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Cover: Trench 3 showing industrial deposit (304): view SE

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1 Executive Summary

Border Archaeology Limited was commissioned by Rooftop Housing to carry out a programme of archaeological field evaluation of the former Gardiners Bros. premises at No. 1 Alvin Street Gloucester GL1 3EJ in advance of a residential development.

The location had been subject to previous archaeological investigations revealing evidence of Roman and post-Roman remains.

Three trenches were excavated on the site, all of which contained deposits and features dated to the Roman period. These were encountered at a depth of between 1.20m (Trench 3) and 1.40m (Trench 1) beneath the existing surface. A number of cut features and a burial were identified, the burial being among the latest of the sequence of Roman deposits encountered on the site.

A substantial dump, probably of industrial waste, was found in Trench 3 and might relate to a small kiln or furnace located in or close to the trench. Hammerscale was found in the majority of the features on the site and its presence attests to ironworking on or close to the site in the Roman period.

2 Introduction

Border Archaeology Limited (BAL) carried out a programme of archaeological evaluation during February 2015 in respect of a proposed residential development on the site of the former Gardiners Bros. premises at No. 1 Alvin Street Gloucester GL1 3EJ (*fig. 1*).

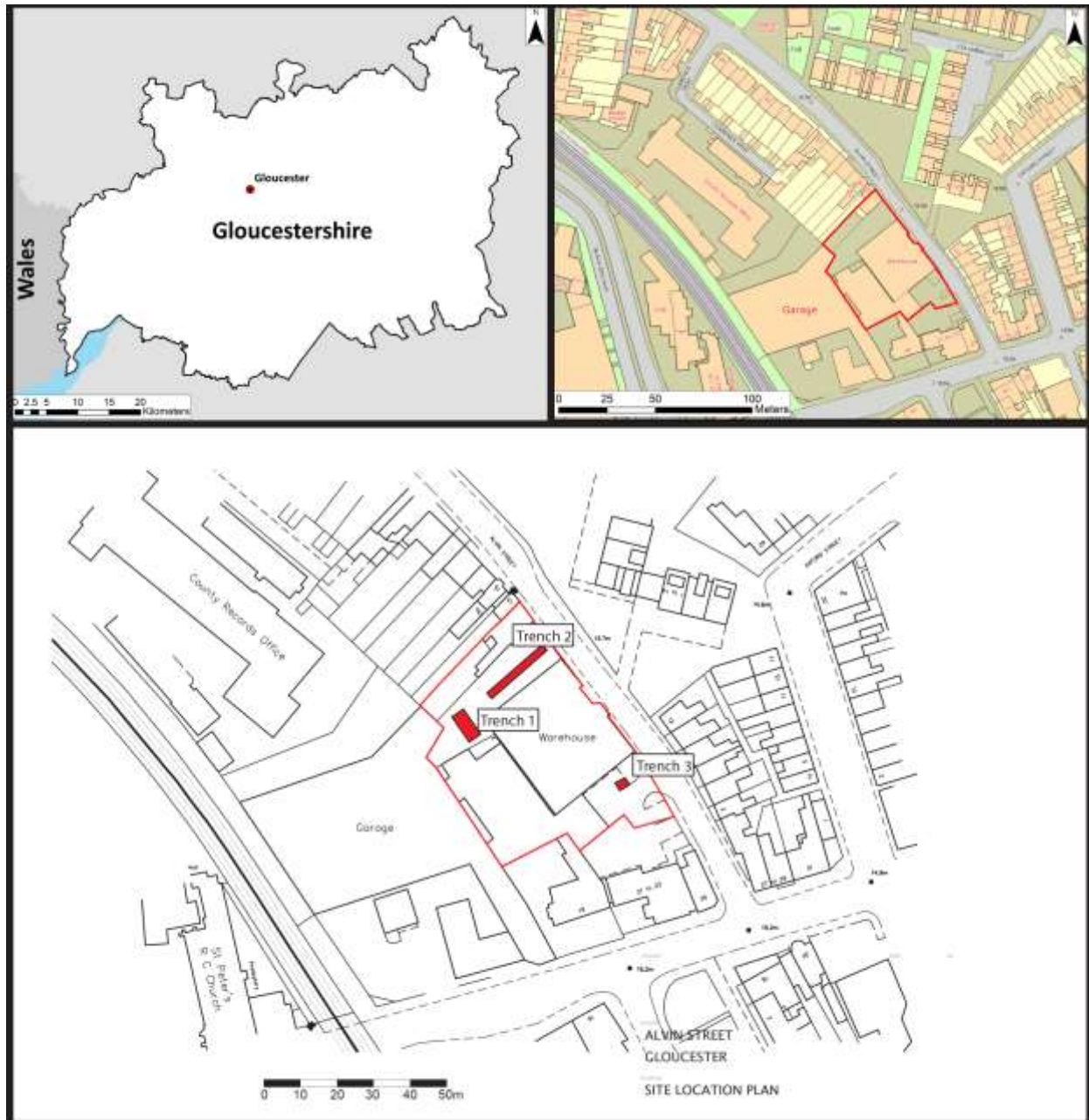


Fig. 1: Plan showing location of trenching

The programme of evaluation as initially set out required the opening of four trenches, representing an area equivalent to five per cent of the total site area. However, due to the presence of reinforced concrete to the N of the site and below-ground utility services to the SE of the evaluation area, one of the trenches was not opened and Trench 3 was reduced in size (*fig.1*), with the agreement of Andrew Armstrong Esq Gloucester City Archaeologist (CA).

The aim of the archaeological evaluation was to determine the location, extent, date, character, condition, significance and quality of any surviving archaeological remains likely to be threatened by the proposed development, and to fully record the character, date, location and preservation of any such remains.

2.1 Soils & Geology

Due to its urban location, this area has not been surveyed by the Soil Survey of England and Wales (SSEW 1983). However, the British Geological Survey records the site as lying within an area of Cheltenham Sand and Gravels, with the underlying solid geology consisting of Blue Lias and Charmouth Mudstone (BGS, 2014).

3 Historical and Archaeological Background

There are few records of prehistoric features recorded in the vicinity of the site of the proposed development. An unstratified broken flint tool was found during a watching brief on a sewer scheme between London Road and Wotton in 1993. Another unstratified broken flint tool was found on the upper slope of Wotton hillock during work on the Gloucestershire Royal Hospital Complex.

The site at No. 1 Alvin Street is located to the NE of the Roman *colonia* within the bounds of an extensive roadside suburb extending along both sides of Ermin Street, represented by present-day London Road. It is unclear whether an extramural suburb already existed to the NE of Gloucester prior to the establishment of the *colonia*; however, the available archaeological evidence certainly suggests that there was a rapid expansion of suburban settlement extending NE from the North Gate along the realigned course of Ermin Street during the late-1st and early-2nd centuries AD.

Significant archaeological remains of Roman and post-Roman date have been identified within the boundaries of the site at No. 1 Alvin Street. A watching brief undertaken by GCCAS in 1988 on the excavation of foundation trenching (2m in depth) for an extension located immediately S of the existing Gardiners Bros. warehouse produced evidence of archaeological remains of Roman date (HER 41135; Garrod 1989, 13; Site Notebook 21/1988). Evidence for occupation between the 1st and 4th century AD was revealed, including extensive structural remains on the alignment of Ermin St and an inhumation, also located within the SW part of the site.

The decayed Roman settlement of *Glevum* appears to have remained in occupation during the post-Roman period; the Anglo-Saxon Chronicle records the capture of Gloucester by the Saxons in 577 (Herbert 1988, 5). By the end of the 7th century, Gloucester had been incorporated into the Mercian under-kingdom of the *Hwicce*,

when it was chosen by Osric, *sub-regulus* of the *Hwicce*, as the site of a minster church which was subsequently re-founded in the mid-11th century as St Peter's Abbey Gloucester (Herbert 1988, 7-8; Verey & Brooks 2002).

However, it was not until the early 10th century that Gloucester began to emerge as an important regional administrative centre, probably under the influence of Ethelfleda of Mercia, who appears to have refortified the urban settlement (at which time the street pattern was also probably laid out) and established a mint there, as well as founding a new minster dedicated to St Oswald (Heighway 2001, 102-3; Herbert 1988, 63).

By no later than c.1050, a Royal palace had been established at nearby Kingsholm and Gloucester was a regular meeting place of the Royal Council. Prior to the Norman Conquest, it appears that limited suburban development had taken place along Hare Lane, the route leading from the walled city towards Kingsholm, extending up to the crossing of the River Twyver as far as the Alvin Gate, which may be of pre-Conquest origin (the name appears to be derived from Ailwin, Sheriff of Gloucester before 1066). Another pre-Conquest suburb appears to have been established along Lower Northgate Street/London Road, extending from the inner North Gate to the outer gate on the River Twyver.

During the 12th -early 13th centuries, it appears that there was a significant expansion of suburban development to the E of the city walls, on land chiefly held by the Abbey of St Peter's Gloucester. At some time between c.1180 and 1225, several parcels of land belonging to Gloucester Abbey were granted away at Newland on the SE side of the London Road, near the borough boundary, at Fete or Vete Lane (which may be identified with present-day Alvin Street), on the NW side of London Road, and at Ladycroft between Fete Lane and the Twyver (Herbert, 1988). It appears that some of these parcels of land were built up during the first half of the 13th century; by c.1265, at least 10 properties belonging to the Barton demesne manor of Gloucester Abbey are recorded as lying within Ladycroft (Herbert, 1988).

It is unclear when the alignment of Fete Lane was actually established; it may well be of late Saxon origin, although this has not been conclusively proven; the earliest documented reference to Fete or Vete Lane occurs in a deed of c.1220 (Ross 1964, 388-90). By 1455, a rental of the borough of Gloucester shows that the N side of London Road and both sides of Fete Lane were occupied by tenements held by various laymen and religious institutions, although it does not appear to have been intensively built up (Stevenson 1890, 98-104; Baker & Holt 2004, 91). The northern half of the site appears to have lain within several tenement plots oriented roughly E-W and fronting onto Alvin Street (which appear to have vanished by the early 17th century, based on the evidence of Speed's map of 1610), while the southern half lay within the rear end of a series of elongated tenement plots fronting NW-SE onto London Road.

Archaeological work undertaken in the immediate vicinity of the site has yielded evidence of medieval occupation. The watching brief undertaken at No. 1 Alvin Street in 1988 revealed evidence of a substantial dark loam layer across much of the site, which appears to have accumulated over a lengthy period. This layer was in turn cut by a number of pit features of medieval date, which may have been associated with rubbish disposal (Atkin & Garrod 1989; Garrod 1989, 13).

At the outbreak of the Civil War in 1642, Gloucester was a stronghold of the Parliamentary cause and managed to withstand a determined siege by a large Royalist army in 1643 (Herbert 1988). Extensive damage to the city's extramural suburbs occurred during the siege; as many as 69 houses are recorded as having been destroyed in Fete Lane (present-day Alvin Street), Newland and Brook Street. A late 18th-century plan of Gloucester shows the line of the Civil War fortifications lying just to the W of the western boundary of the site.

By the late 17th century, Gloucester had lost large parts of its suburbs and nearly half of its 11 medieval parish churches to the siege (Herbert 1988, 120-1). Johannes Kip's 'Bird's Eye View' of Gloucester, dated 1712, shows Alvin Street largely devoid of buildings, although some properties along London Road, close to the junction with Alvin Street, had survived intact.

The expansion of Gloucester began in the early 19th century, its growth initially fuelled by the opening of the Gloucester and Berkeley ship canal in 1827, which gave direct and easy access to maritime trade (Herbert 1988), superseding the turnpike road system as the city's main transport link. Gloucester's growth further intensified after the building of the railways in the 1840s, when the city became a busy port for the distribution of foreign goods to the Midlands (Herbert 1988). The South Wales Railway lies 54m to the W of the site and was opened in 1851, later being fully absorbed by the GWR (Awdry 1973) and the railways and the trade at the docks stimulated the growth of industry, massively enlarging the city as the population increased from c. 12,000 in 1831 to a figure of c. 48,000 by 1901 (Herbert 1988). Gloucester also gained a tram network, part of which ran along London Road to the S of the site of the proposed development.

Documentary and cartographic sources show that from the 17th century through to the 1820s, the site was occupied by gardens, the southern half partially lying within plots to the rear of several properties fronting onto London Road (in particular Northgate House), while the northern half lay within a large garden plot extending NW along Alvin Street.

At some time between c.1820 and the early 1840s, substantial building activity had taken place along London Road with the laying-out of residential streets lined with terraced housing. Extensive building activity also took place along Alvin Street during the same period resulting in rows of terraced properties appearing along both sides of the street and the laying-out of side streets to the NE of Alvin Street, namely, Sherborne Street, Suffolk Street and Columbia Street. Most of the terraced housing along Alvin Street has been demolished and the side streets swept away to make way for housing development during the 1960s-70s.

The area appears to have been a focus for industrial activity during the 19th century. Documentary evidence indicates that at some point between c.1820 and 1843, a leather-processing works (curriers) and warehouse had been built on the site at No. 1 Alvin Street, which subsequently became the premises of Gardiners Bros., a leather merchants and boot and shoe manufacturer by the late 1870s. The premises were rebuilt and extended in the late 19th century and the site was further expanded in the mid-late 20th century to include an instrument manufacturing works located immediately SW of the main premises. A new warehouse was added on the S side of the Gardiners Bros. premises in 1988.

Immediately adjoining the Gardiners Bros. site to the SW is the location of the post-medieval Alvin Iron Works, established by the Crump family in the 1860s. The ironworks specialised in manufacturing pre-fabricated iron barns, water troughs and other agricultural equipment and fittings for railway carriages.

4 Methodology

The programme of archaeological field evaluation was carried out in accordance with practices set out in *Management of Research Projects in the Historic Environment (EH 2006)*, *Standard and Guidance for archaeological field evaluation (ClfA 2014)* and *Standard and Guidance for the collection, documentation, conservation and research of archaeological materials (ClfA 2014)*. Border Archaeology adheres to the *ClfA Code of conduct (2014)*.

4.1 Recording

Full written, graphic and photographic records were made in accordance with Border Archaeology's *Field Recording Manual (2014)*. The written record comprised a *pro-forma* context record for each stratigraphic unit.

The drawn record was produced on gridded, archive stable polyester film. Plans of each area excavated showed the extent of the area (tied into the Ordnance Survey National Grid and located on a 1:2500 plan), the extent of all stratigraphic units and appropriate detail within stratigraphic units. Overall site plans were at a scale of 1:100; plans of stratigraphic units were at scales of 1:20 or 1:50, as appropriate.

Sections or profiles of all stratigraphic units were prepared, as appropriate, where practicable and within established safety parameters. Temporary benchmarks (TBM) were established at appropriate locations and plans, elevations and sections contained grid and level information relative to OS data. All drawings were numbered and listed in a drawing register, these drawing numbers being cross-referenced to written site records.

A photographic record of all stratigraphic units was made using a high-resolution digital camera, comprising photographs of archaeological features and appropriate groups of features and structures. An appropriate scale included in each photograph and all photographic records were indexed and cross-referenced to written site records. Details concerning subject and direction of view were maintained in a photographic register, indexed by frame number. A representative photographic record of the progress of the archaeological work was also made.

An area representing five per cent of the total site area was initially targeted for field evaluation, comprising 130m² of trenching. However, in the event, Trench 3 was abandoned due to the presence of a large area of reinforced concrete and the scope of Trench 4 was reduced due to the presence of underground services. The total area evaluated totalled 86m².

Machine excavation took place using an un-toothed ditching bucket. Undifferentiated topsoil and overburden of recent origin were removed by machine under archaeological supervision and all significant archaeological deposits were excavated by hand sufficient to fulfil the aim of the project, this being to determine, as far as was reasonably possible, the location, extent, date, character, condition, significance and quality of any surviving archaeological remains likely to be threatened by the proposed development.

The evaluation also sought to clarify the nature and extent of existing disturbance and intrusion and assess the degree of archaeological survival of buried deposits.

4.2 Palaeoenvironmental/palaeoeconomic sampling

Samples for palaeoenvironmental/palaeoeconomic purposes were collected according to guidance set out by English Heritage in *Environmental Archaeology: A Guide to the Theory and Practice of Methods, from Sampling and Recovery to Post-excavation* (2nd edition) (Campbell Moffet & Straker 2011).

Processing is undertaken by BAL at its Milton Keynes Environmental Processing Facility. Some of the trenching was affected by the presence groundwater.

At least 40% or 100% of each sample has been processed by flotation using Siraf-style tanks with a 1mm retent mesh and 250µm flot sieve as standard, with smaller retent meshes to 250µm considered where carbonised material is less likely to float.

Retents were initially scanned by magnet to retrieve archaeometallurgical debris, such as flake and/or spheroidal hammerstone. A sieve bank was used to facilitate visual sorting, with the smaller fractions sorted by means of magnifying lamp and/or illuminated stereo zoom microscopy. Non-archaeological, -archaeobotanical, -archaeozoological and -archaeometallurgical material was disposed of on site.

Sorting and identification of macro-botanical remains was carried out with reference made to BAL's in-house reference collection of botanical material, in conjunction with the consultation of academic, specialist reference books.

4.2.1 Building materials

Samples of construction materials were recovered for assessment of their potential to assist in the analysis of building palaeotechnology.

4.3 Recovery, processing and curation of artefactual data

Any associated artefacts recovered will be retained, cleaned, labelled and stored according to *Standard and Guidance for the collection, documentation, conservation and research of archaeological materials* (CIfA 2014)

and *First Aid for Finds* (Watkinson & Neal 2001). The aim will be to create a stable, ordered, well-documented, accessible material archive forming a resource for current and future research (ClfA 2014).

All artefacts were bagged and labelled with the site code and context number before being removed off-site. Each assemblage was examined according to typological or chronological criteria and conservation needs identified.

The Company is cognisant of the deliberations by the Ministry of Justice in 2011 in respect of Section 25 of the Burial Act 1857. Any arrangements regarding the discovery of human remains were at the discretion of HM Coroner.

All materials contained within the site archive identified as appropriate for analysis will be processed by suitable specialists and the resultant research archive will be checked and ordered according to *MORPHE* criteria.

5 Results

5.1 Trench 1

Trench 1 measured 8m × 4m × 1.6m (*fig. 2*). It was orientated NW-SE and was stepped at a depth of 1.20m beneath the existing carpark surface. Roman archaeology was encountered at a height of some 13.16m AOD, approximately 1.4m below the current ground level. Four phases of activity were identified and 13 contexts were recorded in the trench, of which seven were dated to the Roman period.

5.1.1 Phase 4

Deposits of Phase 4 related to the carpark surface (101), the levelling and consolidation beneath it and a modern structure – wall (107). The wall was sealed by (102) and [113], the foundation cut for this structure, cut the upper deposit of Phase 3. The surface and levelling deposits were a total of 0.43m thick on this part of the site.

5.1.2 Phase 3

The first archaeological horizon encountered comprised a substantial homogenous dark greyish-brown buried garden soil (103)/(104), with an average depth of 1.20m.

The upper part of this deposit (103) was extremely firm, presumably as a result of compaction from the carpark surface above it, but was otherwise indistinguishable from (104) below. Although probably of late post-medieval date and containing modern transfer-printed ware and a sherd of 17th to 18th -century North Devon Gravel Tempered Ware, it also contained a moderate quantity of residual Roman pottery and a decorated cylindrical object, possibly a lace tag (*Appendix 4*). The presence of Roman pottery in this layer, together with that of post-medieval date, probably demonstrates disturbance of the upper Roman horizon during later horticultural activity. The depth of (103-104) may be a result of addition of manure etc. as fertiliser, together with the effects of cultivation over a long period and, possibly, of attempts to raise it above the level of the groundwater. The likelihood of imported material being present in the deposit may cast doubt upon the provenance of the finds in this layer.

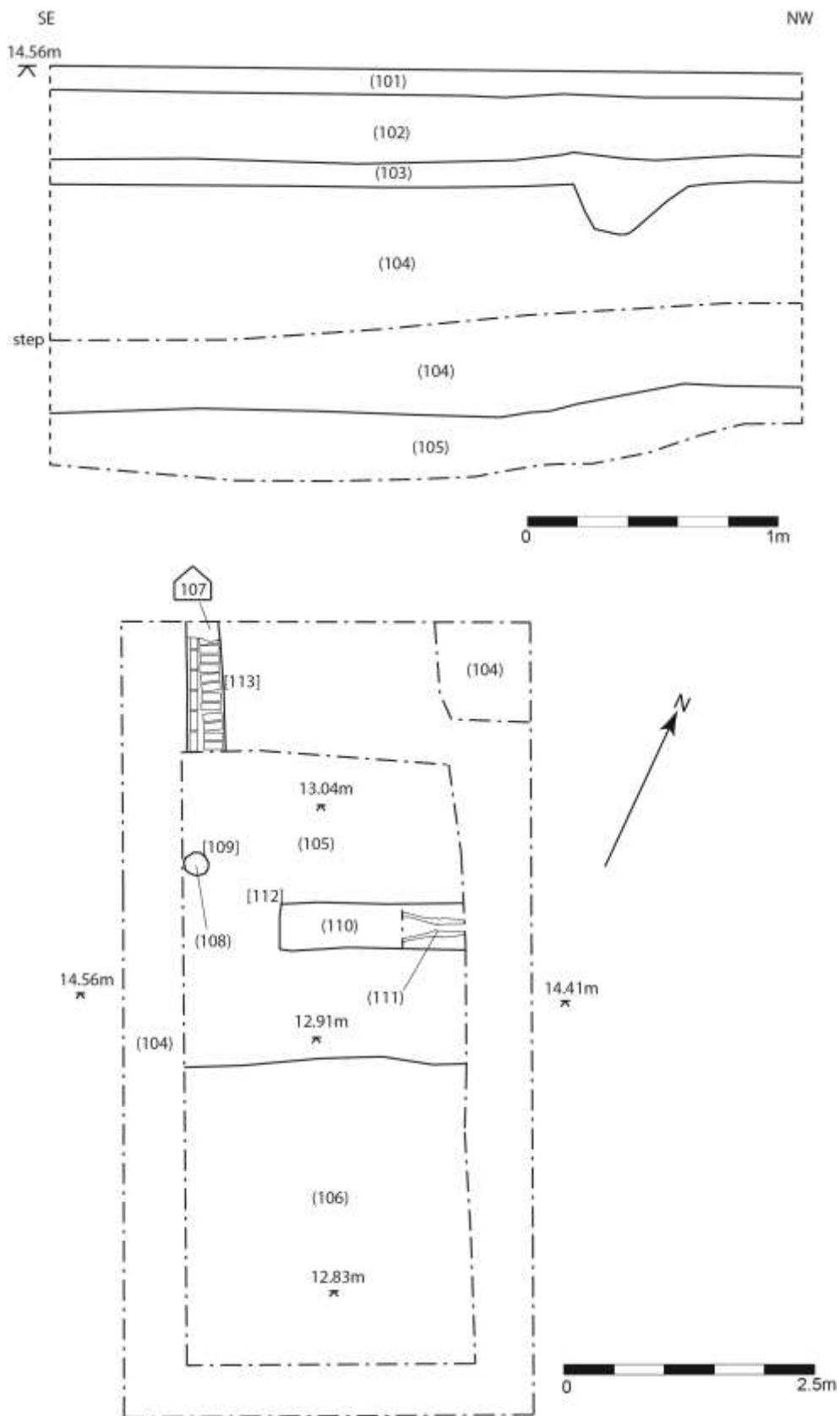


Fig. 2: Trench 1 section and plan

5.1.3 Phase 2

Two cut features, the fills of both of which contained Roman pottery, were sealed by post-medieval garden soil (104). The first of these, [109,] was a shallow, more or less circular feature at the NE edge of the trench. While it may have been a posthole, its position at the very limit of the excavation trench meant that, if it was indeed structural, any other elements of the building lay outside the trench. The loosely compacted dark grey clay silt fill (108) contained a sherd of a plain rimmed dish in Black Burnished Ware (BB1). No floor surfaces were associated with the feature.

Grave cut [112] was rectangular in form, fairly regular and aligned NNE/SSW. It measured more than 1.90m in length, continuing beyond the E limit of the trench. It was filled by a dark grey clay silt containing frequent charcoal flecking. A small *sondage* was excavated against the E baulk to establish whether the feature contained a burial. It revealed the presence of the femora and left tibia of a supine inhumation orientated W/E, with the head at the W end of the grave (111). There was no evidence for a coffin, although the regular form of the grave might imply that one was present. However, as the grave was not fully excavated, it is possible that evidence for a coffin lay outside the excavated *sondage*. The size of the long bones suggested that the individual was probably an adult (*Plate 1*). The grave fill contained a small quantity of Roman pottery, although this may have partly derived from (105) into which the grave was cut. An inhumation revealed during previous archaeological works on the site in 1988 (Garrod, 1989) was similarly orientated and was dated to the late Roman period.

Having ascertained that the feature contained an inhumation, no further excavation was carried out and the grave was backfilled using the material excavated from it to protect the burial.

5.1.4 Phase 1

Layer (105), cut by both [109] and [112], was a firm to compact mid mottled yellowish-grey silt clay containing frequent CBM and white mortar flecks. Hammerscale from this deposit suggests that ironworking was taking place in the vicinity at the time of deposition. A considerable quantity of decorated samian ware, together with a fibula brooch of possible Polden Hill type, was recovered from this layer, which extended across the excavated area to a maximum thickness of 0.30m. One of the Samian sherds was stamped with 'LVPPA', which may be ascribed to a manufacturer active in Lezoux, Central Gaul between c. AD130-155 (Dickinson 2008, 136-8).

Although only four pieces of animal bone were recovered from this deposit, two bones, one of pig and one of cattle, were from sub-adult individuals and could suggest a 'high-status' diet. High status might also be inferred from the quantity of samian ware present within the deposit. No floor surfaces were identified in the trench and the area may have lain outside the structures, remains of which were identified on other parts of the site. The layer may have originated as a dump of very specific material from a high status household.

Layer (105) overlay the natural deposition (106), a compact yellowish-grey clay.



Plate 1: Burial (111) within grave [112]; view W

5.2 Trench 2

Trench 2 was located 7m NE of Trench 1 and measured 20m × 2m × 1.72m at its SW end and was orientated NE-SW (*fig. 3*). Roman archaeology was encountered at 12.75mAOD, 1.50m below current ground level. Eighteen contexts were recorded in this trench, of which 13 were of archaeological significance. At its S end, the trench was stepped and, as a result, archaeological deposits were seen only in a narrow *sondage* (0.85m wide) down its centre. The ingress of groundwater into the trench resulted in poor excavation conditions.

5.2.1 Phase 4

Consistent with the stratigraphic sequence in Trench 1, the deposits of this latest phase related to the use of the area as a carpark in recent times. The tarmac surface and the aggregate beneath it (201) were a total of 0.46m thick. Also included in this phase was a brick wall associated with the footings of post-medieval buildings on the site.

5.2.2 Phase 3

The two deposits of Phase 3, (202) and (203), were similar to (103) and (104) in Trench 1, comprising a black silty clay garden soil extending trench-wide to a combined thickness of 1.0m. The uppermost of these deposits (202), immediately beneath the car park surface, was very compact. Pottery from (203) included the neck and shoulder of a jug in Frechen stoneware, dating to the 16th to 17th centuries, together with transfer printed wares of 19th - century or later date, as well as residual Roman wares. The wide range of dates might suggest dumping of material over a considerable period and, possibly, from disparate sources.

5.2.3 Phase 2

Features of this phase were thought to be of Roman date but were seen to cut earlier features. A later Roman date is therefore suggested (at present) for this phase.

Cut [209], at the SW end of the trench, was apparently triangular in form and filled by (210), a very dark greyish-brown silt clay with very frequent charcoal flecks. The cut extended outside the N limit of the trench. No dating evidence was recovered from this feature but fill (210) was considerably darker than the fill of [205], which this feature cut. It is thought possible that further intercutting features may be present in this part of the trench but could not be identified in the poor excavation conditions at the time.

Cut [211], a sub-rectangular pit partially within the excavated area on the SE trench edge, measured 1.55m × >0.35m × 0.3m, had steeply sloping sides and a flat base. The corners were rounded. The fill (212) was considerably darker than the surrounding deposit and contained four sherds of coarsewares of Roman date. No evidence was recovered to confirm the function of this feature and it might have been a rubbish pit.

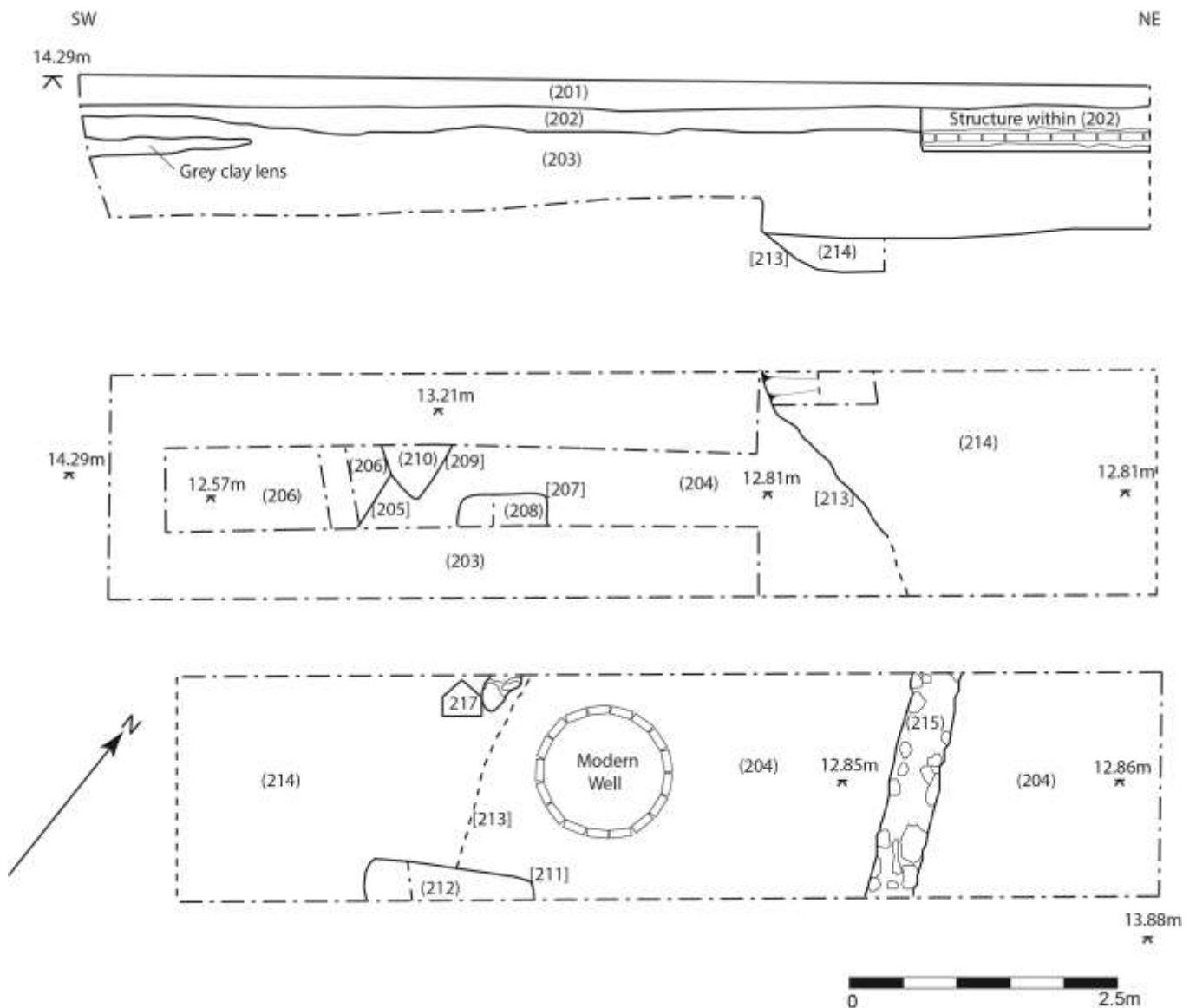


Fig 3: Section and plan Trench 2

5.2.4 Phase 1

At the S end of the trench was a substantial pit [205], measuring >1.85m in diameter and > 0.40m deep (*Plate 3*). The fill (206) was a firm mid greyish-brown silty clay, with occasional charcoal and mortar flecks. The feature extended beyond the excavation area and was visible only within the narrow *sondage* in the centre of the trench. Pottery from the feature was Roman in date (2nd century AD) and included a sherd of Central Gaulish samian ware. It was sealed by an interface layer (216), a firm greenish-brown silt clay containing frequent mortar and charcoal flecks. This deposit was not clearly identified further to the SW. It is possible that it may have constituted an abandonment horizon; it contained a sherd of an *amphora* and five sherds of Roman coarsewares.



Plate 2: Foundation course or consolidation deposit for wall (215); view SW

At the NE end of the trench, (216) sealed a structure or consolidation deposit (215) oriented NNW-SSE and constructed from medium sub-angular stones and fragments of CBM. A sherd of an *amphora* and a samian ware dish dated to c.120-150AD were found among the stones. It continued beyond the NW and SE sections of the trench and was a maximum of 0.60m wide, with individual stone size averaging 100mm × 50mm × 30mm. There was no evidence for a cut for this feature and the stone appeared to be pressed into the occupation horizon (204). It may have been consolidation to provide a base for a wall or similar structure, although the presence of CBM suggested the possibility that it may have been a dump of demolition material (*Plate 2*). A sherd of samian ware recovered from the deposit was dated to c. 120-150 AD.



Plate 3: Features [205] [209] and [207] in SW extent of Trench 2; view SW

Cut [207] appeared to be rectangular in form with rounded corners, the form and possible alignment suggesting a grave. It measured 0.80m × >0.25m (extending into the section) × 0.25m. The fill (208) contained bone and also a number of small sherds of Roman pottery. Small bones recovered from the feature were retained for identification within the soil sample and upon examination proved not to be human.

A large cut feature [213] was located in the centre of Trench 2, extending 7m × >2m to an excavated depth of 0.3m. The NE edge of the feature was not discernible due to the presence of groundwater and the similarity of the fill (214) to interface deposit (216).

5.3 Trench 3

Trench 3 (*fig. 4*) was located approximately 45m SE of Trench 2 and to the S of the warehouse building. The trench measured 4m × 3.5m × 1.3m (maximum depth) and was oriented NE-SW. Its scope was reduced as a result of the presence of a BT service trench crossing its proposed position. Roman archaeology was encountered at 13.56m AOD, c.1.2m below current ground level. Roman features in Trench 3, with the exception of a small pit, were identified, recorded in plan and preserved *in situ*. A total of 10 contexts were recorded, of which seven dated to the Roman period.

5.3.1 Phase 4

As in Trenches 1 and 2, the existing surface in Trench 3 (301) consisted of a layer of tarmac overlying a modern aggregate sub-base; these deposits were a total of 0.70m thick.

5.3.2 Phase 3

Beneath the existing surfaces was (302), a trench-wide garden soil deposit extending to a maximum thickness of 0.7m. It can be identified with similar deposits encountered in Trenches 1 and 2, although no post-medieval pottery was recovered from it and it was shallower in this trench, being only 0.60m deep.

5.3.3 Phase 2

The majority of deposits and features in Trench 3 were not excavated, following consultation with the CA, but were recorded in plan. However, a small sub-circular pit [309] measuring 0.76m × 0.8m × 0.1m, which contained pottery of Roman date and which was seen to cut earlier features in the trench, was investigated to establish relationships in this part of the trench. Its fill, (306), was a firm greyish-brown silty clay with occasional charcoal and grit fragments, together with a variety of Roman coarsewares, including a rim of a wide-mouthed jar in Severn Valley type ware, a form dating to between the 1st and 3rd centuries AD. In the E corner of the trench, a moderately compact mid greyish-green clay silt (303), extending >3.5m × >1.7m × 0.18m and containing Roman pottery and CBM, including a sherd of a red micaceous ware *mortarium* with white grits, overlay earlier surface (305) and may have constituted an abandonment horizon.

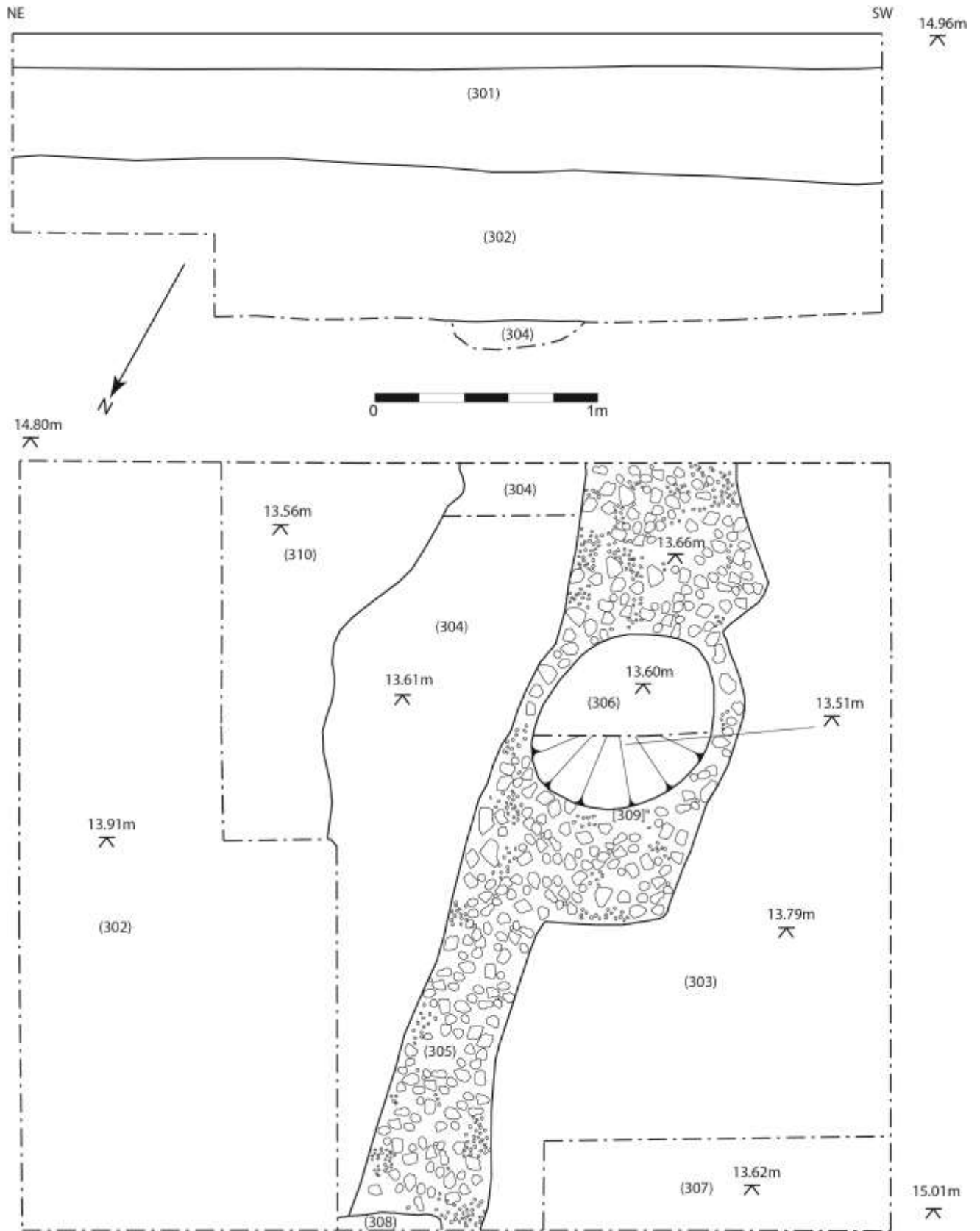


Fig 4: Section and plan: Trench 3

5.3.4 Phase 1

Deposit (304) was a loose black gritty clay silt with orange flecking. A subsample taken from this material revealed the presence of a dense concentration of flake hammerscale, which is produced by the smithing process and which indicates that the material derived from ironworking activity. Although the deposit was not fully excavated, it was thought likely that more than one episode of industrial waste disposal was represented. It is very likely that the process was taking place in the immediate vicinity.

On the NW side of the trench, (310) was a loose mid yellowish-grey sandy clay containing a considerable amount of animal bone, together with charcoal and white flecking. Patches of cinder and charcoal-rich material similar to (304) were present in this deposit, which, however, appeared to have originated as a general refuse dump rather than a specifically industrial deposit such as (304).

A cobbled surface (305) extending across the centre of the trench was formed of angular oolitic stones, which were rounded on their upper surface as though from wear. The surface may have been associated with the industrial activity represented by (304) and was the only definite surface of Roman date to be identified during the evaluation. At the N edge of the trench, a deposit of mortar (308) overlay or formed part the surface, continuing beyond the limit of the excavation.

Natural deposits were not reached within Trench 3. The earliest deposit revealed (307), which was identified within a small *sondage* in the W corner of the trench, comprised a moderately compact mottled greyish-green silty clay. It appeared to be a worked or disturbed naturally-derived material and produced no finds.

6 Conclusions

The results of the evaluation programme support findings obtained from previous archaeological interventions that indicate the likely presence of Roman deposits across the entire site, occurring at an average depth of approximately 1.4m (12.75 to 13.56 AOD) below carpark level. Previous work close to the site, as well as at No 1 Alvin St, has revealed considerable evidence to support the presence of a suburban settlement during the Romano-British period along the course of Ermin Street (represented by present day London Road).

A date in the early to mid-2nd century would seem likely for the majority of the Roman deposits encountered. It is unclear whether an extramural suburb already existed to the NE of Gloucester prior to the establishment of the *colonia*; however, the available archaeological evidence certainly suggests that there was a rapid expansion of suburban settlement extending NE from the North Gate along the realigned course of Ermin Street during the late-1st and early-2nd centuries AD.

6.1 The Roman period

A similar stratigraphic sequence was identified in all three trenches, with modern carpark surfaces overlying a homogenous post-medieval garden soil, which, in turn, overlay the Roman archaeological horizon. At least two phases of Roman activity were identified on the site. The later Roman deposits lay directly beneath the post-medieval soil levels, with the presence of Roman pottery within the post-medieval garden soils suggesting disturbance of Roman archaeological horizons as a result of medieval or post-medieval horticultural activity. The majority of pottery recovered during the evaluation dates to the early to mid-2nd century AD.

Previous work on the site, in 1988, revealed the presence of an inhumation on the SE part of the site (Garrod, 1989). The discovery of another burial during the evaluation, this individual being located in the NW part of the site, indicates that the area was used for burial in the later Roman or post-Roman period, although burial activity does not, at present, seem to have been particularly intensive. Pottery recovered from grave fill (110) was all Roman in date, although it is likely that it derived, at least in part, from layer (105) into which the grave had been cut. The horse tooth that had apparently been used as a polishing tool was also recovered from the grave fill.

The general W/E alignment of the grave could be indicative of Christian burial practices. However, W/E alignment and unfurnished graves predated the introduction of Christianity and appear to have emerged due to the regularisation of cemeteries in the later part of the 4th century rather than to the influence of religious ritual practice. It is possible that Christians adopted a pre-existing Roman rite (Philpott 1991, 239). Christianity did not become common in Britain before the conversion of the emperor Constantine in 310AD. A Christian burial of the medieval period would probably have taken place in a cemetery associated with a church, for which there is no evidence, so a late Roman or sub-Roman date would appear likely for the burial.

Two pits cutting earlier Roman levels, but not excavated, in Trench 2 could also have been graves. These rectangular pits, [207] and [211], were both oriented WSW-ENE. The fill (208) of one of these, [207], contained

bone but it was unclear from on-site analysis whether this was human. These bones have been retained for post-excavation analysis but poor on-site conditions prevented the features from being more fully investigated.

The only possibly structural element to be found in Trench 1 was a single posthole [109] cutting an earlier Roman deposit (105). Its position at the edge of the trench meant that it was not possible to ascertain whether the posthole did indeed form part of a building. A number of timber structures were identified during earlier archaeological interventions in the area; in the case of Northgate Court, these were later replaced by more substantial buildings (HER 27707; Garrod, 1990, 16-17). The posthole fill (108) contained pottery dating to the Romano-British period but no floor surfaces were found in the trench.

In Trench 2, a dump of limestone (215) may have formed consolidation or a foundation for a wall, although no cut for a foundation trench was seen, with the stone and CBM which formed (215) apparently pressed into the surrounding deposit (204). It is therefore also possible that (215) was, in fact, a discrete dump of demolition material rather than a structure. Some 3.5m to the SW of (215) and extending into the NE section, (217) was thought likely to be a wall. At least two courses appeared to be present, apparently bonded with a yellowish mortar. A length of only about 0.20m was visible within the trench. The presence of two, possibly structural features in close proximity to each another may imply that buildings were present but, as in the case of Trench 1, no surfaces were associated with them.

The previous programme of archaeological work undertaken on the site in 1988 had revealed a number of floor surfaces. No surfaces were seen in Trench 1 or Trench 2 and the one definite surface identified during the evaluation was in Trench 3, where a cobbled surface (305) appeared to have been associated with industrial dumping. An ingress of groundwater occurred in Trenches 1 and 2 and it is possible that historically also the areas were not considered to be habitable and were used for other purposes.

A sample taken from (304) in Trench 3 revealed a high percentage of mainly flake hammerscale, confirming that smithing was taking place in the vicinity. It is unlikely that this type of material would be moved a great distance from where it originated. In addition to hammerscale, burnt clay flecks were present within the same deposit. While (304) was not fully excavated, and no features associated with the process were identified at evaluation, more than one episode of industrial dumping is thought to have occurred. Evidence for ironworking was recovered during watching briefs on the site in 1988 (Garrod 1989).

Deposit (105) in Trench 1 contained a large quantity of pottery, including a sherd of an *amphora* and stamped and decorated samian ware, together with CBM, including hypocaust tile, animal bone and two copper alloy brooches. Pottery analysis, specifically a sherd of samian ware with a stamp indicating a date between c.130 and 150 AD, would suggest this deposit was mid-2nd century in date. It contained more than half the samian ware recovered from the site, together with a copper alloy brooch of Colchester or Polden Hill type. The animal bone included the bone of a piglet as well as a sub-adult ox and would suggest that the deposit may represent dumping of material from a 'high-status' household, the pottery indicating that this was highly Romanised. No other animal bones from the site were of sub-adult individuals.

No floor surfaces or structural remains were associated with the 'high-status' material in Trench 1, as might have been expected if relatively high-status occupation had taken place on this part of the site. It is therefore possible that the deposit represented a dump of household rubbish from elsewhere.

6.2 The medieval and post-medieval period

Although the site lay close to the area of burgage plots established during the 13th century, no evidence for medieval activity was recovered during the evaluation, with the exception of a single sherd of Malvern Chase ware. It is possible that the nature of medieval occupation in this area, probably consisting of gardens and pits, was sporadic and the presence of features of this date on other parts of the site cannot be entirely ruled out. Interestingly, the 1988 watching brief revealed a series of medieval pits (Border Archaeology 2015, 14) cutting a black loamy soil horizon, suggesting that this had accumulated over a considerable period but that its composition might vary on different parts of the site as, during the evaluation, late post-medieval pottery was observed in the full depth of these deposits to immediately above the Roman horizon.

There was no evidence for deposits or features associated with the Civil War siege, during which 69 houses in Alvin Street and the immediate vicinity were burnt down.

It is possible that the thickness of the dumping layers on the site during the medieval and post-medieval periods resulted from the desire to raise the ground above the level of the surface water, as well as to enrich the soil.

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9 Appendix 1: Context Register

CONTEXT	DESCRIPTION
(101)	Tarmacadam extending trench wide by 0.20m thick
<i>INTERPRETATION:</i>	<i>Existing car park surface</i>
(102)	Compact grit, gravel and brick, extending trench wide by 0.23m thick. Below (101) and above (103). Sealed (107).
<i>INTERPRETATION:</i>	<i>Consolidation for existing surface</i>
(103)	Well compacted black sandy silt with charcoal, mortar and brick flecks, extending trench wide by 0.40m thick. Beneath (102) and cut by [113]. Above (104).
<i>INTERPRETATION:</i>	<i>Garden/horticultural soil</i>
(104)	Soft, friable dark brown clay silt with frequent pottery and CBM, extending trench-wide to a depth of 0.85m. Contained a mixture of post-medieval and Romano-British pottery. Below (103), above (105).
<i>INTERPRETATION:</i>	<i>Post-medieval horticultural soil</i>
(105)	Firm/compact mid grey-yellow silt clay with white flecks, CBM flecks and charcoal flecks. 0.30m thick trench wide. Contained decorated samian ware. Cut by [112] & [109].
<i>INTERPRETATION:</i>	<i>Roman occupation horizon</i>
(106)	Compact yellow grey silt clay >0.10m thick, trench wide. Beneath (105) and >0.10m thick trench wide.
<i>INTERPRETATION:</i>	<i>Natural</i>
[107]	Brick structure >1.3m x 0.25m x 0.80m. Filled [113] and sealed by (102). Partially removed by machine to expose archaeological deposits
<i>INTERPRETATION:</i>	<i>Modern wall foundation</i>

(108)	Loose mid/dark grey clay silt with frequent charcoal flecks. Below (104), filled [109]. Contained Romano-British pottery
<i>INTERPRETATION:</i>	<i>Fill of posthole [109]</i>
[109]	Small oval posthole 0.30m x 0.25m x 0.16m deep. Cut (105), filled by (108)
<i>INTERPRETATION:</i>	<i>Posthole</i>
(110)	Soft dark brown green clay silt with occasional charcoal flecks. Fill of [112], above (111), below (104).
<i>INTERPRETATION:</i>	<i>Grave fill</i>
(111)	Skeleton aligned E/W. Femora and left tibia only uncovered. Remained in situ, within grave [112], beneath (110)
<i>INTERPRETATION:</i>	<i>Burial</i>
[112]	Rectangular cut measuring 1.90m E/W x 0.50m. Abrupt break of slope and vertical sides. Base not seen. Cut (105). Filled by (Sk111) and (112)
<i>INTERPRETATION:</i>	<i>Grave cut</i>
[113]	Linear cut >1.3m x 0.25m x <0.80m. Contained wall (107). Cut (103)
<i>INTERPRETATION:</i>	<i>Foundation cut for modern wall</i>

Trench 2

CONTEXT	DESCRIPTION
(201)	Layer of tarmac and aggregate forming the existing car park surface. 0.30m thick trench wide. Above (202)
<i>INTERPRETATION:</i>	<i>Existing surface</i>
(202)	Compact black post-medieval layer forming topsoil 0.20m thick trench wide. Above (203)
<i>INTERPRETATION:</i>	<i>Buried post-medieval topsoil</i>
(203)	Compact dark grey brown/black silt clay with white (mortar) flacks and oyster shell, CBM, pottery (Roman and post-medieval). Above (210), (212), below (202) 0.70m thick trench wide.
<i>INTERPRETATION:</i>	<i>Garden/horticultural soil</i>
(204)	Compact gritty yellow grey silt clay with pottery, stone, grit and mortar and charcoal flecks. Trench wide >0.12m thick. Equivalent to (105) above (218) and cut by [213] [205]
<i>INTERPRETATION:</i>	<i>Romano-British occupation horizon</i>
[205]	Large ?circular cut at SW end of trench. >1.8m NE/SW x 0.85m wide x >0.40m deep. Sampled only. Cut (204), filled by (206)
<i>INTERPRETATION:</i>	<i>Pit</i>
(206)	Firm mid grey brown silt clay with occasional charcoal flecks and occasional mortar flecks. Contained Romano-British pottery. Cut by [209]
<i>INTERPRETATION:</i>	<i>Fill of pit [205]</i>
[207]	?sub-rectangular cut 0.80m x 0.25m x >0.25m deep, vertical sides, base not seen. Cut; linear in form; sides near-vertical, base flat; cut (204) filled by (208).

	Although the form suggested a grave only animal bones were recovered
<i>INTERPRETATION:</i>	<i>Sub-rectangular cut on SE side of Trench 2.</i>
(208)	Firm dark grey brown silt clay with white and charcoal flecks. Contained Roman pottery. Beneath (203) fill of [207]
<i>INTERPRETATION:</i>	<i>Fill of cut [207]</i>
[209]	Continued into NW section, but, as seen, triangular cut; 0.50m x 0.50m. No excavated; cut (206), filled by (210).
<i>INTERPRETATION:</i>	<i>Probable pit at SW end Trench 2</i>
(210)	Firm very dark grey brown silt clay with charcoal flecks. Noticeably darker than (206) which this feature cut. Below (203), filled [209].
<i>INTERPRETATION:</i>	<i>Fill of cut [209]</i>
[211]	Sub-rectangular cut with rounded corners. 1.35m N/S x >0.35m deep x 0.75m E/W. Vertical sides and possibly a flat base. Excavated to depth in sondage. Cut (214), filled by (212).
<i>INTERPRETATION:</i>	<i>Cut on SE side of Trench 2</i>
(212)	Firm very dark grey brown/black silt clay, apparently fairly organic with mortar and charcoal flecks and moderate/frequent CBM flecks. Filled [211], below (203).
<i>INTERPRETATION:</i>	<i>Fill of sub-rectangular pit [211]</i>
[213]	?circular cut with gently sloping sides. Base probably not seen (SW edge of cut only investigated). NE edge of cut unclear. Cut (216) filled by (214).
<i>INTERPRETATION:</i>	<i>Pit</i>
(214)	Firm grey brown silt clay with occasional mortar and charcoal flecks. Slightly gritty texture. Filled [213], cut by (211)
<i>INTERPRETATION:</i>	<i>Fill of pit. Contained Roman pottery</i>
(215)	Layer of stone and brick (e.g. 150mm x 90mm x 50mm). No foundation cut; stones pushed into (204). >2.0m x 0.60m x 0.15m thick. Beneath (216)
<i>INTERPRETATION:</i>	<i>Consolidation layer or demolition dump</i>
(216)	<i>Firm grey brown – green tinge – silt clay with frequent charcoal and mortar flecks. 0.10m thick at NE end of trench. Above 215. Below (203).</i>
<i>INTERPRETATION:</i>	<i>Interface between (203) and (204)</i>
(217)	<i>Stones continuing into NW section. May form SE end of wall. >0.20m x 0.20m x >0.10m thick. Below (216), above (204)</i>
<i>INTERPRETATION:</i>	<i>Possible structure</i>
(218)	<i>Very compact pale yellow grey silt clay</i>
<i>INTERPRETATION:</i>	<i>Natural</i>

Trench 3

CONTEXT	DESCRIPTION
(301)	Layer of Tarmacadam and aggregate extending trench wide by 0.60m thick

<i>INTERPRETATION:</i>	<i>Existing car park surface</i>
(302)	Soft, friable dark brown clay silt with frequent pottery and CBM, extending trench-wide to a depth of 0.70m. Contained a mixture of post-medieval and Romano-British pottery. Below (301), above (303).
<i>INTERPRETATION:</i>	<i>Post-medieval garden/horticultural soil</i>
(303)	Moderately compacted mid grey green clay silt with frequent rounded pebbles, CBM, pottery. >3.5m x >1.7m x >0.18m thick. Beneath (302), above (304)
<i>INTERPRETATION:</i>	<i>Romano-British dumping layer</i>
(304)	Loose gritty clay silt, black with orange flecks with very frequent charcoal. Below (303), above (305). 3.5m NE/SW x <1.0m wide x 0.10m thick
<i>INTERPRETATION:</i>	<i>Dump of industrial debris</i>
(305)	Firm/compact mid grey-yellow silt clay with white flecks, CBM flecks and charcoal flecks. 0.30m thick trench wide. Contained decorated samian ware. Cut by [112] & [109].
<i>INTERPRETATION:</i>	<i>Roman occupation horizon</i>
(306)	Firm grey brown silt clay with occasional charcoal and frequent grit. 0.70m x 0.70m x 0.11m thick. Fill of [309], below (302)
<i>INTERPRETATION:</i>	<i>Fill of pit [309]</i>
(307)	Compact pale grey green silt clay with frequent mortar and charcoal flecks seen in sondage in SW corner of Trench 3. Not excavated; hand cleaned. Beneath (303).
<i>INTERPRETATION:</i>	<i>Probable Roman occupation horizon</i>
(308)	Firm pale yellow brown mortar seen in NW corner of Trench Loose mid/dark grey clay silt with frequent charcoal flecks. Beneath (304); probably part of (305).
<i>INTERPRETATION:</i>	<i>Part of layer (305)</i>
[309]	Cut for shallow posthole or small pit measuring 0.70m in diameter and 0.16m deep: 0.30m x 0.25m x 0.16m deep. Cut (305), filled by (306)
<i>INTERPRETATION:</i>	<i>Posthole</i>
(310)	Soft mid green grey sandy clay with bone and charcoal and white flecks. Not excavated. >1.70m x >0.80m
<i>INTERPRETATION:</i>	<i>May be one of a sequence of dumping deposits in Trench 3</i>

10 Appendix 2: Assessment of the pottery from Alvin Street Gloucester

K H Crooks: Border Archaeology

10.1 Introduction

A total of 218 sherds of pottery were recovered from the three trenches excavated on Alvin Street in Gloucester during evaluation excavations carried out by Border Archaeology in February 2015. Of this material 38 sherds were samian ware, the majority of which (22 sherds) was recovered from Trench 1, specifically context (105) where the samian ware included decorated sherds and stamped material. The pottery was almost entirely Roman in date (212 sherds of the total 218). Of the 41 contexts recorded on the site pottery was obtained from nineteen. With the exception of the samian ware few other fine ware fabrics were found. A date in the first half of the 2nd century AD would seem to be appropriate for the majority of pottery recovered from the site.

10.2 Aims

The aim of the report was to confirm dating evidence for the contexts recorded during the evaluation and to indicate their Roman date. This assessment report is not intended as a full archive report.

10.3 Method

The pottery was washed and sorted by fabric and form, using work by Webster (1976, 2003) and Bryant (2004). For the purposes of assessment not all sherds were identified, as the intention was to quantify the material and establish a date for the excavated contexts.

10.4 Summary of the pottery

10.4.1 Trench 1

A total of 76 sherds of pottery were recovered from Trench 1, the majority of which was from a single context, (105) with 60 sherds all of Roman date.

- **Post-medieval**

Contexts (103) and (104)

Context (103) contained three sherds of pottery, one of which was a sherd of a transfer printed ware of 19th century or later date. Two post-medieval sherds one of North Devon Gravel Tempered ware, and a sherd of red

coarseware with an internal tan glaze were recovered from context (104), from which, however, sherds of a plain rim dish in black burnished ware and two sherds of Central Gaulish samian ware.

- **Roman**

Context (105)

The majority of the pottery (60 sherds out of the 76 from this trench) was recovered from a single context (105) which also contained over 50% of the samian ware recovered from the site. A brooch of Colchester/Polden Hill type was also found in this deposit, together with animal bone possibly suggestive of a 'high status' diet. It is therefore possible that the context is associated with a 'high status' household. The early to mid-2nd century date follows the establishment of the 'colonia' at the end of the 1st century AD. Although a considerable amount of pottery was recovered from (105) no surfaces or structures were associated with it and it may represent the deposition of rubbish from elsewhere.

The samian ware included two stamped sherds, one of which, 'LVPPA' probably dated to cAD130-155. Pottery with this stamp is widely distributed in Europe and Britain. The other stamp has not been identified at this point. The decorated sherds included two joining sherds with an image of a running stag and a sherd with gadroons and a beaded border. A further image may be a deer or a horse. According to Webster (1996) gadroons were most commonly associated with Form 29 in which case a date in the 1st century would be appropriate for the vessel although the scheme was used on other forms.

A sherd of a very fine walled vessel with a black colour coat was found in the same deposit. Two features cut deposit (105). The fill of a posthole (108) contained a plain rim dish in fabric BB1 decorated with intersecting arcs, dating to the mid – late 2nd century AD.

Also cutting (105) was grave [112], the fill (110) of which contained a number of bodysherds in a Roman greyware and a Severn Valley type ware together with the base of a vessel in BB1. Although the pottery was of Roman date the nature of the feature (likely to have been backfilled with material removed from it shortly after excavation and following deposition of the body) means that much of the material could be residual.

10.4.2 Trench 2

A total of 77 sherds of pottery were recovered from Trench 2. With the exception of two sherds from context (203) and a single intrusive sherd of early post-medieval pottery from (204) all the pottery from Trench 2 was of Roman date.

- Post-medieval

Context (203)

The rim of a 'bellarmine' jug in Frechen stoneware, probably imported into the country during the 17th century, was recovered from the post-medieval garden soil horizon (203) together with a sherd of red coarseware with an internal clear tan glaze, probably of 18th century date.

Context (204)

The context contained 36 sherds of pottery, all, with the exception of a single sherd of Malvern Chase ware, of Roman date. The Malvern Chase ware was a much abraded sherd of a jar with a thumbled cordon at the rim and a surviving speck of an internal glaze. The form dates to the 16th century (Bryant 2003). It was intrusive in context (204) or was recovered from the interface of that deposit with (203) above it. Two sherds of Central Gaulish samian ware decorated with a wreath were found in the context. Further sherds of samian ware included the beaded rim of a vessel (possibly Form 37) a form which went out production in the middle of the 2nd century. The base of a small vessel in a white ware was present as was the ribbed handle of a tankard in Severn Valley type ware. A date up to the earlier part of the 2nd century is likely.

Context (206)

Contained five bodysherds including a single sherd of central Gaulish samian ware, the remainder were coarsewares including two burnished sherds tempered with quartz and grog and a sherd of Severn Valley type ware.

Two sherds of a micaceous coarseware, probably from the same vessel and of Roman date were recovered from context (208). Three sherds of Severn Valley type ware came from the fill (212) of a sub-rectangular cut [211] together with a quartz greyware.

Cut [213]

This was ill defined during excavation. It contained 2 sherds of BB1 and a sherd of Central Gaulish samian ware. The Severn valley type ware included an everted rim storage jar, a form with a long date range, and a bowl of 2nd to 3rd century date (Webster 1976).

Among the stones of structure (215) were nine sherds of pottery including a fragment of an amphora and a large fragment of a storage jar with calcareous inclusions and an internal residue. A sherd of Central Gaulish samian ware - ?form 18R - with a band of rouletting in the basal interior – dating to c120-150 AD was also recovered. Sealing context (215) and identified at the S end of the trench only, was deposit (216) from which six sherds of pottery were recovered.

10.4.3 Trench 3

Trench 3 contained 16 sherds of pottery. All pottery from this trench was Roman in date with no post-medieval material recovered from context (302) identified with the post-medieval garden soils present in Trenches 1 and 2. This deposit contained ten sherds of pottery including two sherds of Central Gaulish samian ware and Severn Valley type ware.

Context (303)

This deposit was interpreted as a dumping layer; it included a large quantity of ceramic building material from the same deposit including fragments of tegula. Five of the sixteen sherds from the context were thought to have been from an amphora. A sherd of Severn Valley type ware could have been from a bowl with a footring and would therefore date to the middle of the 2nd century AD to the 4th century.

Context (304)

This was apparently an industrial dumping deposit, containing ash and cinder. A sherd of a mortarium (?Oxfordshire white ware) would date between 2nd and 4th centuries).

10.5 Conclusions

Pottery from the site was of Roman date, with the exception of an intrusive sherd of late medieval/early post-medieval date from context (204) and post-medieval sherds from horticultural deposits in Trenches 1 and 2. With the exception of the single sherd of Malvern Chase ware no pottery associated with the medieval development of this part of Gloucester was recovered from the site. The predominantly early to mid 2nd century date of the pottery follows establishment of the *colonia*, and as with material from previous excavations in the area it relates to development outside the N gate.

10.6 Recommendations

It is recommended that pottery from the evaluation should be incorporated into material recovered during any subsequent excavation. Should no evaluation take place the Roman Pottery should be examined by a specialist in Roman pottery, including a specialist in samian ware, and a full archive report produced, which includes comparison with the corpus of pottery recovered during earlier work in this part of Gloucester.

10.7 References

Bryant, V., 2004, *The medieval and early post-medieval pottery*, in Dalwood, H and Evans, R, *Excavations at Deansway, Worcester, 1988-89, Romano British small town to late medieval city*, CBA

Webster P, 1976, Severn Valley Ware: A preliminary study: Transactions of the Bristol and Gloucestershire Archaeological Society Vol. 94

Webster, P., 1996, *Roman Samian Pottery in Britain*, CBA

10.8 Websites consulted

Potsherd.net/atlas/potsherd.html

11 Appendix 3: A note on the Hand-Collected Animal Bone

K Crooks
Border Archaeology

A total of 99 fragments of animal bone were recovered (14 bones from Trench 1, 13 from Trench 2 and the majority, 72 fragments, from Trench 3).

The bone was generally in fair condition throughout, with evidence for butchery on a large number of bones. Two fragments of antler, including one sawn at the base, were recovered from (204); a horse tooth from (110) appeared to have been used as a polishing tool.

The vast majority of the bones (some 88 out of the total 99) were of cattle, the exceptions being the horse tooth mentioned above, the two fragments of antler recovered from context (204), a single bone of a piglet from (105) and seven bones of sheep/goat.

The animals represented were mainly mature individuals, the exception being the immature pig from (105) - the same context from which a vertebra of a sub-adult *bovid* was recovered. The same context also contained the majority of the samian pottery and may therefore indicate waste from a wealthier household. A considerably larger amount of bone was recovered from Trench 3, suggesting a change in activity to the E or the deposition of rubbish from a differing source.

The preponderance of cattle bone might indicate a period of changes affecting husbandry practices following the Roman conquest or it could reflect a highly Romanised society.

- **Trench 1**

Context	Species	Number	Comments
104	Cattle	1	Butchery mark
105	Cattle, sheep, pig	9	1 immature cattle, 1 piglet, remainder cattle
110	Cattle	4	Cattle phalanges, teeth, 1 polished horse tooth apparently used as a tool

- **Trench 2**

Context	Species	Number	Comments
204	cattle	7	2 deer antler, 1 sheep/goat mandible, remainder cattle – humerus and vertebra
208	mammal		A small assemblage of mammal bones was recovered from sample <4>
214	Cattle	4	
215	Sheep/goat	1	
216	cattle	1	vertebra

- Trench 3

Context	Species	Number	Comments
303	Cattle, sheep/goat	3	2 cattle
305	Cattle, sheep/goat	12	1 sheep/goat
306	cattle	16	
310	Cattle, sheep/goat	40	One sheep/goat, remainder cattle. 6 metatarsal/carpal ends. Butchery mark

Table 1: Summary of animal bone

11.1 Recommendations

The animal bone assemblage should be retained and incorporated into the archive from any future investigation on the site. Should further investigation not occur, further study should be made of the material and an archive report produced to facilitate comparison with the material recovered from the site with that found at other sites in Gloucester.

12 Appendix 4: Conservation Assessment

*Margarethe Felter
York Archaeological Trust*

Number of artefacts

Material	Quantity
Copper alloy	3

12.1 Aims and objectives

This report aims to meet the requirements of MAP2 (English Heritage, 2001) and MoRPHE (English Heritage, 2006) to produce a stable site archive. This has involved X-radiography and an assessment of the condition, stability and packaging of the finds.

The condition of the various classes of material is summarised and indicators of unusual preservation noted. The potential of the assemblage for further analysis and research is discussed, and recommendations made for further investigative conservation and long term storage.

12.2 Procedures

Three metallic recorded finds were X-rayed using standard Y.A.T. procedures and equipment. 1 plate was used, and given a reference number in the YAT conservation laboratory series (X8507). The X-ray number was written on each small find bag. Each image on the radiograph was labelled with its small find number. The plates were packaged in archival paper pockets.

All three finds were examined under a binocular microscope at X20 magnification. The material identifications were checked and observations made about the condition and stability of the finds, and recorded below. An assessment of each find is presented in the table in the Appendix.

12.3 Condition assessment summary

The three copper alloy objects were found to be in fairly good condition, with no current evidence of active corrosion. The objects should be stored dry (see below) to avoid outbreaks of active corrosion in the future. The X-ray shows the metal cores of all three objects to be present and intact. There was no evidence of any mineral preserved organic material.

12.4 Statement of potential

12.4.1 Indicators of preservation

There was no evidence of specific preservation or burial conditions, all three objects having come from well-aerated terrestrial deposits.

12.4.2 Dating evidence

The copper alloy brooch (SF2) may be able to be dated stylistically by a finds researcher.

12.4.3 Evidence of technology, craft or industry or anything else of note

SF1 is a copper alloy tube/cylinder, possibly functioning as a chape, large lace tag or ferrule with three incised decorative grooves around the opening and SF3, also of copper alloy, may be a possible clasp fragment, a finds researcher may be able to confirm this.

12.5 Recommendations

12.5.1 Further Investigative Conservation

No further investigative conservation is proposed at this stage but selected items could have corrosion removed fully for publication or display, quotes for the items selected can be arranged individually to suit your requirements.

Recommendations for further work are highlighted in bold in the table in the appendix.

12.5.2 Packaging and Long Term Storage

All finds were well-packed in suitable sealed containers to provide the appropriate desiccated environment.

All materials used are archive stable and acid-free. The metal finds should continue to be stored in a desiccated environment at less than 35%RH. The desiccated environment will need to be maintained.

12.6 References

EH, 1991, *Management of Archaeological Projects*

EH, 2006, *Management of Research Projects in the Historic Environment*

8507	1	104	<p>Labelled as Cu alloy object x1.</p> <p>Copper alloy tube/cylinder, possibly functioning as a chape, large lace tag or ferrule with three incised decorative grooves around the opening. The object is in good to fair condition, stable but with some areas of large corrosion blisters on the surface. The majority of the surface has a stable green patina covered with encrusted soil. <u>X-ray</u> shows the object to have been made from a rolled sheet and the metal core to be present, solid and even. There does not appear to be any evidence of organic material within the interior.</p> <p>Recommendation: no further work required. Store dry.</p>
8507	2	105	<p>Labelled as Cu alloy brooch.</p> <p>Complete possible Colchester or Polden Hill type copper alloy brooch (only a small part of the pin tip is missing but this is not fresh damage). The object is in good stable condition, with a smooth green/brown patina covered with encrusted soil. There are some small areas on the surface of more soft green corrosion. <u>X-ray</u> shows the metal core to be present, solid and even on the main body, but the core of the pin is rather pitted.</p> <p>Recommendation: no further work required. Store dry.</p>
8507	3	104	<p>Labelled as Cu fastening?</p> <p>Copper alloy possible fitting or clasp fragment? The object is in fair condition, slightly bent with areas of the outer surface having flaked away but this appears to be physical damage rather than due to active corrosion. The rest of the object surface is covered with a slightly crusty green corrosion layer with encrusted soil over, including orangy/red areas of soil. One end is broken through a central round perforation but this is not fresh damage, and there are the remains of a loop attached to one side. <u>X-ray</u> shows the metal core to be present and quite even, though with some larger pits.</p> <p>Recommendation: no further work required. Store dry.</p>

13 Appendix 5: Palaeoenvironmental Report

*Amy Bunce MA BSc
Border Archaeology*

13.1 Summary

This Report has been prepared by BAL's Palaeoenvironmental Department to facilitate and elucidate palaeoeconomic interpretations.

The site had previously been designated as industrial; since the early 1800s, the site was occupied by Gardiners Bros., a carrier with associated warehousing. These premises were extended in the late 19th century and rebuilt in the late 20th century, for which an archaeological watching brief was carried out in 1988 prior to the construction of the new warehouse; during the course of these works, a pre-medieval garden soil layer, which had been cut by medieval refuse pits was identified (Garrod 1989). Although a leather merchant and boot and shoe manufacturer, Gardiners Bros. also included leather-working instrument manufactory and adjacent premises included ironworking; therefore, the industry concerned is of a heavier type, resulting in significant implications for the palaeoenvironmental reporting.

Although the replacement of domestic activity by industry is starkly recognised within the palaeoenvironmental evidence (with the neighbouring ironworking activity also strongly represented), leatherworking has left no trace in the palaeoenvironmental record. In addition, the palaeoenvironmental waste products that may have been disposed of on site would be minimal, as there is no suggestion that tanning took place on site.

Nine samples were recovered from an extensive and comprehensive variety of fills and deposits. Samples of up to 40ℓ were taken where possible and, in total, 190ℓ of material was received by the Palaeoenvironmental Department. The samples were processed through flotation and the resultant archaeological and archaeobotanical material sorted and identified. Due to the puffed nature of the cereal grains, identification of charred organics was outsourced to Palaeoecology Research Services Ltd.

Archaeometallurgical waste dominated the assemblage, although no ironworking features were identified archaeologically. However, the palaeodietary data suggests small-scale cultivation activity that included the probable cultivation of pea species and the importation of oysters, meat and cereal products onto site.

13.2 Introduction

This report details the results derived from 190ℓ of soil recovered from nine contexts from a variety of fills of both pits and postholes and deposits that included occupation horizons and dumped layers. The cut features and deposits were revealed in three evaluation trenches. The land was, at the time of excavation, largely covered by concrete surrounding the various buildings on the site.

Two dumped deposits were sampled Trench 1, one of likely Romano-British date and the other industrial, as well as the fill of a pit. This broad sampling strategy encompassed all significant features and deposits and provides a comprehensive palaeoenvironmental picture for the archaeology revealed within the limits of the evaluation trenching. Where possible, 40ℓ was taken from each context, providing a good sample size for assessment from which conclusions can be drawn.

The samples were processed by means of flotation and the archaeobotanical remains from both the floating element and the heavier residue were sorted and visually identified. Although the cereal grains exhibited as being exceptionally puffed, this morphological change would have occurred prior to deposition and, indeed, the survival of puffed cereal grains (that have lost the protection of their pericarp) suggests favourable conditions for organic preservation. In addition, there is no evidence of fluctuation in waterlogging, leading to a conclusion that very few taphonomic biases have influenced the preservation of the organic materials.

As the site is contained within an urban area, it is classified as unsurveyed by The Soil Survey of England and Wales. However, the surrounding geology of sand and gravels above blue lias and mudstone may lead to a 'dry-site' profile that would be mitigated by the extensive urban soils and therefore subject very little to no bias on organic preservation and taphonomy (Border Archaeology 2015).

13.3 Methodology

13.3.1 Objectives of analysis

The purpose of the palaeoenvironmental sampling strategy implemented during archaeological evaluations is the retrieval of non-specific palaeoenvironmental remains and the further characterisation of features that cannot be fully investigated due to the confines of the evaluation parameters. An additional purpose to palaeoenvironmental reporting in the case of archaeological evaluations is the recommendation of further, potentially specific, palaeoenvironmental sampling in the case of further archaeological mitigation.

13.3.2 Sampling methodology

Samples were collected on-site in sample buckets and identified by context and sample number. Following receipt into BAL's Palaeoenvironmental Department, they were assigned bucket numbers for tracking purposes. The samples were not subject to sub-sampling and their entirety was processed by means of flotation. Flotation was undertaken in Siraf-style tanks with a 1mm retent mesh and 250µm flot sieve. No re-floating was required for these samples. Retents were initially scanned by magnet to retrieve archaeometallurgical debris and a sieve bank was used to facilitate visual sorting with the smaller fractions sorted by means of magnifying lamp and/or illuminated stereo zoom microscopy ($\geq \times 10$). The flots were sorted entirely by means of illuminated stereo zoom microscopy ($\geq \times 10$).

Due to the high proportion of slag and hammerscale, the 2-4mm retents were visually scanned rather than

sorted. This adaptation to procedure in the case of very rich archaeometallurgical samples allows recovery of organics that are smaller than 2mm and recovery of all archaeological materials. It additionally allows the recovery of the larger diagnostic archaeometallurgical materials and the recovery of the smaller diagnostic hammerscales while categorising the largely undiagnostic mid-range archaeometallurgical material as slag. The efficiency of this method was proven by the retrieval and identification of legumes within the 2-4mm retent range; therefore, while the samples were subject to c.80% retent sorting, there is a high level of confidence that all archaeobotanical material was retrieved. The results of this analysis are reported with the flot and retent data recombined; this is due to limited to no variance in the species being reported.

13.4 Personnel

Flotation and primary analysis was undertaken by Robin Putland BSc MSc, Janice McLeish MA, Matthew Gutteridge BSc and David Elgar BSc MSc with assistance from David Stockwell BA and Corey Koppelow BSc within BA's Palaeoenvironmental Department. This work was further assisted by BAL's field staff as part of a programme of Continuing Professional Development (CPD). Further analysis and identification was undertaken by Robin Putland BSc MSc and Amy Bunce BSc MA.

Identification of all charred organics was outsourced to Palaeoecology Research Services Ltd following the discovery of the highly-puffed nature of the cereal grains within the flots.

13.5 Description of Results

13.5.1 Description and implications of materials recovered

Detailed below are the general implications of the discovery of certain materials within the palaeoenvironmental samples. Of relevance was the predominance of archaeometallurgical waste that impacted upon the efficiency with which the archaeobotanical material could be assessed. The high quantities of pottery confirm a pre-industrial domestic occupation of the site that is augmented by the suggestion of the import of meat and cereal products but also potentially indicating the cultivation of pea species. The undefined date ranges and highly probable re-deposition of materials leaves the charcoal as being indistinguishable from industrial or domestic use, not least as it has mixed with coal and appears to have been used mixed as a fuel source.

13.5.2 Finds

Archaeological finds within palaeoenvironmental samples are fairly common and help confirm that the sampling of the material was not biased in any manner.

The archaeological finds retrieved from the present site samples all derived from the retents and consisted of pottery, CBM, glass, mortar and Fe objects that likely originated from the ironworking adjacent to the site and may properly be determined as archaeometallurgical waste. In addition, high concentrations of coal were synonymous with the charcoal recovered.

The pottery predominantly occurred in smaller fragments and comprised red and black unglazed pottery with grey wares and very occasional samian, together with other examples of probable Romano-British pottery. While some fragments may exhibit sufficient diagnostic elements to facilitate identification, the pottery broadly appeared to reflect that found archaeologically.

The CBM may represent fired daub or other clays. However, the high firing of the CBM may also suggest ceramics related to pyrotechnology. Mortar was also present as small fragments, all of which can be used to suggest general debris resulting from urban occupation.

Very small fragments of glass appear to represent bottle and table glass, as distinct from window glass, and reflect urban occupation. One possible glass bead was retrieved but this is again indicative of domestic occupation.

Indeterminate fragments of Fe appear to be related to the ironworking practised nearby as opposed to being artefactual. It can therefore be classified as archaeometallurgical waste and could represent the recycling or reprocessing of iron.

13.5.3 Slag

Archaeometallurgical debris was the dominant presence within the palaeoenvironmental samples. While larger fragments of unclassified slag were occasionally present, the samples predominantly comprised flake hammerscale of various sizes and occasional spheroidal hammerscale or slag spheres. Hammerscale is generally considered to move little from the site of the anvil. The absence of any metallurgical features within the evaluation precludes further interpretation.

13.5.4 Bone

Burnt bone within palaeoenvironmental samples is reasonably conclusively of anthropogenic origin, since it derives predominantly from domestic activities (although it is also present in industrial and funerary practices).

Unburnt bone may additionally have become incorporated due to animal death in the vicinity of the context while it was forming. Although many cooking practices will leave no charring, the incidence of unburnt bone, especially of small mammals and reptiles, can be used to highlight the environmental conditions during context formation, as the animals will occupy specific ecological niches.

The bone inclusions are substantial and in good condition but highly fragmented. In general, the burnt and unburnt bone forms a largely domestic picture, with bones of imported fish also present. Instances of bird and small mammal bone are reasonably common and these may represent the urban scavengers that would have co-existed in environments where food waste was routinely disposed of by fire or directly into the garden soils.

13.5.5 Oyster shell

As a domestic urban site, the presence of oyster shell fragments is perhaps only surprising in view of their limited occurrence; however, it is clear support for the importation of foodstuffs onto site and, in addition to the fish bone, shows a relationship to fishmongering that may be expected from a trading dock city such as Gloucester.

13.5.6 Charcoal

Charcoal is ubiquitous in palaeoenvironmental samples, as it is used in domestic, funerary and industrial settings, or may be present as a result of accidental firings. Identification of the wood species making up the charcoal assemblage can add valuable data as to wood selection for the varying purposes. While often relied upon for dating, in particular C14, charcoal is not the best material to use. Charcoal is subject to the 'Old Wood problem', whereby charcoal is known to be frequently redeposited and reused. In addition, wood grows over many years and it is not possible to know precisely where within the tree a charcoal fragment has derived.

The presence of charcoal as largely indistinguishable from coal suggests a mixed fuel use and leads to the conclusion that the charcoal cannot be conclusively assigned to either the domestic occupation or industrial use of the site. The charcoal was equally unsuitable for recommendation for C14 dating due to fragment size.

13.5.7 Charred archaeobotanical material

Charred archaeobotanical material is generally the most illustrative palaeoeconomic remnant. While often the sole reason for its preservation, charring is also accepted as being almost solely anthropogenic and the material can therefore be used to directly reconstruct the past agricultural economy and diet.

The cereal grains, while morphologically changed and therefore frequently missing identifying characteristics, proved to represent a broad profile of species that supports a 'consumer' profile. The presence of only one example of a rachis fragment within the samples recovered confirms that only clean grains were present on site. The damage in the form of grain-puffing was likely caused by sudden and intense heat and would traditionally be expected if a grain were to, for example, fall into a fire during the early stages of cooking. The comparatively limited discovery of cereals and their ubiquitous puffed appearance suggests great care was taken in avoiding wastage of cereals and this may further support the importation of foodstuffs.

Due to the condition of the cereal grains, all charred organic remains were identified by Palaeoecology Research Services Ltd. While many grains were still only identifiable to genus level (and some were merely able to be categorised as amorphous vesicular matter that likely represents the vitrified puffed endosperm interior of cereal grains), this process proved valuable in recognising a lack of distinction between organic material deposited throughout the date range of domestic occupation of the site. In addition, there was no differentiation between deposits that contained puffed grains, as none of the grains had escaped at least some aspect of this morphological change as a response to sudden and intense heat. This may lead to the suggestion that significant re-deposition of material has occurred on the site and that the cereal grains largely date to the earliest domestic occupation.

However, the survival of grains in such a condition while undergoing frequent re-deposition and, presumably, experiencing periods of exposure on site would be implausible. Therefore, it may be the case that cereal subsistence was highly regarded; the grains were imported onto site and care was taken in food preparation so as only occasional grains that fell into a fire and were disposed of with the waste. This is supported by the presence of oyster shell, a fairly common food substance, and occasional fish bones that would have been imported.

In addition, it is suggested that the extensive faunal remains represent imported meat products as opposed to animals reared on site; this is due to the general 'consumer', as opposed to 'producer', palaeoenvironmental profile of the site. The significant presence of pottery confirms a domestic occupation; however, the presence of peas and indeterminate legumes may represent cottage-garden activity on site. An urban location would still be large enough for pea cultivation and the absence of other charred palaeodietary remains adds further to this proposition.

No carbonised weed species were discovered suggesting that fires were contained within hearths in this wholly urban setting and that the importation of cereals was as clean grains that had been entirely processed off site.

However, other carbonised organics with palaeodietary implications are largely of the pea family. Sweet pea and the traditional pea genus, *Pisum*, accompanied by indeterminate legumes and one instance of lentil, appear to represent cottage-garden activity in this urban setting.

13.6 Description of significant palaeoenvironmental contexts

The archaeological implications of the samples are discussed in detail below. Further results can be observed in the table below (see 14.7 – Table of archaeobotanical and non-archaeobotanical remains).

13.6.1 (105)

The Roman occupation horizon (105) that was archaeologically recognised to contain pottery and CBM was confirmed as being rich in charcoal and pottery. Limited carbonised palaeodietary material appears to be survived, potentially due to the nature of the deposit, but significant faunal quantities were present and oyster shell was also identified.

13.6.2 (108)

The fill of a posthole [109] contained oat and barley (without wheat and legumes) and almost certainly reflects a Roman palaeodietary profile.

13.6.3 (206)

The fill of a pit [205] is stark in its lack of carbonised organics and may represent a more industrial usage.

13.6.4 (208)

The fill of a pit [207] contained significant quantities of well-preserved animal bone; the high concentrations of identifiable cereals and legumes suggest rapid inclusion within the burial environment .

13.6.5 (212)

The fill of pit [211] appeared fairly organic archaeologically, although the palaeoenvironmental sampling unfortunately revealed little difference to other pit fills.

13.6.6 (214)

The fill of pit [213] represented a fairly typical assemblage for the site, suggesting that the majority of pit-filling was from material already present on site.

13.6.7 (303)

The Romano-British dumping layer (303) was rich in molluscan remains of both terrestrial species (of the non-edible variety that would have died *in-situ*) and fragments of oyster shell; this is entirely consistent with a midden-type deposit.

13.6.8 (304)

The industrial debris dump (304) is confirmed by the palaeoenvironmental evidence as being largely industrial. However, it also contained high quantities of unburnt bone and pottery. The absence of carbonised organic remains and the total replacement of charcoal by coal, with the inclusion of the only incidence of slagged ceramics, may suggest a very specific dumping of industrial debris.

13.6.9 (306)

The fill of pit [309] produced the largest quantity of unidentifiable cereals but was otherwise comparable to the other pit fills on site.

13.7 Table of results

The following table details the results of both the archaeobotanical material and the archaeological finds. The flot and retent data has been recombined due to the lack of variation between the material represented.

Context no.			105				108	206		208	212	
Sample no.			2				1	3		4	5	
Sample part			1/4	2/4	3/4	4/4	1/1	1/2	2/2	1/1	1/2	2/2
Bucket no.			E01012	E01022	E01018	E01010	E01019	E01006	E01007	E01004	E01017	E01011
Sample vol. (m ³)			1000	1000	900	1000	400	700	400	700	700	900
% sample analysed			100	100	100	100	100	66	33	100	100	100
Waterlogged?			N	N	N	N	N	N	N	N	N	N
Refloated?			N	N	N	N	N	N	N	N	N	N
Latin name	Common name	Plant part										
Carbonised cereal grains												
<i>Avena</i> sp. (cf)	Oat	caryopsis					1					
<i>Hordeum distichon/vulgare</i>	Hulled Barley	caryopsis				1	1					
<i>Hordeum</i> sp.	Barley	caryopsis		1	1					2	1	
<i>Hordeum</i> sp. (cf)	Barley	caryopsis										
<i>Poaceae</i>	Grass	caryopsis								2		
<i>Triticum aestivum/durum/turgidum</i>	Bread/Durum Wheat	caryopsis	1							4	2	1
<i>Triticum aestivum/durum/turgidum</i> (cf)	Bread/Durum Wheat	caryopsis								1	1	
<i>Triticum</i> sp. (glumed)	Wheat (glumed)	caryopsis										
<i>Triticum</i> sp.	Wheat	caryopsis										
Cereal indet.	Indeterminate	caryopsis									1	1
Amorphous vesicular matter	Indeterminate	fragments					1				1	2
Cereal indet.	Indeterminate	rachis										
Carbonised palaeodietary taxa												
<i>Lathyrus/Vicia</i> 2-4mm	Sweet Pea/Vetch	seed								1		
<i>Lathyrus/Vicia</i> >4mm	Sweet Pea/Vetch	seed										
<i>Lens culinaris</i>	Lentil	seed								1		
<i>Pisum</i>	Pea	seed										
<i>Pisum</i> (cf)	Pea	seed										
Legume indet. >4mm	Indeterminate	seed										
Legume indet.	Indeterminate	seed								1		
Charcoal												
Undetermined	Undetermined	fragments	++++	++++	++++	+++	+++	+++	++	++++	+++	+++
Artefactual												
Ceramic/pottery	-	-	+++	++++	+++	+++	+++	++	++++	++++	++++	++++
CBM	-	-	++								+	+
Glass	-	-	+	+	+	+	+	+		+	+	+
Fe	-	-	+	+	+	++	+	+	+	++	+	+
Mortar	-	-										
Coal / Coke	-	-						+	++			
Archaeometallurgical												
Spheroidal hammerscale	-	-	++	+		+		+		+	+	+
Flake hammerscale	-	-	++	+	+	+		+		++	+	++
Slag	-	-	++	+	+	+	++	++++	++++	+++	+++	++++
Slagged vitrified ceramic	-	-										
Faunal												
Mammal (unburnt)	Indeterminate	-	++++	++++	+++	+++	+++	+++	+++	++++	++++	++++
Small mammal (unburnt)	Indeterminate	-	++	+	++	+	+	+			+	+
Bird (unburnt)	Indeterminate	-							+			
Fish (unburnt)	Indeterminate	-	+	+	+	+		+		++	+	+
Mammal (burnt)	Indeterminate	-	++	++	++	++	++	++	+	+++	+	+++
Small mammal (burnt)	Indeterminate	-		+								
Fish (burnt)	Indeterminate	-										
Molluscan												
<i>Ostreidae</i>	Oyster	-		+	+			+	+		+	+
Terrestrial	Indeterminate	-							+			

Context no.			214		303				304	306	
Sample no.			6		7				9	8	
Sample part			1/2	2/2	1/4	2/4	3/4	4/4	1/1	1/2	2/2
Bucket no.			E01016	E01005	E01009	E01014	E01015	E01013	E01020	E01021	E01008
Sample vol. (mℓ)			500	900	1000	1300	600	1300	1500	1100	1400
% sample analysed			100	100	100	100	33	66	100	66	100
Waterlogged?			N	N	N	N	N	N	N	N	N
Refloated?			N	N	N	N	N	N	N	N	N
Latin name	Common name	Plant part									
Carbonised cereal grains											
<i>Avena</i> sp. (cf)	Oat	caryopsis									
<i>Hordeum distichon/vulgare</i>	Hulled Barley	caryopsis						1			1
<i>Hordeum</i> sp.	Barley	caryopsis		1	1	1			1		2
<i>Hordeum</i> sp. (cf)	Barley	caryopsis					1				
<i>Poaceae</i>	Grass	caryopsis				1					
<i>Triticum aestivum/durum/turgidum</i>	Bread/Durum Wheat	caryopsis				3					4
<i>Triticum aestivum/durum/turgidum</i> (cf)	Bread/Durum Wheat	caryopsis			1						
<i>Triticum</i> sp. (glumed)	Wheat (glumed)	caryopsis	1								
<i>Triticum</i> sp.	Wheat	caryopsis				2					
Cereal indet.	Indeterminate	caryopsis	1		2			3		3	2
Amorphous vesicular matter	Indeterminate	fragments	1		4	2		3		1	10
Cereal indet.	Indeterminate	rachis				1					
Carbonised palaeodietary taxa											
<i>Lathyrus/Vicia</i> 2-4mm	Sweet Pea/Vetch	seed									1
<i>Lathyrus/Vicia</i> >4mm	Sweet Pea/Vetch	seed									1
<i>Lens culinaris</i>	Lentil	seed									
<i>Pisum</i>	Pea	seed			1						
<i>Pisum</i> (cf)	Pea	seed	1								
Legume indet. >4mm	Indeterminate	seed				1					
Legume indet.	Indeterminate	seed								1	
Charcoal											
Undetermined	Undetermined	fragments	++++	++++	++++	++++	++++	++++		++++	++++
Artefactual											
Ceramic/pottery	-	-	++++	++++	++++	++++	++++		++	++	+++
CBM	-	-			+	+		++++	++		
Glass	-	-	+	+	+	+		+	+		+
Fe	-	-	+		++	++++	++++	++++	++	++++	++
Mortar	-	-				+					
Coal / Coke	-	-		++++				++++	++++	++++	
Archaeometallurgical											
Spheroidal hammerscale	-	-	+	+	++	++		+	+	+	+
Flake hammerscale	-	-	+	++	+++	++		+		+++	++
Slag	-	-	++++	++++	++++	+++	+++	+++	++++	++++	++++
Slagged vitrified ceramic	-	-							++++		
Faunal											
Mammal (unburnt)	Indeterminate	-	++++	++++	++++	++++	++++	++++	++++	++	++++
Small mammal (unburnt)	Indeterminate	-	++	++	++	++		+		++	++++
Bird (unburnt)	Indeterminate	-						+			+
Fish (unburnt)	Indeterminate	-	+	+	++	++				+	++
Mammal (burnt)	Indeterminate	-	++	+	++	++	+	+	+	+	++
Small mammal (burnt)	Indeterminate	-									+
Fish (burnt)	Indeterminate	-								+	
Molluscan											
<i>Ostreidae</i>	Oyster	-	+	+	+	+	+	++			
Terrestrial	Indeterminate	-		+	+	+	+	+		+	

Abundance key: + = rare; ++ = occasional; +++ = common; ++++ = abundant

Table 2: Archaeobotanical and non-archaeobotanical remains

14 Conclusions and Recommendations

The intention of the non-specific palaeoenvironmental sampling undertaken herein was to retrieve archaeobotanical remains. Although heavily masked by archaeometallurgical debris and waste, the sampling was successful and has provided an insight into pre-industrial domestic occupation of the site and the inhabitants' palaeodietary profile.

Confirmation that the fills and deposits sampled during the course of the evaluation programme are of high palaeoenvironmental potential should be considered in any archaeological mitigation of the site. No specific palaeoenvironmental sampling is recommended in the case of further works; however, additional time should be allowed for full assessment of material from the site due to the dominance of archaeometallurgical waste and the need for additional identification of puffed cereals, pottery, bone and slag.

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