crowch carpenter and now of Francis Burke brewer, the other formerly of Henry Weaver mariner and now of William White cooper, together with a third tenement lately of Tobias Bateman shoemaker and now of Thomas Day labourer, so much of that tenement as is 'belowe stayers', namely 'the shopp, the hall, the pavement with an out howse' and half of the garden, all now leased by William Jones yeoman, son of John Jones cooper and Joan his wife, both decd., to Joan Clarke widow, late wife of John Clarke cooper, in consideration that after William James's sister Elizabeth (the wife of Thomas Day labourer) should die, Joan Clarke should provide for William 'sufficient meate, drinke, lodgeing and apparell' during his lifetime. In 1668 the two tenements were granted by John Clarke watchmaker, son and heir of John Clarke cooper, to John Shuter milliner, the two tenements late of White and Burke now leased to Edward Bastin shoemaker and Eleanor Haggatt widow. The tenements were held separately from 1687 (05819).

No. 62 *

In 1668 this was the tenement of Eleanor Haggatt widow. In 1687 it was the northerly of the two tenements, formerly of William White cooper, since of Eleanor Haggatt widow and now of William Green as tenant to John Shuter, now owned by Joshua Shuter of London and John, milliner, his brother. It was sold in 1712 by Richard Shuter of London to George Yeamans clothier, now occupied by William Bird labourer [Thos Roass on north and --- Cornish on south], in 1722 demised by Yeamans to his sons Frederick and Joseph, the house now occupied by his mother in law Mary Orchard. In 1736 the property was sold by George Frederick Yeamans to Margaret Braine widow, it now being described as the 'tenement and pott house lying behind the same ... late of Mary Orchard widow, since of Ralph Eaton potter' [tenement of George Ross soapmaker on north and tenement now of widow Rowston on south]; the 'tenement and pott house' had been built there by George Yeamans 'in the roome and place of a certain ancient ... tenement pulled or taken down' by Yeamans. By 1775 it was occupied by Hill Colliott gunsmith. Prior to 1779 it had been of James and Samuel Mereweather cork cutters. By 1784 it was formerly of Joseph Taylor potter and now of Robert Russ. The property was described in an auction announcement for 28th September 1798 as 'a convenient freehold brick-fronted dwelling house, ... a shop in front, parlour behind, convenient offices, a cellar, 4 spacious bedrooms, and large garret extending over, plenty of both sorts of water ... rendered extremely eligible for a large business, the extent from Redcliff-Street to the Law-Ditch being 148 feet, and the principal part thereof covered in as a warehouse with a loft over ...'. The property was purchased for street widening in 1877, no. 24 on the plan for the scheme (05819; identified as no. 62 Redcliff Street in the accompanying schedule (06494(2) fol.38).

No. 63, the Royal Oak, later the London Brewery *

By 1703 this was the tenement and garden heretofore of Edward Bastin, after of John Orchard mariner and since of Capt. Pearner as tenant to Mary Orchard and now of John Browning currier, now granted by Mary Orchard widow and others to Browning. By 1779 it was known as the Royal Oak, late of Thomas Stratton and then of Thomas Lewis, 17ft 10ins wide on the street front, now sold by Messrs Browning and others to John Lewis. It was sold by Mrs Elizabeth Lewis to Thomas Justice in 1794, and by Justice to John Taylor in 1812. By 1847 it had been renamed the London Brewery. The property was purchased for street widening in 1877, no. 23 on the plan for the scheme (05831).

No. 64 *

In 1640 this was the tenement late in the occupation of John Kinge cooper and now of Phillip Morley milliner, by 1668 of Mary Morley singlewoman, by 1687 of John Orchard mariner, by 1703 of John Freke (abuttals from nos. 62-3). In 1784 this was the property sold by John Willes and John Joseph Freke Willes his son, the inheritors of Philip Freke esq., to Messrs. Westcott and Hobbs, the three messuages formerly between a garden of Philip Worley on the south and a tenement of one Buck on the north, described in more detail as three lately uninhabited tenements and a cooper's workshop behind the same, now or late of Aminadab Randall cooper as tenant to John Willes, 26ft in width on the street front [tenement of John Richardson gardener on the south and the Royal Oak of --- Lewis glazier and publican on north]. In 1794 this was the tenement late void and now of Jasper Westcoat brazier (abuttals from no 63). Westcott and Co. owned the property for the next eighty years and contested in the Court of Chancery its purchase for street widening in 1877, no. 16 on the plan for the scheme (05847).

St. Thomas Street

Nos. 87-90, property of St. Mary Redcliff *

In 1325 this was the garden, house and land granted by

Isabella widow of Stephen de Yeule to Hugh le Proute, formerly acquired by her husband from Robert Seuare clerk, in 1337 bequeathed by le Proute to Agnes his wife, granted in 1346 by her to Hugh de Clere for a chaplain in St. Mary Redcliff to celebrate masses for the soul of her husband, the property described then as 'a grange in a curtilage'. In 1366 and 1378 this and the property to the south were the curtilage with buildings thereon next to the Reckes, between the curtilage of John Bathe, Stephen Ruddock by 1378, on the south and that of William Canynges on the north, extending from St. Thomas Street on the east back to the Law Ditch, first granted and then quitclaimed by John Freo and Margaret his wife to Master Nicholas Geyl clerk, Robert Spelly and William Brent, presumably acting on behalf of the church of St. Mary Redcliff. By 1401 the land to the north was held by John Canynges, the property now being enfeoffed by Simon Uphulle and Walter Newcombe to Henry Brent and Robert Rous (5163 (70, 104, 130, 131, 162, 177, 208)). By 1549 the property and rack were leased to Master Salbridge (P/StMR/D/1(a)), by 1569 to Thomas Kyrkland (ibid. and abuttals from nos. 92-5), and from 1572 to Thomas Tailor, grocer, now described as a lodge and garden together with a rack [stable and garden ground of Thomas Prynter on north and garden of Alice Jones widow on south] (P/StMR/D/4/1; rent of 9s enables property to be traced). The garden of Alice Jones was part of the same St. Mary Redcliff holding, let at an annual rent of 13s 4d. The rents for the two properties were paid by the same parties from 1572 onwards, first by Kyrkland, from 1593 by Mr Gibbes and from 1606 by William Brock (P/StMR/D/1/a-d). By 1617 the garden was leased with no. 57 Redcliff Street (P/StMR/D/3/7).

No. 87, property of St. Mary Redcliff *
In 1671 this was the tenement of St. Mary Redcliff held by Thomas Price. By 1721 this was held by John Price glover, by 1768 held by Thomas Harper (abuttals from no 88).

Nos. 88-90, property of St. Mary Redcliff [rent 12s] *
In 1635 this was the ground lately separated from no. 91, now in the occupation of Ralph Farmer (abuttals from no. 91). In 1663 this was the great garden leased to Elizabeth Harper, in 1671 late of Ralph Cooke as her tenant, extending from the street to the Law Ditch, the tenement of St. Mary Redcliff held by Thomas Price on the south, the tenement of St. Mary Redcliff late of Ralph Cook and now of Abraham Saunders on the north (P/StMR/D/4/20).

No. 91, property of St. Mary Redcliff [rent 20s] *
In 1620 this was the tenement or stable, rack yard and ground leased to Matthew Warren clothier, in 1635 'wherein a tenterne or rack for clothe nowe standeth' and 'one quicksett hedge thereon growinge' now leased to William Warren shearman his son. Reserved out of the lease was a piece of land 4ft wide providing access from the back door of the tenement known as 'the Abbey' (see no. 57 Redcliff Street) to the property to the south held by Ralph Farmer; the latter had recently been separated from the property held by Matthew and then William Warren. The same property was leased in 1656 to Francis Fisher brewer and in 1671 to Abraham Saunders, a second lease made the same day enabling him to combine it and the great garden to the south (P/StMR/D/4/14 and 20).

Nos. 88-91 combined, property of St. Mary Redcliff, Warren's glasshouse *
In 1721 this was the property leased to Richard Warren glassmaker, consisting of a new tenement built where the tenement or stable formerly stood together with the glasshouse, warehouses and buildings erected by Warren on part of the rack yard or great garden. In 1768 the same were leased to John and Thomas Warren, Richard Cannington, Richard Reynolds and William Cowles, all glassmakers, a plan endorsed on the deed showing the property in detail. The glasshouse had evidently ceased to be used by 1775 when the property was leased to William Acraman lighterman, now described as a tenement and a 'ruined or decayed glasshouse' (P/StMR/D/4/26 and 29).

No. 88 from 1789 onwards *
The southern part of the former glassworks was leased from 1789 to James Allen manufacturer of statuary, from 1803 to John Steele mason (P/StMR/D/4/48).

Behind nos. 88-91, from 1789 onwards the yard to the Bear Inn, later including no. 90 *
The land behind nos. 88-91, together with an entrance to St. Thomas Street was from 1789 leased to William Coram innholder, serving now as the yard for the Bear Inn at no 59 Redcliff Street; a plan endorsed on the deed of 1789 shows the yard in detail. By 1803 the lease, now to James Burleigh, included no. 90 St. Thomas Street, the small tenement adjacent to no. 91; the tenant was now Robert Joyce victualler. Subsequent leases were to James Clark of Congresbury from 1817, to William Stanton victualler from 1831 and to John Stanton of Middlesex from 1862 (P/StMR/D/4/29, 44, 52 and 54).

Nos. 90-1, the Bacchus, later the Duke of York *
In 1789 no. 90 was the small tenement where John Rodway breeches maker lived; no. 91 was the tenement formerly built by Richard Warren now the Bacchus public house, together with a warehouse now made into part of the dwelling house, all now leased to John Yeates. The property is shown on a plan endorsed on the lease. By 1803 no. 91 was known as the Duke of York, late of Peggy Wyatt widow, now leased to John Peters and Daniel Stanton as co-partners. It was still the Duke of York in 1889 (P/StMR/D/4/29, 44, 51).

DISCUSSION

The lowest deposit encountered at between 6.8 and 7.1m AOD was the river alluvium, consisting of a grey-brown silty clay loam which became browner in colour towards its

surface. Pollen recovered at various depths through the upper 70mm of the alluvium suggest that it had accumulated in a largely treeless environment. Although pollen was present from oak, alder, birch, elm and hazel, these are all trees which could have grown individually or in small copses in the river valley. The herbaceous pollens and seeds indicate that the surface of the flood plain was a rather weedy grassland, the plants being typical of alluvial marshes on which brackish conditions occurred from time to time. Interestingly pollens increased at a depth of 60 to 70mm below the surface of the alluvium which is indicative of a lower, buried surface around that level, perhaps exposed for only a short period before burial by further alluvium.

There was only a gradual boundary between the alluvium and the overlying archaeology with no obvious soil horizon surviving between them. It seems likely that the lack of a soil horizon was due to a mixing of the buried soils and the overlying archaeological deposits, making the identification of the exact position of the former surface impossible.

The first evidence of human activity on the site was the occurrence of a few sherds of 12th-century pottery in the extreme upper surface of the alluvium. Some residual sherds of that period were also present in later contexts. The archaeological evidence was insufficient to suggest occupation of that date on the site but the pottery sherds presumably derived from 12th-century occupation in the vicinity. This may have been just to the west at no. 58 Redcliff Street where the earliest documentary reference to the property, found in the cartulary of St. Augustine's Abbey, probably dates to the 12th century. That date corresponds with the results of archaeological work carried out elsewhere in Redcliff Street indicating that occupation commenced on the street frontages in the 12th century.

Neither the excavation nor the documentary research suggest that occupation had begun at no. 30-38 St. Thomas Street before the construction of the Portwall in the 1240s.

A number of shallow pits cut into the alluvium in Area 1 of the present site were the earliest features discovered. They had been deliberately backfilled with pottery kiln waste dating to the 14th century and of a type belonging to the so-called 'Bristol/Redcliffe-ware' pottery industry. A petrological examination of the pottery waste confirms that it is similar in composition to that found at nearby Redcliff Hill in 1970 implying that both the Redcliff Hill and the St. Thomas Street material derive from a pottery or potteries located close by. It has been suggested by Knowles that the clay used in the pottery production may have come from alluvial or river gravel terrace deposits and it is possible that the pits containing the waste were dug to exploit the alluvial clay for potting.

The occurrence of early pits in Area 1 corresponds well with the information obtained from the excavation further south on the corner of St. Thomas Street and Portwall Lane where the earliest activity occurred during the 14th century and consisted of the digging of pits, possibly for the extraction of the alluvial clay.

It seems likely that the pits were dug and backfilled before occupation commenced on the site. We know that had occurred some time before 1325 when Isabella de Yeule was noted as owning 'a garden, house and land' here. This fits in well with the first certain archaeological evidence for occupation which consisted of a layer overlying the alluvium containing pottery dating from the second quarter of the 14th century.

Of particular significance was the east/west V-shaped ditch found in Area 1 which almost certainly defined a property boundary established at this time, perhaps dividing the de Yeule land at nos. 87-90 St. Thomas Street from that owned by William Canynge at no. 91 St. Thomas Street to the north. The boundary ditch was reinforced by a wall along its south side later in the 14th century. The east/west ditch found in Evaluation Trench 3, which produced mid 13th- to 14th-century pottery, probably represented the southern boundary of the de Yeule property.

The only evidence for a medieval building found during the excavation was the early 14th-century north/south wall in Area 2 which had been built on the surface of the alluvium, and was most probably the rear wall of a house fronting St. Thomas Street. If that is the case then the medieval street was much narrower than it is today as the remainder of the house must lie beneath the modern pavement and road. The medieval wall almost certainly belonged to the 'house' or 'grange' mentioned in the documents of 1325 and 1346. Other structures associated with the 14th-century building were the pitched stone surface in Evaluation Trench 3 and the stone surface and circular stone feature, probably a well, in Evaluation Trench 5.

Archaeological evidence for the continuing occupation of 'the grange' during the 15th century was the re-cutting of the northern boundary ditch and the digging of some pits for the disposal of rubbish.

The medieval house was largely demolished in the 16th century and the mortar and rubble derived from its destruction spread across the area. An examination of the demolition debris shows that it was a house of some status having carved freestone window and door openings and a roof of Pennant sandstone tiles finished with green glazed crested ridge tiles. Some walls of the building seem to have been left standing as the wall in Area 2 survived, at least in part, until its clearance in the early 18th century.

Following the demolition of the medieval house we know from the documentary sources that the area was used for drying cloth, a cloth drying rack or 'tentor' on nos. 88 to 91 St. Thomas Street being first mentioned in 1549.

In the latter half of the 16th century a lodge was built on the site and that property included a 'garden ground' and a rack leased to Thomas Tailor. The lodge was certainly in existence by 1572, a date that fits in well with the archaeological evidence of a late 16th-century date for the deposition of the first level of the post-medieval garden soils. Rather than resulting from a gradual accumulation of material it seems likely that the soil for the garden was

brought in from elsewhere and dumped over the earlier demolition levels.

The garden soil spread over both the northern and southern boundary ditches suggesting the amalgamation of the medieval plots at that time. However, in 1635 no. 91 was described as 'lately separated' from nos. 88-90 although there was no archaeological evidence of a boundary. It is possible that the boundary was formed by the 'one quicksett hedge thereon growinge' mentioned in the lease.

The evidence for the use of the area as gardens in the 16th and 17th centuries concurs with that found during excavations close by at nos. 68-72 Redcliff Street and on the corner of Portwall Lane and St. Thomas Street.

By about 1715 the lodge and garden had gone, replaced by Richard Warren's glassworks. The layout of the glassworks as it existed in 1768 is shown on a plan attached to a lease of that date. On the street frontage on the south side of the main gate were a stable and warehouse while to the north was a newly built tenement with an office, two parlours and a kitchen on the ground floor. To the west of the tenement were a warehouse and pot house while a warehouse and mill house fronted the common sewer or Law Ditch. In the centre of the plot was the circular glass cone, also shown on Millerd's map of c.1715 and Rocque's map of 1742, with structures built at points around its circumference.

The location of the substantial curving wall found in Evaluation Trench 4 is consistent with it being part of the south-west portion of the glass cone. A number of rubble filled pits containing some glass slag apparently date to this period and may be connected with clearance prior to the construction of later buildings connected with the glassworks complex. A path across Area 2 was probably also connected with the glassworks but must pre-date the structures shown in this area on the 1768 plan.

Glass production had ceased on the site before 1774 when the glasshouse 'not used for some time' was blown down and in December of the same year the 'ruined or decayed glasshouse' was leased to a William Acraman. The greater part of the property then became linked to and part of the Bear Inn at no. 58 Redcliff Street, serving as its yard, stables and coach house.

It has been difficult to relate the post-medieval and early modern structures found during the excavation to those shown on contemporary plans. However, the early 18th-century wall found in the north-east corner of Area 1 and the later 18th-century cellar walls revealed in the same area were parts of the two separate buildings, formerly part of the glassworks, situated to the north of the entrance to the Bear Inn yard. In 1789 the larger of these was the Bacchus public house, renamed the Duke of York in 1803 and remaining as such until 1889, when it was demolished for the construction of Edward Ringer and Company's tobacco factory.

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Abbreviation
TBGAS - Transactions of the Bristol and Gloucestershire Archaeological Society.

AVON - AN IMPERIAL PAGUS?
A DISCUSSION PAPER
by Keith S Gardner

SUMMARY

This paper is intended to examine a series of Roman period sites in the Counties that used to be Avon. By a peculiar coincidence the area which was politically contrived out of old Saxon shires may also have been created, under Roman administration, into a separate Canton from the Celtic tribe-lands, if we are to believe the Classical geographers and their scholarly interpreters.

Regardless of the validity of this theory however, there are a number of sites and features, which have long been regarded as anomalous, when compared with other areas of Roman Britain, but having been considered individually, have been dismissed as unexplained enigma. Even so, one suggested solution for consideration appears to be common to all; that the hand of the Imperial authority was upon the land.

Hopefully reviewing these sites as a group may add weight to the argument, although it must be accepted that the evidence is circumstantial. This is not intended to be a complete survey of the area in Romano-British times but only of a few selected sites and relevant features.

INTRODUCTION

With the coming of Romanitas, it is claimed, there was a deliberate political move by the Imperial authorities to create a new and ostensibly non-tribal Canton of the Belgae. Locally the effect would have been to separate North Somerset and South Gloucestershire from local government in Cirencester or Ilchester, or even one might suggest from its distant Civitas at Winchester, but is there any internal evidence to suggest that this area was dealt with in any different way, or had any different status, compared with South Somerset or North Gloucestershire?

For the purposes of this paper the area in question is not restricted to the arbitrary 20th-century political boundaries, but to more relevant and hopefully objective geographical landmarks.

North Somerset is thus defined as bounded on the west by the sea from Avonmouth to the Axe, along the Axe through Cheddar to Wells and on to the Fosse Way at Shepton. From here the boundary would run north east to include Bath and back along the Bristol Avon to the sea. South Gloucestershire would naturally lie north of the Avon, bounded on the west and east by the Severn and the Fosse, but 'sealed' by the northern edge of the Carboniferous Limestone from Cromhall round into the Sodbury vale.

There are a number of ways in which 'Avon' differs from other, even local areas in Roman Britain, many of its sites are unique, or peculiar or at least worthy of remark.

1. The putative Canton of the Belgae.
2. The Imperial mines on Mendip and a predominance of metal working.
3. The Reclamation of the North Marsh and the Lower Berkeley Vale.
4. 200 year continuum of native agriculture.
5. The absence of wealthy mega-villas and the development of small late villas.
6. Gatcombe walled Complex.
7. The early military settlement at Sea Mills.
8. The network of roads.
9. The Town of Bath.
10. The Geology.

THE CANTON OF THE BELGAE

Our basic evidence for early political structures is slight to say the least. Contemporary evidence for the pre-Roman Iron Age tribal 'Land of the Dobunni' is based on coinage distribution and the occasional description of Cirencester as Corinium Dobunnorum, together with an oblique reference to a tribe called the 'Bodunni' (*sic*).

The theory that 'Avon' lay within a supposed Canton of the Belgae is built on similarly flimsy foundations. Caius Ptolomaeus compiled a 'Geography' of the known world in circa AD.150. The earliest extant copies are medieval (12th century), and the accompanying maps cannot be regarded as totally reliable. The names of the Cantons show the Belgae between the Dumnonii to the south and the Dobunni to the north and the word runs beneath *Iscalis* (shown on the Somerset coast) and *Aquae Calidae* (Bath). This latter *polis* is also listed as being within the Belgic Canton. There are however worrying omissions and misplacements on what at best is a medieval copy if not a pure contrivance.

The Canton as shown in Rivet (1958) would have to have been formed by taking land from three tribes, the Durotriges, the (Belgic) Atrebates and the Dobunni, apparently with a Civil Administration based at Winchester (Venta Belgarum) (Frere 1987). This would have effected a strategic land-link between the port at Sea Mills for South Wales and Hamworthy on the Solent for access to and from Gaul. With the metallic wealth of Mendip, and the anticipated wealth of Wales, there was perhaps logic in creating a 'highway' across Britannia involving the shortest

Fig.1 The Mineral Wealth of the South West (after Jones & Mattingly 2002). Vespasianis II legion fought hard through the land of the Durotriges to reach the mineral rich South West, establishing his Legionary HQ at Exeter, and taking the Mendip mines at an early date.

sea crossings. The area of Salisbury Plain and Cranbourne Chase have long been regarded as possible Imperial Estates, (Branigan & Fowler 1976) administered from Winchester, supplying agricultural products to the army and Imperial administration. Corn and agricultural products could therefore be shipped to the continent via the fleet in the Solent, or alternatively to the army in South Wales.

As indicated the Canton has been accepted by two of the greatest Roman scholars, of recent years, Leo Rivet (with caveats) and Sheppard Frere, whilst Cunliffe (2000, 127) also gives it due credence. However it must be stated that the definitive 'Atlas of Roman Britain' (Jones & Mattingly 2000) restricts the Canton of the Belgae to the area around Winchester and allows the Dobunnic Canton to extend to the Somerset marshes.

Regardless of whether or not 'Avon' lay within a postulated Belgic Canton however it has many problem sites which must be explained.

THE IMPERIAL MINES ON MENDIP

"Lead is used for pipes and sheets. In Spain and throughout the whole of Gaul it is extracted with considerable effort; in Britain however it is so abundant within the upper layers of the earth that there is a law forbidding its production beyond a certain amount". Pliny the Elder.

There is no disputing the fact that North Somerset contains examples of demonstrably Imperial involvement in mineral extraction, initially by Legion II within 5 or 6 years of the invasion, and with a road system connecting to the Fosse Way, and to Gloucester via the crossing of the Avon at Bitton (?Trajectus).

One salient point here is the fact that, apart from the Weald, 'Avon' was among the first mineral bearing areas reachable by the Legions. Mineral working was always an Imperial monopoly, overseen by an *Imperial Procurator Metallorum*, and probably with a policing detachment of the military on hand. The authority of a Province was ostensibly in the hands of a Governor, who was directly responsible to the Emperor for the Military, the Administration and the Judiciary.

However there was an office of the Procurator (Fiscal), himself directly responsible to the Emperor. It should never be forgotten that the sole Imperial purpose was to make the Province profitable for Rome and to ensure that the proceeds went directly to Rome. Thus it was the Procurator who was responsible for Tax Collection, Imperial Estates and Mines & Quarries. Any 'civilians', if not the official staff of the Procurator, would have been entrepreneurs operating under licence. Presumably raw materials such as iron were sold to private users, although there is evidence that Lead, bearing the Imperial seal, was transported out of the country. Britannia indeed was so rich in this metal that its production was limited to protect the economy of other parts of the Empire (Pliny, above).

Charterhouse-on-Mendip

This was the major site in southern Britannia for the mining of galena, and its conversion into lead and silver. There is a small military fortlet, occupied circa AD49 - AD72 and evidence of a large civil settlement with a well laid out street plan (Todd 1993 & 1994). A road links the site with the main arterial Fosse Way, another runs north to cross the Avon *en route* to Gloucester. A further road runs west along the

Mendip ridge, via Winscombe and Banwell, to the mouth of the Axe. Other Roman lead working sites are to be seen at both Green Ore and Priddy, arguably satellites of Charterhouse. Williams (1998) has also argued that the abbreviation 'VEB....' found on Mendip ingots was possibly applied as a place-name to the whole of the Mendip lead working settlements. This name, to judge by Derbyshire pigs bearing a similar type of abbreviation, (LVD) could stand for such a name as VEBRIACUM (Rivet & Smith 1979). It only appears however on Flavian ingots from Mendip; could they possibly refer to some abbreviation such as VE(spasian) B(ritannia)?

Iscalis

Often associated with Charterhouse Lead mines is Ptolemy's mystery place name Ischalis, a mis-spelling of ISCA -LIS. Two other Isca names are associated with the rivers Exe and Usk, so ours, to judge from Ptolemy's lists, is almost certainly on the Axe, and arguably, if not at the estuary, then at Cheddar. Here extensive Roman remains have been found, and the name suggests a *llys*, a source of authority, and one the traditions of which may have survived into the days of the Anglo-Saxon palace (qv Lis-more in Ireland and Hen-llys in Wales, both referring to chiefly courts).

Lead Ingots

Of the 23 inscribed ingots found, 10 are Vespasianic and 9 of these were cast with a common formula: "IMP.VESPASIAN.AUG." and then stamped with the words " BRIT.EX.ARG. VEB." One at least was not de-silvered.

Fig.2 Lead ëpigí from Syde, Gloucestershire (courtesy Corinium Museum). This ingot has a non-typical Flavian inscription, and is chemically different from other local Flavian pigs from Mendip. Is this from a Gloucestershire source?

However the 10th in the series is an anomaly; and it was unusual for several reasons. It was found at Syde, north of Cirencester; and it bore a unique, non-Mendip style of casting - "IMP.VESP.AUG.VIII. BRIT.EX.AR". It bore several groups of letters, including the sign of the Novac Society who were responsible for some of the Mendip pigs, but it did not bear the crucial letters VEB! Further suspicion is cast on this ingot by the Lead Isotope Analysis carried out by Vincent Gardiner (2001), suggesting that it came from a site different to the bulk of the Mendip accredited pigs. As an aside Gardiner's study of the 2 pigs found in the Frome at Wade Street, Bristol were also atypical (these were of mid 2nd century).

Was this the product of some Gloucestershire lead plant? Gough (1967) lists an impressive range of locations extending across the Durdham Downs and Penpark Hole into Gloucestershire. Certainly the Limestone in the area of Almondsbury is known to contain Galena and there are still what on Mendip would be called 'gruffy-grounds'. The galena-bearing Limestone belt curves north, around Cromhall, with its villa, and then south east to Chipping Sodbury. Recent discoveries at Rodway Hill include remains of cupulation (de-silvering) equipment.

Within 25 years of the Conquest the Legion II had moved its base into the even richer metallic fields of South Wales and had handed the operation over to what have been described as 'civilian' contractors (Todd 1993, 63). The 'official' pigs from Mendip, however, stamped with Imperial data, continued to be produced as late as AD169 with one found in France, assumed to be from Mendip, dated as late as AD211. An interesting discovery by Todd (*ibid* 67 and 1994, 78) was a fragment of Zinc dated to AD 65-80, an infrequent occurrence as a metal in the Empire, but available as *lapis calaminaris* in the local limestone.

THE COASTAL MARSHLANDS

The early reclamation of the marshes north and south of the Avon in itself suggests the involvement of money and authority, control over a labour force, and the possible on-going overseeing of the land so reclaimed. In the North Marsh, at Puxton, drainage 'gripes' may be seen, in checkerboard patterns, which are demonstrably older than the medieval and later Enclosure fields (Gardner 1985). Excavation of this site, together with a similar one at Banwell, indicated the presence of an early salt-panning industry, which would have required access to tidal waters. At Puxton the salterns were cut by later drainage ditches datable to the later 1st to 2nd centuries AD. This first drainage phase may have been related to seasonal agricultural use of marine marshland, but evidence of freshwater flora and fauna indicates that actual reclamation was well in hand by the 3rd century (Rippon 1999).

One of the more flamboyant and enigmatic villa sites is at Wemberham. This is in a naturally floodable wetland environment which had already been drained and the sea expelled to so secure a state that this villa with baths and mosaics could safely be constructed and the reclaimed land used by small farming enterprises to establish fields complete with a corn-drying kiln (or barley-drying for beer?).

Are we to believe that such initiative was the responsibility of a group of native farmers? An independent villa owner has been suggested, but Wemberham is demonstrably post-drainage. Was it then some more powerful public authority? Steve Rippon has postulated that

it may have been part of an Imperial Estate but adds that there is no direct evidence for this (Rippon 1997).

NATIVE SETTLEMENTS

The Mendip massif continues westwards as a ridge via Banwell and Bleadon to end in the peninsula of Brean Down. Northwards the Limestone continues in great folds on a south-west/north-east axis forming ridges from Congresbury to Barrow Gurney, from Wain's Hill at Clevedon to the Avon Gorge, and along the coast from Walton Common to Portishead. These hills are still rich in well-preserved earthworks of Pre-Roman Iron Age native settlements, circular *'kraals'* and checkerboard field systems (Gardner 1977).

The Limestone continues northwards into Gloucestershire, across Durdham Down, Blaise, and Almondsbury to Cromhall, curving round to form the north-east corner of the Sodbury vale. There appears to be fewer Pre-Roman Iron Age remains in the northern part of the region, a point indicated by Aston & Iles (nd), but further work may well reveal more evidence.

Field work during the construction of the M5 Motorway through 125 km of Gloucestershire and Somerset produced evidence from some 50 sites of Roman date. Many of these were in the marshland, but most were of native agricultural type. Fowler (1976) poses an interesting thought - *"It appears that some certainly, many perhaps, of these M5 sites were new settlements taking root in newly available Roman countryside from which much more, particularly in the way of grain, was being asked. Perhaps we glimpse here ..... government plantation either of a truculent civil population for tactical reasons, or of a dispossessed rural population requiring for economic reasons, some encouragement to re-settle".*

However in Somerset, wherever datable material has been found in association with these farms, there is a mixture of ostensibly pre-Roman Iron Age 'native' pottery and early Roman wares, often including Samian ware. It must be borne in mind however that there has been little excavation and much field-walking, and the pottery found has probably been the result of manuring of fields regardless of whether or not the farmers continued to live in the *'kraals'*. One site excavated, demonstrated the probable sequence from ephemeral native pre-Roman Iron Age to substantial 3rd/4th century building, and that was at Abbots Leigh (Gardner 1998).

Aerial photographic evidence examined in pursuit of a road apparently running from Gatcombe towards Sea Mills, led the author to excavate this native site at Abbots Leigh. The 18th century antiquary, William Barrett (1789) referred to an old road passing through Abbots Leigh down to Sea Mills where, he claimed, the Roman town of Abonae lay on both sides of the Avon.

The earliest material was pottery associated with a hearth, of perhaps early 1st century AD. Earthworks enclosed an area in which there were apparent lengths of rough walling beneath the turf. These were associated with a cobble floor and both walling and floor overlay an earlier occupation level.

This level contained pottery of late 1st to very early 2nd centuries AD. The fabric of the floor and the walls also included 2nd century material, presumably scraped up with the stones, whilst the occupation material on top of the floor was of late 2nd to early 3rd century.

A stone rubble pile in the nearby garden included pennant roof-tiles, and other material indicative of the presence of a more sophisticated and substantial building, which pottery from the garden beds would suggest was of 3rd to early 4th century date.

Here we may well have a microcosm of many similar sites, native Iron Age adopting Roman cultural material in a series of insubstantial structures, until finally economic conditions permitted the construction of more substantial and sophisticated buildings in the 3rd and 4th centuries.

Philip Rahtz, called in by the then Ministry of Works in the 1950s to excavate in the face of the rising tide at the Chew Valley Reservoir, found that the land had been drained in the 2nd century and an agricultural settlement established, ostensibly to feed the mine workers on Mendip. Cupellation hearths, for de-silvering lead ore were also found here and can only have been operated by, or on behalf of, Imperial interests. The site is on the Roman road from Charterhouse to Bitton and Gloucester. The Chew Park villa came only in the late 3rd century and Rahtz interpreted the development as a change from Imperial to private enterprise (Rahtz & Greenfield 1977).

The hills north of the Chew Valley also contain a series of native type farms on one of which (Butcombe, excavated by Peter Fowler) a circular timber hut was replaced by a simple rectangular stone one. Its life was long and uninterrupted, and significantly produced large quantities of Samian and evidence of iron smelting. The discovery of cuirass scales suggests some involvement with the military, and further suggests an extension of Imperial involvement beyond high Mendip (Fowler1968 & 1970).

On the Fosse Way south-west of Bath is the undefended settlement of Camerton. It probably began as a 'vicus' outside a Claudian fort and remained a culturally 'native' community, not constructing any stone buildings until the late 2nd century. It appears to have been an industrial rather than agricultural community, with much evidence of metalworking in the form of furnaces, and pewter appears to have been a major product. The lead element of this alloy was of course close at hand, but the tin probably had to come by sea either from West Cornwall to a local port such as Sea Mills, or to Exeter and up the Fosse Way (Wedlake 1958).

We shall probably never know just how much evidence for Roman period settlement has been lost from the area of Victorian and pre-World War 2 development of the north and east suburbs of Bristol. It may well be a considerable amount, to judge by the more recent finds, associated with the East Ring road and the new housing estates. For a Review and Gazeteer of Romano-British remains in Bristol see Russell & Williams 1984.

Stone Hill, in Hanham, lies on the Roman road from

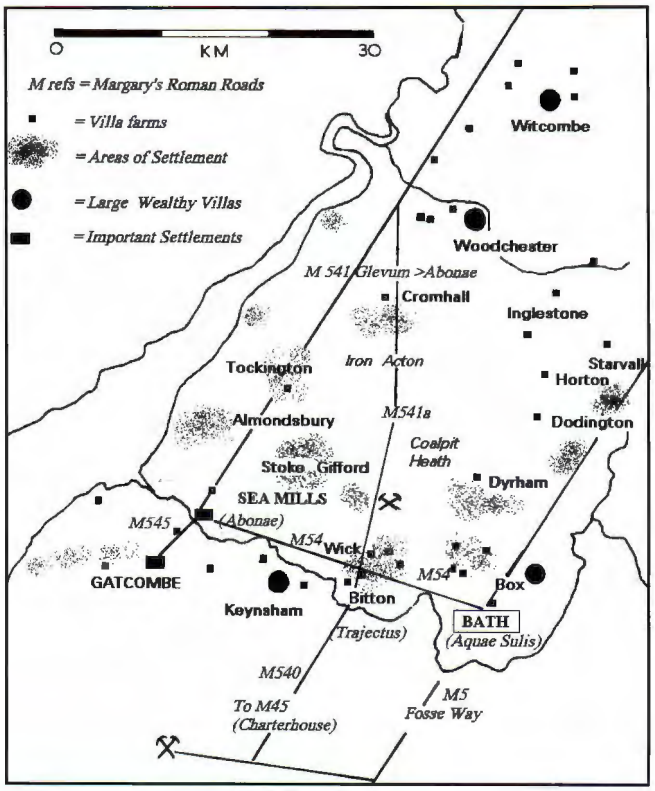

Fig.3 Distribution of Romano-British sites in South Gloucestershire.

Bath to Sea Mills, and again appears to have been heavily involved in metal-working, particularly iron, during the late 2nd and early 3rd centuries (Russett 1993) and (Yorkston & Piper 1994/5).

Similarly work at Mangotsfield has revealed another diverse metal working settlement at Rodway Hill. Not only was the ubiquitous iron smelted and smithed but what is probably the first Roman period blast furnace was discovered associated with the production of cast steel. Not content with this, cupulation crucibles were present indicating the extraction of silver from galena, and the fuel used was coal.

Other large settlements have recently come to light, with substantial buildings such as Bailey's Court Stoke Gifford, and at Emerson's Green where again there appeared to be the presence of a coal-fired iron industry.

In 2002 a settlement similar to Camerton was discovered on the Roman Charterhouse to Gloucester road M541a (Margary 1957) at Hall End, Rangeworthy. This too lay on a main route and in its later phases also consisted of buildings at right angles to the road. Work is ongoing and published details are not available at the time of writing, but there might appear to be evidence of a military presence.

VILLAS

A 'villa' is specifically a building of stone, found in the countryside and associated with agricultural tenure. Like hotels they can range from 5-star to humble 1-star establishments, from palaces to pigstys. Within the area under discussion there is not one villa to compare with the grandeur and wealth of the Cotswold palaces or indeed with the group along the Fosse Way near Ilchester, except for the area satellite to Bath.

Coinage suggests that for 200 years there was not one single Roman villa in Avon and even then they are little more than small and late, ie 3rd century farmhouses. There was, as we have discussed above, a long continuum of native farms, like Bleadon etc which Keith Branigan has suggested were eventually sold-off from an Imperial Estate in the early 3rd century, resulting in the construction of these small villas (Branigan 1976).

In North Somerset these late villas are scattered across the landscape; every parish in the Wrington Vale possesses one and there are several around Banwell. At Keynsham is the largest and most palatial but this may be regarded as one of a series satellite to the town of Bath, possibly housing an Imperial official. A possibly relevant point here is that an inscription dated to AD 155 from Keynsham is dedicated to *Numina Augustorum* - the Imperial God (de la Bedoyere 2002).

In Gloucestershire the Bath group could be considered to include a number around Wick and Bitton, but the rest run in an arc, the eastern ones mainly nestling under the face of the Cotswolds up to Hawkesbury and the western ones running from Kings Weston along the Carboniferous Limestone to Cromhall via Tockington Park.

The subsequent distribution maps of Roman South Gloucestershire give the impression of having little or no settlement (Aston & Iles, nd) but recent work demonstrates that there are in fact a number of unsophisticated Romano-British industrial settlements to be studied.

Gatcombe

We now come to perhaps the greatest enigma, Gatcombe, a site unique with its area of some 20 acres, filled with artisans buildings enclosed within a massive wall (Solley 1967, Cunliffe 1967, Branigan 1977). Branigan's conclusion is that it was probably a privately owned mega-villa at the centre of a vast estate. The site was discovered in 1838 during the construction of the Bristol and Exeter Railway (Farley 1839).

Whatever its purpose, it appears to occupy a strategic point in the Ashton - Wraxall valley. A road postulated to link it with ABONAE led us to excavate the roadside site of a substantial building in Abbots Leigh where 1st and 2nd century pottery was abundant (Gardner 1998). The general implication, although not proven, is that the road is contemporary with the structure, and as it extends to Gatcombe that too may have an early date - AD 50-80 has been suggested on pottery evidence (Branigan 1977, 211).

The area surrounding Gatcombe is particularly rich in minerals; lead and iron abound in the Carboniferous limestone, pennant sandstone, white lias, inferior oolite and coal all within a mile or so. It is surrounded by native style farmsteads referred to above (Gardner 1977). Of all the rural substantially built establishments in North Somerset it alone appears to have had an early foundation, and coins of Trajan and Hadrian are recorded as well as fragments of

bronze armorillae found in wash-down from the railway cutting.

A well, human burials, and pillar shafts were found as well as a mass of pottery and other small finds. The general assumption that it was a late villa under the railway line and the southern spoil heap, is perhaps too simple; indeed one may say that there is not one shred of evidence for the sort of palace that has been postulated (Branigan 1977, 212). Certainly the rambling terraces of artisans workshops on the northern slope are totally unlike the ordered working 'wings' of Pitney or Woodchester. The 19th century discovery was perhaps astutely described as *'an entire Roman Village with an outer wall 15 feet thick, the foundations (of which) extend a considerable distance south of the line'* (Collinson: qv **note***). It is ironic that in 1954 nobody would believe this.

Was it more than the centre of a private estate? Branigan considered (and rejected) the idea that it was a munitions factory; the only weaponry recorded is a spear-head from the 1954 work. There were buildings devoted to storing and milling grain and to baking the product. There was a slaughter-house and butchery with an associated cold store. There were two iron-smithies fired by coal, with some iron even imported from the Forest of Dean. Like at Camerton, pewter was produced, galena being local with the tin from Cornwall possibly coming in via Sea Mills. The broken carved oolite stones found need not have been the desecrated furnishings of a palatial villa but the stock-in-trade of a sculptor's atelier. There was even a stack of new pennant roof tiles. All the products of the neighbourhood could well have been processed here and an Imperial estate 'factory' must be an option.

Such nearby villa sites as Wraxall (3 miles) may not, as generally assumed, be independent farms, (carefully allocated a terrain by use of the ubiquitous Thyssen Polygons), but satellite working bases.

Birdcombe Court Villa, Wraxall

Wraxall, to continue the example, is a peculiar little house, the published plans of which, as an Intra-mural Courtyard Villa, give a somewhat misleading impression. (Sykes and Brown 1960/61). Aston and Iles (1986) consider the open yard more likely to have been a covered hall.

Branigan (1976, 51) portrays a number of such courtyard villas, only one of which, Wraxall, has a bath suite. Indeed one may well consider that Wraxall is a bath suite with ancillary rooms attached. The single wing of six unheated living rooms were of insubstantial construction compared with the solidity or luxury of the bath suite which had seen several reconstructions. Access to the bath suite appeared to be from the east side of the building, not from the assumed domestic wing. It significantly faces north, thus receiving the prevailing south-westerly wind into its furnace. Add to this an immediately adjacent feature, never explored and now ploughed flat, known as the 'Cockpit', and we can speculate on an interesting possibility. Geologically the site is right on the edge of the Nailsea Coal Measures and the 'Cockpit' is in fact a typical mine shaft head. The coal was worked from 16th century but no map shows the existence of this particular shaft although it seems to be a typical bell-pit. Gatcombe's industrial plants were coal fired - where did they obtain their coal? From Wraxall? Under the *Proconsul Metallorum* the welfare of miners families was ensured in part by providing such facilities as baths at Beauport Park in the iron-rich Weald (Brodribb & Cleere 1988). Are we looking at a managers house and 'pit-head' baths?

ROADS

Margary (1957) has published the definitive work on Roman roads, and has allocated 'M' numbers to them. Initially the spinal road would have been the Fosse Way (M.5) running from York to Exeter, and passing along the Cotswolds via Bath, the boundary of our area of study on the east *en route* to Shepton Mallet.

It was long known that an east to west road ran from Bath to Sea Mills (M.54) (Higgins 2000) to which port another road came south-west from Gloucester, via Cribbs Causeway (M.541). A military system of roads running west from the Fosse to the tidal waters of the Severn Estuary, servicing Legionary forts, was postulated by Webster (1993) The Polden Hills carry such a western route via Street to the estuary of the Parrett, but as yet the Somerset marshlands have not yielded any evidence of a north-south link such as has been demonstrated in Gloucestershire.

Another such early east-west road was known to run from the Fosse Way to the Lead-Silver mines at Charterhouse, (M.45) with a postulated extension to a putative port at Uphill at the mouth of the Axe. (Tratman 1962). This westward route has now been confirmed from Charterhouse, via Tynings, Longbottom, Wint Hill and Bleadon Hill to the mouth of the Axe. A good stretch may be seen on AP 6812-2-207, immediately south of Banwell hill fort, running slightly south of east across seven fields from ST 404 587. At the eastern end of this sequence, near the Winscombe cemetery, John Matthews (pers. com.) has resistivity evidence of a feature running at right angles to the coast-bound road, putatively representing the north-east/south-west line extension of M.545 In 1954 the M.545 was identified in Abbots Leigh and again on Redford Wood hill, north of Failand farm, where it was joined by a road running north from Gatcombe. Although a south-west extension of the M.545 was searched for no convincing evidence was forthcoming in the Backwell - Cleeve - Congresbury area where its route should logically lie.

Also from Charterhouse running north-east in the direction of Bitton was Stratford Lane, (M.540) part of which is now submerged beneath the Chew Valley lake. In 1957 the Ordnance Survey discovered a new road *'from Gloucester to Bath.....as far as Yate where we have lost it'* (Phillips pers. com. 1957). This latter road was later located running south towards Bitton, accepted by Margary as M.541a, and linking with Stratford Lane (M.540).

The Archaeology Division of the Ordnance Survey under Charles Phillips and Leo Rivet, pro-actively encouraged local research into more local networks. Thus in 1954 the road from Gatcombe to Sea Mills (M.545) was

noted. Another line which Phillips promoted was one running from the centre of Bristol through Bishopsworth and over Dundry swinging south east to join the Fosse at Radstock (M.546). The extended line from Bedminster northwards continues up Gloucester Road and meets the Gloucester - Sea Mills road at Almondsbury. This would entail a cross-roads in the Stokes Croft/Kingsdown area, where presumably there would have been some sort of settlement (Russell & Williams 1984). Having approved the M541a), Phillips became less uncertain of the validity of the M.541 (Phillips pers. com. 1957) but subsequent fieldwork and the northern extension of the M.546 would appear to have confirmed it.

One problem which we have yet to satisfactorily solve is any south east extension of the M.545 from Gatcombe towards Mendip. Tratman (1962) dismissed a possible line over Barrow Hill, suggesting instead a link (his 3.2.a) from the M.546 on Dundry via Highridge Common to another road (his 3.3) linking Sea Mills with Gatcombe via the Ashton Vale. Neither of these met with Phillips' or Margary's approval. It seems plausible however that a branch of the M.546 where it turns north on the southern slopes of Dundry could have spanned the 6 kilometres west to Gatcombe.

SEA MILLS

Archaeologically there is no disputing the fact that Sea Mills was occupied in Claudian times. It lies on a tidal river close to the sea, and its function has been interpreted as a military port. The major argument seems to be whether or not it is the place named as ABONAE in the Antonine Itinerary.

The Antonine Itinerary:
Isca Silurum-Venta Silurum-Abonae-Traiectus-
Aquae Calidae.
(Caerleon-Caerwent-Sea Mills-Bitton-Bath).

The questions arise over Abonae and Traiectus. Were the names transposed? Would Traiectus not be the name of the crossing point to South Wales, and, until relatively recently, what crossing would merit the name at Bitton? Was Sea Mills not too far up the river to act as a port? Would not the crossing point start at some such place as Aust, where there is abundant evidence of Roman occupation and where, until the latter half of the 20th century, there was still a ferry. This is an ancient argument, (Barrett 1789, 23) well expounded in the 18th century by William Stukeley (1776). He astutely named Abonae as *'Olland near Kainsham, Glocestershire'* - not Bitton - and current opinion has the M.541a coming down Cherry Garden Hill from Oldland *en route* to Charterhouse. Stukeley's observations were admittedly made when dealing with Charles Julius Bertram's 'discovery' of a spurious version of the Antonine Itinerary allegedly by Richard of Cirencester, but an interesting interpretation all the same.

Now of course we can explain Bitton's claim to be Traiectus by noting the major road, not from Berkeley to Bitton as it is often described, but from Gloucester to Charterhouse, crossing not only the River Avon but also the M.54 Bath to Sea Mills. This latter route, the antiquarian's Via Julia, crossed the city of Bristol and Higgins (2000) has described a plausible route.

As far as Sea Mills function as a harbour is concerned it should be appreciated that the exposed eastern bank of the tidal Severn never has been a place for shipping to anchor overlong. Even Cabot and the early trans-Atlantic Merchant Venturers chose Bristol, even further up the river, as their port. Portishead is the nearest coastal Romano-British settlement which offers shelter from the prevailing south west storms.

Sea Mills has long been traditionally regarded as Abonae, certainly Barrett (1789, 20) referred to a Roman road running through Abbots Leigh *'down to the river Avon at Sea Mills, on the banks of which was the Roman summer station, occupying the heights on both sides of the Avon down to Sea Mills, from whence the whole with great propriety was called Abonae"*. This of course makes sense; boats may well tie up on the south bank and load material from North Somerset without a pointless transfer across to the Trym.

BATH

If Gatcombe is unique as a walled settlement, Bath is surely unique as a town in Roman Britain. The most cursory glance at the plan of Bath shows the nuclear significance of the Temple and Baths.

Any plan of the local civitas administrative towns, Cirencester, Caerwent, Silchester, or Ilchester, show the typical layout of a Civilian town. Even Gloucester, an ex Legionary HQ and subsequent colonia has a disciplined military look about its layout.

At Bath there is no real evidence of a Forum or Basilica as one might expect of an administrative *civitas*. Initially it would seem that there was an early fort where the Fosse Way was crossed by the road from London to the port at Sea Mills - Cunliffe (2000 (2)) dates it as winter AD 43 - but Bath's enclosing wall was not constructed until the end of the 2nd century. If it was not a *Civitas* town what else could it have been apart from the obvious cult and spa centre?

There is some evidence, largely in the form of inscriptions by ex-miltary personnel, suggestive of the possibility that it became a *Colonia*. Fulford indeed thinks that *'it is difficult to imagine that the Spa was the initiative of anyone but the Army and perhaps the Procurators Office'*. Fulford (1996). The idea of a local Procurator may well be the answer, for inscriptions from the Bath area tend to support the idea of an Imperial Office there. A 3rd century inscription from Combe Down records a Principia restored by *'Naevius, an Imperial freedman & assistant to the Procurators'* (RIB 1.179). One such officer could have been the *Procurator Metallorum* who would have been in charge of the mineral monopoly. Another records a *'C(enturio) REG (ionarius)'* (RIB 1.152) probably the military officer in command of an Imperial estate, responsible for animal, arable and agricultural products. A lead seal also from Combe Down bears the initials P.Br.S. *(Provinciae*

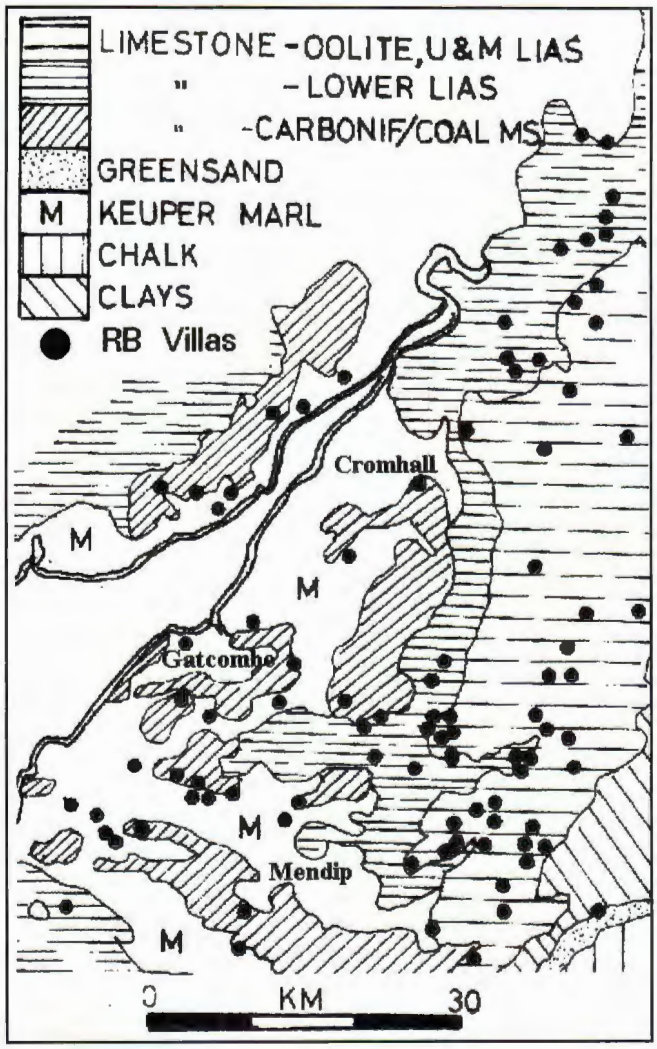

Fig.4 The Geology of 'Avon' (after Branigan 1976). The metal-rich Carboniferous deposits between Cromhall and Mendip and across the Severn in the Forest of Dean, produced iron, lead, silver, coal and even zinc while building stone, such as Pennant, Lias and Bathstone were an extra bonus.

Britannia Superioris). This would be pre-4th century when the Province was divided again and Wales and the west became parts of Provinciae Britannia Prima, governed from Cirencester, as witnessed by an inscription there referring to *Septimus...Primae Provinciae Rector.*

We have, in addition to the one at Keynsham, two more *Numina Augustorum* dedications from Bath and one from Nettleton on the Fosse. These are largely confined to military and governmental sites, and are the only ones within 100 miles with the exception of Caerleon and Caerwent (de la Bedoyere 2002).

The only rich villas are those satellite to Bath, possibly the residences of such Imperial officers, and to judge from the coinage they too are 3rd century in their present form, although the mid-2nd century date of Keynsham's altar must not be overlooked. Bath then is ideally placed for the administration of both North Somerset and South Gloucestershire, and the probable HQ of a departmental Procurator.

GEOLOGY

Perhaps however we are looking at the wrong discipline for the answer to why might the land of the southern Dobunni be incorporated into an Imperial Estate, possibly as part of a newly contrived canton? The answer lies in a cursory look at the geology. HMSO have an excellent review (Kellaway & Welch 1948) and the Coal and other minerals are adequately accounted for in Anstie 1873.

As we have seen, coming from the south-east of Britain this is the first area that the Legions reached which was rich in minerals after the Weald. Mendip was demonstrably an Imperial mineral extraction site. As we have seen Mendip is not a single a massif of Carboniferous Limestone but the rock continues in great ridges to the north west. Broadfield Down and Butcombe Hill, Failand and the Walton to Portishead ridge - all are limestone and all are rich in metals - iron, lead/silver, copper and zinc. In between are the Coal Measures, and to complete the bounty from the land are the oolitic building stones of Dundry, and Bathampton, of White Lias and Pennant Sandstone. At the centre of all this is Gatcombe ideally placed to be a processing plant with its own port at Abonae.

Turning to Gloucestershire, we see that the Somerset mineral geology extends north to Cromhall and west across the Channel into the Forest of Dean and Wales. The carboniferous limestone extends in an arc from Almondsbury through Cromhall and round to Sodbury. Later English villages rejoice in such names as Iron Acton and Coalpit Heath, and ubiquitous quarries and mine-shaft tips confirm the fact that these minerals have been extracted over the centuries. At Rodway Hill there is a Romano-British industrial site where iron has not only been smelted but smithed into steel with a blast furnace fuelled by coal. Lead was de-silvered here and the pattern is repeated on nearby sites such as Stone Hill at Hanham.

DISCUSSION

Let us now hypothesize; one can imagine Vespasian being given strategic orders to thrust west with his 2nd Legion and secure the potentially mineral rich lands of the west; Cornwall with its tin and copper, Exmoor with its iron, and Mendip with the silver mines, all were regarded as the monopoly of Rome. To the victor the spoils! Geographically he could have had the support of the *Classis Britannica* on his left flank, with several potential landing points on the North Somerset coast.

As we have seen, geologically, the potential for lead/silver lay wherever the Carboniferous limestone broke surface, as far north as Cromhall. Eventually his brief was to take the Legio II across the Severn, (assisted again by the fleet?) and gain control of the even richer lands of the Silures.

We have seen how Rome worked! The Emperor ruled through a Provincial Governor, responsible for the Military, the Judiciary and the Administration. Significantly, there was a Procurator directly responsible to the Emperor for Minerals and the Imperial Estates, the profit of the Province went direct to Rome.

No.	Found/when	Main Inscription	Inscription 2	Inscription 3>	Date
1	Wookey H8R	TI.CLAVD.CAESAR AUG. PM. TR.P.VIIII.IMP.XVI.DE BRITAN.			49
2	Nr.Blagdon H8R	BRITANNICI.AUG.FI	V et P (2)		49
3	Bossington, Hants 1783	NERONS A/GEXKIA/ IIII COS BRT	IxKIVL.P.M.CoS	EX ARGENT CNPASCI S	60
4	St.Valery sur Somme 1937	NERONIS AUG BRITAN	L.11		54-68
5	Charterhouse 1876	IMP.VESPASIAN.AUG.	BRIT.EX.ARG.VEB		69-79
6	Charterhouse 1876	IMP.VESPASIANI.AUG.	?VEB		69-79
7	Charterhouse 1876	IMP.VESPASIA-----.	?VEB		69-79
8	Southampton1918	IMP VESPASIAN AUG	BRIT.EX.ARG.VEB	SOC NOVEC	69-79
9	Southampton1918	IMP VESPASIAN AUG	BRIT.EX.ARG.VEB	SOC NOVEC IIVI	69-79
10	Green Ore 1958	IMP VESPASIAN AUG	BRIT EX ARG VEB	LXV TI.CL.TRIF	69-79
11	Green Ore 1958	IMP VESPASIAN AUG	BRIT EX ARG VEB	LXXIIX IRIID?	69-79
12	Green Ore 1958	IMP VESPASIAN AUG	BRIT.EX.ARG. VEB	LXVI To.T.ER TI.CL.TrIF	69-79
13	Green Ore 1958	IMP VESPASIAN AUG	BRI (T EX A)RG (VEB)	TIC.TIC. TI.CL.TrIF TI.CL.TrIF. IMP.	69-79
14	Cirencester 1952	IMP:VESP:AUG:VIIII BRIT:EX AR-	GPC (x5)	SOC NOVEC	79
15	Claverton Bath 1819	IMP HADRIANUS AUG			117-138
16	Sydney Place Bath 1809	IMP.HADRIANI.AUG.			117-138
17	Charterhouse 1873	IMP.CAES.ANTONINI.AUG.PII.P.P			138-161
18	In R.Frome Bristol 1865	IMP.CAES.A...NINI.AUG.PII.P.P			138-161
19	In R.Frome. Bristol 1865	IMP.CAES...NINI.AUG.PII.P.P			138-161
20	Bruton c1710	IMP.DVOR.AVG.ANTONINI ET VERI ARMENIACORUM			>169
21	Wells 1530	IMP.DVOR.AVG.ANTONINI ET VERI ARMENIACORUM			>169
22	Charterhouse 1874	----------NTONINI --------CORUM			>169
23	Lillebonne Normandy 1840	I....CAES.L.SEPTIMI SEVERI ..NACIS. AUG PA..			195-211

Table 1 Roman Lead Inscriptions: (Earliest AD49>>>Latest AD195-211) Mendip AD 49; Flintshire AD 74; Yorkshire AD 81. Of the 23 inscribed pigs attributed to Mendip production, 16 were found on Mendip or are firmly attributable to Mendip as a source. There are in addition 2 ex Bath ; 1 ex France; 1 ex Hants; probably Mendip but not proven + 2 ex Bristol; 10 are Vespasianic; of these only one is accurately dated and produced by GPC for Soc Novec, and that was discovered north of Cirencester; it is the only one to demonstrably lack the VEB inscription. No other Emperor uses VEB.= ? VEspasian Britannia.

The west was largely de-militarized when the Legion left Exeter for Caerleon, even the fortlet at Charterhouse being abandoned. This presumes that by the early 70s AD all was working well under an Imperial Procurator Metallorum, requiring only a policing detachment to support his authority. A network of roads was established, linking what would appear to be, *inter alia*, major mineral production and processing areas.

Considerable engineering experience and money was invested in draining the Severn estuarine marshes, and converting them into grain producing units, whilst pastoral farming on the hill tops continued, all plausibly under an Imperial estate.

This state of affairs seems to have continued until the early 3rd century AD, when the construction of substantial stone buildings has been regarded as an indication that Imperial estates were being disposed of. But why, if that were the case, are they virtually all relatively small and unsophisticated? Could they not reflect a general policy on the part of the Procurators in eventually investing in bricks and mortar?

Certainly the latest datable lead ingot assumed to be from Mendip is early 3rd century, but there are other indications that massive investment was still available to safeguard the assets of the area - the marshlands were still productive and Gatcombe's wall was considered worth constructing.

The establishment of such a sophisticated town at Bath, with hard evidence of Procuratorial presence, suggests that it lent itself not only to a religious purpose, but also as a seat of provincial authority, superior in status to those towns merely dedicated to the administration of a tribal civilian population. This could in short have served as the base of an Imperial Agricultural and Mineral Estates, throughout the west, and answers the question of why was the Canton apparently 'governed' from distant Winchester - it was not!

The land of the Western Belgae was a rich land for the Imperial assessors with an enforceable monopoly in minerals and, if it so wished, agriculture. Was it all an Imperial Pagus in an Imperial Canton?

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Note* *Collinson: Mss note in margin of University of Bristol library's copy of Collinson's 'History of Somerset'. Note originated by one Stephen Jarrett of Flax Bourton.*

Abbreviation:	*Publication:*
BAA	Bristol & Avon Archaeology
BAR	British Archaeological Reports
DoE	Department of the Environment
HMSO	Her Majesty's Stationery Office
IAMS	Institute for Archaeo-Metallurgical Studies
PRIA	Proceedings of the Royal Irish Academy
SA&NHS	Somerset Archaeological & Natural History Society
SELRC	Severn Estuary Levels Research Committee
UBSS	University of Bristol Spelaeological Society

THE ROMAN TOWN OF ABONA AND THE ANGLO-SAXON CHARTERS OF STOKE BISHOP OF AD 969 AND 984

by David H Higgins

The Maker of men hath so marred this dwelling': The Wanderer (Anglo-Saxon poem of 8th/9th century)

Despite the hermeneutic problems of the Anglo-Saxon charters of Stoke Bishop (or less confusingly, in the terms of the charters themselves, 'Bishop's Stoke'), it is possible to resolve most of the difficulties which the charters pose with reasonable assurance. It is now mostly accepted that the charter of AD 883 (Finberg 1961, no. 83) defines the whole of 'Bishop's Stoke', which embraced the old tithings of Stoke Bishop (which included Cotham and Redland) and Shirehampton (which included Avonmouth), while a case can be made, using topographical and linguistic evidence, that the charters of AD 969 (ibid. no. 117) and AD 984 (ibid. no. 130) largely define a common *tranche* of territory within it (Higgins 2002, 107-131). Both the itineraries of the two 10th century charters, at *loci* in their texts where their similarities are most conspicuous, appear to enclose the site of Abona (adopting the nomenclature of OS. Historic Map and Guide: Roman Britain, 1994) at Sea Mills. Both charters therefore offer the possibilities of new perspectives on what has always been, mostly on account of the paucity of hard archaeological information, a controversial Roman location. It is not this author's aim to review exhaustively the archaeological record of the site of Abona. This has been done most recently by Peter Ellis (1987), since when there has been no further major publication (or archaeology) on the site as a whole. A professional watching brief (with evaluation) and a desk-top study of circumscribed areas were conducted and published in 2002 (Erskine, Etheridge). However, because of the obscurity of the Anglo-Saxon charters of 969 and 984, Ellis did not take account of their evidence in his synopsis of the available literature on Abona. This study, therefore, attempts to throw light, afforded by the charters, on the old Roman port and small town and to sketch hypothetical reconstructions of this little known site from its beginnings to the late Anglo-Saxon period. The 10th century surveyors clearly walked through the site of Abona, leaving an eye-witness account of it in their records. Reconstructing what *exactly* they saw (or may arguably have seen) over a thousand years ago is important in view of the sadly limited future of extensive 'hard' archaeology on this site, mostly suffocated for the foreseeable future by 20th-century housing.

Archaeological synopsis, Fig.1

Figure 1 attempts to represent the total archaeological record, deriving from the site plans and reports of Hebditch and Grinsell (1965-68), Bennett (1985), Ellis (1987), Erskine (2002) and Etheridge (2002, 242 and 2002 *bis*). Ellis (1987, 42-3, Figs 16 and 17) summarised all the significant finds from Pritchard (1900) to Bennett (1972). Figure 1 also notes the position of the watch-tower which is recorded in the 984 charter *esnig weard* (9), discussed in the commentary on Fig.4 below). It is highly probable that the watch-tower, in an early form, dates from the Occupation period, in order to meet the wider security requirements of the low-lying fort, which was sited primarily to protect the harbour facilities.

Ellis's site-plans were not intended as a total reconstruction of the contextual Roman landscape: the lines of Sea Mills Lane, the Trym and the port area are all depicted by him in their post-1920 mode, when the City of Bristol had used the riverside as a 'landfill site' to structure it against flooding, altering the course of the stream and the edges of the old port area. Figures 1-4 depict the general area in the light of the OS 6" map of 1904, which is the best idea we have of the historic landscape so far. As Dr Toby Parker has pointed out in a recent BAAS lecture, fundamental work remains to be done on the likely configuration of the whole port area in Roman times, taking into account, amongst other factors, the historical variations of mean sea-level.

Hypothetical configuration of Abona in the 1st-2nd centuries AD, Fig.2

This proposes the site of the fort (either walled or stockaded) of the Occupation period, for which, it must be emphasised, there is so far no specific archaeological evidence. The fort protected the naval and supply-base, and was probably in active use between the mid-5Os AD and 85 AD (Ellis 1987, 100). The fort's siting is assumed from the street-grid of Fig.3, which itself is extrapolated from the findspots of the 1st and 2nd centuries in Hebditch (op cit.) and Ellis (op cit.) as shown in Fig.1. The author has attributed to the fort of Abona dimensions which are not uncommon in those known of the Occupation period: approximately 6 X 4 *actus* (cf. Breeze 1994, 24). Important findspots here include the cobbled street (Ellis's F6) of the 87 Sea Mills Lane site (excavated 1967) lying near the waterfront of the c. 1st-2nd port, which might be

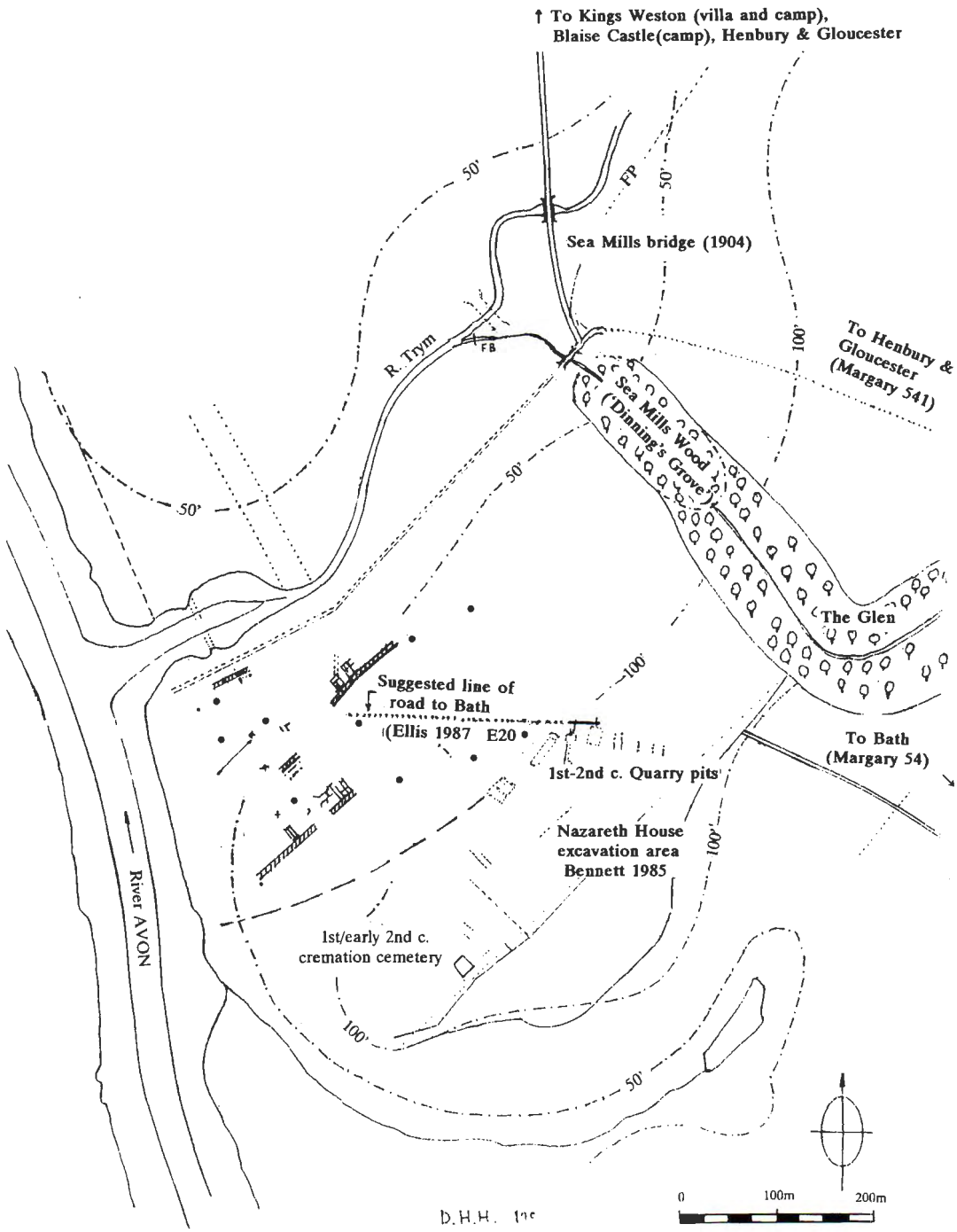

Fig.1 Plan of Abona. Conflation of site plans in Bennet 1985 (inc. Hebditch 1968), and Ellis 1987. Roman roads and Dinning's Grove/Sea Mills Wood of 969 and 984 charters.

contemporary with the fort. The street (Ellis's F78) leading from the waterfront to 'the possible position of Base entrance' is understood and depicted here as leading to the fort's *porta principalis*. The house of the Hadrianic period with the burnt strata of c. 120 AD (Boon 1947) may well not have been contemporary with the fort, while the building at 5 Hadrian Close (E5, excavated 1965: Ellis 1987, 42, Fig.16, site 5), if it was indeed erected at the time of the fort, would have lain outside its assumed western *porta decumana*.

The road marked A-B leading ESE from the *porta praetoria* is surmised. The Roman road from Bath to Sea Mills (Margary 1957, no. 54), through west Bristol, is known with certainty only on Durdham Down (Martin 1900; Parry 2002, 241). Its path through the meadow once containing Abona has so far not been definitively ascertained, and given the impossibility of further significant archaeology in the immediate area, its discovery is not likely to happen. What seems probable is that the stretch now known as Mariners Path, including the

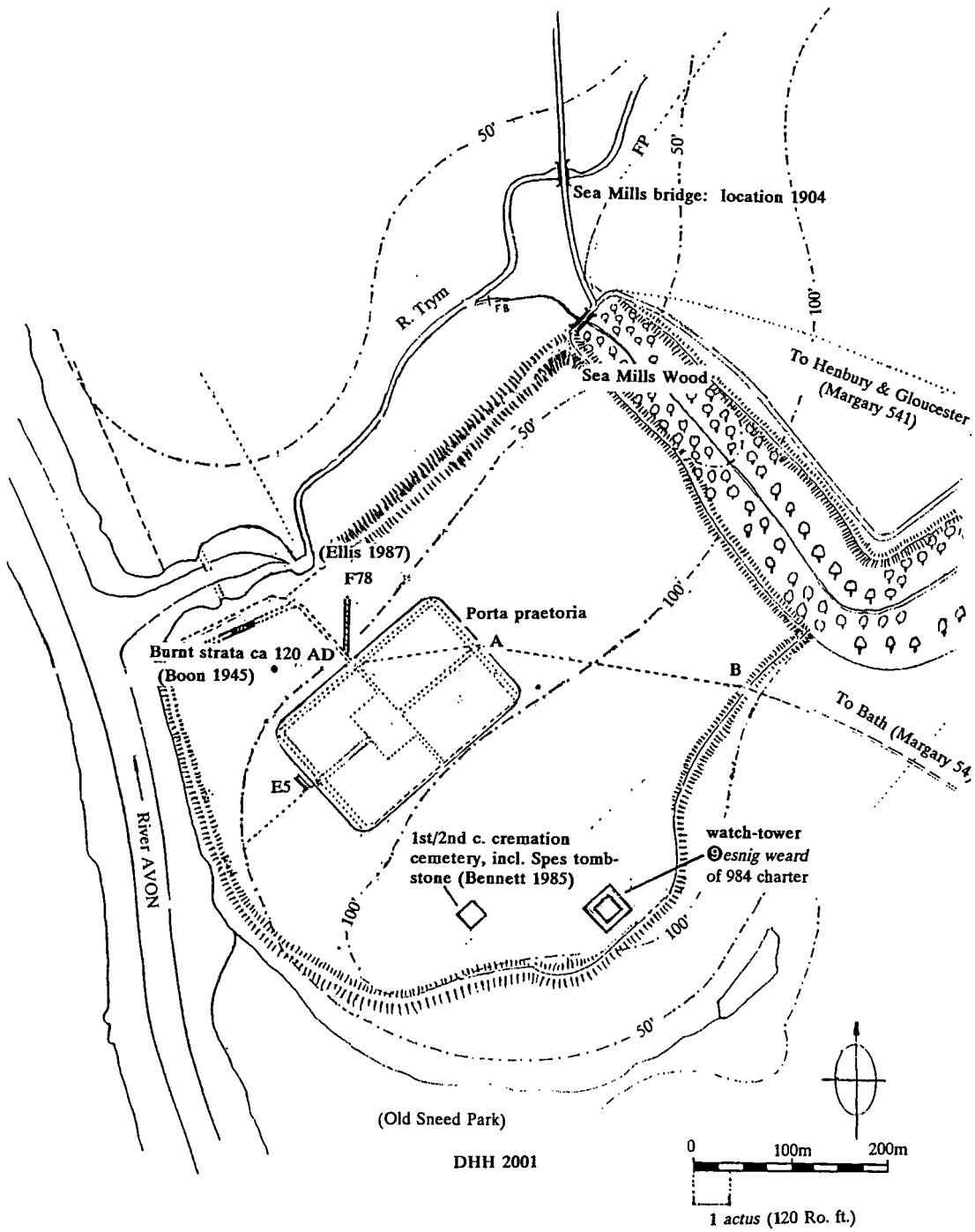

Fig.2 Abona in the 1st-2nd centuries AD. Conjectured site of the Occupation fort of c. 55AD, the watch- tower recorded in the 984 charter, re-instatement of Seyer's (1821) and Martin's (1888) outer ramparts and A-B is the conjectured route of Sea Mills to Bath road.

unadopted part of Mariners Drive (the former Lower Drive of Old Sneed Park House), may have remained fixed in the Roman period. The stretch from B on the crown of the ridge of Old Sneed Park, north-westwards through the old meadows (a sort of 'coda'), must on the other hand have been variable, according to the needs firstly of the fort, and afterwards of the developing *vicus*.

Ellis's road-line in Fig.1, based on the Nazareth (Old Sneed Park) House excavations of 1972, and on Mines and Davies in 1965 (Ellis 1987, 42-3 and Appendix to Section C), now appears anomolous in the light of the fort's proposed configuration here, since it would have passed diagonally through it. This road was considered a trackway by Keith Branigan (Bennett 1985, 11), but was promoted by Ellis (1987) to the status of the Roman 'Bath road' itself (Margary no. 54). Its structure was described by Branigan as 'flimsy', with a variable depth and no sign of re-metalling: not a Roman road in the sense of the more substantial stretch

of highway on Durdham Down. It may nevertheless represent the variable 'coda' of Margary no. 54 during the brief interim between the demolition of the fort and the building of the town's streets and suggested walls. This interim can be defined as lying between (a) the date of Abona's few early 2nd century tiles and brick stamped LEG II AUG (Bennett 1985, 3-4), and (b) the mid-2nd century, when the limestone scoops discovered in the 1972 excavations were in use for the mortar of the town, under reconstruction following the assumed fire of the Hadrianic period (ibid. 26). Branigan, who also recovered early second century pottery beneath the trackway's surface, was therefore correct in stressing its provisional construction - this was not the substantial end of Margary no. 54 that the archaeologists were looking for. This probably lay further north by only a few yards, if the circumstantial evidence of Fig.3 is accepted.

Included in this map are also the outer earthen ramparts

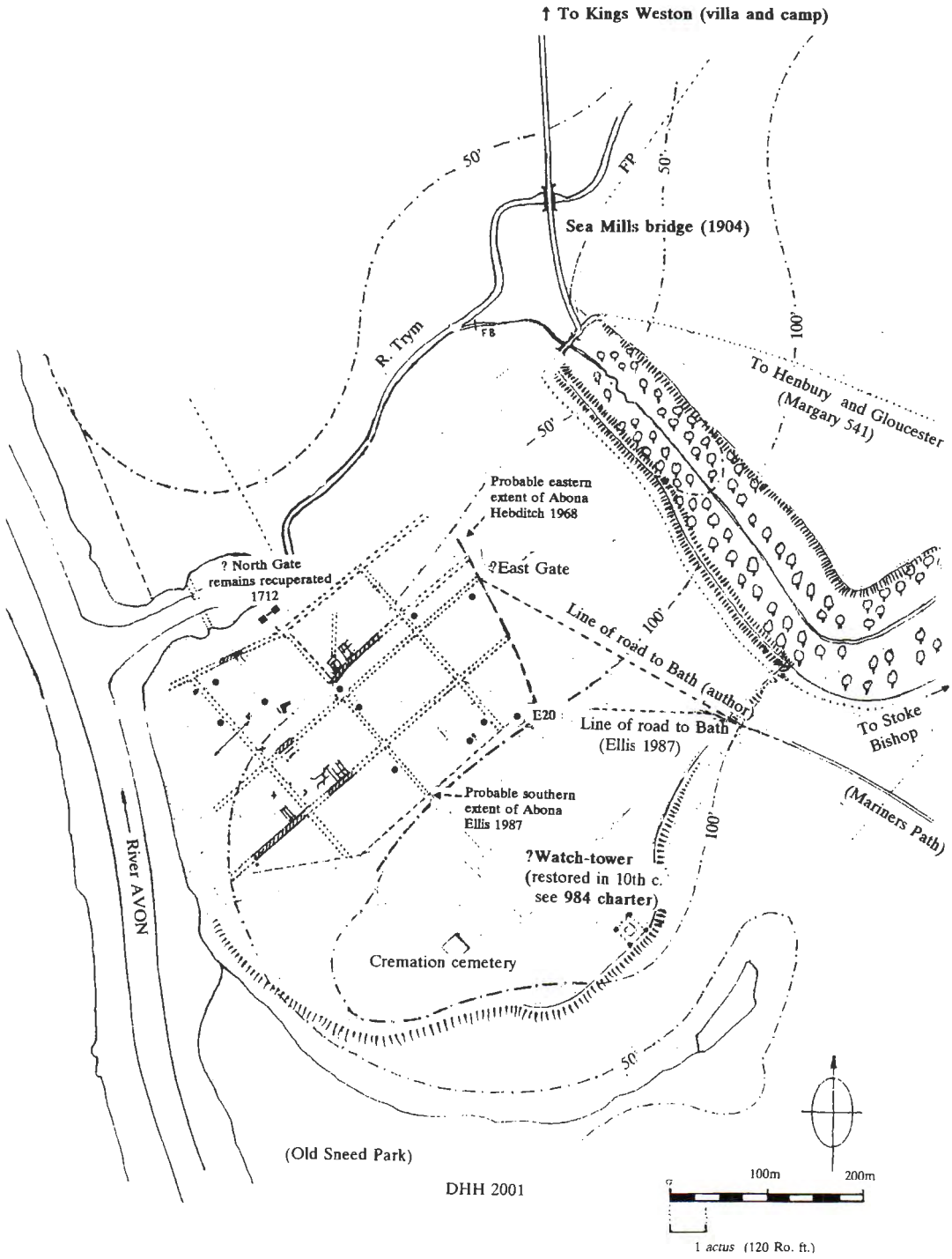

Fig.3 Archaeology of Abona at its possible abandonment c.410 AD. The plan shows the line of the River Trym and the port area, the suggested street grid based on find-spots and the watch-tower of the 984 charter.

of Abona indicated in the AD 984 charter (see below). They conform substantially to those proposed by Seyer in 1821 and confirmed by Martin (1888, 58-66). These may originally have been of pre-Roman construction, but if so, of not a substantial nature. Early military artefacts recovered on or near the site include only one Bronze Age socketed axe-head, and one Iron Age sword recovered from the Avon near the mouth of the Trym (Bennett 1985, 3). The south Dobunnic or Belgic people of the region preferred hill-forts to lowland settlement (Stokeleigh Woods, Burwalls, Clifton Down, Kings Weston Down, Blaise Castle). Outer earthen ramparts, with similar strategic purpose, are known at other walled Roman sites, for example at the *civitas* capital Silchester (Wacher 1975, 273, Fig. 122 *Calleva*), although Abona was obviously not in this class of town. Bitterne (*Clausentum*), like Abona a supply-port, minor town and naval-base, certainly possessed an outer bank and ditch beyond its walls (Waterman 1947, 152). Whatever the possibility of pre-Roman bulwarks, a substantial outer defensive earthwork at Abona, for which the Anglo-Saxon charters argue (see Fig.4), was most likely to have been planned and constructed by the infantry of the Legio II Augusta, when the fort was in active use during the subjugation of the local tribes, and before its use by Frontinus as a supply-centre during his campaigns against the Silures in South Wales (c. AD 73-78). Certainly the deep cleft of Sea Mills Wood and Glen (with its important stream), which lies adjacent to the site on its eastern side, would have had to be taken into strategic account. It presumably would not have been left unfortified against surprise ambush and attack. The stream would have provided the best source of non-brackish drinking water in large quantities both for the garrison and for the thirsty water-barrels of the Roman fleet and merchant shipping. Archaeology has not so far identified with certainty any Roman domestic wells at Abona. One well only, but of indeterminate dating, has recently been uncovered by Etheridge (2002).

Archaeology of Abona at its probable abandonment c. 410 AD, Fig.3

This defines what is known to archaeology of Abona as it might have been left at the expulsion of Britain's remaining Roman administrators in c. AD 410, followed (rather than preceded?) by the town's abandonment. Importantly, the latest coin-find at Abona is an issue of Arcadius of 408 (Reece 1966, 218-20), despite the fact that the British usurper Constantine III, hero neverthless of early Welsh poetry, had already withdrawn the legions from Britain in 407 AD. Ellis's synopsis only excepted Hebditch's conjecture (1968) for the extent of the town on its eastern side. This proposed eastern margin is reintegrated here. Ellis proposed his own boundary for the southern margin of the town in view of the 1968 excavations at site 20 (here E 20) at 51 Roman Way, when, importantly, a ditch and the remains of a possible town wall (collapsed), at the presumed south-eastern limit of Abona, were uncovered (Ellis 1987, 17, 35, 42-3, 103). If a correct understanding of the archaeology, Abona, a naval base (Frere 1987 following Collingwood 1930; Bennett 1985, 28) could be classed with similar naval bases at Bitterne (*Clausentum*), Caister-by-Yarmouth, and Rochester.

Importantly, if correctly estimated, the 1968 evidence for a circuit wall would dissolve the long-standing doubt (or denial) of its existence expressed by Wacher (1975, 51), Branigan and Fowler (1976, 104), Bennett (1985, 28), Aston and Iles (1986, 53-72), and Millett (1990, 152-3, 155). All had essentially followed the weighty negative opinion of Webster (1975, 53-66). Ellis was able cautiously to welcome, from Martin (1888, 60) (Fig.7), the anecdotal evidence of Seyer (1821), who recorded that locally, at an earlier time, Sea Mills's name had been Portbury and even Portchester. Neither Martin nor Seyer produced any documentary proof, but Estate Plans of 1771 (Bristol Record Office 26570; and cf. Erskine 2002, 8, 61) record three fields at Sea Mills named *Lower Portbury, West Portbury* and *Great Portbury* occupying the site of Abona, which argues for a serious defensive role in either the Roman period (cf. Brougham, Brough, Burgh Castle) or the Anglo-Saxon period (*burh* obl. *byrig* 'a defended place, fort' > -bury, -borough) - or even in both periods. Gelling (1978) does not discuss the toponyms 'Portbury' or 'Portchester', but points out the general rule that *ceaster/caester* was 'the normal term for the Anglo-Saxons to use when they named a *walled* Roman town' (ibid. 143-6, 151).

One major anomaly regarding the extent of the settlement of Abona that remains to be resolved concerns the presence of cremation and inhumation burials along two of its streets, well within the town's limits so defined. Such burials were only normally permitted by the Roman authorities in an extramural context. But can one simply assume that streets with adjacent burials *must* all have lain outside the town's limits? There is no simple solution to this, except to emphasise that Britain was at the very edge of the Empire and that Abona, lying on the very margins of this edge, was a naval and surely rough, tough probably badly policed little town of native *Brittunculi* on the make (including tavern-keepers and doubtless prostitutes), frequented mostly by passing Roman sailors and troopers. It appears to have been a settlement graced by no civic buildings (basilica) or civilised amenities (baths, theatre, amphitheatre) known so far to the archaeology. For the few Roman officers, it had a proper, arguably élite Ist/2nd century cemetery up the hill beyond the the walls (shown here), where the 'Spes' tombstone, of some status and respectability, was recovered c.1870 (now in the City Museum: Bennett 1985, 61-2). For the common townfolk, the rules of interment were probably frequently observed in the breach. Etheridge (2002, 30-31) usefully summarises his new funerary finds (cremations and cisted inhumation) and marshalls some of the pertinent academic argument, but assumes perhaps too easily that the British inhabitants in this frontier town, whose officials, between visits of the *Classis Britannica*, must frequently and gratefully have escaped to Bath as opportunity arose, were scrupulously

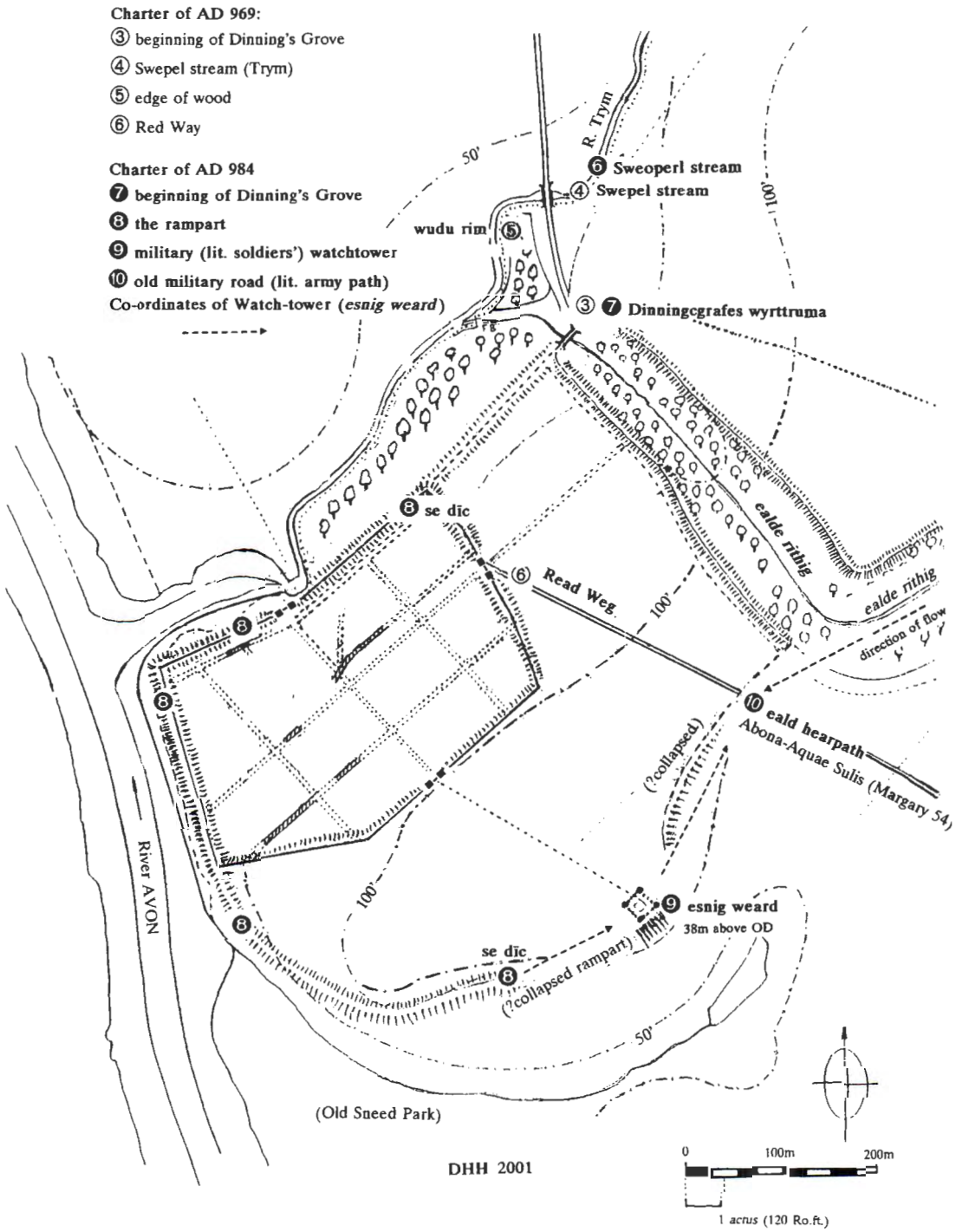

Fig.4 Abona of the Anglo-Saxon Charters - conjectured 10th century landscape.

law-abiding. Middle-class conformists the *Brittunculi* of Abona were probably not.

The street-grid conjectured here is again based on the locations of the find-spots in Ellis's plans (1987, 42-3), Hebditch (1968) and Etheridge (2002) plotted in Fig.1. It shows the possible layout of the streets which, in a degraded and overgrown condition, the Anglo-Saxon surveyors may have witnessed in their itineraries some half-millennium later. How much survived above ground in the 10th century must be an open question, but enough residual masonry of a military, defensive nature (arguably even a town wall and ditch) remained visible to inspire the Mercians of the area to name the whole site *esnig maed* ('military/garrison meadow'), and the watch-tower as the *esnig weard* ('military watch-tower'). The Roman road (Margary no. 54) is recorded in both charters, although its exact track through the site of Abona ('military/garrison field') in the 10th century is not likely to have been the one proposed by Ellis in 1987 (shown here). Its likely route from the south may have been to the town's eastern postern, conjectured here.

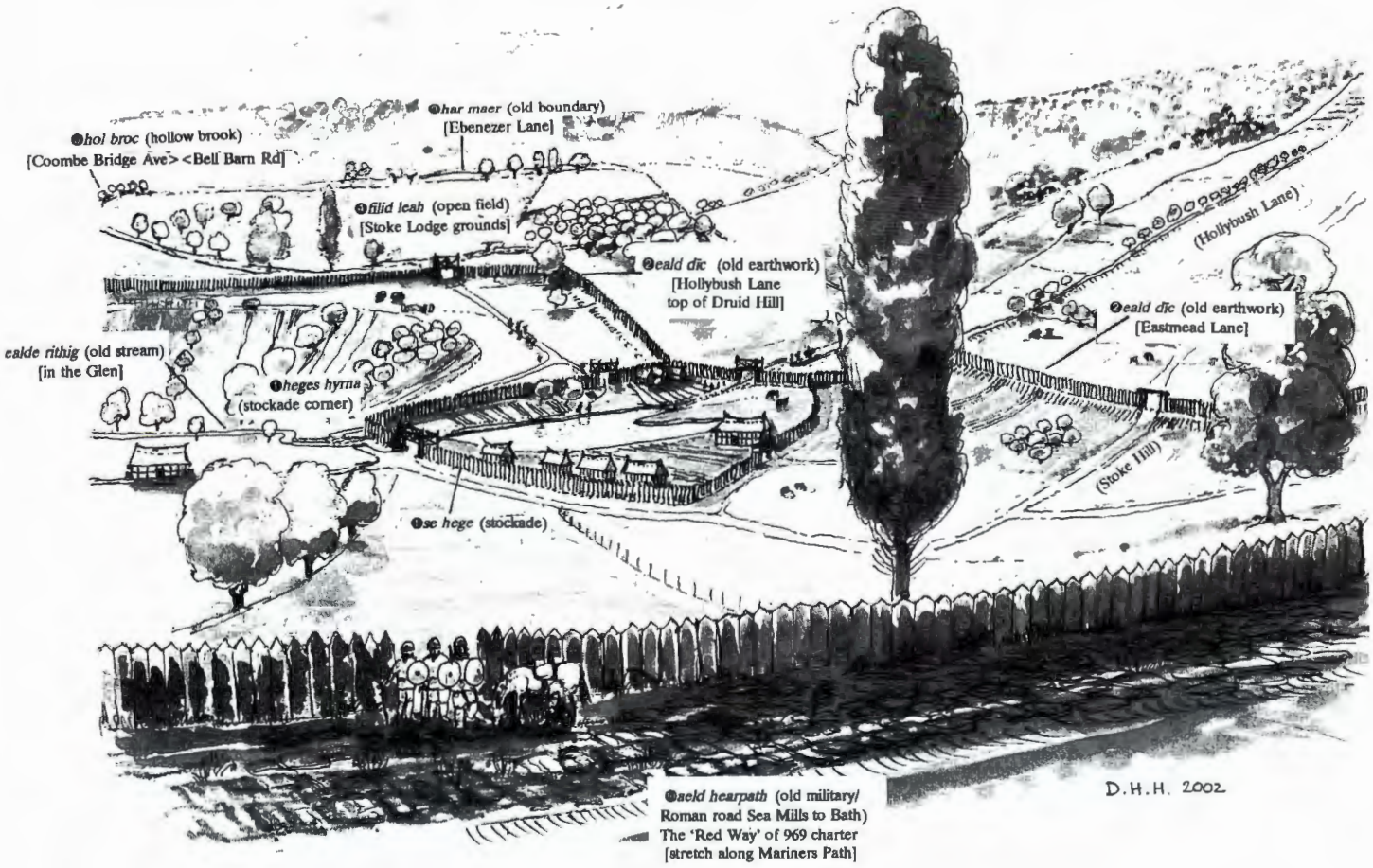

Fig.5 Stoke Bishop in the 10th century - Charter of Bisceopes stoc of 984 AD.

The reasons for this author's location of a watch-tower on the ridge above Abona (later the site of Old Sneed Park/Nazareth House), and for the existence of outer earthen ramparts, are summarised below (Fig.4). Fuller argument on the charters' evidence is marshalled in Higgins 2002, 107-131.

Abona of the Anglo-Saxon Charters, Figs.4 & 5

This shows the surmised condition of Abona (**portbyrig, *portceaster?*) and its immediate area in the 10th century. As has been said, from the evidence of the Anglo-Saxon charter of 984, the actual location of Abona, with what remained of its domestic, military and commercial buildings, port installations, streets and conjectured walls, was known locally by the 10th century as *esnig maed*: the 'soldiers', 'military' or 'garrison meadow'. The charter indicates that the entire site of the *esnig maed* appears to have been surrounded by an outer bulwark (*se dic*), part of which rampart may have been composed of stretches of the collapsed town walls. At a precisely defined position stood the *esnig weard*: 'the 'military watch-tower'. This was sited at a spot determined in the charter by two co-ordinates: the 'line of aim' of the rampart (*se dic*) itself, arguably along the W-E axis of its southern section, and, intersected by the Roman road to Bath (*eald hearpath*), the 'line of aim' of the 'old rivulet' (*ealde rithig*) in Sea Mills Wood/the Glen. Importantly, the rampart's existence is confirmed by the charter of 984, irrespective of the disputes of archaeology over the existence or otherwise of the town wall of Abona. In the unsettled period of the Danish raids of King Ethelred's reign, when the two later charters were produced, it appears that the local (Mercian) militia may have re-occupied the defensible site (*burh*) of the Roman town, and exploited its military potential, at least as a look-out point.

The question must be raised, of course, as to the meaning of *soldiers/military* (*esnig*) in the charter. Was this a narrow reference to the Mercians' own militia and military dispositions or, with an historic sense, a reference to the Roman originators of the then ruined site? The evidence of 10th century literature in general points to a contemporary understanding of the fact of an ancient heroic palimpsest in the now English landscape. This is illustrated by such late Anglo-Saxon poems as *The Ruin* and *The Wanderer*. From the evidence of the 984 charter, the local Mercian population was well aware of the ancient origins of Abona. From the linguistic evidence, these defensive structures were not considered 'theirs' in origin (see Higgins 2002, 126 ff.). The text shows that the Anglo-Saxons had easily surmised the *military* nature of Abona as they had surmised that of the old road which ran through their territory. They denominated the latter the 'old military road', a feature of the landscape beyond their own people's technical capabilities to construct. Perhaps, *mutatis mutandis*, much like the Forum of Rome reduced to cow-pasture (*il campo vaccino*), by the 10th century Abona sat forlorn yet impressive, half-buried in the meadowland of the *esnig*

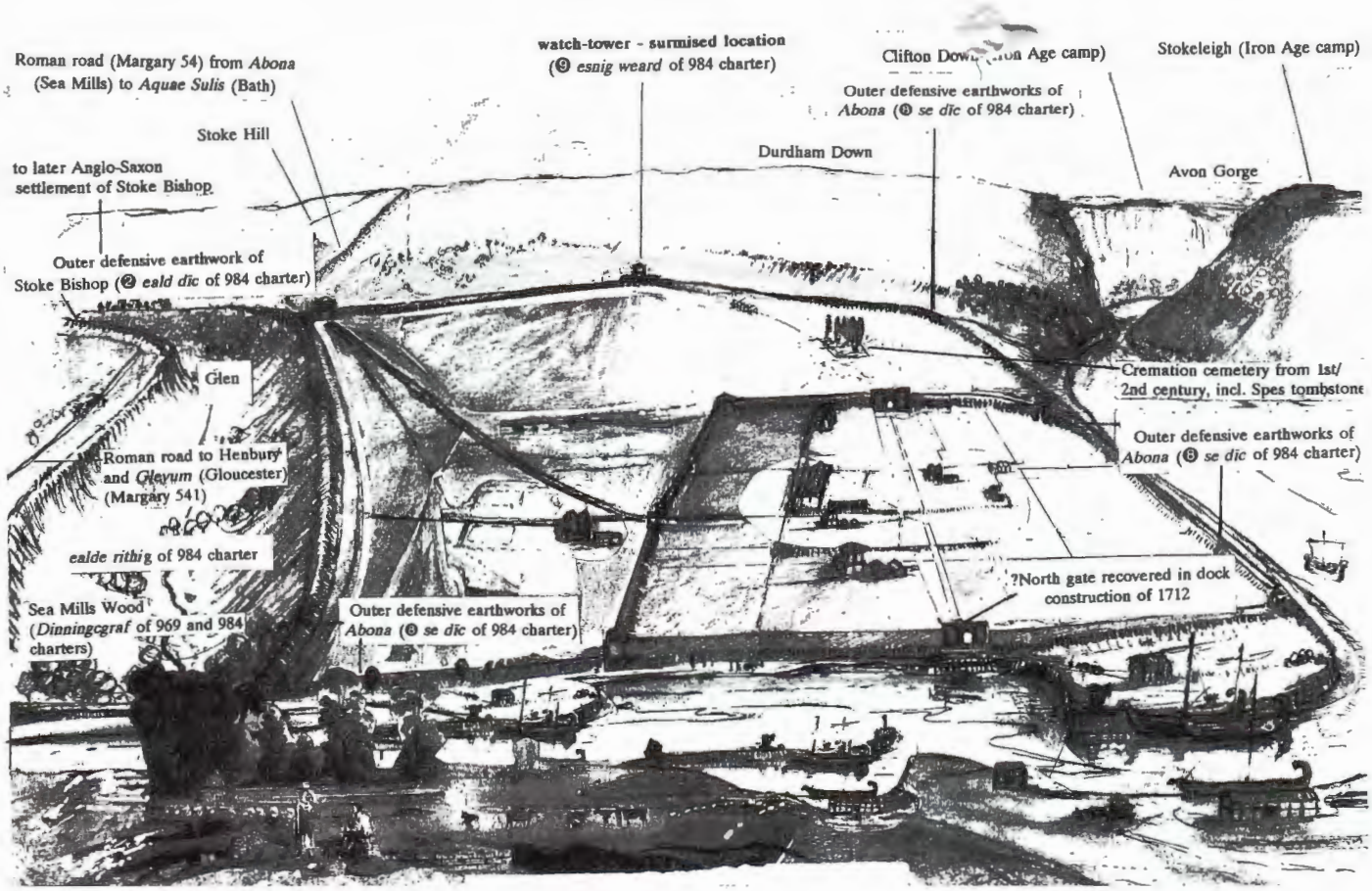

Fig.6 Abona (Sea Mills) - partial reconstruction of the site in the 4th century AD (situated in the esnig med `garrison meadow' of the 984 charter. White numbers in black circles are shown bold in the text.

maed. It is clear therefore that what the Mercians called the 'military watch-tower' (*esnig weard)*, arguably on the crown of Old Sneed Park ridge at 38m. above O.D., was seen as one with the ruined townscape of Abona and its probably tumbled defensive wall and outer ramparts. The Anglo-Saxon militia of 'Bishop's Stoke' had probably reinstated the old, probably Roman watch-tower, returning it to what they surmised had been its original role in the distant heroic (Roman) past. Their efforts of military recuperation, of course, were directed at the time of the charters chiefly against Viking raids, in order to close the vulnerable 'back-door' to Westbury minster with (doubtless) its significant church treasures.

Both the charters of 969 and 984 provide evidence for the beginnings in Abona of the Roman road to Bath (Margary no. 54). Here it is known as the *Read Weg* ('Red Way') and the *eald hearpath* ('ancient military road') respectively. The road was still a defining feature of the Mercian landscape. It is arguable, based on Seyer's sketch (1821), that the outer earthen rampart (984 *se dic*) of the Roman town along the farther (eastern) rim of the Glen/Sea Mills Wood, may have integrated with an outer 'native (Mercian) defensive system (*eald dic*) around the hamlet of (now) Stoke Bishop. Within this outer system, the later charter shows that the settlement itself was protected by a wooden stockade (*se hege*).

From the evidence, the site of Abona was included in the surveys of both 969 and 984. Both surveyors approached the site from the north. The surveyor of 969 moved from 3. 'the beginning of 'Dinning's Grove' (Sea Mills Wood), to 4. the Trym (*Swepel stream*) as it turned west above the old bridge (see 0S 6" map of 1904). He then moved along the then wooded bank (5) to 6. the 'Red Way' (Margary no. 54). The latter appears to have received its name from the structure's conspicuous and characteristic stratum of red soil, exposed by attrition over the centuries, which Martin (1900) discovered in his section of the Roman road on Durdham Down.

The route taken by the AD 969 surveyor would have obliged him to pass through the north rampart of Abona, recorded as *se dic* in the later charter. This may have been composed in stretches of the collapsed port-wall of the town, including perhaps the remains of the 'fine arched gateway' recuperated from Sea Mills dock in 1712 (Martin 1888, 60). From here he would have passed into the area of the town itself, with its ruined masonry, to leave it perhaps by a conjectured eastern postern, where the proposed coda of the 'Red Way' to Bath now commenced.

On the other hand, the surveyor of 984 moved directly from VII. 'Dinning's Grove' to VIII. the adjacent northern earthwork (*se dic*) along the banks of the Trym. Rather than passing through this rampart as the 969 surveyor had done, he appears to have moved (in order to include the whole meadow) upon the rampart itself, in a curving course

west>south>east until it finally 'shot' or 'aimed at' IX. the old military watch-tower. 'Shoots/aims at' is an interesting metaphor, and suggests 'sighting (a target) from a distance'. It may imply that there was here a gap or interruption in the earthworks, a collapse caused by the ravages of time. The wording of the 8th leg of the itinerary ('from military/garrison meadow to the point where the old rivulet [in the Glen] shoots/aims up at the old military road') fails perhaps significantly to mention the section of the south rampart between tower and road. This may indicate that here too the rampart had collapsed by the 10th century, and could no longer serve as a suitable marker. The 984 surveyor then joined X. the Roman road (his *eald hearpath*) on the ridge at 38m AOD, at a point further south than that reached by the 969 surveyor on his *read weg*. They then both moved south, out of the vicinity of Abona, on their (arguably) common itinerary back to the stockaded settlement at Stoke Bishop.

In conclusion, from the evidence of the 'Bishop's Stoke' charters, Abona was recognised in the 10th century as an ancient military site. From the language of the charters, the Mercian Anglians of the period saw this ruined town and its port as a place of historic, even legendary character, and still functional, if in a reduced defensive role. The site of Abona, known as the 'soldiers's, 'military' or 'garrison meadow', still provided, in the troubled times of Danish raids on west Mercia and coastal Wessex, a vital look-out along the lower Avon towards the Bristol Channel and conversely towards Durdham Down. In times of peace, Stoke Bishop itself, a mere hamlet, was not important. But in times of war during Ethelred's reign, its adjacent port at Sea Mills provided all too ready access from the sea to the wealthy minster of the 'parent' vill of Westbury. Such ecclesiastical sites were favourite Viking targets. Importantly also, Abona gave access to the beginning of an engineered Roman road connecting to the wider Roman road-network in the South West.

In times of stress the old Roman port's system of outer defences (*se dic*), with its watch-tower, came again into its own. This ancient Roman rampart, from the evidence of the charters, appears to have integrated with the outer defences (*eald dic)* of the settlement at Stoke Bishop itself, offering an extended system of security. The 10th century charters of 'Bishop's Stoke' therefore provide important new evidence

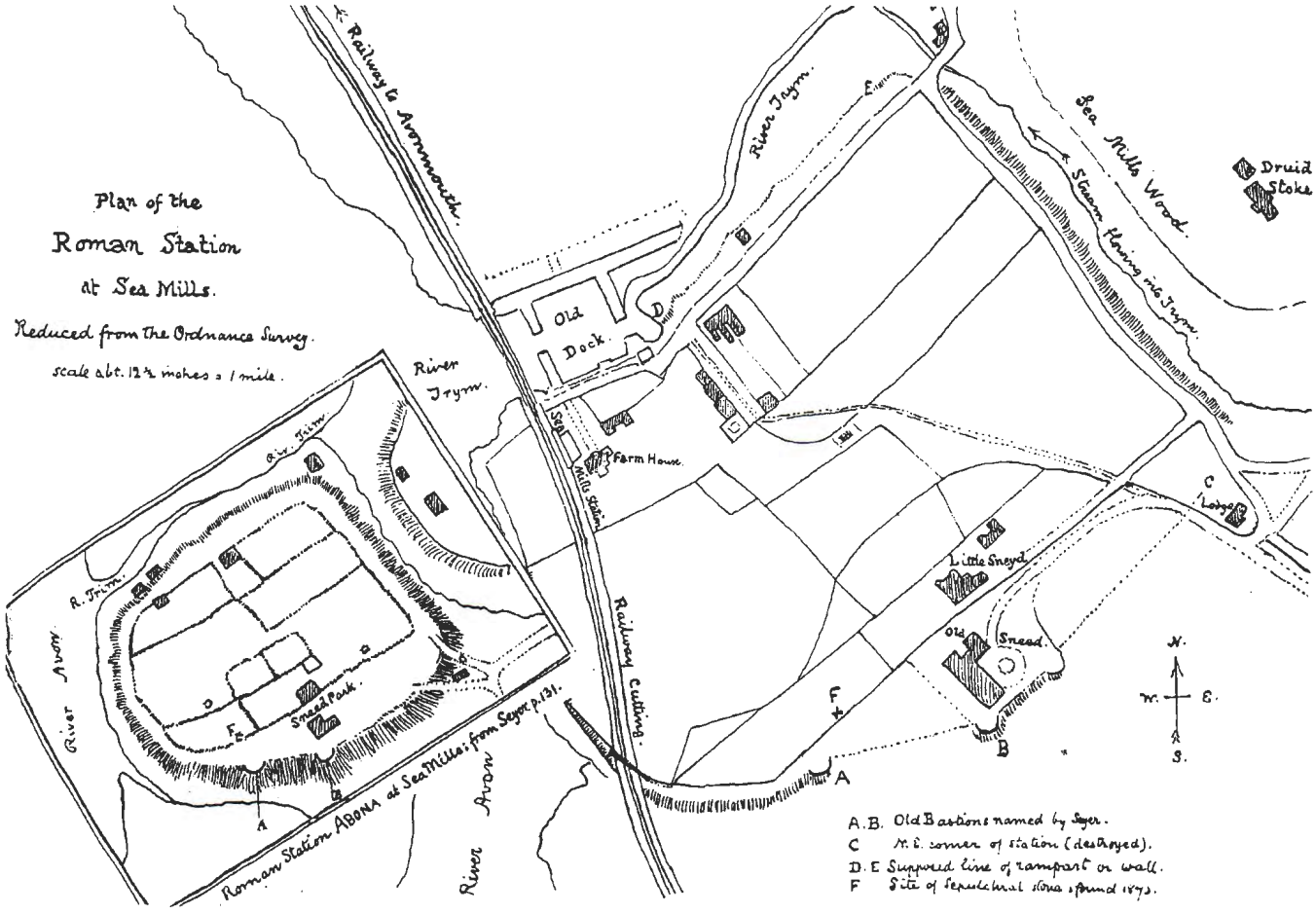

Fig.7 A T Martin's plan of Abona (1888, facing 58) included inset Seyer's 1821 plan of the site, based on observations before the railway construction. Both show the extent of what they surmised as the outer defensive earthworks around the Roman site. These are arguably part of those known in the 984 charter as 'se dic' ***(8)****. It is possible that those noted by Seyer on the northern edge of Sea Mills wood integrated with the outer earthworks aroundStoke Bishop itself in the late Anglo-Saxon period ('eald dic'* ***(2)*** *of the 984 charter).*

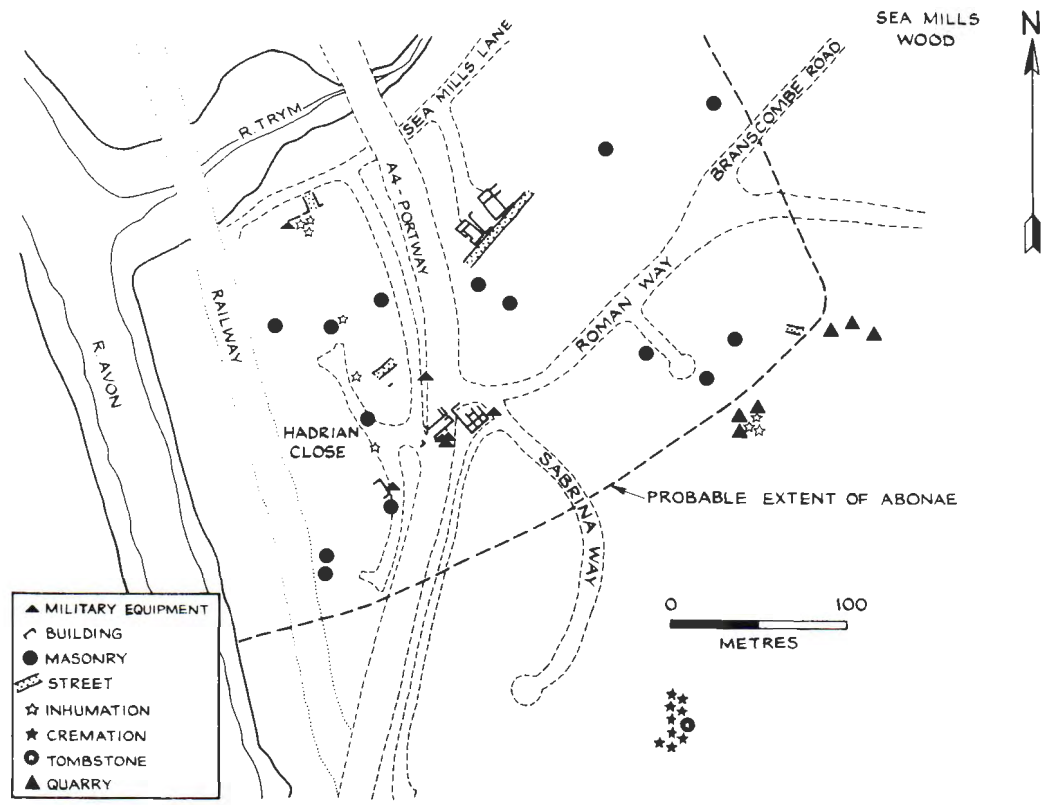

Fig.8 Area plan of Sea Mills (after Hebditch, in Bennett 1985, 1).

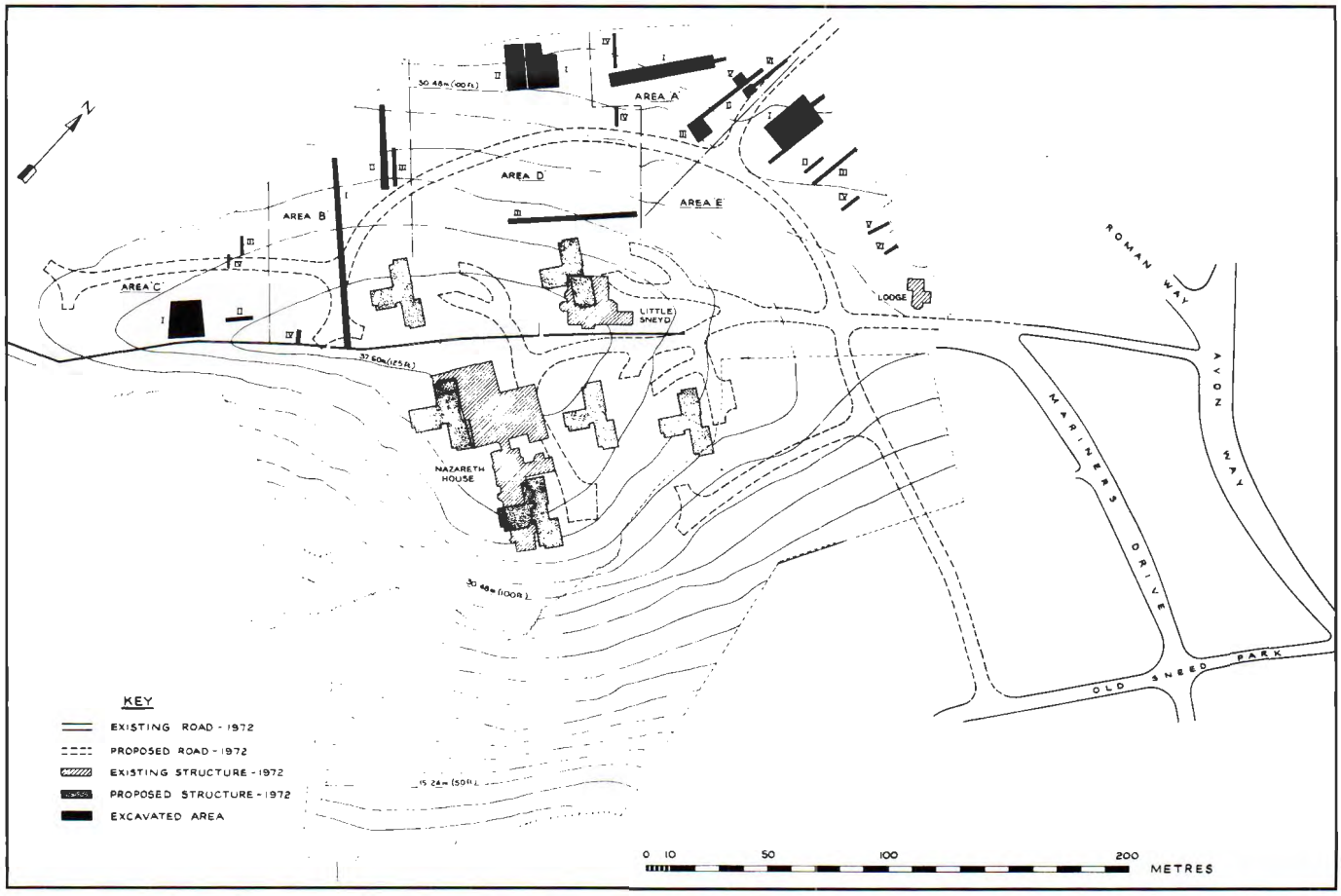

Fig.9 Sea Mills 1972 - Nazareth House Grounds - General Plan of Excavations (Bennett 1985, 6).

of historical continuity between major eras: the strategic exploitation of England's material Roman heritage in the late Anglo-Saxon period.

Finally, if Abona has a past (both Roman and Anglo-Saxon), does it have a future? Jonathan Erskine's recent desk-top study of Hadrian Close (2002) for Bristol City Council's planned development of the 1946 'prefabricated' estate, promises fresh scope for systematic archaeological investigation, as would the adjacent area of the allotments overlooking the Avon, as leases terminate. Then there is the scope offered by the immediate dock area (even if the lower Trym valley as a whole, with its 1920's landfill - but how much and where? - may be out of the question). There is also available for archaeological enterprise the south bank of the Avon (Abbots Leigh CP) opposite Sea Mills, where the road from the Roman fortified industrial estate at Gatcombe is now known to have terminated. To what extent this farther bank was a suburb of Abona itself is an intriguing question that deserves an answer.

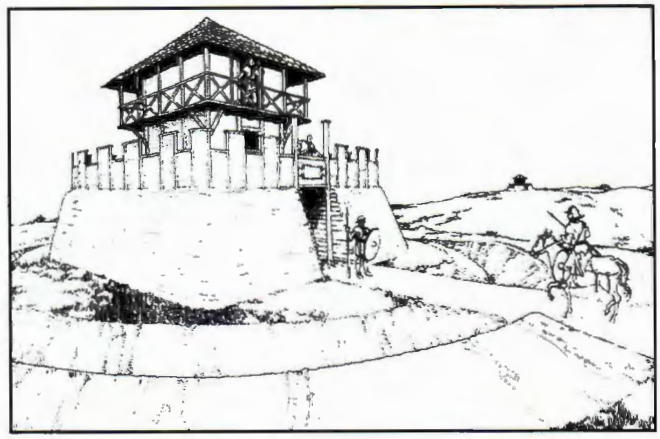

Fig.10 The watch tower (38m aOD) probably dated from the early years of the Occupation fort and provided security for the low-lying camp and port installations. If so, it may have been similar to the one at Parkneuck, Perthshire, built in the 80s AD. Reconstruction by M J Moore (Breeze 1994, 45).

Appendix

The two Anglo-Saxon charters referred to in this article very probably define the same *tranche* of territory within the tithing of 'Bishop's Stoke'; the second charter is arguably a more detailed, sophisticated and legally useful version of the first. For fuller argument, readers are referred to an exposition of the subject in D.H. Higgins, 'The Anglo-Saxon Charters of Stoke Bishop: a study of the boundaries of Bisceopes Stoc', in *Transactions of the Bristol and Gloucestershire Archaeological Society*, vol. 120, 2002, 107-131.

The charter of A.D. 969

Aerest on aesc wellan (First to (1) Ash Spring [in Stoke Bishop]), *of aesc wellan west on the halas* (from Ash spring west to (2) the nooks [along the Trym's bank near Mill Pill bridge]), *thanon on dinnigces grafes wyrt truman* (thence to the beginning of (3) Dinning's grove [Sea Mills Wood], *th(anon) swa on Swepelan stream* (thence to (4) the river Swepel [the Trym]), *of Swepelan streame west be wudu riman on readan wege suthwearden* (from the river Swepel westwards by the edge of (5) the wood [lower Sea Mills Lane] to (6) the Red Way [the Sea Mills - Bath Roman road] on its southerly course), *of readen wege west eft in aesc wellan* (from the Red Way west back to (1) Ash spring [at Stoke Bishop]).

The Charter of A.D. 984

Aerest on thaes heges hyrnan be westan Stoce (First to **(1)** the corner of the stockade on the west side of Stoke [Bishop], *of tham on tha ealdan dic on haran maere northwardne* (from there to **(2)** the old earthwork [top of Druid Hill near the opening of Hollybush Lane] then northwards to **(3)** the old boundary [now Ebenezer Lane]), *of haran maere innan filidleage northwarde* (from the old boundary into the north part of **(4)** the open field [Stoke Lodge playing-field]), *of filidleage northwarde in thone holan broc* (from the north part of the open field to **(5)** the sunken brook [junction of Coombe Bridge Avenue and Bell Barn Road]), *of thaem holan broc innan Sweoperlan stream* (from the sunken brook to **(6)** the river Sweoperl [Trym], *of Sweoperlan streame on dinningcgrafes wyrttruman* (from the river Sweoperl to **(7)** the beginning of Dinning's grove [lower end of Sea Mills Wood]), *of Dinningcgrafes wyrttruman eall swa se dic sceot on esnig maedwae wearde* (from the beginning of Dinning's grove to where **(8)** the rampart aims at **(9)** the military watch-tower in the meadow (Fig.10) [site of Abona at Sea Mills]), *of esnig maedwan eal swa that ealde rithig sceot up on thone aeldan hearpath* (from military/garrison meadow to where the old rivulet [in the Glen] aims up at **(10)** the old military road [the Sea-Mills - Bath Roman road]), *of thaem ealdan hearpathe up on tha ealdan dic with Stoces weard* (from the old military road up to **(11)** the old earthwork [probably eastwards along Eastmead Lane] towards Stoke [Bishop]), *of thaere ealdan dic eal swa se hege sceot be Stoce* (from the old earthwork to where **(12)** the stockade runs [lit. 'shoots'] by Stoke [Bishop]), *westan eft on thaes heges hyrnan* (westwards back to **(1)** the corner of the stockade).

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THE WELLINGTON HOTEL (ALIAS THE SHIP), HORFIELD, BRISTOL
and a note on the line of the ancient highway through the parish from manorial records
by Denis Wright

...take this rule, by which so much good beer has been made in England for hundreds of years: when you can, by looking down into the tub, see your face clearly in the water, the water is become cool enough; and you must not put the malt in before.

William Cobbett, Cottage Economy (1821)

The Wellington Hotel was opened in 1894, last of the licensed houses built in Horfield during the 19th century to serve a growing suburban population, or in some cases chiefly the barracks. A Gloucestershire listing of licensed premises in Horfield in 1891, when the ancient parish still extended to Zetland Road, gave 15 other alehouses and beer houses: Horfield Inn, Royal Hotel, Royal Oak, Royal George, Prince of Wales, Golden Lion, Victoria Inn, Bee Hive, Foresters Arms (twice), Anchor, Old Fox, Duke of York, Robin Hood and New Inn, as well as 13 off-licenses. The Wellingtonís purpose-built, late-Victorian premises had much in common with the rest but in one important respect the hotel was different. It was not an entirely new enterprise but a replacement for an existing alehouse, previously known as 'The Ship' and renamed 'Wellington Hotel' in mid-century, which had stood nearby on Wellington Crescent, part of the ancient highway through Horfield, since the late-Middle Ages (Fig.1).

The 1891 listing of licensed houses in Horfield (above) also included the ancient alehouse, a former copyhold farmstead that had belonged to the manor of Horfield. Since enfranchisement of the manor in 1852, the property had been owned outright by the Shadwell family but it was still leased to tenants on customary terms. In 1891, the alehouse was rented out on a 7-year lease to the Ashton Gate Brewery Company in the way that property in Horfield had always been let to sub-tenants under license of the manor court. A court held on June 11th 1655, for example, gave John Wade permission to let his farm in Filton 'to any fitt person or persons for the term of seaven yeares from the feast of St John the Baptist next (June 24th)' and such agreements were enshrined in the oldest extant copy of the customs of Horfield manor, dated May 1st 1560 (Bristol Record Office 32226 Box 22). The 7-year lease on the old Wellington Hotel current in 1891 was also the last. Deeds for the new hotel recorded a purchase by the brewery of a plot of land, part of the 'Home Mead' (Tithe no. 104) of the old alehouse, through an 'Indenture of Conveyance in Trust for sale', dated April 1888. A 999-year lease on the completed premises ran from September 29th (Michaelmas) 1894 (BRO 2009/1890S).

The deal probably satisfied both parties. During the quarter-century between the Ordnance Surveys of 1881 and 1905, suburban growth had continued northwards and had finally encroached on the medieval 'township' around the common. An earlier development in the 1850s at Berkeley and Egerton Roads had briefly retained an outlying copyhold farmhouse within the street plan but in the more cluttered area of the township redundant farmsteads were perceived mainly as obstacles to a regular building plan. For example, without the encumbrance of 'Home Farm' (Tithe nos. 92a-b 93), it had been possible by 1905 to exploit an otherwise inaccessible two-acre 'Paddock' (Tithe no. 83) as part of a larger estate, laid out as St Leonard's and Hughenden Roads and developed at a fairly typical rate of 25 dwellings per acre. The Shadwell land sale to the brewery in 1888 was one part of a similar plan, the first stage in the clearance of a 10.5 acre estate lying next to the parish church which contained a total of three farmsteads. The complete redevelopment would be carried out at some convenient future date and, with that in mind, a covenant in an 1896 Indenture specified access by 'public Roadway' across the north-east side of the Wellington plot, the roadway (Western Road) being 'the sole property of the Lessors' against such time as 'the Lessors convert their adjoining land into building land'. An estate plan, probably delayed by the 1914-18 war and its prelude and aftermath, was submitted eventually in June 1926 (BRO 40287/12/99). Amongst several early practical benefits for the brewery was the fact that, whereas by 1905 its old premises had been completely obscured from the main highway by Victorian terraces, the land purchase of 1888 had anticipated that outcome by securing an alternative site 100 yards away on the edge of the common overlooking Gloucester Road. The new hotel kept its recently-established name but it also maintained (perhaps unwittingly) a trading link with arguably the most important secular building in Horfield during the early modern period.

References to an ancient alehouse in Horfield are few but the cumulative evidence points to a continuing use of one particular property over several centuries. The earliest reference dates from a manorial court held in Horfield on April 28 1525 at a time when local courts were responsible for the licensing and regulation of rural hostelries. According to Sabin's summary of the contents of that court roll (Sabin, 1960, 174), Richard Symyng 'kept an inn' but the premises were not in fact quite so grand as the term 'inn'

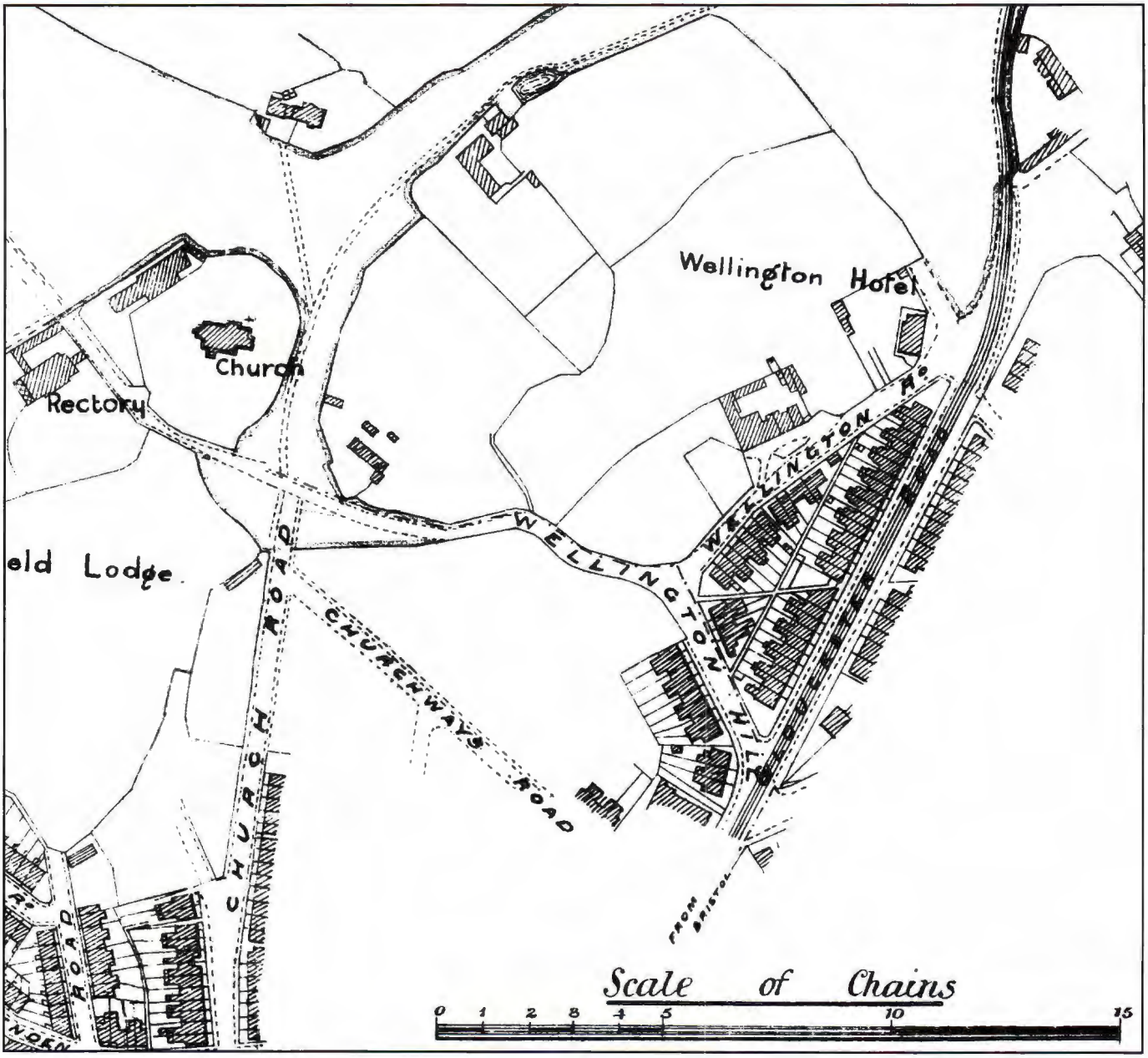

Fig.1 Part of a map of Horfield Common relating to the sale of the common by Bishop Monks Horfield Trust to the Lord Mayor, Aldermen and Burgesses of the City of Bristol, October 4th 1908. Price £400. The new hotel and its predecessor stand side by side on Wellington Road. Bristol Record Office 06807.

suggests. The manuscript reveals that Symyng had been licensed as a common ale-seller ('coam traventria') and had been selling ale ('vend cervia') in short measure ('cum mensura illicitiabilis') (GRO D674a M32 1524-5). An alehouse in Horfield at that time may not have provided a regular occupation for its licensee. Clark (1983, 200) mentions a 'seasonal character found in the 16th century and earlier, when many poor alehouse keepers only tippled (brewed) after the harvest, in winter time, or on communal occasions, and were quite often out of drink'. Symyng was principally a farmer, the alehouse being kept (possibly by his wife) as a supplement to the main business of agriculture, but he was not strikingly poor.

Three years earlier in 1522, Richard Symyng had been recorded in a Military Survey of the county (Hoyle 1993) amongst the middle rank of copyhold tenants in Horfield, assessed at £3 and owning a bow and a sallet (helmet). His status as a middle-ranking tenant was confirmed by an inventory of manorial property belonging to St Augustine's Abbey made in 1542 at the Dissolution (PRO SC6 Hen VIII 1240 m17/18d). According to that document, Richard Symyng paid '14s.8.5d rent for one farmstead and half virgate of land meadow and pasture with its appurtenances containing by estimate 23 acres'. Not much credence can be placed on the estimated acreage of Symyng's farm. When all 17 copyhold farms recorded in Horfield at that time are

arranged in rank order of size by estimated acreage it is clear that they conform to a suspiciously regular pattern. The 4 largest (virgate-sized) farms (40+ acres) were differentiated typically by a factor of 5 acres, the 6 middle-sized (half-virgate) farms (20+ acres) by a factor of 3 acres, and the remaining 7 smaller farms by a factor of 1 acre. Symyng's relative status within that pattern is nevertheless clear. The same groupings, each containing the same number of farms (one of the smallest farms having been subdivided) are also found at enfranchisement in the mid-19th century (House of Commons, 1852, 152). The inventory of 1542 was concerned with land values and there was no mention of subsidiary activities such as selling ale. However, Symyng did have local access to barley ('Ord' = 'hordeum'), listed in 1542 amongst wheat, beans, peas, and oats grown on one farm which was liable to pay tithes within the benefice of Horfield ('Decime infra Rect de H'), and it is likely that he brewed his own ale.

Brewing was, after all, a traditional farmstead activity. According to William Cobbett (writing in 1821), until the late-18th century 'to have a house and not to brew beer was a rare thing indeed' (Cobbett 1979, 12). He blamed a recent decline in home-brewing on war-time inflation and ëthe enormous taxí on malt and hops, but brewing and cider-making certainly persisted in some Horfield properties into the late-19th century, as revealed, for example, by notices of farm sales advertised in the Bristol Mercury during 1857. An inventory of household goods, stock, and 'other effects' belonging to Mr Henry Orum of 'Duck Street Farm near the Church Horfield' (February 7) included '40 gallons of prime cider' and an unspecified number of 'empty casks', while Mr William Allen of 'Dymockís Farm Horfield' (February 21) owned 'brewing utensils', including 'meshing tub, tubs, coolers, 3 capital casks etc'. Activity on that scale was plainly not a casual hobby but some sort of regular provision for the needs of a household. According to Cobbett, before the widespread use of tea everyone except the very young had drunk small beer, a second weaker brewing of the malt. This could only have been done out of an instinct for self preservation since no-one had then made a formal connection between boiled water and health, small beer being a safer option than local water supplies. A long tradition of home-brewing in Horfield is therefore likely but if so it is interesting that a township which in 1542 consisted of 25 households was also able to support an alehouse.

Barrett (1789, 243) referred to a hostelry in Horfield during the 17th century. Writing of the sequestration of various incumbents of Bristol parishes by a 'standing committee' in February 1646, he mentioned the replacement of 'The Rev. Mr. Pierce vicar of St. Philip's' by 'one Edward Hancock, late a Butler to Sir George Horner, Knight'. Hancock was in turn ejected at the Restoration and, according to Barrett, 'afterwards kept a public-house at Horfield, more agreeable to his former employment'. Establishment prejudice against non-conformism is clear from Barrett's final phrase and the story of 'a public-house' may have been invented to discredit Hancock further. Calamy (1713, II, 332) simply described Hancock as 'an earnest moving Preacher' who 'died some Years since at Howil [Horvil] within two Miles of that City'. If Hancock did keep an alehouse his tenure was very brief, court records showing that by 1666 he was the tenant of Horfield Great Farm where he remained until his death some twenty years later. During that time he was accused twice by Churchwardens for 'not Coming to his parish Church to hear divine service' and for 'not receiving the sacrament of the Lords Supper at this Parish Church of Horvil aforesaid at Easter last' (BRO EP/V/3). It may be purely coincidental that one of those churchwardens, Edward Cowles, also owned the Ship. Whatever the truth of Hancock's involvement with an alehouse, such a story could have been plausible only if there was actually an alehouse in Horfield at the time.

Manorial records for Horfield (1652-1851) made no direct reference to an alehouse because by then responsibility for licensing had passed to local magistrates. Regular licensing of urban hostelries was fairly common by the 17th century, extant records for Bristol beginning in 1654 (BRO JQS/AK/1-11). The practice of systematic annual licensing of rural alehouses followed later. The earliest extant record for the county of Gloucestershire dates from 1755. In that year, listed within Thornbury and Berkeley Lower Hundred, Sarah Lewis paid a £10 licence for the Ship in Horfield, John Wade of Filton acting as 'Surety' in the sum of £10. Wade also acted as surety for William West's Anchor in Filton (GRO Q/AV2). Nothing is known of Sarah Lewis except that she was not, like Symyng, a copyholder but, like almost every Horfield resident in the mid-18th century, a sub-tenant, a class of persons who achieved only passing reference in court records. However, a licence already attached to a named house at that date and in the circumstances outlined above suggests an establishment with a long history, and a powerful continuing need within a village population which had not increased in size since the Dissolution.

Court records did not mention the Ship but a copy of a Terrier compiled on behalf of the manorial lessee in 1791 (BRO EP/E/11/4) linked the alehouse with a farm described as 'late Grace Jone's'. As court records establish, that farm had been held in Trust since 1769, its fields let out separately at rack rents, representing their current market value. The Terrier also named the fields, giving Thomas Wilcox as tenant of the 'Ship House', including presumably the 'Home Mead' (Tithe nos. 103-4), and of one field called 'Churchways' (Tithe no. 271), while two other tenants rented 'Allhays' (Tithe no. 63-5-6), 'Hazelton' (Tithe no. 27) and 'Gout Shords' (Tithe nos. 32, 37). The Terrier in fact provided a complete inventory of the property except for one half-acre share in Hutton Wood (Tithe no. 193), an allocation common to all of the other copyholds. The sum of those field acreages belonging to 'late Grace Jone's' as identified in the Parish tithe survey of 1843 (BRO EP/A/32?23), exactly matched a total acreage for the property given at enfranchisement.

On the evidence of the Terrier, the 'Ship House' in 1791 occupied the same site as the old Wellington Hotel. As to the fields, court records from the 17th century confirm customary ownership by previous tenants, either by name ('Churchways' in 1681 and 'Gout Shord' in 1692), or by implication in the case of 'Allhays' through repeated references to ownership of fields against two lane boundaries. But all was not quite as it seemed. It is also clear from a court presentment of 1691 that 'Hazelton' had belonged customarily to a different copyhold, then owned by Hezekiah Webb. The partition of 'late Grace Jone's' into smaller rentable units probably had much to do with efforts by the manorial lessee, John Shadwell, to rationalise agricultural practice within the constraints of an obsolete system. It involved a certain amount of illicit land exchange, apparently without the knowledge of the court's legal representative. A note dated 1799 heading the copy of the Terrier indicated that 'the original and two maps are to be delivered to Mr Worrall [court steward] *if necessary*' and sounds, in the circumstances, like a calculated bluff. That particular land exchange had been possible only in 1796 after the death of the last independent owner of 'Hazelton', Sarah Townsend, and the field could not therefore have appeared under 'late Grace Jone's' in an original document in 1791. The precise reason for shifting 'Hazelton' from one copyhold to another is not at all clear but, when that 12 -acre field is struck from the inventory of 'late Grace Jone's', the copyhold is restored to the middle rank of properties where it customarily belonged. On that evidence and the evidence of a correlation between the groups of farms in 1542 and 1852, the Ship and Symyng's alehouse almost certainly occupied the same site. Of the farmsteads belonging to the other 5 middle-sized properties in 1852, 3 lay at Horfield Downend and the other 2 by the lane to Westbury. Only the Ship adjoined the highway. The choice of 'late Grace Jone's' for partition strongly suggests that the farmstead itself, the 'Ship House', had become a profitable, full-time enterprise well before the farm was taken into Trust in 1769, as the licence and the established name of 1755 indicate.

Alehouses fulfilled a local need for a public meeting place, the only alternative building in many cases being a church. Articles of enquiry of 1721 show that the diocese of Bristol was still actively discouraging what it called 'prophane Uses' of its sacred buildings for 'Feasts, Juries, Temporal Courts, Leets, or Musters' (BRO EP/V/3) but there was no such problem in the case of Horfield. The Ship is known to have provided a venue for late 18th-century manorial courts (BRO AC/WH/9(8)a-b) and there is good reason to think that it may have done so over a longer period, perhaps from the Dissolution. The old manor house (Horfield Great Farm) was separately eased and its tenants took no part in court proceedings after 1542 though they were still required by a lease of 1661 to provide 'Meate Drinck Lodginge Housemate and sufficient ffyre' for the steward and his servants twice a year on court days (BRO DC/E/1/2).

The Ship hosted the Michaelmas court dinner. According to the 1791 Terrier (above), the steward's fee for the previous court had been 10s.6d and 'Expenses of Dinner' had come to £7, one third of the cost of annual rental of the premises. A manor court of 1772 recorded that John Jones, a juror, was 'so drunk as to be unable to sign the presentment'. He was fined 40s for riotous behaviour and for 'speaking many Oaths and very indecent and obscene words' but this was exceptional. Generally, the atmosphere seems to have been that of a mildly self-important private club. For example, in 1774, the jury increased fines for over-stocking the common, partly as a perk for one of its members, the hayward, but also to provide an extra drinking fund. At any rate, the hayward lodged the surplus as it accumulated with 'Thomas Sweeting of the said Parish of Horfield Victualler'. Thomas Sweeting was identified as a sub-tenant of ëlate Grace Jone's' in 1772 and was clearly the current licencee of the Ship. In 1775, the jury decided instead to donate those accrued moneys to the poor 'on St Thomas day next [December 21] in bread' but two years later it abandoned that experiment in public benefaction, dropped extra fines, and reverted to 'Ancient Custom'.

The regular arrangement made with Thomas Sweeting and the shifts in policy over funds hint that meetings at the Ship amongst the sub-tenant farmers who mostly made up the jury were probably not confined to biannual courts. Their function as jurymen, upholders of 'Ancient Custom', may well have conferred a local status at a time when social divisions were becoming increasingly marked but it must also have been clear to them that they had limited influence. In Horfield, at precisely that time, John Shadwell, the manorial lessee, was busy concentrating copyhold land into the hands of his immediate family. According to ancient custom, all new copyholders (clerics, merchants, lawyers, an occasional baronet) or their widows were required to appear in person in order to swear an archaic oath of fealty in open court before a body consisting largely of their social inferiors but, as court records show, special sessions were arranged, or transactions were conducted at long range through 'powers of attorney' or private sale. Sub-tenant farmers also took a decidedly pragmatic view of customary practice as it affected them. For example in 1774, in what appears to have been a pre-arranged strategy, a threat of a forfeit for Thomas Kennison for failure to maintain a traditional lane gate was met unanimously with a verdict that the gate was redundant, 'a thing not being thought necessary'. With revolutionary zeal, the jury went on immediately to pre-empt further threats by abolishing a series of other lane gates. It also pursued absent landowners with precise lists of repairs needed to cottages. For example in 1776, George Davis needed 'a new Window frame in the kitchen, a New Lintern over the Kitchen door and a new Lintern over the Barn door'. Most of the families in Horfield in 1766 were 'dissenters and Quakers and Presbyterians' (Ralph 1985, 58), James Kennison, for instance, 'a professed Quaker', opting to make a (legally valid) 'solemn affirmation' instead of taking an oath at a court in 1768. Other dissenting jurors were probably well versed in ideas of social justice. The Ship was one obvious meeting place for men on 7-year leases, potential victims of plans for

agricultural rationalisation, but their voices had disappeared from the court record by the onset of the French wars.

The Ship probably hosted other local functions or festivals, including wedding feasts and wakes, but alehouses were not great retailers of food without prior notice. For that reason, the Ship was not a serious option for a visiting preacher who made a rhyming account of his sermon at Horfield parish church one New Year's day during the 18th century. According to one manuscript version (Gloucestershire Reference Library, RR 166.1), there being 'no dinner near, /A mile at least to Cup & Cheer', he chose the fashionable Ostrich inn on Durdham Down, 'The only place to Stop & dine, /and Whistles wet with beer or Wine', where he dined amongst other things on 'A Loin of Veal'. Also, since virtually every aspect of the preacher's experience in Horfield ('Ignoramus green') had been distasteful to him and his entourage, it is no surprise that he should ignore the Ship altogether.

Clark (1983, 233-6) comments on the use of alehouses by clubs and societies, or as job centres, and on the growing popularity during the 18th century of games (both indoor and outdoor) often organised by publicans. Samuel Seyer, incumbent of Horfield (1813-28) described in a notebook (BRO P/Hor/X/1a) 'two tumps of Earth about 50 yards assunder' situated on the church common 'which used to be a skittle-alley, which my informant remembered about the year 1750. The place was then called Horfield-Butts', also suggesting to Seyer an earlier use for archery practice 'by the youth of this and the neighbouring [sic] parishes'. The manor was a venue for hunting and was sufficiently well known in the next county as to require a public notice warning off 'divers Persons [who] make it a practice to Course and shoot within the manor of Horfield and Filton - not being qualified so to do' (Bath Journal, July 1 1745). At a manor court of 1794, James Higgs, William Kingsbury and Samuel Vowles were given a month's notice to get rid of several 'Lurching and other Dogs', just as other locals, George Bennett, John Adlam and William Thomas had been identified as unlicenced keepers of 'canes venacires' (hunting dogs) by a manor court in 1700. If some hunters were 'non qualificat per leges', other were presumably licenced and, like Mr Godwyn of Kingsweston who sent 'provision' from his glebe to 'my much honoured friend Thomas Smyth Esq.' in 1629, they might choose to present smaller fowl ('11 Rayles') 'to the Falconers & the bringers'(BRO 36074 122b), perhaps recruited from amongst locals, at the end of a successful day. The Ship was a natural gathering point for all such pursuits in Horfield, official or not, and was, of course, little more than a half-hour walk from Bristol.

Whatever administrative and social activities the Ship hosted from the late-Middle Ages onwards and however important those were within the local community, the success of the alehouse depended on 'the King's highroad to Thornbury' (Seyer 1812, 78) which carried inland trade to and from the regional port and, according to William Worcestre, had been in use as a highway 'since ancient times' (Neale, 2000, 39). It was probably more a case of mutual dependence, the alehouse being a necessary adjunct to a highway which was 'deep in winter-time particularly and dangerous to passengers' (Seyer 1812) and in summer-time 'stony and difficult' (Exwood 1993, 101-102). By his own account, William Schellinks had spent some time admiring views across the Severn at Almondsbury but even so his ten-mile journey on horseback from Thornbury to Bristol in July 1662 occupied a total of four hours, indicating that in favourable conditions and without the hindrance of a wheeled vehicle a 17th-century traveller on the King's highroad through Horfield might achieve a steady walking pace. Alehouses at regular intervals alongside ancient highways were thus vital and they might be expected to provide a variety of services.

The line of the ancient highway through Horfield parish is known from documentary sources. The pattern of fields, farmsteads and lanes recorded in the parish tithe survey had remained essentially unchanged since the late-Middle Ages. The stability of the landscape during that period is most clearly revealed by a lease of 1532 (BRO EP/E/11/1) which recorded named fields belonging to a demesne farm in a series of topographical sequences matching those given over 300 years later. The 17th-century records of Horfield manor court referred to the route of the highway by identifying ownership of fields adjoining the road, all of them traceable through successive grants or through leases to the tithe survey, and by naming other contemporary features. As might be expected, the line of the ancient highway was for the most part identical with that of the modern trunk road (A38) but there was one notable difference. On its approach to the township from the south, the ancient highway had diverged from the modern line (by St Edmond's School), heading in a series of curves across steadily rising ground for the parish church. An account of that section, known locally as 'Bate lane', and of the entire line from 'Coniger bridge' (Zetland Road) to 'Cowlease barrs' (Monks Park Avenue) may be found in Appendix 1.

The ancient site of the Ship can be inferred from a major alteration to the line of highway carried out in the early 18th century. The road 'through the Parishes of Horfield and Filton to a house called Almonsdbury's alias Agmonsbury's Inni was one of 12 highways 'leading from the city' designated for improvement by the Bristol Turnpike Trust under an Act of 1727 (Act 13 Geo 1 C12). Amongst many clauses, the Act enabled road widening by 'opening [grounds] lying contiguous', or the making of entirely new 'Causeways', but only so long as the ground taken for a road 'be not a House, Garden, Orchard, Park, Walk, or Avenue to a House, already planted'. Such a clause may have been intended to protect the private interests of gentlemen trustees living in the counties, but in Horfield at least it was applied impartially. The steep, narrow, and winding section of highway known as 'Bate lane' might have been improved at some cost but not without further encroachment on the curtilage of Hannah Webb's farmstead (Tithe nos. 92a,b, 93). So, 'with all convenient speed' a short by-pass was built to the east of the village and completed (from the evidence of court records) before 1735. The only deviation from a

straight line on a steady gradient took the newly-cut section of turnpike road up to join the existing highway past the Ship when the by-pass might more easily have continued on its set course across a pasture called 'Upper Innocks'. The reason for such a detour can only have been a cautious recognition of the current value of an existing wayside hostelry at that point. The effect was to make the Ship (rather than the church) the focal point of the village and is one reason why the Ship flourished during the 18th century.

Early documents of the Turnpike Trust have not survived and there seems to be no evidence of alterations to roads from other contemporary sources. Farley's Bristol News-Paper reported the passage of the Act on April 25th 1727; the opening of toll gates on June 26th; their immediate destruction by 'the Colliers of Kingswood and Busleton [Brislington]'; and the destruction of Durdham Down gate on July 4th, including the arrest of 'one Robings, a mason of Horvill'; but after mid-July when 'All Things' continue peaceable, the gates 'not being as yet put up again', Farley more or less dropped the issue. The only clue in the local press that some alterations to roads has been carried out was that routine adverts for twice-weekly summertime stage-coach journeys between Gloucester and Bristol suddenly introduced a small but significant change of wording on January 27th 1733. Coaches in both directions would set off at the usual time of '6 o'clock in the Morning' but 'from the first Wednesday in April next' passengers would 'dine at the Crown Newport' and (more importantly) the operators guaranteed for the first time to complete the 33-mile journey 'in one day'.

The stately pace of a coach journey was dictated not only by the condition of a road surface but by obstacles such as cattle droves, other carriages, and by local customary arrangements - gates at the entry to common land and cattle wandering freely on commons. Jurors of Horfield manor court in 1741 had obviously considered some of the local implications of increased traffic on the new turnpike road, instructing the 'Bayliff of this Mannour'

..to secure the Gates of the Common one of which is now down in the Gloucester Road to make the Common safer by some means to hoop the gates always shut which frequently lie open a considerable Time together or to make a Fence to enclose the Common from the Gloucester Road.

The problem of straying cattle was resolved eventually by tethering them but, meanwhile, traditional common gates, one by the Ship and another by Breach gate (Dorian Road), were still bringing all traffic on the main road to a halt. However, construction of a new by-pass was one reason why the Horfield turnpike quickly superseded the road through Stapleton as the main highway from Bristol to Gloucester.

John MacAdam's schedule for a Bristol Road Act of 1819 (59 Geo III c95) included an intended new road 'Opposite the Ship at Horfield' and he carried out the work in 1821 (MacAdam 1825, appendix 8). The 'new road' was in fact a short realignment of the turnpike road across a corner of 'Upper Innocks', an option which had been declined earlier in favour of a detour past the Ship. Times had changed and the Ship was no longer necessary to a vastly improved modern road network. A sale of land by Horfield Great Farm in 1827 (BRO EP/E/11/5) included a small remnant of 'Upper Innocks' (tithe no. 102), described as

A close of excellent pasture (1 acre 2 roods 27 perches) with extensive frontage against the Turnpike [MacAdams' 'new road'] and extending from thence to the Old Road passing by the house late the Ship in the occupation of the said Richard Evans.

As the word 'late' indicates, the Ship had closed by 1827, its licence presumably transferring straight to Pound Cottage beside the Great Farm, where it was identified as 'The Ship' (kept by Eleonor Sanders) in the Census of 1841. A general decline in sales probably influenced the move to smaller premises, Clark (1983, 294) recording a 'sharp contraction of beer consumption' nationally after 1800, from 33.9 gallons a year per capita to 28.4 gallons by 1825, but the timing was determined by one factor. After 1821, and for the first time in its history, the Ship no longer stood by the highway.

Samuel Seyer's incumbency of Horfield coincided with the main events. He knew first-hand where the Ship had always stood before it closed, what he called in his notebook its 'original' site, and (as his use of the term 'original' also plainly implies) he knew that the Ship had recently moved. He described that 'original' site as being about 100 yards distant from' the entrance of the old 'high-way' onto the 'North-common', precisely where John MacAdam and the land auctioneer, John Fargus, both independently agreed that the Ship stood or (by 1827) had stood, and matching all of the other evidence for the location of the Ship on the site of the old Wellington Hotel. Bingham's flawed treatment of Seyer's notes (Bingham 1906, 9-15) led him to identify a site for the Ship for which there is no evidence at all, a matter dealt with elsewhere (Wright 1998, 161-173). Bingham knew that his conclusions about the Ship and about a number of other topics 'may not meet with the approval of all who read, and may even be considered mistaken' but he believed that documentary evidence was not of overriding importance. In his view, it was better 'to give pleasure to those who prefer to accept the traditionary history of persons and places connected with Bristol' (Bingham 1906, 18-19) than to worry too much about accuracy.

An increase in the number of redundant farmsteads in Horfield (7 were recorded in the Census of 1841), owing to a recession in agriculture after the French wars, coincided with a fashion for rustic living amongst the Bristol middle classes and there seems to have been no trouble leasing the old premises of the Ship as a private house. For a decade from 1837, it was known as 'Horfield Lodge', occupied by Francis Kentucky Barnes (timber merchant), his wife, children, and servants. When the foundation stone for Horfield barracks was laid by the Masonic lodge, a press report (Bristol Mirror, June 7 1845) noted that

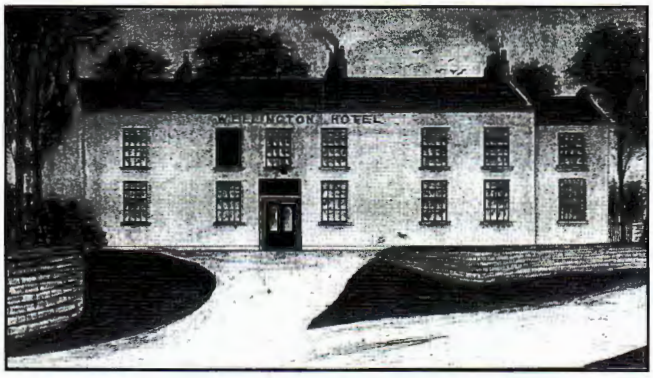

Fig.2 The copy of the original Wellington Hotel painting, dated 1875.

On arriving in Horfield the first place which attracted attention was the residence of Brother FK Barnes, who is himself a Master Mason, and who hospitably threw open his house on the occasion.

The masons were received at the old Ship House where they 'Be-collared, be-aproned, and be-jewelled' themselves and returned there after the ceremony for 'an elegant meal'. Other dignatories processed to the rectory where they were given 'a substantial and delicate dejeuner' by 'the Reverend H[enry] Richards' in tents on the rectory lawn and 'paddock adjoining'. The Tory Bristol Mirror thought it was high time that the Government had got round to erecting a barracks for Bristol, 'a somewhat turbulent place', a point also made at the ceremony by the deputy Grand Master who called on the 'Architect of the Universe' to bless their 'due precaution to preserve proper subordination in this our favoured land'. Richard Cobden observed in 1849 that instead of a policy of building barracks 'outside almost every considerable town' to suppress 'the mass of the people' it would be more sensible to 'give the people a voice in government, and qualify the rising generation to exercise the right of free men' (Morley 1881, II 43). Whatever Francis Barnes' political sympathies, he moved house to Upper Byron Place, Clifton in 1847 just as the barracks opened, perhaps already aware of the implications of a 'fact' observed by Cobden, that 'real property always falls in value in the vicinity of a barracks', or perhaps fearing what Cobden thought were 'the direct moral evils of such places'.

The arrival of over 200 Scottish soldiers in Horfield was nevertheless a wonderful trading opportunity of a kind never previously experienced. The Ship's original (larger) premises, then conveniently vacated by Barnes, reopened under the patriotic title of 'Wellington Hotel', kept (at the 1851 Census) by Thomas Chevalier, Victualler, while Eleonor Sanders of Pound Cottage, former Publican, then aged 70, saw out her days as a 'Lodging House Keeper'. The Wellington had quickly re-established itself as the leading hostelry in the district, employing 'Barmaid, Cook, Housemaid, Ostler, and Boots', and by1853 it was hosting the second annual Bristol and Horfield Horticultural and Dahlia Show (Bristol Mirror, September 10, 1853) - 'An efficient Military Band has been engaged for the occasion'. The re-use of the ancient farmstead as an alehouse lasted until 1894 and the building was demolished c.1905.

There are no extant photographs, only a painting (Fig.2), held in the family archive of Margaret Trump and itself a copy of an original painting. The depicted building appears to match the ground plan shown in Fig.1 at several points.

APPENDIX 1

Bate Lane and the highway through Horfield from manorial records

The general direction of the ancient highway through Horfield is clear from two landmarks given in a manor court presentment of 1664, ordering all tenants of fields adjoining the road to attend to their boundary hedges and ditches against it. The presentment covered virtually the entire 2.5 mile length of parish highway from a lane gate called 'Cowlease Barrs' [Monks Park Avenue] southwards to a bridge called 'Ludbridge', alias 'Coniger bridge' [Zetland Road], in fact all except for the road's passage northwards through Horfield wood into Filton.

ordinat est qud omnis tenen terr adversus viam ducen a loco vocat Cowlease Barrs usq ad pontem vocat Ludbridge qd faciant sufficen sepem et fossat ibm citra vicesima diem December

No tenant or field names were given but the terminal landmarks alone are enough to indicate that the line of the ancient highway was similar to that of the modern A38 trunk road.

The manor court rarely dealt with the boundaries of the whole highway at once but typically with sub-sections, or parts of them, perhaps reflecting a rotating pattern of statute work on the road surface carried out by parishioners. The parish organised its own statute work and, according to the Act of 1555, only if that system failed was the manor court required to intervene, as in Horfield in 1686 when the two elected *'Sup'visor via publica'* turned out to be negligent. In practice, winter boundary maintenance organised by the manor court and work on the road itself organised by the parish in early summer were related activities and, as the Act recognised, were carried out by the same people, inhabitants being expected to 'bring with them such Shovels, Spades, Picks, Mattocks, and other Tools and Instruments, as they do make their own Ditches and Fences withal'. Three sub-sections of highway within Horfield parish showed marked topographical differences. Reading from north to south, the first extended from the Filton boundary along the Almondsbury ridge to Horfield township; the next involved a descent from the ridge; and the last a shallower descent, most of it alongside Horfield brook from Blakely lane (Cambridge Road) to Coniger bridge.

Presentments relating to the extreme sub-sections reveal that the line of ancient and modern highways was identical. The northern section (Fig.3a) ran between well-documented demesne fields to the common gate and along the edge of the common by the manor house into the township. A presentment of 1682 covered most of it, ordering hedge-

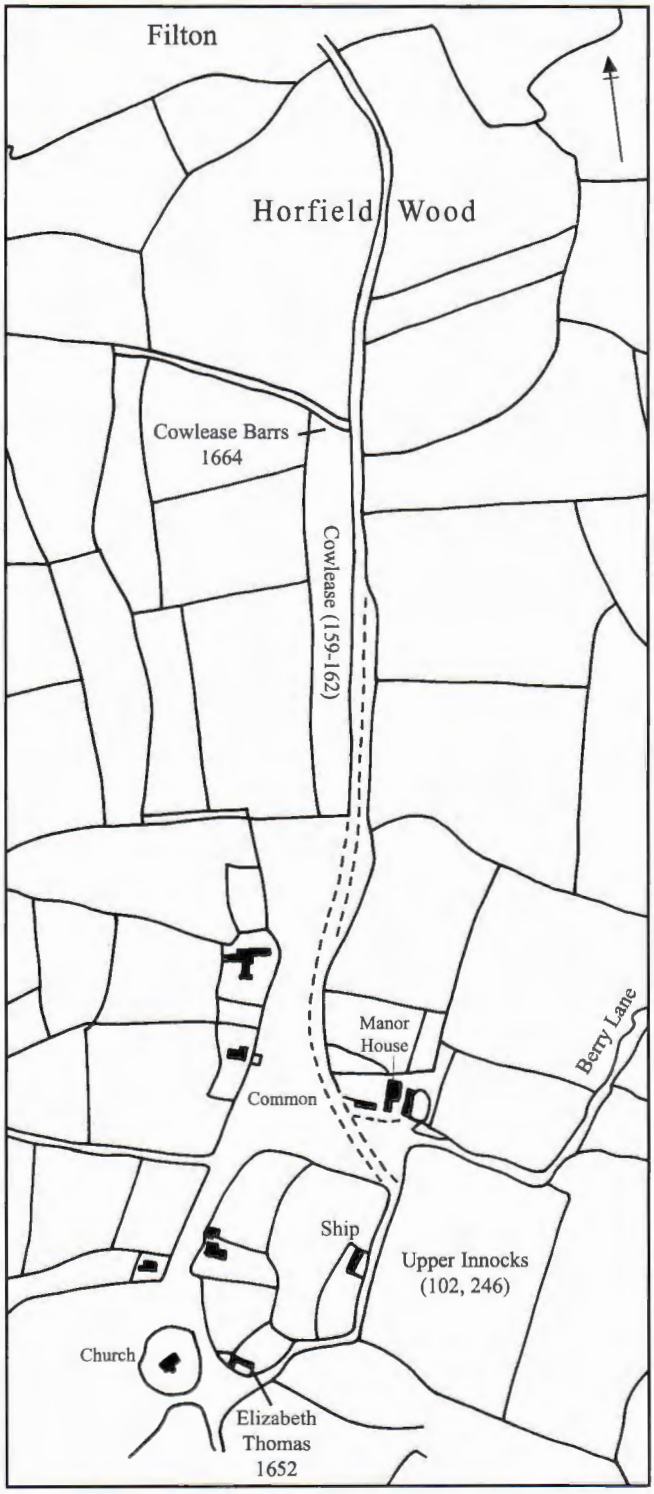

Fig.3a North highway.

pruning *'adjungen ad com alta viam'* along the length of Cowlease (Tithe nos. 159-162) as far as the common gate and then (separately) a scouring of the Cowlease ditch to the same point where a channel evidently crossed the road and joined the drainage system of the Great Farm, *'usq ad fossat Edward Hancock gent'*. According to a presentment of 1669, 'a goute' (canalem) took those combined waters *'ab alta via apud portam suam'* down an *'angissportum'* (alley) called Berry lane. A reference to the southern section (Fig.3c) as being all of a piece occurred in a presentment of 1656, the jury first naming 'Blakely gate' as a landmark, then simply adding '& threw to the Coniger bridge'. Two presentments relating to that section are enough to confirm the line of the whole. One of 1673, addressed to Edward Hancock and Obadiah Webb, concerned fields *'adjacen alta via in Clausi vocat le Coniger* [Tithe nos. 2,3] *et alta Clausi vocat Broadwell'* (Tithe nos. 4a-11), while another of 1681 dealt with paddocks across the way, Thomas Jackson's *'Clasula'* (Tithe no 285) abutting *'supiorem partem Clausula William Tovey* [Tithe no 286] *adversus coeus alta viam'*. Those presentments described the line of the highway northwards from Coniger bridge almost up to the fording of Horfield brook (Berkeley Road).

Only the central section (Fig.3b) of ancient highway in Horfield was different. Part of the line of an old road was still very clear during the early-19th century, Seyer's parishioners pointing out 'the narrow strip of ground below the churchyard, where Matthew's cottage now stands'. According to a manor court presentment of 1804, it was in fact William Thomas who had illegally 'Erected a Cottage in a Lane from the Church between late Attwoods Estate leading to an Estate late Townsends', William Matthews illegally enclosing 'part of the Common' nearby in 1809. That 'Lane' or 'narrow strip of ground' was later identified in the parish tithe survey of 1843 in three sections, 'Plantation', 'Cottage and Garden', and 'Part of Old Lane and Garden' (Tithe nos. 90-92b). Seyer was interested enough in the story and the physical evidence to consult 'the old records of the Manor-court'. He claimed to have found several references but noted only one of 1702 which named 'Beate lane' as 'communis alta via' from Horfield to Bristol. Seyer recognised that alterations to the line had probably occurred at 'the making of the Turnpike road', saw 'the narrow strip of ground below the churchyard' as a 'continuation' of 'a little lane now almost impassable' running between the turnpike and the common (Ash Road) and left it at that. Since there are no extant ancient maps of Horfield and since almost all of the old road is now built over, provenance for an ancient (pre-turnpike) line of highway 'below the churchyard' depends almost entirely on contemporary written records.

The records of Horfield manor court 1652-1851 contain eight presentments referring to a lane called 'Bate lane', all of them occurring during the half century up to 1702. Thereafter, unlike other 17th-century lanes in Horfield, Bate lane dropped from the record and there was no further reference to its peculiar attributes, as though the lane had been abandoned, or changed beyond recognition.

Seven of those eight presentments were addressed to members of the Thomas family, two also referring to other tenants without naming them. The earliest of the seven (recorded in English during the period of the Commonwealth) featured Elizabeth Thomas, widow of John Thomas, who at his death in 1652 had owned two copyhold farms in Horfield. A court held in October of that year had

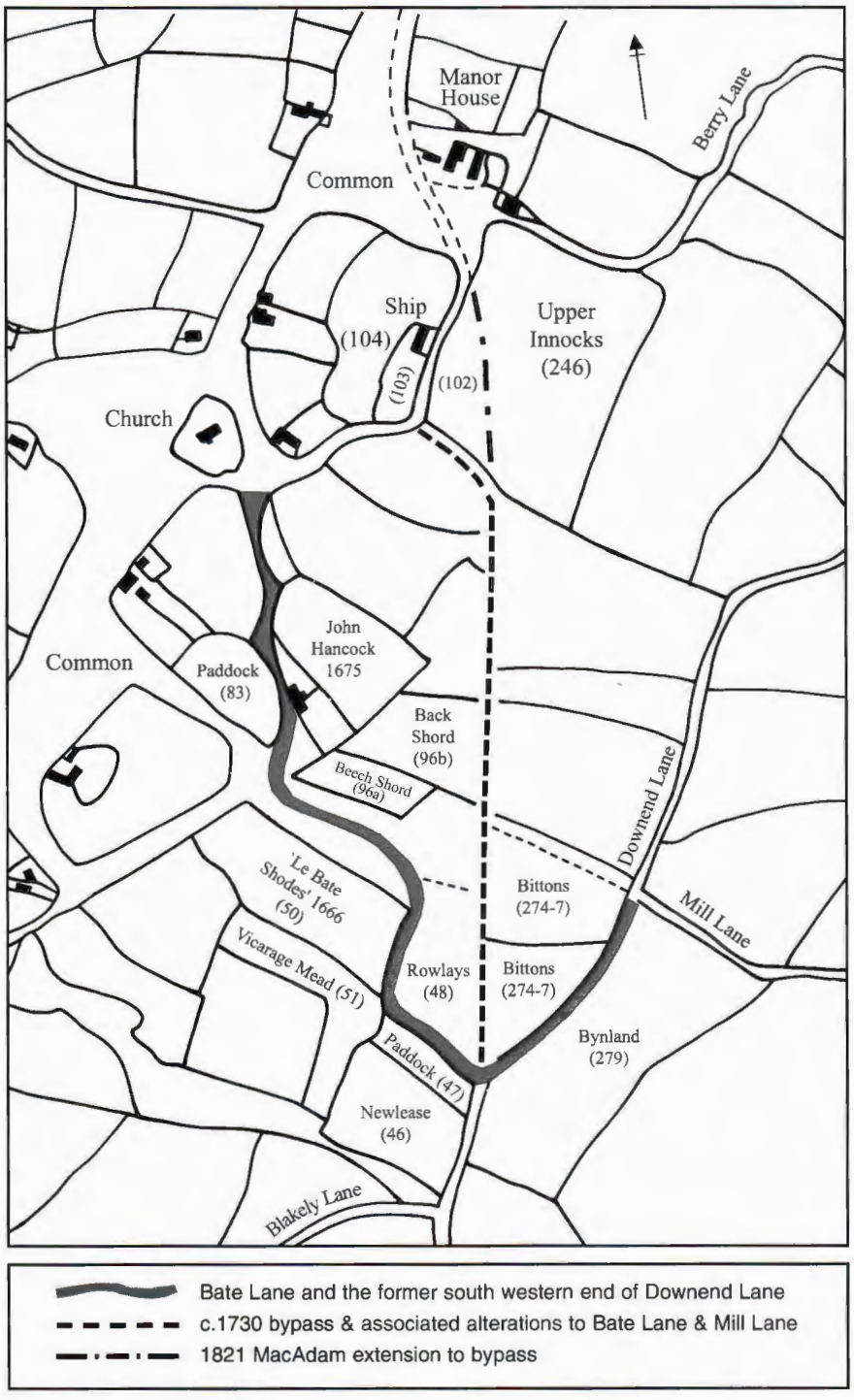

Fig.3b Central highway - Bate lane.

granted Elizabeth Thomas her widowis entitlement to 'free bench' for one copyhold only, as was the custom. The other copyhold was secured eventually through a grant to Elizabeth's son (also John) in April 1657, the delay probably occasioned by John's minority. Meanwhile, the family interest in both copyholds was tacitly acknowledged by the court through undifferentiated reference to two sets of copyhold fields contained in twin presentments of October 1655.

The Jurors aforesaid order that the widd Thomas or her Ten[an]t do cutt the hedges and shroud [prune] the trees from one end of Bate lane to the other by St Andrews day next [November 30] on payne of xs (10s).

The said Jurors do likewise order that the ditches from Bate lane end to the widd Thomas her Blakely gate bee sufficiently scoured by St Andrews day next by those that ought to do the same on payne for every one making default to pay vjs.viijd (6s.8d).

The Michaelmas jury of 1655 had evidently misjudged the extent of winter maintenance alongside the highway

because a jury at the next court (April 1656) took the highly unusual step of ordering not only further ditching but also hedge-cutting during Spring and early Summer.

...all those p[er]sons yt ought to skoure the ditches and cut the hedges on both sides of the way from the end of Bate lane to the widd Thomas her Blakely gate & threw to the Coniger bridge shall sufficiently do ye same by midsomer day next (ame forfeit).

One incidental outcome of that misjudgement was that the juries between them identified landmarks in sequence along the entire highway south of Horfield township.

The remaining four 'Thomas' presentments dealt exclusively with Bate lane. A court order of 1679, twice repeated with small variations, was addressed to John Thomas. As before in 1655, the topic was tree pruning *('obscidan arbores')* and hedge cutting *('sepem attondan')* in Bate lane, recorded as 'Backe' (1679), 'Back' (1680), and 'Bak' (1681). Also in each case, the jury specified work on both sides of *('ex utrinque')* Bate lane (but not on those occasions from end to end since only one copyhold was involved) and in 1681 described the lane as *'existen* [being] *com via Regia'*. Finally, in October 1702 (the presentment noted by Seyer), a jury ordered John Thomas's widow (also Elizabeth), or her sub-tenant, to cut the hedges as before and also to repair the banks *('ripam amovent')* on both sides of 'Beate lane' which was described as *'ducens ab Horfield predict ad Civit Bristol existens co[mun]ius alta via'*.

In spite of a lack of field names or other tenant names to help identify the exact route, the seven 'Thomas' presentments provide some important evidence about the status, limits, and line of Bate lane.

1. Bate lane was one part of the main 17th century highway through Horfield. The lane was distinctive enough to merit a name of its own, having 'ends' (1655) which were so obvious to a local audience at the time that no further explanation was needed, but it was also described as continuous with the highway in 1655-6 and was clearly not a gated local lane branching from it like Blakely lane. Bate lane was itself named as the King's highway in 1681, and was declared to be the common highway leading from Horfield to the city of Bristol in 1702.
2. Bate lane began at Horfield township. In view of the sequence of landmarks given in 1655-6, the presentment of 1702 can only have meant that Bate lane led from the nucleated settlement - that it *'ducens ab Horfeild'* (township or vil), or 'Horvil' as it was sometimes called. That meaning is also implied by the stated terminus, *'ad Civit Bristol'*.
3. Both 'ends' of Bate lane lay beside property which belonged to one or other of the two copyholds of Elizabeth Thomas in 1655. The township 'end' of the lane was probably considered to be at or near the parish church, the most conspicuous landmark in the village. Certainly, Elizabeth Thomas's 'free bench' copyhold farmstead and 'Home Mead' (Tithe nos. 105-7) lay next to the church with two of her fields (Tithe nos. 99, 101) also bordering the lane close by.
4. The line of Bate lane was different from that of the modern highway. Property belonging to the copyhold of John Thomas (1679-81) and his widow (1702) lay on both sides of Bate lane, a qualification which did not apply to the highway after the Bristol Roads Act of 1727.

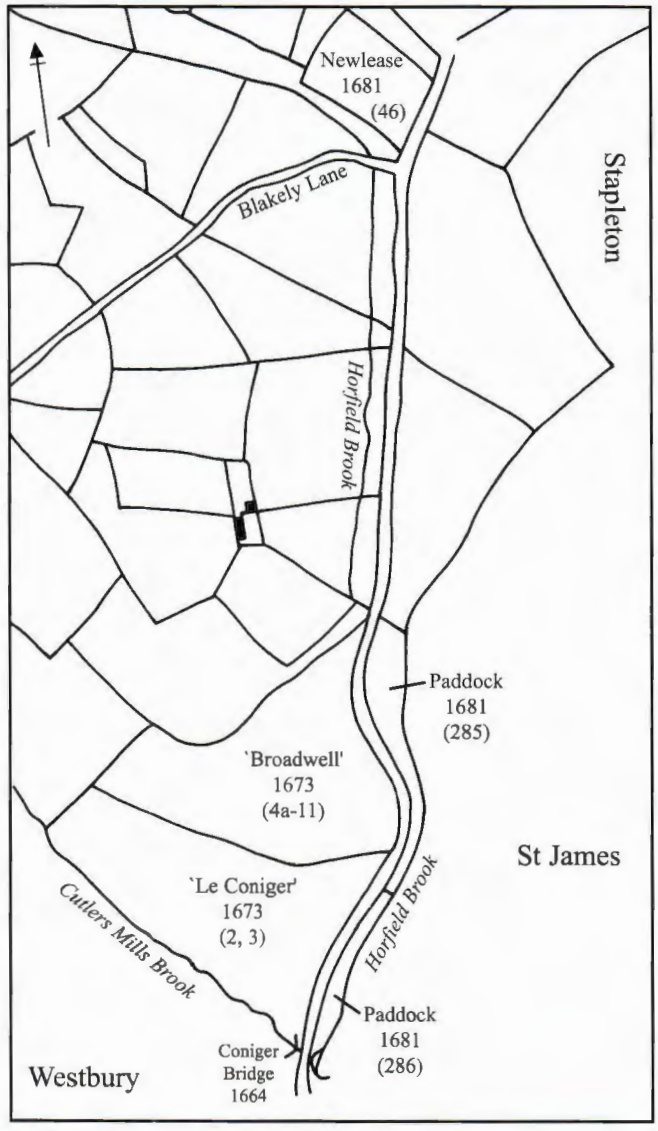

Fig.3c South highway.

The 'Thomas' presentments also reveal two features of Bate lane which differentiated it from all other 17th-century roads in Horfield.

5. Bate lane had no ditches, or at least none were mentioned during a period of 50 years. It is unlikely that on each occasion juries simply overlooked the matter of ditches in Bate lane since of all things pertaining to highway maintenance good ditches were crucial and were routinely mentioned in the case of all other lanes. The contrast between Bate lane and the rest of the highway in respect of ditches is most marked in the twin presentments of 1655.
6. Bate lane had banks on both sides (1702). Those banks may have been a feature of just one part of the lane but, given the apparent lack of ditches, may also suggest a lane which was at least partially sunken as it traversed rising ground.

The township 'end' of Bate lane probably lay at the parish church but its southern 'end' can be identified precisely, partly from presentments which made no reference to the lane. Fields bordering the western side of the highway above Blakely gate, the part 'from Bate lane end to the widd Thomas her Blakely gate' (1655-6), were described in 1676. The presentment dealt with Phillis Attwood's shared boundary, her hedge and ditch *'adversus Clausi Thome Jackson gent vocat little Paddocke'*, noting that both fields lay *'iuxta coem via'*. The same Attwood field was named in 1681, the topic being a different shared boundary at some distance back from the highway between John Combe's *'le vicarage meade'* and *'Clausi Phillis Attwood vid vocat Newlease'*. The relationship of 'New Leaze', Vicarage Mead Paddock', and 'Vicarage Mead' (Tithe nos. 46, 47, and 51) to each other during the 17th century was identical with that at the tithe survey. It is also clear that there had been no change in the line of highway in relation to that cluster of fields over the same period, at least as far as the northern end of 'Vicarage Mead Paddock'.

The final clue for the location of the southern 'end' of Bate lane and also for its line towards the township is found in a presentment of 1668, the only presentment concerning the lane which did not name a member of the Thomas family. Instead, it named four other tenants, John Hancock, Thomas Jackson, John Combe, and John Jones, who had field boundaries *('limites sues')* against *('apud')* Bate lane. They were not the only tenants with boundaries against the lane but they happened to be the four who were also responsible for a particular lane gate. Their main task, according to the presentment, was to hang an adequate gate *('suspendant sufficen portam')* beside *('juxta')* the common, the repair of their own boundaries being more or less incidental. The use of the preposition *'juxta'* suggests that Bate lane did not cross the common but rather skirted it and was fenced off (with an access gate) from it. The reference to the common is obviously significant for the line of Bate lane. As for the details, though again no field names were given, the tenants appear to have been listed in topographical sequence of field ownership (as often happened in the case of presentments concerning lanes), showing that the lane had been walked and due note taken, first down one side and then back up the other.

Whoever walked the lane in the Autumn of 1668 began near the church and dealt with the single relevant property lying on the eastern side. The first-named tenant, John Hancock, owned the farmstead referred to in 1804 (above) as 'late Townsends' (Tithe nos. 92a-93). He was also named in a presentment of 1675.

Ordinat est Johes Hancocke apperiat coem viam qui nuper clausit trans Claus sui vocat his back side p[er]at solet citra festa Sancti Thome sequen [December 21] sub pena forisfac 1lib.19s.

The highway ran across the back of Hancock's curtilage. He had recently closed it *('nuper clausit')*, presumably by inserting a gate for some private reason such as stock control. Blocking a highway was no light matter as indicated by the threat of a stiff forfeit (£1.19s) unless he cleared it *('aperiat')* and also by the jury's appeal to the weight of customary practice, delivered in formal terms [*per ante solite* = as was previously the custom]. The presentment of 1675 made no mention of Bate lane and that too may have been deliberate, the jury perhaps choosing to emphasise the status of the highway as a through road by avoiding a purely local name. The same relationship between farmstead and 'Old Lane' was recorded in the tithe survey.

The second-named tenant, Thomas Jackson, owned no property between the township and Blakely gate other than 'Vicarage Mead Paddock' (above). Since the paddock's south-eastern boundary was *'iuxta coem via'* (1676) and two other boundaries were shared by neighbouring fields, its north-eastern boundary must therefore have been 'apud' the end of Bate lane. In 1668, that boundary faced John Thomas's 'Rowlays' (Tithe no. 48), the southern-most of his fields, across the lane, matching the description of a Thomas' field at Bate lane 'end' (1655). What made that ëendí distinctive in the 17th century will be returned to later.

The next field on the western side after Jackson's 'little Paddocke' on the way back towards the church from the far end of Bate lane was 'Vicarage Mead' (Tithe no. 51), belonging to the third-named tenant, John Combe. This was a demesne field, held, according to an indenture of 1649, with four similar fields on a fixed-term lease by William Combe (Public R.O. C54 3446 m13), and inherited or leased for a further period by his son, John, after the death of his widowed mother in 1665. Like Thomas Jackson, John Combe owned no other property in the vicinity and his tenancy in Bate lane can have referred only to that one field.

There is only the evidence of the presentment itself for John Jonesí tenure of an unnamed property 'apud' Bate lane in 1668. Whatever the property was, it was not one of his copyhold fields and a likely explanation is that he, like Combe, held a fixed-term lease (otherwise unrecorded) on a demesne field. The court made no systematic record of such leases. They were incidental to its main business and are known only from passing references, as in 1734 when the same Jones family held 'Whites Mead, Porkers Mead, and the Parock'. The only option for tenure of a demesne field in Bate lane by Jones in 1668 was 'The Paddock' (Tithe no. 83) which lay directly across the lane from Hancock's Farmstead. Jones' place in the sequence of tenant names in 1668 fits that explanation.

The final piece of evidence for the line of Bate lane is also the most interesting. In 1666, a jury ordered John Combe to attend to a shared boundary between 'le vickaridg ground' and Obdiah Webb's 'Le Bate Shodes' (Tithe no. 50). It is clear from that detail that Bate lane could not have continued directly towards the common but instead took a broad curve northwards around Webb's field, still accompanied to the east by Thomas's 'Rowlays'. In a presentment of 1684, Webb's field was given an alternative name, 'le Quabb leaze', which persisted until the tithe survey, but the earlier name elements are revealing. There

is an obvious link between lane and field through the name element 'bate' but the element 'shodes' (repeated as 'shord', and 'shoard') suggests a connection with the banks *('ripam')* recorded in 1702. The OED gives shard/shord = OE sceard, 'a gap in an enclosure, especially a hedge or bank'. Webb's 'Bate Shodes' abutted the south common and so did a pair of fields lying below Hancock's farmstead a little to the north-east, recorded in the tithe survey as 'Beech Shord' and 'Back Shord' (Tithe nos. 96a-b). Bate lane reached the south common through an enclosure bank which may also have marked the boundary of the township. It executed a wide 'S' shape in the process, similar to the reverse 'S' shape still evident in the Westbury lane (Wellington Hill) before its entry onto Horfield common.

A new section of turnpike road, built by 1734, made Bate lane redundant as a functioning highway. The part immediately 'below the churchyard' remained in use for access, being referred to in 1734 simply as a 'lane which lead(s) from the widow Attwoods house to the widow Webb's'. The southern end was simplified at about the same time to make a direct link (Seyer's 'little lane') between the common and the highway across 'Rowlays'. The old lane hedgerow was evidently grubbed up in compensation and its former line rapidly grazed over for by 1748 there was just an ordinary field boundary between 'Row Leaze' and 'Mr Joseph Jefferis Paddock'. The tithe map shows the 'little lane' still bordered by 'Thomas' property on both sides as it passed between the 'shords' and also (because of re-routing) *'ex utrinque'* as far as the highway. The new section of turnpike also affected lanes on its eastern side. Mill lane (Ashley Down Road) had ended in 1657 at a T-junction with Downend lane. Downend lane itself was described in 1704 as *'ducens ad Molendina'* (leading to the mill), a reference to Glas Mill (Tithe no. 250) in Stapleton (Bristol R.O. EP/A/32/35). The approach to Mill Lane along the south-western end of Downend lane had run on a level contour between 'Bittons' (Tithe nos. 274-7) and 'Bynland' (Tithe no. 279) and a presentment of 1821 refering to a 'Gate at the southern end of Binland lane' indicates that use of the lane had persisted. Downend lane had begun at a fork in the ancient highway at Jackson's 'little Paddocke', a distinctive landmark for Bate lane 'end' in 1655. The defunct line of Downend lane is still evident from the obtuse angle of the gable end of the Anchor.

Bate lane was not the easiest ascent to the Almondsbury ridge, so there must have been a particular reason for taking it. The ancient line, probably in use as a highway since the Saxon development of Bristol, suggests that an earlier church (unrecorded in Domesday book) had stood within the pre-Conquest township of Horfelle on the site of the present parish church and also (from the evidence of banks) that the township site had been occupied from an earlier date. The derivation of 'bate' can only be guessed. The variant 'backe' (OE baec) given in 1679 suggests 'Ridge' lane. The obvious difficulties presented by Bate lane to any form of transport other than pack horses help to account for the site of an ancient wayside alehouse just below the crest of the ridge.

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REVIEW OF ARCHAEOLOGY
2001-2002
Edited by Bruce Williams

Abbreviations

AAU	-	Avon Archaeological Unit
BaRAS	-	Bristol & Region Archaeological Services
BAT	-	Bath Archaeological Trust
BRSMG	-	Bristol City Museum and Art Gallery
BUAD	-	Bristol Urban Archaeological Database
CA	-	Cotswold Archaeology
CMAG	-	Bristol City Museum and Art Gallery
GGAT	-	Glamorgan Gwent Archaeological Trust
NSMS	-	North Somerset Museums Service

The review of archaeology is arranged alphabetically by parish and covers the four unitary authorities of Bath and North-East Somerset, Bristol, North Somerset and South Gloucestershire, formerly Avon County.

This may not be an exhaustive list however, as not all contractors, whether professional or amateur, inform the editor of their work.

BATH & NORTH-EAST SOMERSET

BATH

Nos. 10-12 Crescent Lane/Time Team, ST 745 654. Evaluation here for Future Heritage took place to investigate the 18th and 19th century mews buildings at the back of the Royal Crescent and the Roman deposits suspected below them as a result of antiquarian observations in the 1870s.

The Mews buildings had long been converted to commercial uses but significant elements of the late 18th century buildings still stood. Elevations were recorded stone by stone to facilitate dismantling and rebuilding.

Below the modern concrete floors evaluation trenches indicated that a very high percentage of the original and 19th-century floors and layout of the mew buildings survived. Several trenches were taken down through the floors to reveal a thick deposit of dumped clay. This was interpreted as the upcast from the excavation of the cellars for the Royal Crescent.

In two trenches, the clay was found to be around 1.8 metres deep and to seal a long-lived buried soil, which in turn covered a series of compacted gravel surfaces with a camber to the west. This was interpreted as a Roman road running roughly north-south described but not recorded in the 1870 observations just to the north. The trenches had come down on to the western side of it. Engineers boreholes indicated that the road deposits were over one metre thick. A subsequent trench outside the mews building and to the south showed the existence of a further Roman feature, possibly a robbed wall.

The development proposals will require the removal of the mews floors and some services may penetrate the Roman levels.

Just across the road north of this site is the green where the Victorian observations were made. Time team carried out excavations here and in the Royal Victoria Park south of the Royal Crescent to try to clarify the archaeology in this part of Bath, hitherto considered little more than a suburban cemetery.

The excavation was remarkably fruitful. On the green, a building noted in 1870 amid the stone sarcophagi of the burial ground was shown not to be a mausoleum, as rather assumed by us from the records, but a house or workshop, very substantially built in masonry and about 6 metres wide, post-dating what were already typologically late burials. What was excavated was the rear part of a long building running back from Julian Road, which follows the alignment of the Roman road from Aquae Sulis to Abonae. As two of these structures were recorded by the Victorians, we must assume at least two such houses. They were remarkably well preserved, standing almost 0.9m above the footings. A large ditch, presumably enclosing the burials, ran behind the building and was filled in before the house was erected.

In the park, trenching revealed a late Bronze Age field boundary ditch, with enough cultural material in it to suggest a settlement site nearby; and the line of the Roman road running down from the fields in Crescent Lane towards the River Avon.

In addition to the trenching, geophysical prospection was carried out west of the road line and clear and dense indications of stone buildings were found over a large area aligned on the road. This tied in with the finding in the 1980s of a complex of Roman buildings a little to the south west of these investigations, and also excavations in 1986-7 across the road from the Time Team dig in Crescent Lane, to suggest a whole new area of Roman occupation on the west side of central Bath.

Peter Davenport/ Mick Aston, BAT/Time Team

Nos. 14-15, Northgate St, ST 751 649. No. 14 Northgate Street is a house built in 1804 against the north face of a

1750s house, no. 15. Both are listed grade II. The insertion of doorways linking the upper floors of the buildings as part of conversion to flats was observed under a watching brief condition. Details of construction of the two buildings, especially the attachment of nos.14 to 15, and the blocking of small stair case windows, were recorded.

BAT

Southgate, ST 752 644. A series of boreholes were drilled for engineering purposes related to the proposed comprehensive redevelopment of the Southgate area, between the city walls and the river Avon. The cores were studied by Bath Archaeological Trust and confirmed the picture previous evaluation trenches had presented of thick layers of 18th- and 19th-century dump over alluvium. The slope of the surface of the latter to the west was confirmed as was the presence of Mesolithic flint work in it. Medieval and post-medieval fills of features in the alluvium were waterlogged and contained organic material and various water-laid deposits.

Marek Lewcun, BAT

St. Swithins Church Walcot Street, ST 751 656. Several small trenches were dug through the floor of the crypt of this late 18th-century church to investigate what lay beneath the memorial ledger stones that formed the floor. The stones were laid on concrete and in places on a completely disturbed black soil of 19th-century date. No significant archaeological deposits were encountered down to a depth of just under one metre, but the opportunity was taken to correct the plan of where the stones lay.

Marek Lewcun, BAT

COMBE HAY

Watercress Cottage, ST 735 600. This listed cottage needed characterisation prior to a decision on listed building consent. An assessment confirmed an early 17th-century date. A first floor overmantel, *in situ*, is dated 1624. The roof, however, had been entirely replaced in the late 19th or early 20th century. The elaborate nature of the windows and internal fittings in such a small cottage suggested it was the home of someone in the wool trade rather than a small farm house.

Peter Davenport, BAT

West Hill House, ST 735 600. This listed cottage needed characterization prior to a decision on listed building consent. An assessment confirmed a later 17th-century date and that the cottage had lost a lot of its interest to inappropriate alterations over the last half-century. The process of change was evident in the structure, however and this was of some interest.

Peter Davenport, BAT

NEWTON ST. LOE

Seven Acre Wood, ST 710 650. A new power line was laid by Western Power Distribution in the vicinity of a Roman burial ground about 250 metres south of the Newton St. Loe villa. Nothing was seen other than four field ditches, probably of medieval or earlier date, and one sherd of abraded grey ware from the top soil. Possible man-made platforms on the hill slope, unaffected by the trenching, were noted nearby.

Marek Lewcun, BAT

NORTH SOMERSET

BANWELL

St.George's, East Worle, ST 3730 6330. A watching brief and series of archaeological excavations and evaluations were conducted at the site of an extensive housing development over an area of 35 hectares.

Several distinct archaeological horizons were exposed in an area adjacent to the canalised river Banwell. The earliest horizon had localised areas of burning associated with Iron Age pottery. This was overlain by a series of sediments indicative of a salt marsh environment, which was exploited in the late Iron Age/early Romano-British period to manufacture salt on an industrial scale. Evidence for this included a series of broad ditches and extensive burnt surfaces in association with wall footings and areas of limestone paving. A significant quantity of redeposited briquetage, including some exceptionally large pedestals, and fragments of kiln bases and walls were also exposed. A similar series of artefacts and deposits was revealed during excavation of a new drainage rhyne some 650m to the west, and during construction of an associated area of floodplain to the north-west. Excavation of another substantial rhyne between these two areas produced very little, suggesting that the central part of the site lay within a shallow depression or palaeochannel.

A regular series of V-shaped drainage ditches, many of which were recut flat-bottomed ditches, were revealed across the development area. The ditches generally did not produce finds, although some 3rd/4th-century Roman pottery was recovered. The evidence appeared to match that seen at another site at Banwell, where late Iron Age/early Roman salt production appeared to extend into the 1st century AD, followed by a period of relative inactivity, until reclamation in the 3rd century. However, further investigation suggested an early phase of drainage contemporary with the salt-making activity was present, possibly associated with the need to manage the supply of salt water from tidal creeks to the evaporation facilities, and to provide areas of dry ground for construction and operation of the salt-making ovens.

An extensive series of 12th/13th-century drainage ditches and pits was identified on the eastern outskirts of the shrunken medieval settlement of St. George. Field evaluation identified an extant, potentially medieval, core to Grove Farm, and a medieval stone building in the orchard to the south of the farm. Both structures were subsequently demolished. Residual Anglo-Saxon ceramic material was

also recovered from this area. To the west of St. George, further evaluation and excavation identified both Romano-British and medieval ditches and pits. The (now demolished) structures associated with Grapevine Farm were 19th century in date, and truncated a 17th-century wall and a medieval pit.

Simon Cox and Darren Lankstead, CA

BARROW GURNEY/LONG ASHTON

Barrow Hospital, ST 540 690. A desktop study was commissioned by Inventures NHS to investigate c.180 acres (75.62 ha) of parkland occupied by the now redundant Barrow Psychiatric Hospital, prior to development proposals. The site is woodland, grassy open space, and buildings, the latter being mostly 1930s to 40s, the hospital being opened in 1939.

Map evidence suggested that the woodland, with minor variations and some regeneration has changed little in extent since 1839 and probably 1817. There is no record of archaeological sites in the park other than boundary stones from OS maps and the topographical name 'Charcoal Wood' (earlier Black Acre) which presumably records charcoal making in the wood. The hospital itself is a SMR entry and the study was able to chart how much of the 1930s plans were carried out (about half, as ideas changed after the Second World War).

No features were visible other than post-WW2 earthworks in the site walkover, although the woods themselves were impenetrable. It is unlikely, however, that the woodlands would be directly affected by any future development.

It was recommended that surface prospection might be appropriate over the large areas of grassland. Study of the woodland itself might produce evidence of management regimes (the wood is currently professionally managed).

Marek Lewcun, BAT

EASTON IN GORDANO

Ham Green House, Pill, Easton in Gordano, ST 5330 7538, NSSMR 42987. The project was funded by the Bristol Cancer Help Centre.

A small, gentleman's house in the Tithing of Ham Green, part of Portbury Parish and Hundred in the 18th century, came into the possession of the Meylor or Maylor family of Bristol, probably around 1730. Richard Meyler, a merchant of Bristol can be traced back to 1730 as a part owner of a West African slaver the "Jamaica Snow". Ham Green is now in the Parish of Easton in Gordano in North Somerset District, having, for a time, been within Bristol City and County.

By marriage, the estate was transferred to the Bright family, also West Indies merchants of Bristol and the Inclosure map of c.1806 shows two or three small groups of buildings, probably house and farm. By 1840, the time of the Tithe Survey, the buildings are much as they are today, lacking only the 20th-century brick addition and mortuary.

Richard Bright, the owner of the property in the 18th and 19th centuries, also was responsible for constructing and designing the gardens and the Tithe map shows, in addition to the Gothic Gazebo a group of buildings or garden features immediately north of the house. These can no longer be traced on the ground.

Richard Bright Junior became a noted physician and teacher, defining Bright's Disease while practising in London. His elder brother Henry occupied the house in the 19th century.

Ham Green House was sold to P J Miles another Bristol Banker who already owned the neighbouring Leigh Court. At the end of the 19th century in 1894 after a short period of ownership by Sir George Edwards, Bristol City Corporation bought the small 100 acre estate for an Infectious Diseases Hospital. The grounds were used for wards and offices and the house itself for administration and staff accommodation.

The majority of the Ham Green Hospital site is now being redeveloped as both residential and commercial. It is proposed to convert Ham Green House into a Cancer Help Centre.

Jonathan Erskine, AAU

PORTBURY

Portbury to Easton-in-Gordano pipeline, ST 5086 7535 to ST 4977 7549. A watching brief was undertaken during groundworks associated with the construction of a gas pipeline. No archaeological features or deposits were observed, and no artefactual material pre-dating the modern period was recovered.

Darren Lankstead, CA

BRISTOL

AVONMOUTH

Markham Close, ST 5227 7706. An archaeological watching brief was carried out on land adjacent to the Portway and West Town Road. An earlier desk-based assessment had identified the wider area as being relatively rich in Palaeolithic artefacts and highlighted Bronze Age and Romano-British activity nearby. The watching brief concluded that much of the site had been covered with a substantial deposit of building rubble prior to the construction of the Portway. No archaeological deposits were encountered.

Dave Stevens, BaRAS

Third Way, ST 5245 7864. An archaeological watching brief was carried out during the groundworks phase of the construction of two light industrial buildings on the Haslemere Industrial Estate. No archaeological features or deposits of any significance were observed during the watching brief, other than demolition rubble associated with the late 18th-century 'Barrack Cottages'.

Tim Longman, BaRAS

BEDMINSTER

No.91 Cumberland Road, ST 58001 72199, BUAD 3834. An archaeological watching brief was carried out during groundworks for the redevelopment of the house and grounds. The building was of early nineteenth-century construction prior to which the area was probably under pasture. No archaeological deposits, features or artefacts were present.

Andy King, BaRAS

Bedminster Down School, Bishopsworth, ST 5699 6929. A desktop study undertaken in consideration of a planning application to replace the existing school found that the area had been occupied since at least the Roman period. Romano-British artefacts have been found to the north of the site and the assumed line of the Roman road from Mendip to Almondsbury lies immediately to the east. Cartographic evidence showed that the site had been used for agricultural purposes until the 1920s when it was developed as a sports ground. Work to construct the existing Bedminster Down School was started in 1955.

Rod Burchill, BaRAS

No.55 Whitchurch Lane, ST 5733 6858. A desktop study showed that land at 55 Whitchurch Lane had been occupied by farm buildings from at least 1730. Cartographic evidence suggested that the standing building was of 18th- or 19th-century date.

Dave Stevens, BaRAS

BISHOPSWORTH

No.55 Whitchurch Lane, ST 57404 68584. The farmhouse of the former Brook Farm, latterly a garage and filling station, was recorded, although only part of the ground floor was accessible internally. It is of mid-19th century date, built of Lias limestone with symmetrical front and rear elevations and a single-storey addition. Internal features are of 20th - century date while more recently the roof has been reconstructed and chimney stacks removed. The building is to be retained during redevelopment of the former garage site

John Bryant, BaRAS

No.55 Whitchurch Lane, NGR ST 57393 68583, BSMR 21271 & 21272, BRSMG 2002.22. An archaeological evaluation (BSMR 21271) and standing building survey (BSMR 21272) was carried out on land originally comprising part of Brook Farm. The study area comprised a semi-dilapidated farmhouse, disused modern filling station and garage premises. Two evaluation trenches were excavated but revealed no significant archaeological deposits or features. The sections comprised made-up ground directly overlying bedrock. Although the cartographic evidence indicates farm buildings on the study area in the 18th century, the building survey indicated that the present farmhouse and outbuilding were of 19th-century date.

John Bryant & Andrew Townsend, BaRAS

BRISLINGTON

Brislington House, ST 6324 7018. Brislington House was built in 1804 as a private hospital for the treatment of the insane. Renovations to the standing building were monitored and revealed a number of 19th-century walls associated with the initial phase of the building.

Dave Stevens, BaRAS

Imperial Park, West Town Lane, Brislington, ST 613 700, BSMR 20931. An archaeological watching brief was undertaken on the site of the Imperial Park Sports Ground during residential development of part of the grounds.

During excavation of the main access road from West Town Lane, a stone built structure was excavated and recorded. The structure dates from the 17th or 18th centuries, and was demolished and untraceable by the time of the 1846 Tithe Map.

This structure was probably a byre, indicated by the presence of multiple drains, culverts and a soakaway. The location of the structure in what was formerly an outfield of West Town Farm, suggests that this was part of the farm complex. Features located inside the building, including a series of drains, culverts and a soakaway, indicated that the building was agricultural, possibly a byre.

Cut features representing rubbish pits and drainage gullies dating from the Middle Ages and later indicate that earlier settlement may have been closer to the Study Area than the present known site of West Town Farm. One posthole and a possible post-pit, may represent medieval or later timber structures.

Jonathan Erskine, AAU

CLIFTON

Berkeley Place, Lower Clifton Hill, ST 57704 73085. A desktop study was carried out of a site in Berkeley Place and Lower Clifton Hill, Bristol. The site was occupied by a paddock and common land until housing was erected in the 18th/19th century. These buildings were removed in the mid-20th century and replaced by a garage and showroom together with an open storage area.

John Bryant, BaRAS

No.2 Beaufort Road, ST 57228 74096. An archaeological watching brief was carried out during topsoil stripping and the excavation of an underground car park, on land adjacent to 2 Beaufort Road, Clifton. No archaeological features or deposits were present.

Tim Longman, BaRAS

Durdham Down water main, ST 5710 7500 to 5730 7614. A programme of archaeological recording was undertaken during groundworks associated with the construction of a new water main. A number of post-medieval quarry pits containing kiln waste and other 19th-century refuse were discovered, the fills of which contained large quantities of late 18th and 19th-century industrial and domestic waste. Two pits contained sugar-refining ware wasters dating to the 18th century. A spread of rubbish to level the site over the infilled pits contained large quantities of pottery, clay

tobacco pipes dating to the 1850s and worked building stone.

Kate Cullen, CA

COTHAM

Cotham School, ST 58360 73958. During February 2001 a watching brief was carried out during the construction of the Performing Arts Block at Cotham Grammar School, Bristol. No archaeological evidence of any kind was unearthed.

Jens Samuel, BaRAS

HENBURY

Henbury Comprehensive School, Marissal Drive, Henbury, ST 551 757, BSMR 21375. The study area, currently occupied by Henbury Comprehensive School and its associated playing fields, tennis courts etc., a "greenfield" development dating originally from 1958, is proposed for redevelopment. This includes the provision of a new school building on a "greenfield" part of the site, clearance of the existing school buildings and using land thus cleared, plus some of the existing open space, to create additional housing. The projects were funded by Henbury School.

In the southeastern part of the area currently occupied by playing fields, six Romano-British burials were found at NGR ST 5623 7906 in the course of regrading the surface in 1966. The course of a possible Roman road, postulated as being that from Sea Mills to Gloucester, runs across the western part of the site, in an approximately SSW - NNE direction, from ST 5596 7908 on the southern boundary of the study area. There are other possible landscape features, including a circular feature.

A geophysical survey, by GeoQuest Associates, indicated the presence of landscaped field boundaries and quantities of ceramic land drains. Weak indications of ridge and furrow cultivation were also detected. Of greater significance were a low circular feature consisting of a soil-filled ditch and a double ditched roadway or boundary close to the site of the previously located Romano-British burials. This has been interpreted as part of a possible cemetery enclosure.

It is understood that further intrusive evaluation is planned for the development area in order to fully characterise these findings.

Andrew F Smith, AAU

Lower Village, Brentry Lane, Brentry, ST 57520 78899. A desktop study to inform a site master plan was undertaken on the former Men's Village, Brentry Hospital. Although no documentary evidence was found for the occupation of the site until the eighteenth century, the archaeological evidence indicated that the surrounding landscape had been subject to anthropomorphic influences since the prehistoric period. The site was a mix of open grassland and woodland before being acquired by the Royal Victorian Homes to create the Brentry Certified Inebriate Reformatory c.1898. Four buildings survive from that period, three were constructed c.1900 and the fourth in 1906. The site was renamed the Brentry Colony in 1930 and became part of the then new National Health Service in 1948.

Rod Burchill, BaRAS

Former Brentry Hospital, Block 14, ST 57798 78797. An assessment of the likely age of the hospital building known as Block 14 was undertaken. This building, formerly Baldwin block, was the middle of three running in line parallel to the north-west side of Charlton Road. It was shown that this was a late 1920s replacement of an earlier block of similar shape, located on almost exactly the same site but destroyed by fire.

John Bryant, BaRAS

The Hamlet Building, Brentry Lane, ST 57393 68583, BSMR 21452 & 21453, BRSMG 2002/34). An archaeological watching brief (BSMR 21453) and standing-building survey (BSMR 21452) was carried out in relation to an extension and alterations to the Hamlet Building. The Hamlet Building originally served as an accommodation block in the 'Men's Village' of the Royal Victoria Homes at Brentry, a reformatory for male and female inebriates. The building dates to the late-19th/early 20th century but had since been altered. The majority of the original building fabric did, however, remain and with the aid of documentary evidence, it was possible to establish the original plan and features of the building. The documentary evidence studied also threw light on working and social life at the Royal Victoria Homes. No significant archaeological features or deposits were exposed during the watching brief.

Andrew Townsend, BaRAS

HORFIELD

Nash Drive, Lockleaze, ST 61060 77057, BSMR 21135. A desktop study was carried out on land at Nash Drive, on the north-east side of Gainsborough Square, currently occupied by a Social Services residential home called 'The Bristol' and part of a former playground. Cartographic and documentary evidence has shown that the site has probably always been agricultural land until developed in the later twentieth century.

Andy King, BaRAS

Horfield Rectory, ST 5910 7669. A desktop study of the grounds of Horfield Rectory showed that the site had been common land from early times and remained undeveloped until 1925 when the current rectory building was constructed. The study also highlighted the proximity to the potentially early church and its circular graveyard as well as the Roman artefacts that had been found close to the site, including possibly a bronze figure of Mercury.

Dave Stevens, BaRAS

Site of the early Horfield Barracks, Filton Road, ST 598 773, BSMR 21385. A desktop study for Linden Homes Western Limited, of approximately 6 acres of redundant office and car parking space (previously the site of the

Victorian Horfield Barracks) proposed for residential and commercial redevelopment has produced the following results:-

The study area lies within the site of the former Horfield Barracks (SMR nos. 21129 and 21130), completed in 1847 and demolished in 1966. A large portion of the defensive curtain wall pertaining to the original Barracks construction survives. This wall encloses the whole of the study area, immediately to the south of which lies the former Barracks Chapel, a Grade II listed building.

Some War Department boundary stones, shown on the earliest OS 1:2,500 of 1888, survive along the frontage of Filton Avenue.

In 1982 a small Roman coin hoard with associated Roman pottery was found in an allotment south of Wessex Avenue (SMR nos. 4945 and 20721). The site was excavated but no structures were revealed, although there was enough pottery to indicate a nearby Roman settlement. No further traces of this settlement have yet been found.

The BSMR records evidence for two Bronze Age barrows on Horfield Common, with the possibility that an earthwork located on the Common near the study area may represent the remains of a third. A cropmark in the sports field north of Dorian Road, opposite the study area, visible on an oblique air photograph, may represent a fourth barrow. Cropmarks visible on vertical aerial photographs held at the NMR may represent further barrows.

The site of Horfield Court Farm, an early post-medieval farmhouse, lies to the south of the study area, which was part of the pasture land belonging to the Court Farm Estate at the time of the Tithe Survey in 1841.

David Etheridge, AAU

HOTWELLS

Bear Yard, No. 265 Hotwells Road, ST 5708 7254. A watching brief undertaken during development to the rear of the Bear Yard Inn revealed a cobbled surface and two portions of demolished wall dating to the 19th century.

Darren Lankstead, CA

KNOWLE

Inns Court, Knowle West, ST 5870 6920. An excavation undertaken in advance of residential development revealed a small number of Romano-British ditches of late 3rd to 4th-century date, and a late 17th/early 18th-century pit filled with kitchen waste. The retrieval of a small assemblage of abraded Roman pottery from the ditches suggests deposition at some distance from its primary point of use. This would support the interpretation from an earlier evaluation that these features were agricultural drainage ditches or boundaries associated with the previously excavated Roman settlement to the west.

Tim Havard and Simon Cox, CA

LAWRENCE WESTON

Nos. 110-120 Barrowmead Drive, ST 53679 77565, BSMR 21200. A desktop study found that the site lies within an area of known Roman-British settlements and findspots, yet has probably been under pasture until the development of the surrounding post-war housing estate. This is an area of archaeological sensitivity, although there has been no formal archaeological work in the immediate vicinity of the site. The Bristol Sites and Monuments Record has entries for Palaeolithic findspots and Romano-British sites to the north and west.

Andy King, BaRAS

Campbells Farm Drive, Lawrence Weston, ST 538 782. An evaluation was commissioned in advance of a planning application for extensive redevelopment of the site, to include a new housing development.

Evaluation trenching was undertaken between the 7th and the 13th of November 2002 and involved the excavation of 3 large trial trenches, two of which revealed the remains of a recently demolished former farm building of 20th-century date. Excavations continued down into the alluvial clays of the flood plain of the Severn Estuary, but no further evidence for human activity in the area was discovered.

Robert Armour-Chelu, BAT

REDCLIFFE

Dick Lovett Site, Portwall Lane, ST 59250 72460, BUAD 3844, BRSMG 2002.17. An archaeological evaluation comprising five trenches was carried out. Trench 1 contained two stone-built walls, probably 18th century in date, and a stone yard-surface. Trench 2 contained the remains of an 18th-century glasshouse (the 'New Glass House') including part of its stone-built cone and outer structures. Trench 3 contained undisturbed post-medieval garden-cultivation soils and the remains of a building, probably belonging to the original St. Thomas Street frontage. Stone and brick-built features associated with the latter building were also exposed. A stone-lined drain, probably 17th- or 18th century in date was exposed in one of the garden cultivation soil horizons. Trench 4 contained a partially collapsed stone and brick built cellar belonging to the Mardon Son & Hall No.10 printing factory. Trench 5 contained the remains of an 18th-century glasshouse (the 'Old Glass House') including part of its stone-built cone and outer structures.

Andrew Townsend, BaRAS

Nos. 22-24 St. Thomas Street, ST 59140 72615, BUAD 3839, BRSMG 2002.13. An archaeological evaluation was carried out comprising a single trench. The trench contained undisturbed soil deposits of medieval and post-medieval date, and a stone-built wall probably belonging to the original St. Thomas Street frontage.

Andrew Townsend, BaRAS

Land Adjacent to Mitchell Lane and St. Thomas Street, ST 5923 7257, BUAD 3891, BRSMG 2002.29. An archaeological evaluation comprised of six trenches was carried out revealing features and deposits of medieval and

post-medieval date. The structures included post-medieval walls of the St. Thomas frontage. One structure belonging to the same frontage, however, appeared to be of medieval date.

Andrew Townsend, BaRAS

St. Mary Redcliffe Churchyard, ST 59115 72268. Monitoring the excavation of holes for the planting of saplings which will replace the lime trees presently growing in the churchyard revealed a ledger stone 300mm below the surface dated 1810. A small quantity of disarticulated human bones were recovered from most of the sapling holes. These bones were collected in a suitable container and reburied in the churchyard.

Andy King, BaRAS

No.25 Redcliff Street/No.14 St.Thomas Street, ST 5911 7270. An archaeological evaluation was carried out within a former warehouse on Redcliff Street, which backed on to St Thomas Street. Two intact lengths of roof of the culverted 'Law Ditch' were located beneath the floor of the former warehouse in two 6m x 2m trenches. One area of post-medieval roof was built of pennant sandstone blocks, while the other comprised a 19th-century brick vaulted roof and inspection pit/manhole. A small section of medieval wall was also partially uncovered in one of the trenches, as well as several other post-medieval walls and deposits.

Tim Longman, BaRAS

SHIREHAMPTON

Old Barrow Hill, ST 527 773, BSMR 21267. The small estate, named Old Barrow Hill, has been constructed immediately above an area of ancient orchard on a perched gravel terrace of the River Avon. There is little indication of substantial ancient use of the immediate study area apart from post-medieval agriculture and latterly horticulture, the site name itself and small indications of Bronze Age activity to the west. However, the site lies on the gravel terraces of the River Avon considered an important area for palaeolithic (last Ice Age) activity and indeed some palaeolithic stone tools have been recovered as chance finds from the Shirehampton gravels and the immediate vicinity.

Jonathan Erskine, AAU

Twyford House, High Street, Shirehampton, ST 52866 79158. A desktop study undertaken in consideration of proposals to redevelop Twyford House found that the lower reaches of the Bristol Avon had been subjected to anthropomorphic influences since the Lower Palaeolithic period. No direct evidence was found for the use of the study area during the Romano-British, Saxon, medieval or early post-medieval periods; however, it is likely that during the latter period the study area was agricultural. By 1773 two buildings had been erected on the site the southernmost of which was Twyford House. By 1817, Twyford House had been extended and the building was further extended in the 19th and 20th centuries.

Rod Burchill, BaRAS

Valerian Close, NGR ST 537 767, BSMR 21268. The study area, at present occupied by fifteen prefabricated temporary bungalows dating from 1946, is proposed for redevelopment, as the council owned properties no longer conform to housing regulations.

The small estate, named Valerian Close, has been constructed immediately above an area of pre-war allotments, previously agricultural land, immediately north of the Bristol to Avonmouth railway, south of the A4, Portway.

There is little indication of substantial ancient use of the study area apart from medieval agriculture and latterly horticulture. However, the site lies on one of the gravel terraces of the River Avon, considered an important area for palaeolithic (last Ice Age) activity and indeed some palaeolithic stone tools have been recovered in chance finds from the vicinity.

Jonathan Erskine, AAU

Walton Road, ST 530 766, BSMR 21269. The bungalows in Walton Road are known as Arcon Mk V models, designed by the important architectural practice of Rodney Thomas and Raglan Squire and are considered to be important examples of a significant development in public sector housing of the mid twentieth century.

There is little indication of substantial ancient use of the study area apart from medieval agriculture and latterly horticulture. However, the site lies on one of the gravel terraces of the River Avon, considered an important area for palaeolithic (last Ice Age) activity and indeed some palaeolithic stone tools have been recovered in chance finds from Walton Road and the immediate vicinity. This is not considered to indicate substantial settlement, but it is recommended that if the redevelopment causes major disturbance to the subsurface layers, then an Archaeological Recording Exercise should be mounted to include sampling and sieving of the gravels and subsoils.

Jonathan Erskine, AAU

SOUTHMEAD

Doncaster Road, ST 5818 7799. Archaeological monitoring of ground works was undertaken on the site of a new multi-use games area. The site lay only a few hundred metres from several known prehistoric and Romano-British sites but no evidence was found of archaeological finds or deposits dating from before the mid 20th-century.

Tim Longman, BaRAS

STAPLETON

Begbrook Primary School, Begbrook Drive, ST 62785 76626, BSMR 21386. A watching brief during the construction of a car-park and service trenches found that no archaeological deposits or features were present.

Andy King, BaRAS

ST. AUGUSTINE

No. 19 Orchard Street & No.40 Frogmore Street, ST 58458 72979. A watching brief was conducted during conversion of Nos. 19 Orchard Street and 40 Frogmore Street from

offices into residential accommodation. Number 19 was constructed c.1720 and retains many original features, which were kept wherever possible. The foundations of No. 19 were found to be of Brandon Hill Grit bonded in a brownish mortar, whereas the front elevation is of brick laid in a white mortar.

John Bryant, BaRAS

No. 6 Denmark Street & No.1 Mark Lane, ST 58493 72813. Recording work was carried out at no. 1 Mark Lane during extensive refurbishment. This was constructed in the early 20th century as an annexe to Jolly & Son's main site in College Green and was connected to the main buildings by a two-storey bridge across the lane. Jolly's was subsequently destroyed by enemy action and No. 1 became offices. A well was found beneath the ground floor at the eastern end of the building and, nearby, a disused arched doorway in the north wall, both features likely to be of post-medieval date. Work on recording the adjacent early 18th-century terraced house at 6 Denmark Street is continuing during renovation.

John Bryant, BaRAS

Red Lodge, ST 58437 73110. A small trench excavated in connection with investigations into damp problems affecting this late 16th-century house was recorded. The trench was dug at the northern end and along the eastern side of a yard between the west wall of the Elizabethan mansion and a modern toilet block serving the Wigwam. The yard had been disturbed by a modern service trench, but a small east-west wall was revealed towards the northern end, also the external footings of the main Red Lodge building. A void was noted beneath the toilet block.

John Bryant, BaRAS

ST. GEORGE

Land Adjacent to Crews Hole Road, ST 62929 72651, BSMR 21033, BRSMG 2002/8. A watching brief and standing-structure survey were carried out. The survey comprised a photographic and written record of standing walls and a building in Bull Lane, and standing walls in Beaufort Alley and Dundridge Lane. The building in Bull Lane originally served as a smith's shop and was apparently later adapted for use as an air-raid shelter during World War II. The watching brief exposed the remnants of houses and outbuildings, probably of 19th-century date, and further remains of the smith's shop recorded during the standing-structure survey (see above).

Andrew Townsend, BaRAS

No. 148 Victoria Avenue, Redfield, ST 61447 73299. The remains of two human skeletons each aligned east-west were recorded some 1.65m (30.55m OD) beneath the floor of a kitchen extension in the above property. It is considered likely that these skeletons may be contemporary with human remains, probably of Romano-British origin, found during construction work on the north side of Roseberry Road (SMR 3027) in 1894, some 25 metres south of 148 Victoria Avenue. It seems probable that the 15-20 burials so far recorded lie in a Romano-British cemetery - it is a possibility that a contemporary settlement may also be located in the area.

Tim Longman, BaRAS

ST. JAMES

Marlborough Street Bus Station, ST 5888 7354. Archaeological evaluation trenches confirmed the survival of significant depths of medieval deposits associated with the 12th-century Benedictine priory of St James and produced ceramic evidence for the site that ranged from the 14th century to the present day. Architectural features believed to be part of the priory buildings were found at the western end of the site.

Dave Stevens, BaRAS

The Marlborough Gate Site, ST 5887 736, BUAD 3933, BRSMG 2002/58). An archaeological watching brief was carried out on the site of a former garage premises. The majority of the study area had been heavily disturbed. Nonetheless, the remnants of post-medieval structures remained, including what appeared to be walls of 18th- and 19th-century date. Some of the structures exposed appeared to relate to the original Montague Street frontage.

Andrew Townsend, BaRAS

ST. JAMES AND ST. MICHAEL

Upper Maudlin Street/Marlborough Street area, centred on ST 5870 7365. A desktop study was carried out on land owned by the United Bristol Healthcare NHS Trust. This identified the presence of Roman occupation in the vicinity of the study area. The area behind the old Infirmary building overlies part of the precinct of the medieval priory of St James. The major part of the study area to the north of Marlborough Street and Upper Maudlin Street was open fields during the medieval and early post-medieval periods. In the 16th century the priory of St James became a private residence and during the 17th century a number of lodges or garden houses were established in its vicinity by wealthy Bristol residents. In the late 17th and early 18th centuries housing spread to the lower slopes of Kingsdown mainly in the area of Marlborough Street and Eugene Street and as far north as Alfred Parade. By the mid 19th century new roads had been laid out and development, generally in the form of villa residences with large gardens, spread over most of the study area. Some remaining open land and gardens were later occupied by terraced housing.

Reg Jackson, BaRAS

ST. JOHN/ST. JAMES

Bridewell, ST 58910 73290. An archaeological desktop study was undertaken for all buildings in the block bounded by Bridewell, Nelson and Silver Streets. These comprise the former police courts of the 1870s extended in the 1900s (now disused), and the current police station, the old fire

station and the former police headquarters building, all erected 1926-28. All structures have been examined with the potential for future use in mind. Contemporary fixtures and fittings have been noted with a view to maximising their retention. Within the courts are mosaic floors, marble columns and tiled walls, fireplaces, coloured glass, decorative ceilings, and extensive panelling and timber fittings. The three 1920s structures contain many internal details common to all, from a time when the Art Deco style was just coming into vogue. In the fire station yard is an 80-foot concrete hose tower that is fairly typical of its time.

John Bryant, BaRAS,
Roger Leech, Cultural Heritage Services

ST. LEONARD

No. 2 Leonard Lane, ST 58710 73053. The small building known as No.2 Leonard Lane was recorded during building work. This is located on the east side of what was the intramural lane running inside the earliest town wall. Externally the building appears to be just two storeys in height, but there is an unusual double basement, giving four floors in total. Parts of the subterranean structure appear to be medieval in origin, although much has either been rebuilt or repointed. Above ground the building may once have seen use as a stable and/or warehouse; the basement floors were until recently connected with cellars both beneath the lane and beyond in what is now St. Stephen's Street.

John Bryant, BaRAS

ST. MICHAEL

Infirmary Burial Ground, Johnny Ball Lane, ST 58656.4 73335.5. Work was carried to remove burials from the disused Burial Ground at Johnny Ball Lane, Upper Maudlin Street, Bristol. The burial ground was in use from 1757 to 1857. During that period Bristol Royal Infirmary buried most of its deceased pauper-patients there. A representative percentage of the burials was recorded in a semi-archaeological fashion. These remains were retrieved for osteo-analysis, to be carried out subsequently at Bristol University. The majority of the skeletal remains were re-buried at The South Bristol Crematorium and Cemetery, Bedminster. A stone grave marker, basalt urn-bases and other funerary objects were retrieved from the site.

Jens Samuel, BaRAS

ST. NICHOLAS

Nos. 42 & 43 Welsh Back, ST 58888 72486. A pair of late 18th or early 19th-century warehouses was recorded prior to demolition. Each was rubble-built with a hipped roof, containing three storeys with a vaulted cellar, and both originally possessed loading doors at each floor. They had later been combined and used by wine and spirit merchants, latterly Moran's. No. 43, the southernmost of the two, utilised substantial roughly-trimmed timbers as beams and these have been sent for dendrochronological analysis.

John Bryant, BaRAS

Nos. 32-34 St. Nicholas Street, ST 5880 7293. Archaeological monitoring took place at the rear of Nos. 32-34 St. Nicholas Street during the insertion of a new fire exit through an extant 19th-century stone boundary wall. No archaeology of any significance was observed.

Tim Longman, BaRAS

ST. PAUL

Fairfield School, Fairlawn Road, Montpelier, ST 5963 7469. A photographic and measured survey was conducted in August at Fairfield School, of a World War II air raid shelter that lay beneath the school playground. It had survived intact and sealed until work associated with the construction of a new school building caused sections of the roof to collapse, thereby necessitating its recording prior to being in-filled. Monitoring was also conducted during the removal of the roof, after which the former shelter was in-filled with stone scalpings.

Tim Longman, BaRAS

Quakers Friars, Broadmead, ST 5928 7331. An evaluation was carried out around the Dominican Friary and the Society of Friends' (Quakers) burial ground. This confirmed the presence of friary structures. These included part of a possible east/west precinct wall fronting the supposed course of the River Frome and a wall within the east range of the Great Cloister. Later walls appeared to follow suggested medieval wall lines within the Great Cloister and at the east end of the church. The medieval wall to the north of Cutler's Hall, probably part of the Great Cloister, was located 0.89m below present ground level. The possible precinct wall fronting the River Frome lay 1.04m below ground level while a further medieval wall towards the south-east corner of the evaluation area was 1.28m below the modern road surface. Medieval occupation deposits and features were also found. Those to the north of Cutler's Hall were at 2.04m below ground level, to the west of the Register Office at 2.35m, to the south of Baker's Hall at 2.4m and towards the south-east corner of the evaluation area at 3.17m. In only one place, to the south of Baker's Hall, were the medieval deposits excavated to natural and these were found to be 0.26m thick. Post-medieval walls and features relate to the conversion of the friary buildings to secular use following the Dissolution in 1538. Seventeenth-century walls to the north of Cutler's Hall and to the south of Baker's Hall lay 0.41m and 1.07m below ground level respectively. Two 17th-century walls at the southern end of the Society of Friends' burial ground pre-dated the burials in that area. Immediately to the north of Cutler's Hall a sequence of features including a pitched stone surface dated to the 16th/17th centuries and probably formed part of the re-use of the south range of the Great Cloister after the Dissolution. A number of graves and articulated burials were found in the Society of Friendsí burial ground and the south and east boundaries of the burial ground were defined. There was no evidence that human remains had been exhumed except where they had been cut

by modern disturbances. The inter-cutting of the graves confirmed the intensive use of the burial ground. To the east of the Register Office the top of the burial ground deposits was 0.6m below ground level with the graves becoming visible at a depth of around 1.2m. At the southern end of the burial ground the surface of the burial deposits was deeper at 1.65m with the graves visible at around 3m. Walls, features and deposits were found relating to the development of the area for housing, a school and commercial building in the 18th and 19th centuries. The total surviving depth of significant archaeology could only be determined in the trench to the south of Bakeris Hall where it was 1.17m. The greatest depth of the archaeology was 2.25m at the southern end of the evaluation area close to the course of the River Frome while the shallowest was at least 0.94m to the north of Cutler's Hall. This confirms the general downward slope of the original ground surface from the site of the friary towards the river.

Reg Jackson, BaRAS

St. Paul Church, ST 59478 73746. Renovation of this late 18th-century former parish church has included substantial work both inside and out, the latter involving full scaffolding to the walls and tower. In preparation for erection of the scaffolding ledger stones were recorded and then lifted, after which the various burial vaults were propped. Parts of the building were recorded, including the roofs. Walls to both aisles were largely stripped of plaster internally in the summer of 2002, the exposed walling being recorded and photographed.

John Bryant, BaRAS

ST. PAULS

Grosvenor Road, ST 59638 74078, BSMR 21434. A desktop study on land intended for development as an adult learning centre with landscaped gardens between Grosvenor Road, St Nicholas Road and Ludlow Close, revealed there is no evidence of significant archaeological activity within, or in the immediate vicinity of, the application site.

Andy King, BaRAS

ST. PETER

Castle Park, ST 5912 7306. A desktop study was undertaken for part of Castle Park, where it is proposed to fix one end of a new bridge across the Floating Harbour. The area lies close to the heart of the Saxon and medieval town and is immediately adjacent to Bristol's oldest church and includes part of its churchyard. St. Peter's Hospital, one of Bristol's architectural gems, occupied the central part of the site. Although with an early 17th-century front, it certainly incorporated 15th-century remains, and possibly parts of Norman origin. At the western end of the site was formerly the Shambles or Worshipfull Street, one time home of the butchers. This was replaced by a new street laid out by Thomas Paty in the 1770s. In the north-west corner of the study area lay the ancient Hartshorne or Swan Inn. At the eastern end of the study area lay the ditch of Bristol Castle. The Regent Cinema was built here in the late 1920s. All buildings on the site were destroyed in the blitz with their remains cleared after the war. Subsequent landscaping for Castle Park caused further destruction. However, one part of St. Peter's Hospital has survived as a retaining wall for the churchyard.

John Bryant, BaRAS

SS. PHILIP & JACOB OUTPARISH

Wall at Gardiner Sons and Company, Old Bread Street, ST 59714 72877. An assessment of a wall was undertaken in August 2002. This found that the southern six bays were built in 1860 as part of a warehouse erected for Christopher Thomas & Brothers, soap manufacturers. Two further bays incorporated the west wall of an earlier building of c1850.

John Bryant, BaRAS

FPS Factory Waterloo Road, ST 59879 73163. A desktop study of The FPS Factory with land adjacent was made. The site was formerly (and still largely) divided by medieval property boundaries, though original street frontages to West Street lie beyond the site boundary. The potential for the preservation of medieval and possibly late Saxon archaeology was found to be high, though the most likely area for purely structural evidence lies to the north of the site. A previous investigation adjacent to the site produced medieval dating evidence ranging from the early/mid 12th- to 15th century and considerable structural, depositional and artefactual evidence from the 16th- to 19th century. One or possibly two historic inns of the 18th century and later are known to have occupied part of the site. Various other trades and businesses were also functioning at different properties as the area of the site developed further during the 18th- and 19th- centuries.

Jens Samuel, BaRAS

The Purimachos Factory, Waterloo Road, ST 6004 7326. A desktop study of land at Waterloo Road showed that the site had become increasingly developed from the mid 18th century, before which time it was occupied by formal gardens and fields. Cartographic evidence was utilised to accurately locate the Williams Burial Ground of 1793 and identify a number of walls of 19th-century date.

Dave Stevens, BaRAS

SS. PHILIP & JACOB WITHOUT

Land at Avon Street/Old Bread Street, ST 59623 72872, BRSMG 2002/33, BUAD 3900. This part of Bristol is known to have been undeveloped pasture until the late 17th-century. Six trenches were excavated across the site, revealing in one trench part of a 17th-century wall with associated deposits. Elsewhere structural features and deposits were of 19th and 20th-century date. In the south-western corner of the site most of the archaeology consisted of fairly recent made-ground over 2m in depth. The evaluation indicated no archaeological deposits pre-dating the 17th-century.

Andy King, BaRAS

Land to the south of Avon Street, ST 59781 72700. Seven trenches were excavated in order to identify structures of a glass works, the earliest documentary indications of which date from the early 18th century. Two southern glasshouses were exposed by the former Field Unit of Bristol City Museum and Art Gallery, directed by Bruce Williams in 1988, revealing a series of annealing ovens and adaptations of the Siemens Furnace.

Remains of a late 19th/early 20th-century glass factory were found in three trenches and appeared to survive across the majority of the site, although in an often heavily truncated form. No earlier factory structures were found and it appears that the later rebuilding removed the majority of the earlier phases. An active glassworks would have required regular rebuilding due to the effect of the extreme temperatures on the brickwork and the structures identified here appear to be the last reconstruction before the closure of the works in the 1920's.

The probable former northern edge of the River Avon was also located.

Giles Dawkes, AOC Archaeology

No. 30 Gloucester Lane, Old Market, ST 60443 73626, BRSMG 2001/32, BUAD 3923. A small excavation on this site revealed some evidence for medieval occupation but the site was mainly used for agriculture or gardens until the 17th century. The location of a steep sided, flat-bottomed, ditch with an L-shaped bend was confirmed, over 2m deep and 6m wide, with a clearly defensive form. Ceramic evidence from the fills of this ditch dated to no later than c.1660. This ditch is most likely to have been part of the Civil War Royalist fortifications guarding the historic eastern approaches to Bristol from London and Gloucester. The ditch would have been excavated after July 1643 and probably backfilled in 1647. Pottery recovered from a cess-pit dated from the early eighteenth century and this pit, together with a wall, may represent the earliest, post-Civil War, re-building phase. The garden areas to the rear of the properties fronting this part of Gloucester Lane had been incorporated into the premises of Hudds Leatherworks by 1854. The leatherworks were rebuilt sometime after 1893 and continued in operation until 1915 when the firm of Ridingberry toy makers took over the premises. The drainage runs of this warehouse had caused considerable disturbance to the western side of the site. As most dwellings from the late 17th century would have probably fronted Gloucester Lane on its original, narrower, alignment it is not surprising that few structural features of this period were revealed.

Andy King, BaRAS

St.Philip's Marsh area, centred on ST 6025 7250. A desktop study was carried out on land bounded on the north and north-east by the main Bristol to London railway line, south and south-west by the Feeder Canal and west by the Floating Harbour. This includes parts of Avon Street, Gas Lane, Kingsland Road, Silverthorne Lane and Freestone Road. There was extensive industrial activity in the area from the late 18th century including the Panther lead works, the Hill/Yabbicom pottery, Gibbs' vitriol works, the Bristol Gas Works, a white lead works, the Yabbicom/Pardoe/Gibbs pottery and clay tobacco pipe factory, the Marsh soap works, the St Vincent's (Lysaght's) iron works, the Bristol iron works and Butler's tar works. The study provided histories of the main industries and details of any surviving industrial buildings. A number of substantial buildings were found to have either Grade II or Grade II* Listed Building status as were lengths of boundary walls and gateways. Residential development took place in the northern part of the study area during the 19th century.

Reg Jackson, BaRAS

ST. THOMAS

Former Courage Brewery Site, Counterslip, ST 58188 72923, BRSMG 2002/21 BUAD 3861. An archaeological evaluation was carried out within the main area of the former Courage Brewery site. Fourteen trenches were excavated across the site. Ten of the trenches contained late medieval structures or deposits. The other four trenches showed more recent features associated with eighteenth and nineteenth century activity undoubtedly connected with the sugar refining and brewing industries known to have existed here. Hand-auguring of alluvial clay in three of the trenches revealed that there was no significant depth of organic-rich deposits beneath the foundations of the more recent buildings. No direct evidence was found for street surfaces as these had been removed during the construction of the present standing buildings and concrete floors.

Andy King, BaRAS

Nos. 18-20 St. Thomas Street, ST 59166 72665. An evaluation revealed a substantial area of modern disturbance, possibly a bomb crater, extending back at least 21m from the street frontage. The edges of this disturbance were not defined except towards the west end of the modern building where it was seen to cut through archaeological deposits. A small area of undisturbed archaeology was partly excavated revealing an 18th-century stone and brick built drain cutting through late 16th- to 18th-century garden soils.

Reg Jackson, BaRAS

Nos. 26-28 St. Thomas Street, ST 5918 7277. Excavation was undertaken prior to redevelopment. The earliest deposits encountered were alluvial clays of the River Avon, overlain by accumulated marsh deposits. Preliminary findings suggest that this area was reclaimed in the 12th and 13th century and that the initial usage of the site was for the dumping of waste in pits. The next phase of medieval activity would appear to be the construction of a large stone wall parallel to the line of the later St. Thomas Street. The land to the rear of this structure appeared to have been open at this time and may have been cultivated. The wall was subsequently modified on several occasions, and included

the partial remains of several phases of buildings towards the street frontage. A number of cisterns and cellars were constructed over the site in the 18th and 19th centuries.

Richard Young, CA

Nos. 121, 124 - 126 St. Thomas Street/No. 25-26 Redcliff Street, ST 59112 72703. An archaeological evaluation was carried out in July 2002. Several medieval deposits and a small amount of structural evidence including a 12th-century hearth-base and a 15th- century house wall were unearthed. Early to mid 14th century kiln waste from the as yet unlocated Bristol/Redcliffe Pottery was also recovered. Numerous post-medieval layers and building remains were also recorded.

Jens Samuel, BaRAS

Timber Yard to rear of No. 18 St. Thomas Street, ST 59125 72657. A trench was excavated at the former timber merchants to establish to what extent the formerly important historical boundary, the Law Ditch, was preserved. Evidence for the course and approximate width of this boundary was represented by two opposed rear walls of post-medieval buildings. These corresponded to property boundaries and the St. Thomas/St. Mary Redcliffe parish boundary on a first edition 1:500 map of Bristol of the 1880s (Sheet 124, 1884). The culvert abutting and between the walls was the latest manifestation of the course of the ditch constructed in the area of the trench

Jens Samuel, BaRAS

Former Courage Brewery, ST 5910 7293. Further recording work took place during the refurbishment of former brewery buildings in the Georges Square development area, in particular the eastern, or Grimes Lane, elevation of the 18th century and later Brewhouse.

John Bryant, BaRAS

ST. THOMAS

Nos.32-38 Victoria Street, ST 35924 17279. A desktop study was carried out in an area which included the medieval thoroughfares of Temple Street and Long Row. The law ditch, a medieval drainage channel that also served as a property and parish boundary, crossed the north-west corner of the site. The head of the medieval water conduit in Temple Street probably lay within the study area and it is possible that the conduit itself survives below the street. Some of the medieval buildings in Temple Street and Long Row were rebuilt or altered during the post-medieval and early modern periods. However, the shape and size of the medieval tenement plots remained largely unchanged until the 20th century. The laying out of Victoria Street in the late 1860s involved the demolition of parts of Temple Street and Long Row. During the 1870s substantial buildings were constructed along Victoria Street within the area of the proposed development.

Reg Jackson, BaRAS

ST. THOMAS AND TEMPLE

Mitchell Lane, ST 5923 7257. A desktop study was undertaken of a site in St. Thomas Street, Bristol on the south corner of Mitchell Lane. This showed that there was development in the area from before the end of the medieval period. The northernmost two tenement plots were in Temple parish, the remainder in Redcliffe parish, with at least one of the latter belonging to Keynsham Abbey. Later uses of the properties included one as a bakery and two as public houses. In Mitchell Lane were stables and a warehouse or workhouse. From the early 19th century there was an iron foundry on part of the site, eventually expanding to cover the whole area. Until the late 19th-century three gabled buildings of probably 17th-century date or earlier still stood on the site. Although all buildings survived the Blitz, which caused extensive damage in this part of the city, the site was levelled c.1970, and has been in use as a surface car park since.

John Bryant, BaRAS

TEMPLE

The George Railway Hotel and Adjoining Premises, ST 59425 72397, BUAD 3831, BRSMG 2002/2. A RCHME Level 2 survey of the existing buildings was carried out in conjunction with an archaeological evaluation comprising four trenches. The building survey identified eight phases of construction dating between the 17th and 20th centuries. The first, 17th century phase comprised structures possibly belonging to the original George Inn. Trench 1 of the evaluation contained a stone-built culvert probably of 17th- or 18th-century date, but was possibly earlier. Trench 2 contained a substantial stone-built wall and what appeared to be two post-settings, all possibly pre-dating the 17th-century George Inn. Undisturbed soil deposits of medieval and post-medieval date and a 19th-century garden wall were also exposed. Trench 3 contained two stone-built walls belonging to the 17th-century George Inn and two stone-and-brick-built oven/hearth features, probably 18th century in date. A substantial cut-feature appeared to be the outer edge of the medieval Portwall ditch. The fill material of the latter contained pottery of 15th-century date. Trench 4 contained the southern edge and berm of the 13th-century Portwall.

Jayne Pilkington and Andrew Townsend, BaRAS

WESTBURY ON TRYM

The Bungalow, Church Avenue, Stoke Bishop, ST 5603 7549.An archaeological watching brief was carried out during ground works on the site of a new house. The fieldwork involved monitoring the excavation of two trial pits and the reduced excavation of the area to formation level. No archaeological features or deposits were noted, other than wall foundations from the old demolished bungalow, which formerly occupied the site, and no finds were recovered.

Tim Longman, BaRAS

WRAXALL & FAILAND

Charlton Farm, ST 4925 7395, NSSMR 44968. A desktop study for the land occupied by the present farm-buildings and immediate environs was undertaken. The evidence studied revealed that the study area lies within an archaeological landscape rich in the remains of farming activities of the prehistoric and medieval periods.

Andrew Townsend, BaRAS

SOUTH GLOUCESTERSHIRE

CHIPPING SODBURY

Culverhill, Love Lane, ST 72458 81952. A desktop study showed that the area lay outside the medieval settlement of Chipping Sodbury and appeared to have been agricultural land throughout the medieval and post-medieval periods. The house currently occupying the study area is a Modern Movement building of the late 1930s. An attempt to have the house Listed by the Secretary of State as a building of special architectural or historic interest failed. A World War II pillbox or gun emplacement was noted within the study area.

Reg Jackson, BaRAS

OLDBURY-ON-SEVERN

The Old Forge, Camp Road, ST 6097 9281. Archaeological monitoring of ground works at 'The Old Forge', Oldbury-on-Severn, which lies on or near the line of the outer bank of the Iron Age and Romano-British Oldbury Camp (SAM 12005), found no evidence of any significant archaeological features or deposits. Some late Anglo-Saxon and medieval pottery was recovered from the garden soils.

Tim Longman, BaRAS

STOKE GIFFORD

Stoke Park Monuments, SGSMR Nos. 14732-35 inclusive. A desktop study was commissioned as part of the restoration of the important 18th-century parkland landscaping features of Stoke Park.

Pond in Barn wood, ST 621 774, SGSMR 14734. The water was pumped out to sufficient level to enable retrieval of collapsed stone and access to the internal face of the northern retaining wall. All vegetation was cleared from within the perimeter fence and from off the walls, excepting the mature trees in the south east corner and the tree stumps of mature trees grown into the walls. The clearance revealed a dump of stone probably resulting from an earlier attempt to clear the pond.

Collapsed stone within the pond was cleared and gathered. Ground above the western retaining wall was partially reduced by machine, and overburden concealing the top of this wall was excavated. The surviving top and internal face of the wall were then cleaned by hand. Soil between the two cross walls in the top north western corner was removed by hand clearly to reveal these walls.

Barn Wood Tunnel.

Ash and clinker overburden was removed by machine from the southern end of the pond to reveal a kerb of rounded stones across the width of the pond entrance. This had been partially removed on the eastern side at an unknown date. Test pitting by hand as far south as the stone dump revealed a cobbled surface coarser than that within the pond: this cobbled surface continued southwards from the kerb.

Machine clearance of the vegetation southwards in a direct line to the Barn Wood Tunnel revealed a shallow cutting much filled with ash, clinker and glass/ceramic waste of late 19th to late 20th century origin. It is surmised that a continuous cobbled surface ran from the Barn Wood Tunnel to the Pond, and probably survives largely intact beneath the present dumped deposits.

Tunnel in Barn Wood, ST 620 773, SGSMR 14735. Undergrowth was cleared by hand from over the monument and up to a 2m perimeter outside the chain mesh fencing. The latter was removed by hand and machine on the north, east and southern perimeter, excepting a few fence posts, where it was deemed removal of these would interfere with the structure of the monument or with mature trees in the immediate vicinity.

Machine clearance of soil over the north entrance revealed a blocking wall of dry stone construction, the internal face of which was butted against the broken ends of the tunnel wall. The blocking wall did not appear to extend more than 500mm either side of the tunnel walls. To the north of this wall the cutting in which the tunnel lay had been backfilled to the level of the wall top with the aforementioned dumped deposits of ash/clinker and 19th- to 20th-century domestic and hospital waste.

Access to the western side of the monument was restricted to hand clearance only by the volume of trees. However further work on this side was deemed unnecessary and the fencing on this side was left intact.

Considerable clearance of brushwood was required on the south eastern side of the monument to enable a mechanical excavator to gain access. The previously sawn tree trunks and branches were removed from off the south facing wall of the tunnel, as far as its extent could be traced.

Topsoil was removed from the top of this wall by machine and by hand. In the process a further wall or structure, immediately to the north of the wall but not bonded with it, was uncovered. This feature was of lime mortared coarse hewn stone, in a rectangle approximately 2m by 1m east-west. The top appeared to have been reduced to the level of the top soil/infilling around the tunnel. It is surmised that this feature may represent the plinth of a statue or decorative architectural piece.

Vegetation was cleared by hand from the tops and face of the south facing entrance wall. Some removal of brushwood was required to allow machine access to the southern entrance. Up to a 1m high deposit of collapsed stone and dumped refuse filled the entrance way. This was removed by machine to the level of the cobbled floor of the tunnel. Collapsed material and vegetation from within the tunnel was removed by hand to the tunnel entrance.

Clearance of the tunnel floor southwards showed the cobbled surface continued downhill for at least 3m beyond the present tunnel mouth. To the west this was flanked by a mortared stone wall surviving to one or two courses above the level of the cobbles. No similar wall was observed to the east.

The western side of the southern tunnel entrance was largely intact. The eastern side had broken and slumped downhill. Part of the tunnel mouth on the eastern side had also broken away and slumped downhill. This is now in immediate danger of collapse.

The Obelisk, Star Hill, ST 618 772, SGSMR 14733. Much tumble was observed to fill the saucer-shaped hollow in which the monument stood. In order to investigate the presence of an enclosing boundary wall, a shallow trench was machine excavated using a toothless ditching bucket. This was limited to the width of the bucket (1m) and extended from the base of the monument southwards for 5.4m. The excavated depth was no greater than 300mm. No trace of walling could be discerned. The bank appeared to be formed of subsoil and weathered bedrock, from within which an area had been excavated to form the hollow into which the monument had been inserted. This hollow is now partially filled with topsoil and rubble collapse. After recording the trench was immediately backfilled.

Tunnel in Hermitage Wood, ST 618 775, SGSMR 14732. The existence of the decorative cobbled floor of the tunnel formed an important discovery. The floor was constructed entirely of small flattened pebbles no greater than 40mm in diameter. These had been laid with long axis parallel to form approximately 400mm squares. The squares had been laid to form a diamond pattern, essentially a geometric mosaic, within a rectangular boundary of pebbles forming the kerb of the floor.

The remains of flagstone floors were uncovered immediately outside the tunnel entrance and butted to the decorative floor. The slabs extended outside the tunnel entrance and around the tunnel mouth. Where they butted to the southern entrance piers the stone had been cut away, probably to form the socket for a post. This may indicate the monument was originally sealed by a gate at each end. Two whole slabs survived at the eastern entrance. The footprint of removed adjoining slabs was visible. The western end was more disturbed, and only slab fragments survived, some of them no longer *in situ.*

The Obelisk, Star Hill.

The southern sides of the tunnel entrances were staggered, as if to retain an upright post. There was also an indication of slabs laid diagonally across from these sides to the wall of the carriage drive. It is suggested these may represent the presence of a spiral stone staircase leading down on either side from the carriage drive to the tunnel entrance. Although no decoration of the tunnel walls could be observed, it is thought the monument was intended as an ornamental grotto.

AAU

WICKWAR

Blacklands, Hall End, Wickwar, ST 704 875, SGSMR 14580. This report sets out the results of an archaeological trial excavation carried out between April and July 2002 at a field called 'Blacklands' at Hall End Farm, South Gloucestershire. The project was commissioned and funded by South Gloucestershire Council. The archive will ultimately be deposited with the Sites & Monuments Record and the landowner, Mr and Mrs D Isaac.

A series of four trial trenches were opened by hand to characterise subterranean archaeological features indicated by two preceding geophysical surveys. The trenches were sited in the field called Blacklands and in an area where the geophysical survey had indicated the presence of a buried road and adjacent stone buildings. The principal objective of the project was to determine if significant subterranean

archaeological features, structures and deposits, were preserved on the site and, if so, to establish their date, quality and importance.

The trenches generally confirmed the geophysical data and revealed a series of extensive and well-preserved Romano-British structures and deposits at less than 400mm below the modern ground surface. The principal features located included the surface of the metalled roman road up to 11 m wide, with evidence for earlier boundary ditches and later stone kerbing; a series of stone buildings, indicated by a series of well-preserved sandstone walls and internal floor features, plus evidence for some unspecified post-Roman ditch digging activity.

A significant assemblage of finds were recovered during the trenching work, the overwhelming majority of which are provisionally dated to the later Romano-British period. The collection includes significant quantities of fine tableware, coins, decorated vessel glass, structural metalwork plus decorative stone roof features and a sections of a carved limestone gutter that was set at ground level alongside the road. The pottery assemblage is varied with the majority from the later Roman period and of 2nd to later 4th-century date and includes sherds of later 4th-century shelly ware (c. AD360+) plus a small number of amphora and other continental imports.

The evidence suggests a variety of building forms are represented on the site including simple cottage range and higher status corridor or aisled houses with decorative architectural elements. The Roman road is substantial and seems to have been resurfaced and remodelled on several occasions. It is suggested to represent the principal route that has long been postulated, which ran due north from Bitton/Keynsham (possibly Roman *Traiectus*).

In summary, the presence of extensive and well-preserved buried archaeological remains first indicated by geophysical survey have been confirmed by trial excavation and shown to represent a large, important and previously unknown rural Roman roadside settlement. It represents the first Roman non-villa settlement of this scale to be identified in South Gloucestershire and may reflect the principal local centre of settlement in the county during the Roman period.

Andrew C Young, AAU

Wilcox's Garage, High Street, ST 7234 8856. An archaeological watching brief was carried out within part of a large garden/orchard adjoining the rear of Wilcox's Garage. The monitoring took place during ground works associated with the laying of a surface for a new car park, plus the construction of an associated boundary wall. No archaeological features or deposits were observed during the watching brief.

Tim Longman, BaRAS

WINTERBOURNE

St. Michael's Church, Church Lane, ST 6413 8099. An archaeological evaluation was carried out in the old churchyard prior to the proposed laying of new water pipes. Two test pits were manually excavated to record the depth and location of any unmarked burials along the course of the proposed pipe trench. A poorly preserved skeleton was partially uncovered in one test pit at a depth of 0.8m (48.59m OD) below the modern ground surface. Medieval pottery and fragments of glazed ceramic floor tiles were recovered from the deposit sealing the burial. An archaeological watching brief was then conducted during the mechanical excavation of the pipe trench. Three articulated adult skeletons, probably dating from the 19th century, were recorded and left *in situ*. A large quantity of broken disarticulated human bones were present throughout most of the trench.

Tim Longman, BaRAS

WESTBURY-ON-TRYM

Prefabricated Bungalows, Hadrian Close, Sea Mills, ST 551 757, BSMR 21266. A desktop study was carried out at Hadrian Close, The Close, on a site originally occupied by thirty-three prefabricated temporary bungalows dating from 1946. The small estate, named Hadrian Close, had been constructed immediately above an area of many Romano-British finds, including coins, pottery and masonry walls and floors. These are all associated with the known Romano-British town of Abonae, which has had a long history of archaeological investigation, both amateur and professional, since the beginning of the twentieth century.

Until 1945, the site was part of Lord de Clifford's estate, Sea Mills Farm, and was not built on until the present structures were put in place after the Second World War. The immediate area of the Roman town, however, has been damaged in quite major ways by the construction of the Sea Mills Dock in c.1712, the railway, the Bristol Port and Pier Railway of 1865 and Sea Mills Station and finally by the construction of the A4 Portway including a substantial viaduct over the River Trym in 1922-3. The present day suburb of Sea Mills itself consists mainly of private housing, constructed either side of the War, although there are some earlier properties.

Jonathan Erskine, AAU

Shirehampton Health Centre, Pembroke Road, Shirehampton, ST 530 768. Development is proposed on the site of Shirehampton Health Centre which is in an area of known palaeolithic finds and on a Pleistocene river terrace belonging to the Hoxnian interglacial centring on about 400,000BP. The area is therefore of potential national importance for Pleistocene and early man studies. However, the nature of the deposits and finds means that it is not possible to say that any particular area on the terrace is of particular significance. In addition the chances of finding *in situ* occupation deposits are low.

Slight indications of Romano-British occupation have been found in the area but not nearby. There is no reason to think that there are any substantial remains in the immediate vicinity.

Shirehampton was a medieval manor in Westbury parish

and lands in it were in the possession of an alien priory and Westbury Abbey. Probable medieval buildings of high status (both existing and demolished) are known close to the site suggesting it may be near an estate centre, but there are no indications of medieval remains on or near the site.

Glebe Cottage, now demolished is an early post-medieval building which may possibly have earlier antecedents. Its remains may survive under the site. Land use during this period seems to have been pasture and orchard.

Marek Lewcun, BAT

OBITUARY
Rodney Kenneth Burchill
1945-2003

Rod, as he was usually known, died suddenly at lunchtime on Friday 31st October 2003. He had been a well-known figure in local archaeology for 20 years. Rod left behind a wife, Sarah, and two sons and two daughters, Simon, Nicholas, Emma and Zöe.

Born in Kingswood on Friday 21st December 1945, Rod was brought up locally. Attending a local primary school, from the age of 11 years he was a pupil of Bristol Grammar School. Later, he trained as a pharmacist, including a spell at the Boots headquarters at Nottingham. Returning to Bristol, Rod was first sent to the Boots branch at Southmead Road (next to Taylor and Dent's garage), later moving on to the present branch on St. Augustine's Parade on The Centre, where he would sometimes work the late shift as duty pharmacist. This latter duty in particular provided him with a source of stories with which he would later entertain his archaeological colleagues (no individuals named, of course).

In 1983 Rod came to Bristol City Museum to work first as an archaeologist (site assistant) then as a supervisor on a Manpower Services Commission Community Programme scheme. These schemes provided the wherewithal to enable several large archaeological excavations in the Redcliffe area, and elsewhere, in the 1980s. Rod worked on the Canynges House excavation, which was directed by Bob Jones (now Bristol's City Archaeologist). Part of the medieval mansion, reputedly the home of William Canynges, was found still standing above ground; a cellar and other features of interest including the remains of the medieval waterfront were excavated. Later, in 1985-86 Rod and others went on to run several smaller pieces of fieldwork, including Somerset Street (Redcliffe), Buchanan's Wharf (Redcliff Street), and Elm Farm, Charlton. Buchanan's Wharf was dug in the winter and packing up at the end of the day was assisted by the lights of Pattersons. Charlton was dug in severe cold weather conditions, and Rod would tell of how they would have to wait until well on into the morning before the ground had thawed sufficiently for work to commence, only to find it freezing again only a few hours later. At Harry Stoke the same team worked on the site of a deserted medieval village, finding a late medieval building, a yard and boundary wall.

Rod Burchill, together with Vince Russett, was employed on ceramics analysis by Bristol City Museum's Field Archaeology Unit in 1986. They worked together in a lightless room within the Egyptian gallery, accompanied by a number of mummies along one wall - a spooky room when the lights went out! The initial appointment was eventually considerably extended, especially after Rod was left to work on alone. Many years of backlog ensured that there was certainly no shortage of work. After the events of 1992, when the unit's core funding was removed, Bristol & Region Archaeological Services (BaRAS) was born, Rod continuing to analyse not only pottery and other ceramics but also most other types of archaeological find. Rod also came to be involved in assisting with some of the administration of BaRAS.

Rod examining a 14th-century barrel padlock found during excavations at Nos. 98-103 Redcliff Street, Bristol.

The time came when Rod had more experience of looking at excavated local pottery than anyone else, and thus came to be considered the expert on the subject. Work came in from other local units, including Bath Archaeological Trust, Avon Archaeological Unit and Glamorgan-Gwent Archaeological Trust. He was also called upon from time to time to identify pottery brought into Bristol City Museum. Rod was for some time a member of the Medieval Pottery Research Group. As has been said recently, Rod wasn't selfish about sharing his knowledge with others. We have now come to realise how much we had come to rely upon him.

When not working with archaeological finds, Rod remained active on the fieldwork front. According to Bristol's Archaeological Officer, he was credited with a total of 98 projects, plus others that he assisted with. There were

6 excavations, 7 evaluations, 31 watching briefs, 51 desktop studies and 3 field observations - and this just within the city boundary, there was other work outside. This writer remembers working at Barrow Hill Crescent with him in 1993, where we found not only a potential prehistoric roundhouse but also possibly Bristol's oldest excavated risp packet! On another site, at Red House Farm, Bishopsworth, he was almost up to his knees in mud during an excavation.

It should not be forgotten that Rod was editor of 6 issues of Bristol and Avon Archaeology, from 1989 until 1995 (volumes 7 to 12).

Rod of course considered himself to be an expert on Kingswood, even though strictly-speaking he lived a few doors the other side of the boundary, in the Bristol ward of St. George East. And then there was the subject of food and cookery ... curries, Dorset Apple Cake, cheeses and other delights would be the subject of discussions. Then there was the magic drawer in his desk, where delicious little edibles could usually be found concealed. And every summer there was the family holiday to Weymouth, at the end of which the lucky ones amongst us back in Bristol could look forward to a stick of seaside rock.

For many years Rod was Chairman of the Governors of Two Mile Hill Infant School. He was for many years a Labour Party activist at both ward and constituency level. Rod was a devotee of Folk Music, and was also interested in World Music. He was proud to say that, in his younger days, he had been at the Isle of Wight Festival 1970.

Rod Burchill was quite a character in Bristol's archaeological world and the like of which will probably not be seen again. He is and will be much missed. Some of us count ourselves privileged to have worked with him. As Vince said, "Bristol has lost a champion and we have all lost a good friend". Our sympathy goes to Sarah and the children.

John Bryant
22 April 2004