



ARCHAEOLOGICAL ANALYSIS
REPORT

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prepared for

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on behalf of

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ARCHAEOLOGICAL ANALYSIS REPORT

Summary

This document presents the results of archaeological excavation undertaken ahead of construction on land within Sam Turner and Sons, Piercebridge, Co. Durham. The development area was located within an area of high archaeological potential, being 280m north of Piercebridge Roman fort and in the vicinity of a recognised Roman cemetery. The proposed development comprised the construction of a garden centre/retail building, which required soil stripping of an area 36m by 41m in size to facilitate a structure, services and a septic tank.

The archaeological excavation accorded to a Written Scheme of Investigation (NAA 2012a) that had been approved by the Durham County Council Archaeology Section in response to a planning condition placed on the development. The work was informed by a trial trench evaluation (NAA 2012b).

The exposed remains represented two phases of Roman activity dating from the 3rd century AD and the later 3rd or 4th century AD. Slight evidence for occupation of the site during the 1st century AD was also identified in the form of residual sherds of pottery within later contexts.

The most intensive period of occupation dated to the 3rd century AD. It included a hollow-way that had later been surfaced by a cobbled road that continued the alignment of a previously recorded road from the east; a possible cobbled yard surface that may have been associated with a structure; and the southern edge of a large ditch to the north, which may have defined the southern extent of a recognised Roman cemetery. A double chambered stone cist was also identified, which contained the remains of two cremated individuals. One of these was contained within an African style headpot.

The later 3rd or 4th century AD phase of activity of Roman activity appeared to result from domestic occupation and may have been associated with the continued use of the yard and associated structure, and the encroachment of the civilian settlement into a once marginal area. The features themselves included pits and a ditch. Pottery evidence suggested that occupation of the area continued as late as the third quarter of the 4th century AD, although presumably on a much reduced scale.

The Roman remains were overlain by post-medieval agricultural features and had suffered significant truncation during levelling of the area as part of the construction of the current garden centre.

The excavation was undertaken by Northern Archaeological Associates Ltd (NAA) for Andrew Bramley Associates on behalf of Sam Turner and Sons Ltd during April and May 2012.

1.0 INTRODUCTION

- 1.1 This document presents the results of archaeological excavation undertaken ahead of construction on land within Sam Turner and Sons, Piercebridge, Co. Durham (centred on NZ 2113 1614; Fig. 1). The development was located within an area of high archaeological potential, being 280m to the north of Piercebridge Roman fort and in the vicinity of a recognised Roman cemetery. The proposed development comprised the construction of a garden centre/retail building, which required soil stripping of an area 36m by 41m in size to facilitate a structure, services and a septic tank.
- 1.2 Archaeological excavation accorded to a Written Scheme of Investigation (NAA 2012a) that had been approved by the Durham County Council Archaeology Section in response to a planning condition placed on the development. The work was informed by a trial trench evaluation (NAA 2012b).
- 1.3 The investigated remains represented two main phases of Roman activity. The most intensive dated to the 3rd century AD, with lesser activity within the late 3rd to 4th centuries AD; residual 1st century AD pottery also suggests a much earlier phase of activity within the vicinity. Features dating to the 3rd century AD included a hollow-way that had later been surfaced by a cobbled road, a possible cobbled yard surface associated with a length of wall, two other phases of cobbled surface to the north-west, and the southern edge of a large ditch to the north. This phase also included a double chambered stone cist situated towards the eastern side of the site that contained the remains of two cremated individuals, one of which was contained within an African style headpot. The second phase of activity, in the later 3rd or 4th century AD comprised only a ditch and two pits, although use of the cobbled yard surface may have continued at this time.
- 1.4 The excavation was undertaken by Northern Archaeological Associates Ltd (NAA) for Andrew Bramley Associates on behalf of Sam Turner and Sons Ltd during April and May 2012.

2.0 LOCATION, TOPOGRAPHY AND GEOLOGY

- 2.1 Piercebridge lies on the northern side of the River Tees at the southern edge of Co. Durham (Fig. 1). The development site was situated approximately 400m to the north-east of the village, on the north-western side of the junction between the A67

Darlington to Barnard Castle road and the B6275, known as Roman Road as it overlies Roman Dere Street.

2.2 The excavated area was located within an active garden centre upon ground surfaced by a combination of hardcore, concrete and tarmac at a height of 64m above ordnance datum (AOD). It occupied a site that had previously been terraced to allow construction of two former greenhouses.

2.3 The solid geology of the site comprises Magnesian Limestone of the Permian and Triassic period (Institute of Geological Sciences 1978) overlain by boulder clay (Institute of Geological Sciences 1977). The soils in the vicinity of the site comprise the deep fine loamy brown earths of the East Keswick Association (Soil Survey of England and Wales 1983; Jarvis *et al.* 1984, 175).

3.0 SUMMARY ARCHAEOLOGICAL AND HISTORICAL BACKGROUND

3.1 A detailed account of the full archaeological and historic background to the site has been presented elsewhere (NAA 2012b). Therefore, only a summary of the information directly relevant to the current excavation is provided here.

3.2 The development is situated in an area of high archaeological potential, being 280m due north of the Roman fort and *vicus* at Piercebridge (Scheduled Monument no. 1002365; Fig. 1). It is also located directly to the west of the accepted line of Dere Street, which was a major Roman Road (road 8c, Margary 1955) linking a number of important forts situated between York and Corbridge, and beyond into Scotland. Piercebridge fort (possibly *Morbio*, derived from the name of an otherwise unlocated fort mentioned in the *Notitia Dignitatum*; Rivet and Smith 1979, 220) lies between the forts at Catterick Bridge (*Cataractonium*) and Binchester (*Vinovia*), but appears to have been founded later than these. The excavated remains of the fort belong to the later 3rd century AD (Cool and Mason 2008, 311). However, the *vicus* and a villa within the area appear to be earlier (*ibid.*) suggesting an as yet unidentified early fort may exist in the area.

3.3 A number of Roman period remains have been recorded in the immediate vicinity of the garden centre. In the 1970s, excavations within the grounds of a house on the north side of the entrance to the garden centre exposed the western edge of Dere Street, a stone building and cobbled roads, one of which was aligned towards the current development (Figs. 1 and 2; Cool and Mason 2008, 116-120).

- 3.4 A Roman inhumation and cremation cemetery dating from the early 2nd to mid-3rd century AD (Richardson 1962) has been identified within fields to the north and east of the current development, the remains of which were unearthed in the late 19th century during construction of the Darlington and Barnard Castle Railway (Cool and Mason 2008, 26). The cemetery also appears to continue to the north-west of the garden centre, where other burials were identified during quarrying works undertaken in the mid-20th century (Richardson 1962, 172-4).
- 3.5 The remains of a ditched enclosure, pits and lime kilns were also recorded to the west during the same phase of quarrying (*ibid.*). The enclosure is recorded as being rectangular, measuring 88.39m by 73.46m, with an annex to the north. It contained two entrance ways within its eastern side that included metalled road surfaces. The southernmost was aligned to the east and appeared to be parallel with the southern part of the current development. These remains were associated with a series of rubbish pits and two lime kilns, all of which contained Roman pottery that possibly dated to c.300 AD (Richardson 1962, 166-172).

AIMS AND OBJECTIVES

- 3.6 The investigation and recording of archaeological features and deposits exposed during soil stripping works sought to preserve the remains by record.
- 3.7 The objectives of the work were:
- to establish the presence, nature, extent, preservation and significance of any archaeological remains within the site;
 - to provide a detailed record of any features and deposits in advance of their loss through construction works;
 - to more fully understand the extent, nature and date of the archaeological remains identified during the trial trench evaluation and the period of occupation they represent;
 - to recover and assess any associated structural, artefactual and environmental evidence to help inform an understanding of the layout, date, function, phasing, development and economic basis of each area of activity;

- to undertake a programme of investigation which will contribute to the relevant regional research priorities;
- to prepare an illustrated report on the results of the archaeological work to be deposited with the County Durham Historic Environment Record (HER) and the National Monuments Record (NMR); and
- to publish the results in a local, regional or national journal, as appropriate, and a summary within Archaeology County Durham magazine.

4.0 METHODOLOGY

4.1 The initial site works comprised the stripping of hardcore surfaces, a concrete pad and non-archaeological subsoil from an area 36m by 41m in size, which represented the footprint of the new building. The removal of overburden (vegetation, turf, loose stones, rubble, made ground, tarmac, concrete, hardcore, modern building debris, topsoil and subsoil, etc.) was undertaken using a mechanical excavator fitted with a toothless or ditching bucket, although where materials were exceptionally difficult to lift, a toothed bucket was used temporarily. All mechanical excavation was performed under direct archaeological supervision (Plate 1).

4.2 The mechanical excavator removed overburden down to a level at which significant archaeological deposits were identified, or down to natural subsoil where no archaeological remains were found at a higher level. Care was taken not to damage archaeological features and deposits through excessive use of mechanical excavation. Thereafter, all excavation was undertaken by hand.

Archaeological excavation

4.3 Following stripping of the site and selective cleaning of the archaeological features and deposits, an initial pre-excavation site plan was compiled using sub-centimetre GPS. The complete excavation of all archaeological features and deposits was not regarded as necessary, although a sufficient sample was excavated to understand the full stratigraphic sequence of deposits down to natural subsoil.

4.4 The sample excavation of the features and deposits was in line with the approved Written Scheme of Investigation (NAA 2012a) and constituted 100% of burials, a minimum 50% sample of domestic and settlement related features (pits) and a minimum 10% sample of the overall length of uniform linear features (ditches).

However, only a 25% sample of pit 65 was excavated, due to the size of the feature and following consultation with Durham County Council Archaeology Section. Within linear features, each sample section was not less than 1m in length, and deposits at junctions or interruptions were sufficiently excavated for the relationships between components to be established.

Recording

- 4.5 The NAA project number is 1059. The NAA site code is PGC12.
- 4.6 A drawn record of all archaeological features was made at an appropriate scale. Sections/profiles were drawn at a scale of 1:10. Plans were drawn at a scale of 1:20. Drawings included appropriate data on levels relative to Ordnance Datum and were located with reference to the National Grid using sub-centimetre GPS.
- 4.7 Written descriptions of archaeological features and deposits were recorded on NAA pro forma context sheets, which employ standard archaeological recording conventions.
- 4.8 A detailed photographic record of the site and the archaeological features was produced during the work. Photographs were taken as high resolution digital shots and monochrome prints.

Finds recording

- 4.9 All finds processing, conservation work and storage was carried out in compliance with guidelines issued by the Institute for Archaeologists (Institute for Archaeology 2008). Pottery and animal bone were collected as bulk finds and significant artefacts were recorded in three-dimensions prior to removal. Following recovery, finds were appropriately recorded and processed using the NAA system and submitted for post-excavation analysis, the results of which are included here as Appendices B-H and J.
- 4.10 All finds recovered have been appropriately packaged and stored under optimum conditions. Finds recovery and storage strategies are in accordance with published guidelines (English Heritage 1995; Watkinson and Neal 2001).
- 4.11 Metal detecting of both the stripped surface and the spoil heaps was undertaken by members of the archaeological team and the resulting finds were properly located,

identified, and conserved. Metal detecting was carried out in accordance with the Treasure Act 1996 Code of Practice (HMSO 1996, revised 2002).

Human remains

- 4.12 The cremated human remains encountered during fieldwork were investigated, planned and recorded prior to removal. Their excavation complied with all relevant legislation (Licence for the Removal of Human Remains No. 12-0068). Recovery, processing and analysis of the human remains was undertaken in accordance with published guidelines (McKinley and Roberts 1993; English Heritage 2002; English Heritage and Church of England 2005) and as the human remains were cremated bulk samples were taken to ensure complete recovery. The results of osteological analysis are included within this report as Appendix I.

Environmental sampling

- 4.13 Bulk samples were taken from appropriate deposits and were submitted to the relevant specialist for analysis. Recovery, processing and analysis of the palaeoenvironmental remains were in accordance with published guidelines (Campbell *et al.* 2011 and English Heritage 2008). The results are included here as Appendix K.

5.0 RESULTS

- 5.1 The removal of modern overburden by a back-acting tracked excavator exposed a number of archaeological features at an average depth of 0.5m below modern ground level, which were cut into the natural subsoil (**3** and **63**), comprised of sand and gravel (Fig. 3). Many of the archaeological remains, and particularly those within the southern half of the site, had suffered significant truncation during levelling of the area as part of the construction of the existing garden centre. This had resulted in a number of the features being sealed directly below modern overburden. The south-eastern corner of the site had also been disturbed by a number of gravel filled service trenches.
- 5.2 The exposed remains represented two phases of Roman activity spanning the 3rd century AD to the 4th century AD. Slight evidence for occupation of the site during the 1st century AD was also identified in the form of residual sherds of pottery recovered from later contexts. The 3rd century AD saw the most intensive period of occupation. Features of this date included a hollow-way (later surfaced by a cobbled road), a possible cobbled yard surface associated with a length of wall, two other

phases of cobbled surface to the north-west, and the southern edge of a large ditch to the north. This phase also included a double chambered stone cist located towards the eastern side of the site which contained the remains of two cremated individuals, one of which had been interred within an African style headpot. The latest phase dated to the later 3rd or 4th centuries AD and comprised only a ditch and two pits. The Roman remains were overlain by post-medieval and modern features and deposits.

The 3rd century AD

- 6.3 Stratigraphically, one of the earliest features identified was a hollow-way (**68**). The feature was located at the southern edge of the site and was aligned approximately east to west, although it was only partially exposed within the stripped area. It had been severely truncated to the east during construction of the garden centre, which had resulted in that end becoming narrower (Plate 2). The feature was up to 9.2m wide, with a shallow irregular profile to a depth of 0.4m, and contained possible wheel ruts within the natural sand and gravel base. The wheel ruts survived to a depth of 0.05m and were on average 0.6m wide with an approximate spacing of 1.5m centre to centre. The hollow-way was filled primarily by dark brown silty sand (**8**) that was overlain by dark reddish brown silt (**52**), which contained animal bone and pottery. The most diagnostic component of this pottery assemblage was a rim sherd from an Ebor ware jar, which indicated the deposit accumulated during the 3rd century AD (Appendix B). An unabraded samian body sherd was also recovered that dated from AD 50 to AD 100, suggesting the feature may have had its origins at that time. The hollow-way was cut at its northern edge by a ditch (**20**), was overlain towards the west by a cobbled surface (**77**), and was cut to the east by a pit (**66**).
- 6.4 The remains of a possible ditch (**20**) was identified that cut the northern edge of the hollow-way (Fig. 3, Section 1). The ditch was 0.98m wide and 0.28m deep, with a rounded V-shaped profile, and was filled by dark brown silt (**21**) that contained no finds. The feature was imperceptible in plan, or in any of the other excavated sections, suggesting it was either very short or had been removed elsewhere by later truncation. A second, earlier ditch (**18**) was recorded to the north of ditch **20**, although it seems likely that this feature represented the northern edge of hollow-way **68**. None of these features contained finds.
- 6.5 The primary cobbled surface (**77**; Fig. 3, detail and Plate 3) was roughly rectangular and covered an area approximately 15m by 7.5m in size. It comprised tightly packed sub-rounded to sub-angular cobbles that were individually up to 0.1m in size. The

cobbles were set within a mid-grey brown clayey silt matrix that contained undiagnostic fragments of iron and lead, and a small assemblage of pottery, which included a residual sherd of a reeded-rim bowl of the late 1st to early 2nd century AD (Appendix B). The surface may have represented the truncated remains of a road, which replaced the earlier hollow-way and allowed continued use of the area as a thoroughfare, probably during the 3rd century AD. The surface was overlain by an accumulated occupation deposit (24) and had suffered significant truncation at the edges by terracing of the site during construction of the garden centre.

- 6.6 The occupation deposit (24; Fig. 3, section 1) was restricted spatially to the area of the underlying cobbled surface (77) and was 0.15m thick. It comprised dark red brown sandy silt, which contained a large quantity of finds. This assemblage included: a 3rd or 4th century AD copper alloy hair pin (no. 1, Appendix F); a number of iron fragments, including nails; quantities of box flue tile; and a fragment of Roman brick (*bessales*, Appendix E), which had been impressed with a fox footprint. An assemblage of pottery was also recovered which included numerous fragments of African style headpot dating from the early to mid-3rd century AD (Appendix B) that may be associated with ritual activities being undertaken at the edge of the cemetery situated to the north. An intrusive copper alloy buckle (no. 6, Appendix F) dating to the 14th century AD was also recovered from this context and was likely to have been introduced by ground works associated with garden centre construction. The occupation deposit was cut by a foundation trench (82), located towards the south-west corner of the excavation.
- 6.7 This foundation trench (82) was 4.4m long by 0.4m wide by 0.3m deep and was excavated for construction of a slight stone wall (46). It was filled by mid-brown grey silty clay (83), which contained a sherd of early to mid-3rd century AD pottery. The wall (46) was 5m long by 0.22m wide on a north to south alignment and was formed by a single row of clay-bonded sub-rounded cobbles up to 0.3m by 0.2m in size. The feature was not substantial enough to have functioned as a main structural wall and appeared instead to represent a partition or fence. Either way it does suggest that this area was no longer in use as a thoroughfare, although the road may have moved further to the south at this time. The clay matrix of the wall contained a fragment of box flue tile (Appendix E) and a sherd of samian mortarium dated to AD 170-200 (Appendix B).

- 6.8 Following construction of the wall, a cobbled surface (**23**) was laid to both sides of it, which sealed the foundation trench but allowed the wall to project (Plate 4). The surface was broadly rectangular, being 11m by 4.5m in size, and was constructed using sub-rounded to sub-angular cobbles that were individually larger than those forming the primary surface, ranging in size up to 0.3m. Surface **23** appeared to represent a cobbled yard that may have been associated with a structure, part of which was represented by the wall (**46**). The mid-grey brown sandy silt matrix of the surface contained animal bone and an assemblage of pottery that dated to the early 3rd century AD.
- 6.9 The later surface (**23**) was sealed by mid-orange brown sandy silt (**22**) that appeared to have accumulated during occupation of the yard. This deposit contained a Roman coin dating from AD 119-21 (no. 1, Appendix H), a finger ring with attached key (no. 4, Appendix F), a copper alloy lentoid shaped stud (no. 3, Appendix F) and a number of iron objects, including nails. A large pottery assemblage was also recovered, which predominantly dated to the mid-3rd century AD. A number of later sherds were also identified, suggesting the surface continued in use into the late 3rd century AD, although seemingly on a reduced scale.
- 6.10 A pit (**66**) was located towards the south-east corner of the site and cut hollow-way **68** in an area where any overlying cobbled surface remains would have been removed by modern garden centre construction. The pit was oval in plan with a north to south alignment and measured 3.2m by 1.6m with a flat-based V-shaped profile to a depth of 1.05m. It was filled by compacted mid- to dark brown silt (**67**) that contained two nail fragments, ceramic building material, animal bone and an assemblage of pottery. The pottery ranged in date from the early to the mid-3rd century AD and included a fragment from a Nene Valley beaker. The location of the pit would suggest it was excavated at a time when the hollow-way, and any overlying cobbled road, had fallen out of use, but when the cobbled yard (**23**) to the west was in use.
- 6.11 The remains of two phases of cobbled surface (**36** and **35**) were partially exposed within the north-western corner of the site. The earlier surface (**36**) was 3.7m x 2.6m in size and had been truncated along its eastern side by a post-medieval trackway (**28**). It comprised rounded to sub-rounded cobbles, individually up to 0.1m in size, packed in a mid-grey brown sandy clay matrix. The structure of the surface contained two sherds from a late type Dressel 20 amphora and a gritty grey ware body sherd,

which together suggest a date during the 3rd century AD (Appendix B). It was overlain centrally by the second cobble surface (35) and was cut to the south by a pit (38).

- 6.12 The later cobbled surface (35) was smaller than the former, being 1.45m by 1.26m in size, and also continued beyond the extent of the excavated area (Plate 5). It comprised rounded to sub-rounded cobbles that were individually larger than those forming the earlier surface. The cobbles were set within a mid-orange brown sandy silt matrix that contained a small finds assemblage, including nail fragments, animal bone and pottery that dated consistently with that recovered from the underlying surface (36).
- 6.13 A pit (38) was partially exposed at the southern edge of the earlier stone surface (36). It was sub-square, measuring 1m by 0.7m in size, with a concave profile to a depth of 0.2m. The pit was filled by mid-grey brown sandy silt (37) that contained no finds.
- 6.14 Investigations within the northern part of the site identified the southern edge of a substantial north-west to south-east orientated ditch (39), which had an alignment that was almost parallel to the hollow-way (68) at the southern edge of the trench. The ditch had a maximum exposed width of 6m, which appeared to represent just over half of it, and a flat-based V-shaped profile to a depth of 0.95m (Fig. 3, section 2). It was filled primarily by 0.2m of mid-orange brown sandy silt (41) that contained no finds. The secondary fill comprised 0.75m of dark grey brown clay silt (42) and contained a Roman coin dating from AD 260-73 (no. 2, Appendix H), a fragment of iron nail, three fragments of kiln lining and sherds of pottery, including fragments from a Nene Valley beaker dating to 3rd century AD (Appendix B). Another short length of undated ditch (55) was identified extending from the southern edge of ditch 39. No finds were recovered from the fill of the ditch short (55) and no relationship to ditch 39 existed, as both were cut by a later linear hollow (69; discussed below).
- 6.15 Two cremation burials were identified within a cist (98) that was located towards the eastern trench edge, 8m to the north of hollow-way 68. It probably represented an outlying burial forming part of the Roman cemetery recorded to the north. The cist was positioned within a pit (99) that was 0.78m by 0.65m in size, with a depth of 0.26m. It comprised a flat limestone slab base overlain by four slabs on edge, which formed an outer box (Plate 6; 98). The box had then been sub-divided into a northern and southern chamber by a central stone.

- 6.16 The southern chamber was 0.4m x 0.15m in size and contained a cremated individual (**94**; Appendix I) retained within a headpot (Fig. 7). The surviving remains of the headpot made up the complete base of the vessel and included the chin and mouth of a probable female face produced in a reduced grey ware fabric that dated from the early to mid-3rd century AD (Appendix B). The remainder of the chamber was filled by dark brown silt (**95**) that included more cremated bone, fired clay, ceramic building material and animal bone.
- 6.17 The northern chamber was 0.4m x 0.23m in size and was filled by dark brown silt (**97**). It contained more cremated bone (Appendix I), presumably representing another individual, and a fragment of iron nail.

Late 3rd to 4th century AD

- 6.18 The remains that could be ascribed to the later phase of activity may have been associated with domestic occupation within the area and were less extensive than the earlier features. They comprised a linear hollow (**69**), a ditch (**31**), and two pits (**49** and **65**). Three other pits (**78**, **81** and **84**) and three intercutting features (**71**, **86** and **88**) were also investigated. These contained no diagnostic artefactual material and may therefore have belonged to this later phase of activity. Yard surface **23** may have also continued to be used during this period.
- 6.19 The hollow (**69**) followed the course of the earlier 3rd century ditch (**39**), possibly truncating it after it was filled, and overlapped its edges. It was 36m long with a maximum exposed width of 11.5m, and was filled to a depth of 0.3m by dark brown sandy silt (**43**) that which contained ceramic building material, animal bone and an assemblage of Roman pottery, which suggested the material had accumulated within the late 3rd century AD. It seemed unlikely this hollow represented a cut feature. It may have formed during use of the area as a thoroughfare or may have represented an accumulated deposit filling the upper level of ditch **39** when it survived as a slight earthwork. The filled in hollow (**69**) was cut to the east by an undated ditch (**53**).
- 6.20 Ditch **53** was located towards the eastern edge of the site on a north to south alignment and was 9m long by 1.9m wide. It had an irregularly shaped profile to a depth of 0.12m and was filled by mid-pinkish brown sandy silt that contained no artefactual material.

- 6.21 A ditch (**31**) was located within the north-west corner of the site and was cut into the southern end of the earlier cobbled surfaces (**35** and **36**) just south of pit **38**. It appeared to be aligned south-south-west to north-north-east, although only partially exposed within the trench, and was 3.8m by 0.9m in size with a flat-based V-shaped profile to a depth of 0.3m. The ditch was filled by mid-grey brown sandy silt (**30**) that contained a ring formed by a single strand of twisted copper alloy wire (no. 5, Appendix F), animal bone and an assemblage of Roman pottery that dated to the late 3rd century AD onward.
- 6.22 Located within the north-western quarter of the stripped area was a sub-oval pit (**49**) with dimensions of 4.8m by 2.8m by 0.33m. It was filled by mid-grey brown sandy silt (**47**) and contained animal bone and a fragment of Crambeck flanged bowl dating to the late 3rd to 4th century AD (Appendix B).
- 6.23 A very large pit (**65**) was located towards the south-eastern corner of the site that was sub-circular in shape with a diameter of 4.7m (Plate 8). It had a U-shaped profile to a depth of 1.25m and was filled by light brown grey silty sand (**75**). This was overlain by stoney dark grey brown sandy silt (**64**), from which a near complete bone pin (no. 2, Appendix F), ceramic building material, animal bone and a large assemblage of Roman pottery were recovered. The pottery assemblage included sherds of late Nene Valley ware that dated infilling to the 4th century AD (Appendix B). In agreement with Durham County Council Archaeology Section only 25% of this large pit was excavated.
- 6.24 Pits **78**, **81** and **84** were situated centrally within the site and were relatively closely spaced. All three were sub-circular to oval shaped in plan with dimensions that ranged from 0.76m – 1.5m by 0.6m – 1.2m by 0.1m – 0.2m. The fill (**79**) of pit **78** contained animal bone, while the fill (**80**) of pit **81** contained industrial waste and burnt bone. Pit **84** contained no finds.
- 6.25 The three intercutting features (**71**, **86** and **88**) were located towards the eastern side of the stripped area and were in the vicinity of the cremation cist (**98**). The earliest feature was a short length of ditch or gully (**88**) measuring 2.4m by 1.1m by 0.15m, which was cut to the east by pit (**86**). The pit was sub-square in plan and measured 1.6m by 1.2m by 0.12m. This had been cut centrally by a smaller pit (**71**) with a diameter of 0.65m and a depth of 0.3m. None of the features contained finds, nor was any evidence available to gain an understanding of their function.

Post-medieval

- 6.26 The remaining features investigated dated to the post-medieval and modern periods (Fig. 3), although residual Roman period finds were recovered from many of their fills. These features included a trackway (28), a field boundary (44), a ditch (73) and a pit (91), all of which appeared to be associated with agricultural use of the area prior to construction of the garden centre.
- 6.27 The trackway (28) was aligned north to south and was located at the western edge of the stripped area, where it had survived as a hollow-way worn into the natural gravels. It had an exposed width of 4.8m with a shallow irregular profile to a depth of 0.24m. The feature was recorded for the full 34m width of the trench. It was filled by a mid-brown sandy silt fill (29) that had been compacted during use as a thoroughfare. The fill contained post-medieval brick, as well as an assemblage of residual Roman finds that included pottery, a lead strip and ceramic building material, along with fragments of animal bone. The feature appeared to represent the remains of a farm track located at the edge of a field defined by a boundary ditch (44) located to the east.
- 6.28 The field boundary (44) was located broadly parallel to trackway 28 at a distance of c.3m. It continued the alignment of a surviving hedge line located to the north, forming the current boundary of the garden centre. The feature was 1.1m wide by 0.3m deep with a U-shaped profile. Its fill (45) contained a large residual Roman finds assemblage, as well as a George II farthing dating from 1727-60 (no. 3; Appendix H) and clay tobacco pipe.
- 6.29 A shorter ditch (73) was located 3m to the east of the field boundary (44) and was aligned broadly parallel to it. The ditch was 5.5m long by 0.6m wide with an irregular U-shaped profile to a maximum depth of 0.2m. It appeared to have been formed by roots rather than being intentionally excavated.
- 6.30 Pit 91 was identified towards the eastern edge of the trench and was located in the vicinity of cremation cist 98. It was sub-circular measuring 2.6m by 1.5m by 0.4m. The fill (90) of the pit contained the articulated remains of a sheep and a fragment of clay tobacco pipe, suggesting it dated to the post-medieval or modern period.

6.0 DISCUSSION

- 6.1 Excavations within Sam Turner and Sons, Piercebridge, have allowed archaeological investigations to be undertaken at the edge of the Roman *vicus* and the point of

interface between the civilian settlement and an associated cemetery. During groundworks, a number of archaeological features were identified that represent activity dating from the 3rd and into the 4th centuries AD, which may together indicate an expansion of the *vicus*. Most of the activity at the site dated to the 3rd century, with elements perhaps pre-dating the construction of the recognised Roman fort within the late 3rd century.

- 7.2 During the 3rd century, the southern part of the development area contained a hollow-way (**68**), which continued the course of a previously recognised road that branched from Dere Street to the east (Cool and Mason 2008), possibly serving an enclosure recorded within the field to the west of the current development (Richardson 1962). It had facilitated the movement of cart traffic, as attested by a series of wheel ruts within the natural gravel base. The hollow-way gradually became in-filled during the 3rd century AD, although pottery evidence suggested it may have been in use from as early as the 1st century AD. Following its in-filling, the course of the hollow-way was surfaced by a cobbled road (**77**), which gradually became sealed by an accumulated deposit that included headpot dating to the mid-3rd century, suggesting the period of use for this road was broadly contemporary with that of the eastern branch road and the western enclosure complex.
- 7.3 The hollow-way was flanked to the north by a large ditch (**69**), which may have defined the southern boundary of the Roman cemetery identified during railway construction to the north. A coin in the later fills of this ditch suggested that it may have fallen out of use as a boundary after AD 260, at a time when the cemetery was still receiving burials. The ditch was aligned broadly parallel to the hollow-way and it seems likely the two were contemporary. A 25m wide level area was defined between, which contained the remains of a number of pits dating to the 3rd century AD, and short lengths of gully that displayed no coherent layout. It also contained the remains of two cremated individuals, which may have been interred once the northern ditch (**69**) had become in-filled, leaving the southern extent of the cemetery poorly defined.
- 7.4 The cremated individuals were interred within a double chambered stone cist, with remains contained within both chambers. One of the individuals had been interred within an African style headpot, whereas the second was un-urned. The cist had been truncated by post-Roman ploughing, leaving only the base of the vessel, with the chin and lips intact. The headpot itself was produced in a more unusual dark reduced

fabric that dates from the mid-3rd century AD and is similar in form to one found at Chester-le-Street, which is thought to be a representation of the Empress Julia Domna (Appendix B). Piercebridge is renowned for the number of headpots found during the excavations between 1969-81, although finding an example in a funerary context outside of York is rare. The identification of a cremation cist also adds to a previously recognised concentration recorded in military contexts within northern England (Philpott 1991), with a number of such features recorded at Lanchester, for example (Charlton and Mitcheson 1984).

- 7.5 Further quantities of fragmentary headpot were recovered from the surface of cobbled road **77** at the southern edge of the site. These appeared to represent sherds from three vessels produced in a late Ebor ware, which differed from the example identified in cist. Headpots have been interpreted as fulfilling a ritual function, as well as a domestic one, and may have been associated with libations undertaken in conjunction with the burial of the dead or the worship of eastern deities (Swan and Monaghan 1993, 25 and 28). It is therefore possible that ritualistic practices were being undertaken at the periphery of the cemetery and upon the adjacent road surface.
- 7.6 Once the cobbled road (**77**) had fallen out of use, or had shifted to the south beyond the area of excavation, a possible yard surface (**23**) was constructed that may have been associated with a structure, as represented by a slight north to south aligned partition wall (**46**). No other remains were identified to allow an understanding of the building that may once have occupied this area. Following construction of the yard within the mid-3rd century or after, a silty deposit accumulated upon its surface, which included a large finds assemblage that also predominantly dated to the mid-3rd century AD. However, a number of later sherds were also recovered, suggesting activity may have continued into the 4th century AD. Previous archaeological excavations to the east of the current development recorded a stone built structure that has been dated to the late 3rd or 4th century AD (Cool and Mason 2008), which also overlay the possible continuation of road **77**. This may suggest an expansion of the civilian settlement at this time, perhaps into an area that had once been more marginal.
- 7.7 The latest phase of Roman activity appeared to result from domestic occupation of the area and may have been associated with the later period of use of the yard surface (**23**) and the encroachment of the civilian settlement. The features themselves were

dispersed and displayed no coherent layout. They included a gully and pits, one of which was a large refuse pit that contained artefactual material dated to the late 3rd or 4th century AD. The latest pottery in the fill of the refuse pit suggested that occupation of the area continued as late as the third quarter of the 4th century AD, although presumably on a much reduced scale.

**APPENDIX A:
CONTEXT CATALOGUE**

Context	Group number	Same as	Interpretative description	Relationships
1		61, 93, 100	Re-deposited surface material/ hard standing	
2		92	Buried topsoil	
3		63	Natural sand and gravel	
4	23		Later road surface	
5	24		Occupation deposit	
6		76, 77	Early road surface	Above 7=68; below 24
7		68	Hollow-way	Below 76, 6=77 and 66
8			Primary fill of hollow-way 7	
9		52	Secondary fill of hollow-way 7	
10	22		Thin deposit sealing road surface 4	
11		18	Cut of roadside ditch	Above 9=52; below 13=20
12			Fill of roadside ditch 11	
13		20	Cut of roadside ditch	Above 11=18
14			Fill of roadside ditch 13	
15			Cut of pit	Above 24; below 32 and 23
16			Animal remains within pit 15	
17			Fill of pit 15	
18		11	Cut of roadside ditch	Above 9=52; below 13=20
19			Fill of roadside ditch 18	
20		13	Cut of roadside ditch	Above 11=18
21			Fill of roadside ditch 20	
22			Group number for occupation deposit overlying secondary cobbles. Component parts 10, 25, 27	Above 23, 32, 48
23		32, 48	Group number for deposit of cobbles located to the east of pos. wall line 46. Component parts 4, 33, 34.	Above 15 and 82; below 22
24			Group number for occupation deposit overlying primary cobbles. Component parts 5, 50, 51, 70.	Above 76 and 6=77; below 15, 48 and 82
25	22		Layer above cobbles 32 and 33	
26		29	Cleaning layer over ditch fill 28	
27	22		Cleaning layer above cobbles	
28			Cut of possible hedge line	
29		26	Fill of possible hedge line 28	
30			Fill of pit 31	
31			Cut of pit	Below 28
32		23, 48	Later cobble spread, western	Above 15 and 82; below 22 and 28
33	23		Later cobble spread, eastern	
34	23		Possible wall line	
35			Later cobbled surface (course cobbles)	Above 36, below 28
36			Earlier cobbled surface, NW corner of trench	Below 35 and 38
37			Fill of pit 38	
38			Cut of pit within NW corner of trench	Above 36; below 28
39			Cut of ditch	Below 69
40			VOID	
41			Primary fill of ditch 39	
42			Secondary fill of ditch 39	
43			Fill of hollow-way 69	
44			Cut of possible hedge line	
45			Fill of hedge line 44	
46			Possible wall line	
47			Fill of pit 49	
48		23, 32	Deposit of cobbles	Above 24; below 22
49			Cut of pit	

Context	Group number	Same as	Interpretative description	Relationships
50	24		Deposit beneath cobbles 32	
51	24		Deposit beneath cobbles 33	
52		9	Fill of hollow-way 68, SE corner of trench	
53			Cut of ditch	Above 69
54			Fill of ditch 53	
55			Cut of ditch	Below 69
56			Fill of ditch 55	
57			Cut of gully	
58			Fill of gully 57	
59		102	Made ground, north-west corner of site	
60			Topsoil	
61		1, 93, 100	Gravel overburden	
62		101	Mixed overburden	
63		3	Disturbed natural	
64			Secondary fill of pit 65	
65			Cut of pit	
66			Cut of pit	Above 7=68
67			Fill of pit 66	
68		7	Cut of hollow-way, southern area of trench	Below 76 and 6=77
69			Cut of hollow-way, northern area of trench	Above 39, 55; below 53
70	24		Continuation of deposit sealing early cobble surface 76, 77 to south	
71			Cut of pit	Above 86
72			Fill of pit 71	
73			Cut of modern ditch	
74			Fill of ditch 73	
75			Primary fill of pit 65	
76		6, 77	Stone layer to the west of wall 46	Above 7=68; below 24
77		6, 76	Stone layer to the east of wall 46	Above 7=68; below 24
78			Cut of pit	
79			Fill of pit 78	
80			Fill of pit 81	
81			Cut of pit	
82			Construction trench for wall 46	Above 24; below 32 and 23
83			Fill of trench 82	
84			Cut of pit	
85			Fill of pit 84	
86			Cut of possible feature	Above 88; below 71
87			Fill of feature 86	
88			Cut of possible feature	Below 86
89			Fill of feature 88	
90			Fill of pit 91	
91			Cut of modern pit	
92		2	Subsoil	
93		1, 61, 100	Concrete/tarmac	
94			Cremation, southern compartment	
95			Fill of cist, southern compartment	
96			Fill of pit 99, external cist fill	
97			Fill of cist, northern compartment	
98			Cist structure	
99			Cut of pit containing cist	
100		1, 61, 93	Modern hardcore	
101		62	Modern levelling deposit	
102		59	Modern levelling deposit	

APPENDIX B:

THE ROMAN COARSEWARE POTTERY

R. S. Leary

A group of 1352 sherds of Roman pottery fragments (14.1kg, 13.96 EVES) came from the excavations. The mortaria and samian are reported on separately (Appendices C and D) but are included in the ware and vessel quantifications in this report. Most of the pottery, except one possible reeded-rim bowl of the late 1st to early 2nd century AD, dated to the later 2nd or 3rd century AD.

WARES

The fabric of the pottery was first examined by eye and sorted into ware groups on the basis of colour, hardness, feel, fracture, inclusions and manufacturing technique. If the sherds could not be adequately grouped by eye then they were examined under an x30 binocular microscope and compared with sherds from known sources. National fabric collection codes are given wherever possible (Tomber and Dore 1998).

AMP Dr 20?	One abraded buff sherd in ware comparable to Dressel 20 amphora fabric. Tomber and Dore 1998 BAT AM
BB1	BB1. Some of these sherds could be from Catterick and are rather greyer than is usual for the Dorset BB1 fabrics. These are noted in the archive catalogue
BB2	BB2. Tomber and Dore 1998
B18	“Signal Station” ware. Monaghan 1997 fabric B18. A handmade dark grey/brown ware. Leathery feel with moderate medium quartz and rare rhomboidal vesicles (calcite)
CG BS	Central Gaulish black slip ware Tomber and Dore 1998 CG BS
CRA PA	Crambeck parchment ware. Tomber and Dore 1998 CRA PA
CRA RE	Crambeck grey ware. Tomber and Dore 1998 CRA RE
CRA WH	Crambeck white ware. Tomber and Dore 1998 CRA WH
CTA2	Dales ware. Tomber and Dore 1998
E1	Ebor 1, Monaghan 1997, Tomber and Dore 1998 EBO OX
EYCT	East Yorkshire calcite-gritted ware Tomber and Dore 1998 HUN CG
FLA2	white ware. Moderate medium, subangular quartz and sparse, medium rounded brown ferrous inclusions.
FLB2	White-slipped orange ware. Ebor white slipped ware
Flowerpot	fine hard orange fabric.
GRA	fine grey ware with buff core and moderate fine quartz and silver mica. Similar to a fine Crambeck buff ware
GRB	grey ware with medium quartz inclusions. Common grey ware. A general catch-all group.
GRB1	medium grey ware, moderate, medium, subangular quartz, sparse, medium, rounded grey inclusions. Slightly micaceous
GRB2	grey, very hard with slightly rough feel. Overfired look. Moderate medium quartz, sparse, medium, rounded grey and white inclusions. Similar to Norton wares but GRB1 and 2 are quite alike so may be variants due to firing conditions
GRB3	grey with brownish margins. Smooth with fairly smooth fracture. Moderate fine quartz and sparse, medium rounded white and brown inclusions, micaceous
GRB4	buff ware with black surfaces, slurry or slip. Soft with smooth feel and irregular fracture. Moderate to sparse, medium subangular quartz and rounded brown inclusions
GRB5	as GRB1 with brown margins
GRB6	soft brownish grey ware with sandy feel and irregular fracture. Moderate, medium, subangular quartz and dark grey inclusions. Micaceous.
GRB7	grey, sometimes with buff or brown margins. Hard and gritty. Moderate, medium, subangular quartz
GRC	Very hard gritty grey-brown ware with sparse to moderate, ill-sorted crystalline quartz and sparse rounded white inclusions. Dales type jars
GRC2	Hard grey, gritty ware. Moderate to sparse, coarse subangular quartz and pebbles – possibly some flint
MOS BS	Trier black slip ware Tomber and Dore 1998 MOS BS
NV1	Nene Valley colour coat with white paste

NV2	Nene Valley colour coat with oxidised paste
OAA	orange, hard with smooth feel and finely irregular fracture. Abundant, fine, well-sorted quartz and sparse, ill-sorted, medium to fine rounded orange-brown inclusions. Micaceous.
OAB	later Ebor ware. Orange, hard, sandy feel and irregular fracture. Abundant, medium subangular quartz and sparse, medium/fine, rounded, red/brown inclusions. EBO OX
OAC	as GRC but oxidised
OBA	as OAA but buff. Quantified with OAA
OBA/NV	fine pale ware with traces of brown colour coat or paint
OBB	one small buff ware scrap. Quantified with OAB. Possibly Dressel 20 amphora scrap but too small and abraded for certainty
TS	samian ware
UNK	unknown
MOR	mortaria

Table B1 Fabric quantification

WARE GROUP	Rel % count	Rel % weight	Rel % EVES
B18	0.1	0.0	0.0
BB1	5.9	4.7	7.4
BB2	0.6	1.1	2.3
CG BS	0.1	0.0	0.0
CRA PA	0.2	0.2	0.5
CRA RE	1.0	1.3	0.7
CRA WH	0.1	0.0	0.8
E1	0.1	0.0	0.6
EYCT	0.1	0.2	0.4
FLA2	0.1	0.0	0.0
FLB2	0.6	0.3	0.0
GRA	0.4	0.2	0.0
GRB1	22.7	18.2	21.2
GRB2	4.0	3.3	2.7
GRB3	15.2	11.8	10.8
GRB4	4.5	6.1	0.0
GRB5	1.2	0.9	4.0
GRB6	3.0	3.7	6.8
GRB7	0.8	0.9	1.4
GRC	2.5	2.7	4.2
GRC2	1.2	0.9	2.1
MOS BS	0.4	0.1	0.1
NV	8.0	3.5	11.4
OAA	2.1	0.7	2.3
OAB	10.9	12.9	5.4
OAC	0.4	0.2	0.0
SAM	8.3	5.4	6.3
UNK	0.1	0.3	0.0
MOR	0.2	0.2	0.4
Absolute totals	1386	16066.8	1532

CHRONOLOGY

Twenty seven contexts containing Roman pottery were excavated. No pottery was recovered from the earliest deposit in hollow-way **68**, but the pottery from the secondary fill (**52**) includes a frilled bifid rim OAB jar of 3rd century AD type (no. 1, Fig. 4; Bell and Evans 2002 type CJ5.1 late 2nd-3rd century AD and compare with Severn Valley types of 3rd century AD date, Webster 1976 type 13, and in the Cheshire Plain, Hartley and Webster 1973 nos 11-15) and a small sherd from a Nene Valley beaker with applied decoration of late 2nd to 3rd century AD date.

A very abraded and battered rim sherd (no. 2, Fig. 4) came from a metallised road surface (**6**) overlying the hollow-way. Initial examination of this worn sherd concluded this was a bowl or

dish with a flat-rim and a straight wall dating to the 2nd to 3rd century AD. More detailed examination detected very faint lines on the worn upper surface of the rim. These appear to be the remnants of three or four grooves and the most likely identification is that of a late 1st to early 2nd century AD reeded-rim bowl. This form might be compared with a bowl from a pit in Tofts Field 1973, which dated to AD 80-100 and was associated with a ring-necked flagon dated to AD 70-110 (Cool and Mason 2008, 90-1 and D9.188-9 fig. D9.38 no 1 and 39, no. 27). A number of reeded-rim bowls were found at Piercebridge (Croom *et al.* 2008 D9.39 nos 27-30) along with other Flavian-Trajanic types, such as the rusticated jars (Croom *et al.* 2008 D9.38 nos 16-24). They are not present in the kiln, which Swan and Hartley date to the Trajanic period, where their place is taken by the flat-rim bowl form (Croom *et al.* 2008, 88 and fig. 5.4 nos 10-12). At York, the flat-rim bowl form post-dates the reeded-rim bowls and is given a date in the 2nd century AD (Monaghan 1997, types BC and BD). Flavian-Trajanic activity was present to the north of the later fort at Piercebridge (Cool and Mason 2008, 297-302) in Toft Field 73 and 74 but evidence for it was minimal in the Northern Nurseries site (Cool and Mason 2008, 299 and tables 14.1-5). Cool and Mason suggested that such evidence as there was for Flavian activity pointed to a non-military settlement during this period and included a votive focus at the river. This single sherd, although significantly earlier than other sherds from the excavation, was extremely battered and abraded. How long it was lying around before being incorporated in the road surface is difficult to say with any certainty and it was certainly more abraded than most other sherds from the excavation, suggesting it had been lying around on the surface for some time.

A pit (66) cut the fill (52) of the hollow-way (68) and pottery sherds from its fill (67) include a plain-rim Nene Valley beaker with body grooves dating to the early 3rd century AD (no. 3, Fig. 4; Perrin 1999 fig. 60 no. 116), a 3rd century AD GRB1 wide-mouthed everted-rim jar (no. 4, Fig. 4; cf. Bell and Evans 2002 type J2.6, late 2nd to mid-3rd century AD) and a GRB1 groove-rim chamfered dish of the mid-2nd to mid-3rd century AD (no. 5, Fig 4; Monaghan 1998 type DG3, mid-2nd to mid-3rd century AD as Gillam 1976 no 317). These suggest a date range in the early to mid-3rd century AD.

Context group 24 (5, 50, 51 and 70), an accumulation on road surface 6, contained 647 sherds (6.2kg, 6.43 EVES) from a variety of vessels. These included much of a headpot (no. 6, Fig. 4), also found in context 4, and sherds from at least a further two headpots, possibly more (nos. 7 and 8, Fig. 4; and nos. 9-13, Fig. 5). These are of African type and date primarily to the early 3rd century AD, perhaps continuing as late as the mid-3rd century AD with the exception of no. 13 which belongs to the later stamped boss group of the mid- to late 3rd century AD (after AD 225 at York; Monaghan 1997, 922). Also present in this group were dishes of late 2nd to early 3rd century AD type, such as the rim of a grooved-rim GRB dish (Buckland and Dolby 1980 type B, late 2nd to 3rd century AD; Monaghan 1997 type DG4, c.AD 160-280; Hayes and Whitley 1950 type 1h), BB1 plain-rim dishes (as no. 14, Fig. 5; Gillam 1976 nos 79-81 3rd century AD), two BB2 bead-rim dishes (as no. 15, Fig. 5; late 2nd to mid-3rd century AD) and GRB1 bowls and dishes with lipped rims probably of the late 2nd to earlier 3rd century AD (no. 16, Fig. 5). The jars included; everted-rim jars and bodysherds from black burnished type jars with grouped vertical and grouped acute lattice burnished lines (nos. 17-18, Fig. 5; as BB2 types; Monaghan 1987, type 3J9, late 2nd to mid-3rd century AD +); a GRB6 hooked-rim jar (no. 19, Fig. 5); GRB3 sherds with vertical burnished lines of the type found on lugged jars in the 3rd century AD; BB1 jars with splayed rims of the 3rd century AD (as nos. 20-21, Fig. 5); a Knapton type everted-rim jar in calcite-gritted ware (Monaghan 1997, type JK); GRB5 Dales type jars (no. 22, Fig. 5), perhaps late 2nd to 3rd century AD; and GRC Dales type jars (nos. 23 and 24, Fig. 5) of mid-or late 3rd to 4th century AD date. Sherds from small GRB6 and GRB3 beakers with short everted rims (no. 25, Fig. 5) were present. Fine ware beakers were made up of a Trier black-slipped long necked beaker of the early to mid-3rd century AD, Nene Valley

beakers including a funnel-necked indented beaker of the mid- to late 3rd century AD (Perrin 1999, 94), scroll beaker sherds and much of an everted-rim indented beaker with intersecting 'S' decoration of the early or mid-3rd century AD (no. 26, Fig. 5; also in context **25**; Perrin 1999, 94). Wide-mouthed jars were represented by rim sherds from hooked and everted-rim jars, both fairly wide-mouthed (as at Norton; Hayes and Whitley 1950 type 6) and probably of 3rd century AD date. Later vessels included a shell-tempered ware flanged bowl of the late 3rd to 4th century AD (no. 27, Fig. 5), a very abraded flanged bowl in a cream ware comparable to late 4th century AD Crambeck parchment ware (no. 28, Fig. 5), a coarser white ware everted-rim from a flask in a fabric like late 3rd to 4th century AD Crambeck white ware and a small abraded grey ware scrap with white core like Crambeck grey ware of the same date. Also identified were 11 Dressel 20 oil amphora sherds, four samian sherds from an East Gaulish samian dish dated to AD 150-220, a Central Gaulish samian flake dated to AD 120-200 and a Central Gaulish Dr 30 bowl dated to AD 170-200, coarse gritty grey ware bodysherds (Croom *et al.* 2008, 229-30; 3rd to 4th century AD) and many undiagnostic grey ware sherds. Also present were some post-medieval sherds; these and possibly the Crambeck late sherds may come from the unsealed section of this context group and be later additions. The majority of the sherds, including the large pieces, suggest a date range in the early to mid-3rd century AD. The low numbers or absence of late 3rd to 4th century AD types, such as Crambeck wares and calcite-gritted wares, would support this date range, as would the absence of shell-tempered grey ware.

The African type headpot (no. 6) with an ear and incised U-shaped hair curls is very much in the style of a male headpot from Micklegate, York, identified as Caracalla by Swan and Monaghan (1992, 27-8). The hair curls and the hair effect below the ear shape can be compared with the hair and side-burns on the Caracalla pot, although on the York pot the side-burns are incised spirals and the U-shapes here may alternatively represent a beard. Also the U-shapes are lying the opposite way around to the York headpot, on which the rounded ends stand away from the face, whereas here the rounded "curls" frame the face. If Swan is correct in her interpretation of this and the female headpots at York, a date of c.AD 205-225 is suggested. However, the African type headpots continued to be used and possibly made as late as the mid-3rd century AD (Monaghan 1997, 914).

A number of other sherds from African type headpots came from context **51** and were in oxidised wares, slightly finer than the above headpot but belonging to the same overall late Ebor group. A complete base was found (no. 7). This swells out into the beginnings of a chin at the front and at the back has a small protuberance, perhaps a bun, surrounded by incised arcs that indicate hair. Another group of adjoining sherds came from the rim and upper body of a headpot (no. 8). This had a simple upright, slightly everted-rim with rows of incised arcs below, suggesting an elaborate hair arrangement. The arcs are very similar to those on the basal sherd and these may belong to the same pot, the fabric being very similar in detail. A further group of three sherds (no. 9) bore a central linear groove with light oblique burnished lines either side forming the effect of a central parting with plaits either side. Another single sherd in a slightly different fabric had the same pattern in burnished lines (no. 10). A rather abraded sherd seemed to be from the tip of the nose of a headpot (no. 11) and another sherd (no. 12) had an applied oval with a horizontal slit cut in it not unlike the coffee bean eyes on earlier facepots in Britain. This compares well with a sherd previously found at Piercebridge and interpreted as a mouth. The bulges either side of the applied decoration would also suggest our piece is a mouth, since if it were an eye it would bulge out to the nose on one side but the other side should slope away to the head. The African type headpots additionally do not have coffee bean type eyes. The final sherd (no. 13) belonging to this tradition was part of a concentric circle stamp with three circles around a central eye. This belonged to the later stamped boss series known from York and Piercebridge and belonging to c.AD 225 to the early 4th century AD at York. Apart

from the last sherd, all these fragments compare with the headpots from York in the African tradition. Apart from the headpot with U-shaped curls, they all seem to come from female headpots with elaborate plaited hair arrangements, at least one with a probable bun. These have been linked by Swan to the styles adopted by the Severan empresses in the early 3rd century AD, and it is to this period the style belongs. The curly haired male pot may be Caracalla at an older age than that from York, which is clean shaven. Certainly, Caracalla had a beard in his later coin portraits (after AD 209) and this pot may relate to that period (Swan and Monaghan 1993, 27).

The fill (17) of pit 15, which cut layer 5, contained a complete base and much of the lower body of a small grey ware jar, sherds from a second grey ware jar base and bodysherds in a very hard grey ware from the neck of an everted-rim jar. These are difficult to date, but the hard grey ware compare with the type of fabric made at Norton in the 3rd century AD and, although this source is unlikely to be the only place making this type of grey ware, a date in the 3rd century AD would fit the fabric and form, as well as the stratigraphic position of this feature.

Wall 46 included a sherd from a samian mortarium dated to AD 170-200, while the construction trench fill (83) contained sherds from a GRB3 jar with acute lattice decoration copying BB2 jars of early to mid-3rd century AD type.

The small group of 37 sherds from the cobbled surface group 23 (4, 33 and 34) included more sherds from one of the headpots (no. 6), as well as fragments from the grooved-rim dish and jar with grouped vertical line burnish from layer 5. A small body fragment from an indented Nene Valley colour-coated beaker from layer 4 can only be broadly dated to the mid-/late 2nd to 3rd century AD (Perrin 1999, 93-4). A sherd from an East Gaulish samian dish was dated to AD 150-220.

Group 22 (10, 25 and 27) comprised occupation debris above the surface group (23) and in total 203 sherds were found in these contexts. A silt layer (10), on road surface 4 included sherds from the rim of a cupped-rim flagon (no. 29, Fig. 5; Monaghan 1997 type FC mid 2nd to early 3rd century AD), two BB1 sherds from a bowl or dish of uncertain form and a lid with burnished zigzag decoration, a grey ware jar with grouped linear burnish and two small samian sherds from a Central Gaulish cup form 33, dated to c.AD 120-200.

Layer 25 included well preserved sherds from a Nene Valley indented beaker (no. 26) with curving everted-rim and intersecting 'S' decoration dating to the early or mid-3rd century AD, as well as later vessels, such as a Nene Valley open vessel of late 3rd to 4th century AD date, 3rd century AD BB1 jars with splayed rims (no. 21), a BB2 bead-rim bowl/dish (no. 15), a GRB3 bifid-rim jar (no. 30, Fig. 5), a Crambeck grey ware bowl or dish base of the late 3rd to 4th century AD, a NV1 everted rim from a jar (no. 31, Fig. 5) and a GRB7 developed flanged bowl (no. 32, Fig. 5) of the same date. Post-medieval sherds were also present, demonstrating these groups were not secure.

It is very difficult to date these layers securely because of the intrusive material. Since we know intrusive material was present in the easily recognisable form of post-medieval sherds, the smaller numbers of types dating to the late 3rd to 4th century AD may also be intrusive. Certainly the bulk of the pottery from all the contexts are of early to mid-3rd century AD and the presence of large sherds in fresh condition suggests the occupation dates to this period and came to an end in the late 3rd century AD when small amounts of the later sherds were discarded.

A number of features unconnected with the main stratigraphic sequence can be dated by the sherds they contained. Cobbled surfaces **35** and **36** both contained sherds from a Dressel 20 oil amphora from southern Spain. This type was imported into Britain from the mid-1st to 3rd century AD and those recovered here have a fabric that suggests a date late in this range. The only other pottery from here was a handmade OAC bodysherd which belongs to the gritty grey ware used to make Dales type jars in the 3rd to early 4th century AD. The fabric was in use at an earlier date in the late 2nd century AD, so a bodysherd alone cannot be used to give a late date range.

Pottery from fill **30** of ditch **31** includes a Nene Valley beaker (no. 33, Fig. 5) with a long necked and grooved rim of a type dating to the late 3rd to mid-4th century AD, as well as more partially oxidised grey gritty ware, sherds from a GRB5 wide-mouthed jar, a biconical GRB6 bowl of the 3rd century AD and a 3rd century AD BB1 jar sherd. In addition to these pieces, a single sherd in a fabric comparable to Monaghan's B18 ware, a type dating from the 4th century AD, particularly the late 4th century AD. This small abraded sherd could, however, belong to the late fill of this ditch and a date in the late 3rd century AD is possible for the group.

The assemblage from fill **42** of ditch **39** comprises only eight sherds, all of which were not closely datable, although scraps from a Nene Valley beaker are likely to be of 3rd century AD date.

The fill (**43**) of hollow way **69** contained a larger group of pottery that dated to the mid- to late 3rd century AD and included a BB1 jar with a very splayed rim (no. 20), grey gritty ware sherds, a Nene Valley funnel-necked beaker, a Castor box (no. 34, Fig. 5), a scrap of Central Gaulish black slip beaker, a GRC1 wide-mouthed jar with everted-rim, a very small scrap of Crambeck grey ware and an everted-rim from a flask in a very fine white ware.

A developed flanged bowl in Crambeck grey ware from fill **47** dates the infilling of pit **49** to the late 3rd to 4th century AD.

The latest group comes from the fill (**64**) of pit **65** and includes a fine Nene Valley pentice moulded beaker of 4th century AD date, a 3rd century AD BB1 splayed rim jars, two long-necked Nene Valley beakers with grooved rims of the late 3rd to 4th century AD (nos. 35 and 36, Fig. 5; and no. 37, Fig. 6), a scrap from a Trier black-slip beaker of the early to mid-3rd century AD, cavetto-rim and everted-rim grey ware jars of 3rd century AD type, BB1 plain-rim dishes with intersecting arc burnish (no. 14), a GRB1 everted-rim beaker and a GRB1 grooved-rim dish. The unabraded condition of the pentice moulded beaker and the form of the long necked beakers and BB1 splayed rim jars indicates a date in the late 3rd to mid-4th at the earliest. Bidwell and Croom (2010, 22) give the pentice-moulded form at date range of AD 270-370 on Hadrian's Wall.

The burial cist (**99**) contained the base and lower body of a GRB4 headpot (no. 38, Fig. 6), (**94**) in one chamber, with one grey ware sherd, perhaps residual, from a different vessel of unknown form the fill (**95**) of the other chamber. The surviving sherds make up the complete base, narrow and tall which smoothly curves out to form the chin and face. The lips are fairly full and modelled into a rather down-turned mouth. A vertical groove ending above the midway point of the lips is presumably the groove below the nose. The cheeks are burnished and chubby. At the side of the face on both sides there is a vertical indentation which has obliquely curving shallow grooves forming a feathery effect. This effect is analogous to the side effect on a female headpot from Chester-le-Street (Swan 1992, 19-20 no 117), which Swan suggests represents the "twisted queues" that bordered the sides of the Empress Julia Domna's

hairline. A non-adjointing sherd has a curving applied strip, which may be the eyebrow. The body of the jar extends a similar distance back and front, and the back portion is plain. The reduced fabric of this headpot is most unusual, as such vessels were invariably in oxidised wares, although contemporary facepots were commonly in reduced wares. The analogies of the pot indicate a date range in the early to mid-3rd century AD, although the reduced ware might point to a date late in that range when more pots of this type were being made in grey ware (Swan and Monaghan 1993, 29). The stylistic characteristics suggest this vessel belongs to the African headpot group, despite its reduced fabric.

Table B2 Quantities from contexts

Context	Sum of No	Sum of weight (g)	Sum of Rim %
2		11.4	
4	9	347.8	5
5	105	979	78
6	1	17	8
10	19	108.2	14
17	4	80.3	
25	119	1368.5	179
29	15	109.8	4
30	29	261.2	68
32	12	106.4	13
33	28	148.7	
35	2	24	
36	3	24.8	
42	8	33.7	
43	38	434	37
45	53	297.3	57
47	22	347.3	10
50	79	764.5	107
51	455	4450.2	458
52	12	94.1	9
64	101	1733.4	143
67	14	201.1	33
77	3	40.5	
83	3	22.4	
90	16	215.7	31
94	50	706.3	
95	1	1.2	
05 AA	7	14	5
25, 32 AND 33	66	485.4	50
30AA	5	11.3	5
43AA	2	14.3	
51AA	2	3.4	
67AA	3	7.5	
US	1	38.6	
Grand Total	1289	13503.3	1314

Apart from the late 1st to early 2nd century AD reeded-rim bowl and the small amount of late 3rd to 4th century AD types, most of the pottery dates to the later 2nd to 3rd century AD. If the types are compared with key types at York, a start date late in the 2nd century AD fits the forms and wares present. Grey burnished wares copying black burnished types are common, with everted-rim jars, plain and grooved-rim dishes and bead-rim bowls, a feature of the period 2b, AD 160-200 at York, but the Nene Valley beakers typical of this period are absent - the cornice rim and bag beakers with rouletting or Hunt scene decoration. Instead, the assemblage has beaker forms of York period 3a and 3b (AD 200-225 and AD 225-80 respectively), namely scroll beakers, indented beakers with curved everted and funnel neck rims, globular long-necked forms and Trier black-slip beakers. The BB1 jars are certainly of 3rd century AD date at

the earliest, as are the gritty grey ware Dales type jars. The combination of forms and stratified groups suggests activity from very late in the 2nd century AD, or perhaps the early 3rd century AD.

The small numbers of Crambeck or calcite-gritted types all support a date range pre-dating c.AD 270 for most of the activity on the site. A small amount of late 3rd to mid-4th century AD pottery does indicate some late activity of a restricted nature and it is to this period that the fill of pit 65 belongs.

STATUS AND FUNCTION

It should be noted that Monaghan (1997, 914) considered the York headpots ritual in function, although he notes that most were from disturbed graves, or remnants of ritual activity or rubbish deposition. Swan considered all the complete ones to be derived from burials but takes the distribution of headpot fragments in areas with no 3rd century AD burials as evidence of an additional ritual function, perhaps in household shrines and for libations (Swan and Monaghan 1993, 25 and 28). Braithwaite (2007, 450) suggests that Ebor and northern headpots may be linked to Bacchic or other mystery rites. Swan and Monaghan draw parallels between the stylistic detail seen on the headpots and those found in coins and other representations of the Severan Empress Julia Domna, her sister, Julia Maesa, and Maesa's daughter, Julia Soaemias, noting that their hair style was extensively copied by well to do ladies across the Empire. They also note that Julia Domna was associated on coins with the title of Vesta, Mater Senatus, and Mater Patriae, and became associated or equated with deities including Juno, Minerva, Cere, Cybele, Isis, Victoria, Fortuna, Concordia and Diana. She was very popular in the military North and Swan and Monaghan (1993, 27) suggest the headpots represent her or one of the deities she was associated or equated with. Braithwaite (2007, 450 fn50) rightly points out that Julia Domna was also identified with Juno Celeste, the consort of Jupiter Dolichenus, and suggests that the York African headpots might be connected with this cult or the worship of other eastern deities. Given the presence of a temple for Jupiter Dolichenus at Piercebridge, evidenced by three inscriptions (Cool and Mason 2008, 15-16), this is a particularly attractive interpretation.

Swan and Monaghan also suggest that the pots found in graves were personal belongings accompanying the dead, and it may be significant that the pot from the cist differs from all the other headpots in being in grey ware rather than late Ebor ware. Swan and Monaghan (1993, 29) considered the use of grey ware a native Roman tradition, contrasting with the Mediterranean technique, which produced "flesh-coloured" faces that gradually became dominant from the mid- to late 3rd century AD.

A remarkable number of sherds from headpots have been found at Piercebridge (sherds from at least 48 head, face and smith pots; Croom *et al.* 2008, 211-212) and Cool and Mason (2008, 309-10) noted evidence of structural deposition not only of a near complete pot but also of fragments of headpots, which they suggest may be votive deposits representing body parts. Some of these deposits were dated considerably later than the original date of the vessel. The complete headpot at Piercebridge, for example, appears to have been a structured deposit at a date some 150 years after its original manufacture (Cool and Mason 2008, 309). In the case of the sherds from the present excavation, there is no obvious selection of head parts, although an ear and mouth are present, and the accompanying pottery appears to be contemporary with the primary dating of the headpot. It is perhaps more likely that most of these are disturbed grave pots and/or discard from associated ritual activity. The headpot recovered from the cist burial is a welcome addition to the very few headpots found in situ.

Table B3 Relative quantities of vessel types, with absolute total

Vessel group	Eves
amphora	0.0
beaker	15.0
beaker/small jar	0.8
bowl	11.3
bowl/dish	3.6
Castor box	0.2
dish	11.1
cup	0.8
flagon	0.6
flask	2.4
headpot	4.4
lid	0.5
medium-m jar	28.3
mortarium	5.6
narrow-m jar	6.6
wide-m jar	8.8
Indet	0.0
Absolute total	15.32

The make-up of the assemblage in terms of vessel types confirms a cemetery and ritual function with high numbers of cups, small jars and fine ware beakers. The presence of a small perforated sherd from a fine oxidised ware strainer may be associated with the preparation of wine to drink as a libation. Overall the assemblage is of military or urban type with relatively high levels of amphora and fine ware.

WARES AND FORMS: SOURCES OF THE POTTERY

Just over half of the assemblage is made up of unsourced grey ware. Some of these (GRB3) compared well with some of the 3rd century AD grey wares made at the Holme-on-Spalding industry, but they are more likely to be from a local source and only a small number of the forms made are typical of the Yorkshire kilns, such as one possible biconical bowl. These are not in the very hard fine grey ware of the late Holme industry. However, GRB3 is certainly not from York but may correspond to a fine grey ware from Catterick (Bell and Evans 2002, R3). Another group may be from Norton, GRB2, but again the similarity was somewhat generalised and the hard fired condition considered typical of Norton grey wares was uncommon. GRB2 may correspond to fabric R1D at Catterick. The presence of a blistered GRB1 bodysherd suggests local production and an earlier local kiln is certainly known at Piercebridge. Fabric GRB4 was uncommon, but again a parallel at Catterick might be fabric R3B. The headpot found in the cist was made in this fabric and the only other form was a wide-mouthed jar with everted-rim of 3rd century AD type. The stylistic parallels for the headpot suggest a source for GRB4 within Yorkshire, perhaps at York itself, although this grey ware is not like Ebor grey ware. Fabrics GRB5 and GRB6 may be variants of GRB1, but GRB7 is used for BB1 copies and may be from Catterick, where production has been established in the late 3rd to early 4th century AD (Busby *et al.* 1996, Bell and Evans 2002, 456). Only 11 sherds of GRB7 were present and these were flanged bowls or jar sherds with the internal rilling found on late BB1 jars. They came from the late groups **25**, **50** and **51** and the late pit fill **64**. Some of the BB1 vessels may also come from this source and likely examples are indicated in the archive. The amount of BB1 was quite high but very little BB2 was identified. This is a pattern also evident at Catterick and on the other Piercebridge sites.

The grey gritty ware (GRC) probably includes more than one kiln source, this group seems to be a scattered industry, comprising small rurally placed kilns. Vessels in this group comprised Dales type and sub-Dales type jars. At Catterick, Evans (2002, 248, fabrics r% and R8) gives this fabric group a date range from the late 3rd to 4th century AD and date both forms to the same period (Bell and Evans 2002, type J12.4). At Piercebridge, Croom *et al.* (2008, 230) date the Dales type jars in gritty grey ware from the 3rd century AD and found the lid-seated and double lid seated types developed in this gritty grey ware from the late 3rd to 4th century AD. The jars with straight rim and flat rim tip are like the type found at York in the late 2nd to late 3rd century AD (Monaghan 1997, JD2) while those with expanded rim tips (no. 24), rather rounded (no. 23) and those with slightly cupped rims (no. 22) compare with types dated from the late 3rd to 4th century AD on the Northern frontier (Croom *et al.* 2008, 230 and fig. 9.29 nos 9 and 10, fig. 9.30 nos 31-2 in late 3rd century AD group; Bell and Evans 2002 J12.4). One example with a tall everted-rim with grooved rim tip (no. 39, Fig. 6) compares with an example from Catterick dated to the mid-3rd to early 4th century AD (Bell and Evans 2002 J11.1). A kiln recently excavated at Green Hammerton, Yorkshire, produced vessels that belong to this group in form and fabric (Leary and Ixer in prep), while another industry near Piercebridge or Catterick was distributing similar vessels locally and to the northern frontier (Croom *et al.* 2008, 230; Bell and Evans 2002, 354 R5 and R8). These vessels are likely to be coming from the dispersed Yorkshire industry. This ware forms a significant proportion of late 3rd to 4th century AD assemblages at forts in the eastern and central sectors of Hadrian's Wall as well as Bowes, Catterick and Piercebridge (MacBride and Bidwell 2009, 155).

The oxidised wares are made up largely of the late Ebor wares, and these seem to come predominantly from headpots. This seems to have been a specialised production and relates to the use of this particular form rather than general trade in late Ebor wares, which are otherwise absent. Traded wares include a large number of Nene Valley beakers and small numbers of imported beakers from Central Gaul and Trier. The late 3rd and 4th century AD east Yorkshire calcite gritted ware and Crambeck ware occur in very small numbers due to abandonment of the site by the time these wares were appearing in quantity.

The jars are predominantly in the medium grey wares, in forms copying BB2 jars with offset everted-rims and splayed everted-rims. Small numbers of BB1 jars with the splayed rims of the 3rd century AD and grey gritty ware Dales type jars were also present. Some of the BB1 jars and bowls may be from Catterick rather than Dorset, and these are noted in the archive. The dishes were nearly all grooved- and plain-rim forms, with a couple of lipped rim dishes. The forms compared with types of the late 2nd to mid-3rd century AD. The bowls include bead-rim bowls and developed flanged bowls in a gritty grey ware copying BB1 in fabric, as well as shell-gritted form with a low bead rim; a form datable to the late 2nd to mid-3rd century AD. This latter vessel was a type made in the south Lincolnshire kilns of Greetham and Bourne and perhaps also part of the Dales ware repertoire. One Crambeck parchment bowl was present. Nene Valley colour-coated ware vessels make up most of the beaker range, with the addition of two Central Gaulish and Trier black slip beakers and a number of fine GRB3 beakers with short everted rims. The earliest Nene Valley beaker form is probably the plain-rim beaker with grooved body of late 2nd to early 3rd century AD form, although bodysherds with applied underslip scroll decoration may also date to this period. A curved everted-rim beaker with indented body, decorated with intersecting 'S' motif, is of early 3rd century AD date and several long-necked beakers with grooved rims belong to the late 3rd to mid-4th century AD long necked globular group. This last form was copied in grey ware. The pentice moulded rouletted beaker is the latest Nene Valley beaker form. A very abraded Nene Valley colour-coated ware everted-rim is from a flask or narrow-mouthed vessel and is likely to belong late in the date range, as does a bodysherd from an open vessel. Several Castor box fragments were

found and all were fairly angular with well registered rouletting indicative of an early date in the date range, probably in the 3rd century AD.

CATALOGUE OF ILLUSTRATIONS (FIGURES 4-6)

1. OAB bifid rim frilled narrow-necked jar. **52**
2. GRB1 reeded-rim bowl. Very abraded. The original colour is not clear but it is probably grey with brown margins, now exposed, and grey core. **6**
3. NV1 plain-rim beaker with grooved body. **67**
4. GRB1 wide-mouthed jar. **67**
5. GRB1 grooved-rim dish. **67**
6. OAB headpot fragments, African type. Wheel-thrown in late Ebor ware. Sherds from a rather chunky everted rim came from contexts **5** and **51** and stood fairly upright as Swan and Monaghan fig. 1 nos 1 3 and 4. Many of the sherds have sections pushed out with the finger tip – nail impressions are visible inside at one end of these impressions. These areas have then been incised with triple U-shaped incisions, partially overlapping and representing hair curls. It is possible to reconstruct two areas. One ran from the neck to below the ear with curls above the ear forming the hair and curls below the ear perhaps side burns or a beard. A second non-adjointing section included a section of curls bordering a smooth area and below an everting section presumably near the rim. On the ear section the U-shaped incised locks run above the ear and seem to run down the inner side of the ear as side-burns or a beard. Behind the ear is plain. Faint traces of burnish remain. One sherd in this group with the beginnings of a protuberance joined the base from context **51** and was from a different vessel. Other non-adjointing plain and curl decorated fragments compare well with no. 6 but cannot be placed in position. **4, 5, 33** and **51**
7. OAA/B headpot base with beginnings of chin at front and hair with bun at back, African type. **51**
8. OAA/B headpot simple rim with semi-circles in rows forming hair, African type. **51**
9. OAA/B headpot, three sherds with lightly incised and burnished hair pattern, African type. **51**
10. OAA/B headpot one sherd with lightly incised and burnished hair pattern. **51**
11. OAA/B headpot, nose tip, African type. **51**
12. OAA/B headpot, sherd with modelled lips, African type. **51**
13. OAA/B headpot concentric stamp, stamped boss type. **51**
14. BB1 plain-rim dish with intersecting burnished arcs. **64**
15. BB2 bead-rim bowl/dish. **25**
16. GRB1 lipped-rim bowl. **51**
17. GRB1/2 everted-rim jar. **51**
18. GRB3 medium-mouthed jar with splayed, everted-rim and acute lattice burnish. Non-adjointing sherds suggest this was grouped acute lattice lines as in BB2 jars. **50**
19. GRB6 hooked-rim, necked jar. **51**
20. BB1 splayed everted-rim jar. **43**
21. BB1 splayed everted-rim jar. **25**
22. GRB5 Dales type jar. **50**
23. GRC Dales type jar. **50**
24. GRC Dales type jar. **50**
25. GRB3 small everted-rim beaker. **51**
26. NV2 indented curved rim beaker with inter locking 'S' design. **25**
27. CTA2 grooved flat-rim bowl/dish. **51**
28. CRA PA flanged bowl. **50**
29. E1 cupped rim flagon. **10**
30. GRB3 bifid rim narrow-necked jar. **25**
31. NV1 everted-rim from jar or flask. **25**
32. GRB7 developed flanged bowl. **25**
33. NV1 long necked beaker with grooved rim. **30**
34. NV1 castor box lid, very angular profile. **43**
35. NV1 long necked beaker with grooved rim. **64**
36. NV1 long necked beaker with grooved rim, larger than above. **64**
37. NV2 metallic pentice moulded beaker. **64**
38. GRB4 headpot, probably African type despite reduced fabric. **94**
39. GRC tall everted-rim jar. Dales type variant. **90**

**APPENDIX C:
THE MORTARIA**

K. Hartley

INTRODUCTION

There are 32 sherds of mortaria, weighing 1930g. Eleven different mortaria are represented by the rim sherds, but incomplete rim sherds and other body and base sherds suggest a total nearer **17**.

FABRICS

Catterick area (Tomber and Dore 1998, 195)

M31-2; context **51**.

Hard, orange-brown fabric with thin grey core; traces of cream slip.

Inclusions: random, ill-sorted (very small to large), moderate to fairly frequent; mixed, red-brown sandstone, quartz and black (some at least are slag).

Trituration grit: none survives.

Rhineland (Tomber and Dore 1998, 79, but this is not the fabric commonly associated with Soller).

M7; context **25**.

Very hard, white fabric within pinkish-brown margins, but fired to white at all surfaces. Patches of a possible, drab cream slip.

Inclusions: moderate, ill-sorted (tiny to large), random, quartz and red-brown (sandstone?) and very rare black material.

Trituration grit: none survives.

LNV1, Lower Nene Valley 1 (Tomber and Dore 1998, 119)

M10-11; context **30**.

Hard, fine-textured, white fabric with slightly greyish core has a layer of pale brown near to the surfaces.

Inclusions: fairly frequent, very tiny to smallish red-brown and quartz.

Trituration grit: black slag.

LNV2, Lower Nene Valley 2

M29; context **51**.

Orange-brown fabric with thick grey core and a slip varying from drab cream on the inside to drab brown on the outside.

Inclusions: frequent, tiny quartz, rare red-brown and black material.

Trituration grit: black slag.

MH2, Mancetter-Hartshill potteries, Warwickshire (Tomber and Dore 1998, 188-9)

M2-5, M8, M9, M12-14, M16-18, M20, M22-27, M30; contexts **25, 29, 43, 45, 50** and **51**.

DISCUSSION

Three quarters of the sherds and probably the same proportion of vessels in the sample are from the Mancetter-Hartshill potteries in Warwickshire; they range from a date in the later years of the 2nd century AD to a date in the middle of the 3rd century and, given the assemblage of rim-profiles present, it is unlikely that any are of later date. Three- and 4-reeded types began respectively in a minimal way in the mid- and late 2nd century AD, whereas the multi-reeded types began to be made in the 3rd century, within the period AD220/230-240. The multi-reeded form with all its variations rapidly overtook the 3- and 4-reeded types in popularity, though the earlier types continued in production, but became much less common, so that, dependant on contexts of course, a sample with mostly 3- or 4-reeded types and only one multi-reeded type can be judged earlier than one with more multi-reeded types. It may be that the multi-reeded ones were for some reason easier to make, since there was great concentration on production in these potteries in the 3rd century AD once they began to be made.

Table C1: Numbers of sherds from different production centres in different contexts

	Context 25	Context 29	Context 30	Context 43	Context 45	Context 50	Context 51	Totals
Mancetter-Hartshill	5	1	0	1	1	4	12	24
Lower Nene Valley, all variants	1	0	2	0	0	1	1	5
Rhineland, ?Soller	1	0	0	0	0	0	0	1
Catterick area	0	0	0	0	0	0	2	2
Totals	7	1	2	1	1	5	15	32

It is normal enough to have the occasional mortarium from the Rhineland and the Lower Nene valley; the unusual examples in the Piercebridge assemblage are the mortarium attributable to potteries in the Catterick area. Reeded mortararia of this type and in generally similar fabric were produced at Cantley and at Catterick (Wilson 2002b) from some date around AD270. Dr Paul Buckland has kindly examined these two sherds and has eliminated the possibility of a Cantley source. Buckland and Magilton (2006, 50) suggest a date from the late 3rd century AD to the first quarter of the 4th century for the Goodison-Boulevard kilns at Cantley. Precise dating for the productions at Cantley and Catterick is difficult, but it has always seemed likely that the Cantley production began before that at Catterick, even if not long before, and that it was some potters from Cantley (as well as later from Crambeck), who were involved in the production at Catterick.

The occupation deposit (**51**) between the surfaces in the hollow-way was dated to the early to mid-3rd century AD. The Mancetter-Hartshill mortararia agree with this date, with a final date of

c.AD230-40; nothing is necessarily later. It is impossible to believe that the Catterick mortarium within the context can be so early. The evidence suggests that these two joining sherds were late-3rd century or 4th-century in date, and therefore perhaps intrusive.

CATALOGUE OF ILLUSTRATIONS (FIGURE 7)

N.B. The 'M numbers' used for Mortaria in contexts 50 and 51 were duplicated, therefore, 'bis' has been added to those from within context 51 to differentiate.

1. M9 in Context **29** is potentially the earliest of the mortaria in this sample, although it is possible that the date does overlap with others. Weight 55g Diameter 310mm, 7%, Fabric MH2, Mancetter-Hartshill potteries (Tomber and Dore 1998, 188-9). This form largely, if not entirely post-dates the practice of stamping in these potteries; it was probably being made until the end of the 2nd century AD, but production is unlikely to have continued long into the 3rd century. AD170-220 should cover its possible dates.
2. M15-18bis; M19 and M21, all in Context **51**; M4 from Context **25**; M13 from Context **45** is from the same mortarium. These seven joining sherds, (six from Context **51** and one from Context **25**, plus, one bodysherd (not joining, M13 from Context **45**), make up more than half of the mortarium, including a large portion of the base. Weight 1055g. Diameter 300mm 60%. Fabric MH2, made in the Mancetter-Hartshill potteries, almost certainly within the period AD200-240. It is a 4-reeded rim, the top one being slightly upstanding (see Darling 1984, fig 18, no. 163 for a close parallel from Lincoln; the lowest bead is slightly more prominent in the Lincoln example, but it is otherwise exactly like this Piercebridge one). Worn.
3. M2 in Context **25**. Weight 30g. Diameter 290mm. 4%. Fabric MH2. This multi-reeded mortarium is representative of the later, unstamped types made in the Mancetter-Hartshill potteries. The multi-reeded type then goes on with its variants into the 4th century AD. This is an ordinary example typical for the 3rd century AD between AD240-300. This mortaria would fit best in the mid-3rd century AD.
4. M31-2 in Context **51**. Weight 35g. 4%. Catterick (Tomber and Dore 1998, 195). Reeded mortaria of this type and in generally similar fabric were produced at Cantley (in prep) and at Catterick (Wilson 2002b) from some date around AD270 or later. Dr Paul Buckland has kindly examined these two sherds and has eliminated the possibility of a Cantley source. Buckland and Magilton (2006, 50) suggest a date from the late 3rd century AD to the first quarter of the 4th century AD for the Goodison-Boulevard kilns at Cantley; *ibid.*, fig 13, no. 8, is not a close parallel in rim-profile for this Piercebridge example, but it does show particularly well, the re-entrant angle between rim and body, a notable feature which is sometimes present in Cantley and Catterick mortaria. There is no evidence to suggest that the either the Cantley or Catterick industries began before a date later than c.AD 270 and this Piercebridge mortarium must date to the late 3rd or 4th century AD.

Abbreviations used in the catalogue

- shds - number of sherds.
 part - part of vessel surviving.
 CR - complete rim-profile.
 IRS - incomplete rim-profile, i.e. part of flange/bead and body.
 FF - flange fragment.
 BS - body sherd.
 BBS - body and base sherd.
 Joins - sherds which join
 same vessel - sherds which are certainly from same pot, but do not join
 V - counted as individual vessel; this ought to be counted in the earliest context in which sherds appear.
 MH2 - Mancetter-Hartshill fabric produced later than AD130/140 (Tomber and Dore 1998, 188-9).
 LNV1 and 2 - different fabrics produced in the Lower Nene Valley.

Table C2: Catalogue of mortaria

Context	Mortarium number	Fabric	Shds	Weight (g)	Abrasion	Part	Form	RimDr (mm)	%	V	wear/burn	Published parallels	Joins	Same vessel as	Optimum Date
25	M1	?LNV1	1	25	slightly powdery;	FF		340	7	1	black from firing	Hartley 1960, fig 3, no.9			240-400
25	M2	MH2	1	30	little	CR	mult-reeded	290	4	1		Ferris 2010, fig 45, no.37			240-300
25	M3	MH2	1	35	some	IRS				0					indet 2/3
25	M4	MH2	1	45		CR		300	5	0			M16bis	M15-18bis etc	200-240
25	M5	MH2	1	10	some	BS				0	worn; burnt after fracture				later than AD130
25	M7	Rhineland	1	160	much abraded	CR	flanged	410	11	1		Wilson 2002b, fig 189, M114; Cool & Mason 2008, fig D9.21, no. 6			probably AD170-230
25	M8	MH2	1	120	some	CR	4 reeded, convex	270	14	1	worn; slight singemark				190-240
29	M9	MH2	1	55	good	CR		310	7	1	normal	Wilson 2002b, fig 187, M78			170-220
30	M10, M11	LNV1	2	70	powdery	BS				0	very worn				240-400

Context	Mortarium number	Fabric	Shds	Weight (g)	Abrasion	Part	Form	RimDr (mm)	%	V	wear/burn	Published parallels	Joins	Same vessel as	Optimum Date
43	M12	MH2	1	5	good	BS				0					post 130, fits late 2-3 date
45	M13	MH2	1	30	good	BS				0	worn			M17bis;M15bis etc in CONTEXT 51	200-240
50	M14	MH2	1	10	very slight abrasion	CR	probably 4 reeds			1		Holmes 2003, fig 51, no.21			200-240
50	M15	LNV1	1	10	good	BS									240-400
50	M16-18	MH2	3	25	good	CR	triple reeded			1		Holmes 2003, fig 50, no.8			190-230
51	M15-18bis; M19;M21	MH2	5	1005	slight abrasion	CR	4 reeded	300	57	1	worn		M21; M4 etc	M13	200-240
51	M20	MH2	1	60	some abrasion	CR	4 reeded	300	9	1		Cool & Mason 2008, fig D9.22, no.20			200-240
51	M22	MH2	1	50	slight	CR	flanged	310	9	1		Cool & Mason 2008, fig D9.22, no.34			180-220
51	M23	MH2	1	65	none	BBS				0	well-worn				fits late 2 to 3rd C
51	25	MH2	1	10	some	BS				0	worn				later than AD130
51	26	MH2	1	30		IRS	flanged			0	some burning				fits later than AD160
51	27	MH2	1	5	some	BS				0					later than AD130
51	29	LNV2	1	30	slight	BS below bead				1					AD240-400
51	30	MH2	1	10		BS				0	wear				later than AD130
51	31-32	Catterick	2	35	some	CR	4 reeded		4	1	not enough survives	best parallels Cantley unpublished			late-3 to 4C
Totals			32	1930						12					

APPENDIX D:

THE SAMIAN

G. Monteil

INTRODUCTION

A total of 116 sherds of samian ware were recovered from the excavations. Each sherd was examined, after taking a small fresh break, under a x20 binocular microscope in order to identify the fabric. A spot-dating catalogue was then compiled where each entry consists of a context number alongside fabric, form and decoration identification, sherd count, rim EVEs, weight, notes and a date range. The decorated samian was the subject of further analysis and a catalogue of the decorated ware was compiled (Cat nos. 1 – 4). Rubbings of the decorated fragments were undertaken during analysis. They were mounted, scanned and submitted as illustrations.

CONDITION, USE WEAR AND REPAIR

With the exception of the samian material from an accumulated deposit (51), most of the fragments are small and abraded. The average weight for the whole group is c.11g and twice as much for the material from (51). Twenty three fragments are mere flakes with a weight below 1g.

It is a medium sized assemblage with 115 sherds recovered from 19 contexts (one fragment being unstratified) with a total weight of 870g, a maximum number of 87 vessels and a relatively small total rim EVE figure of 1.01.

There are joining sherds from a decorated bowl form Dr.30 between groups 22 and 24 (layers 5, 25 and 51) and joining sherds from a mortarium between fill 45 and wall 46.

Three sherds show evidence of repair; two are filed slots indicative of dove-tail type repairs, the rim of a Central Gaulish Dr.31 in deposit 51 and the rim of an East Gaulish Dr.37 in the secondary fill of pit 65. The third example is a partial drilled hole on a bodysherd from an East Gaulish dish in the fill of hedge line 44. Drilled holes are the most common traces of repair found on samian ware in Britain (Willis 2005) and dove-tailed examples tend to be more common on 2nd century AD vessels than on 1st century ones (*ibid.*, section 11.3). This group broadly fits with this trend.

CHRONOLOGY

The earliest samian material, dating from the late 1st to early 2nd centuries, was South Gaulish and came from the fill (52) of the southern hollow-way (68) and from the fill (43) of the northern hollow-way (69). Both are very small and abraded residual fragments.

The remaining samian dated to the later 2nd and early 3rd century AD. There are no typically Hadrianic or early Antonine vessel types in the group and late forms, such as Dr.31, 31R, Wa.79 and Dr.45, dominate. One of the Central Gaulish Wa.79 from layer 25 has a profile more typical of very late productions from Lezoux, it is very shallow with a sharp angled wall and a prominent beaded rim.

The decorated bowl with joining fragments from layers (5), (25) and (51) perhaps provides the most reliable chronological evidence for the group, since most of the decoration survives (Cat no. 1). All the details are consistent with the work of the Central Gaulish potter *Doeccus i*, who was at work between AD 170 and 200 (Stanfield and Simpson 1990, pl. 147-51; Rogers 1999, p.118).

ASSEMBLAGE COMPOSITION AND FUNCTIONAL PROFILE

Central Gaulish vessels dominate the samian group with 83 out of 116 sherds (Table D1). Few typically late forms were identified: Wa79, Dr.45, a beaker, several Dr.31 and 31R. Cup form Dr.33 is also well represented. A more unusual form was recovered from the fill of pit 49; though small the fragment is slipped inside, sharply crenated and displays a single external groove and seems to come from the shoulder of a closed form. The closest possible parallels in the published Lezoux typology are bottle types Lez111, 113 or 119 (Bet and Delor 2000, 474).

Ten fragments of Dr.37 were recovered from this group, most of them too small to permit full identification of the decoration. The ones that could be identified are late (Cat. nos. 2-4). The decoration on the fragments of the Dr.30 is in the style of the late Antonine potter *Doeccus* who is common at Piercebridge (Ward 2008, table 9.5, p.183).

East Gaulish material is well-represented in this group with 31 sherds (Table D1). Trier and Rheinzabern are the two main production centres represented with an unknown East Gaulish fabric catalogued in the fill of pit 49. The fabric is very pale pink with a powdery feel, the slip thin and red-orange.

Table D1: samian fabric and forms represented

Forms	South Gaulish	Lezoux	East Gaulish	Total							
	sh	wgt (g)	sh	wgt (g)	RE	sh	wgt (g)	RE	sh	wgt (g)	RE
beaker	-	-	1	1	-	-	-	-	1	0	-
bowl	-	-	1	2	0.06	4	18	0.01	5	20	0.07
closed form	-	-	2	4	-	-	-	-	2	4	-
dish	-	-	11	43	-	8	33	0.03	19	76	0.03
rouletted dish	-	-	1	1	-	-	-	-	1	1	-
DR30	-	-	20	248	0.23	-	-	-	20	248	0.23
DR31	-	-	5	100	0.16	-	-	-	5	100	0.16
DR31R	-	-	3	97	0.1	-	-	-	3	97	0.1
DR33	-	-	7	12	0.13	1	1	-	8	13	0.13
DR37	-	-	10	52	0.03	-	-	-	10	52	0.03
DR38	-	-	1	1	-	1	6	0.03	2	6	0.03
DR40	-	-	-	-	-	1	5	0.05	1	5	0.05
DR45	-	-	6	140	-	6	70	0.08	12	210	0.08
LUDSb	-	-	-	-	-	1	5	0.03	1	5	0.03
WA79	-	-	2	4	0.04	1	2	0.03	3	6	0.07
unid	2	4	13	15	-	8	6	-	23	25	-
Total	2	4	83	720	0.75	31	146	0.26	116	868	1.01

The range of forms is relatively limited, since they are almost entirely composed of plain vessels typical of the late 2nd and first half of the 3rd century AD: dish form LUDSb from Rheinzabern; a platter form WA79; a flanged bowl Dr.38; the rim of a Dr.37; a cup form Dr.40 from an unknown East Gaulish centre; and several mortaria from Trier. A small bodysherd from the secondary fill of pit 65 has the very partial remains of some barbotine decoration. The fragment probably comes from a bowl form LUDSMb/c. Several examples of this 3rd century bowl type

are known from Britain, London in particular (Bird 1986, fig.85; Bird 1993, 8) but also Piercebridge (Ward 2008, 189). All of these forms are the most common East Gaulish types found on late British sites and were recovered in samian assemblages from previous excavations in Piercebridge (Ward 2008, tables 9.1 to 9.4). The absence of decorated vessels is perhaps surprising; East Gaulish decorated bowls were represented in previous excavations (Ward 2008, table 9.6).

Once the indeterminate fragments are removed, this assemblage only adds up to 65 vessels, which is too small a total for reliable statistical analysis. The relative quantities of samian vessel types within this group seem nevertheless entirely consistent with samian assemblages recovered from previous excavations at Piercebridge (Ward 2008, fig. 9.8). Dishes and platters dominate (46% of MNV with unidentified sherds removed, as in Ward 2008), with decorated bowls coming second, cups and mortaria coming third in almost equal quantities and the rest being made up by plain bowls and beakers. The relative frequency seems particularly close to the ones from the *vici* sites (*ibid.*).

Considering the context of recovery, and the high number of headpots recovered from the site, particularly in group 24 (Leary, this volume Appendix B), the samian assemblage needs perhaps to also be seen in a ritual light. There are no particular concentrations of burnt fragments to suggest redeposited pyre goods and samian is totally absent from the cremation cist. The Central Gaulish decorated bowl Dr.30 (Cat. no. 1) was the better preserved vessel in this group and several large fragments came from the same occupation layer (51) as most of the headpot fragments, suggesting that perhaps that is was a re-deposited grave good, though decorated samian vessels are rarely used as grave goods in the 1st and 2nd century AD. It seems that by the later 2nd century AD decorated bowls were seen as a more appropriate grave good (Cool and Leary 2012, 313).

DECORATED SAMIAN CATALOGUE

The following catalogue lists and identifies the decorated pieces recovered from the site that could be attributed to individual potters or groups of potters. Each entry gives the catalogue number, the excavation context number and details of the decoration. All of the decorated vessels are from Lezoux.

The letter and number codes used for the non-figured types on the Central Gaulish material (such as B223, C281, etc.) are the ones created by Rogers (1974). The figured-types referred to as Os. *** are the ones illustrated by Felix Oswald in his *Index of figure-types on terra sigillata* (1936-7).

The Inventory Numbers (Inv. No.) quoted are taken from European intake of Roman Samian ceramics. <http://www2.rgzm.de/samian/home/frames.htm>.

- 1 joining sherds from contexts (5), (25) and (51), Dr.30, Lezoux. Under ovolo B161 and a thick beaded border two panels are visible, the first one consists of four examples of gadroon U151 on top of panther Os.1512 surrounded by three examples of leaf H152; the second panel shows putto Os.440 in festoon F34 on top of wolf Os.1533 framed by two examples of leaf J149. A stamped example by *Doeccus i* from Silchester has the putto, festoon, ovolo, wolf and leaves organised in the same pattern (Stanfield and Simpson 1990, pl. 148, no.14). The gadroons are known for *Doeccus i* (Inv. No. 0011560) as are the panther and H152. AD 170-200.

- 2 (51), Dr.37, Lezoux. The ovolo is B206 and is here associated with a wavy line border. Both the ovolo and the line were used by a number of potters - *Mercator I*, *Quintilianus* and *Laxtucissa*. Late Hadrianic-early Antonine
- 3 (51), Dr.37, Lezoux. Very partial decoration with the remains of leaf motif. Roger's types L1 or L2 are possible matches, L1 is known for Lezoux potters *Aventinus*, *Libertus* and X5, L2 is known for *Cinna*, *Iuliccus*, *Mammius*, *Quintilianus*. *Censorinus ii* also used such a motif (Inv. No. 0010666). Hadrianic-Antonine.
- 4 (36), Dr.37, burnt and abraded, the fabric though burnt has several flakes of mica and is probably from Lezoux. The decoration is partial but clearly shows a vase, close to T16 with a bird looking back on itself on top. Above the base on the left the rounded edge of a leaf is just visible with an unclear and incomplete motif on the right. The potters who routinely used a small vase (*Iullinus* and *Mercator ii*) did not use this bird or a leaf of this shape. *Doecus i* used the vase (Inv. No. 0011487 from Carlisle), the bird (Inv. No. 0011493) and a leaf with a rounded edge (Inv. No. 0011506). Late Antonine.

APPENDIX E:

THE CERAMIC BUILDING MATERIAL, FIRED CLAY AND BONDING MATERIAL

S. E. Tibbles

INTRODUCTION AND METHODOLOGY

An assemblage of 48 fragments of ceramic building material (hereafter CBM), 19 fragments of associated bonding material, mortar (ABM) and c.50 fragments of fired clay (FC) were submitted for analysis. The assemblage is referred to by context number and area. Context interpretations are not included unless of intrinsic value. Recommendations for material to be retained are included within the archive table.

The CBM assemblage was quantified (count and weight), catalogued by fabric, examined by x20 binocular microscope and, where possible, by form. Details regarding the dimensions and form were recorded and catalogued accordingly. Fabric details are provided within Table E1 and a Munsell colour code was incorporated where appropriate. The presence of original surfaces was taken into consideration to aid identification. Classification was biased towards thickness and the presence of original surfaces and comparisons were made with existing typologies, where applicable.

It should be noted that the diversity of size and colour within bricks and tiles caused during the manufacturing process, must be taken into consideration when comparing examples within collected assemblages and local typologies. The varying sizes and colours can be attributed to the variation in the clays used, shrinkage during drying, firing within the kiln or clamp and the location of the brick/tile within the kiln. The dating of brick and tile can be highly contentious due to its reusable nature, therefore the date range given is that of known dates where material has been recorded.

The CBM assemblage comprised 48 fragments, recovered from 13 contexts. The cobbled areas of hardstanding and associated occupation deposits produced the majority (69%).

No complete example was present and 14.6% of the CBM assemblage was recovered from the processing of the environmental samples. This material comprised amorphous 'crumbs'. The Roman CBM comprised 37 fragments with a total weight of 2549.3g. The remainder of the CBM was of post-medieval and modern date.

The associated building/bonding material (ABM) was visually examined by x20 binocular microscope and quantified by count and weight. The 19 fragments of mortar were lime-based, (tested with dilute hydrochloric acid), fragmentary and recovered from a single context. The ABM had a total weight of 9g.

The c.50 fragments of fired clay present had a combined weight of 103.3g. All were non-diagnostic, amorphous pieces, recovered from the processing of the environmental samples of seven contexts.

Miscellaneous categories; pot (1 sherd and 1 flake), worked stone (a whetstone) and unmodified stone (5 fragments) were also present within the assemblage. These are tabulated within a table that was deposited with the site archive and are not discussed within this report.

THE CERAMIC BUILDING MATERIAL

Fabrics

Including sub-variants, the modern and post-medieval CBM, eight fabrics were identified using a x20 binocular microscope on fresh breaks. The sub-variants reflect slight but significant variations of composition from the principle fabric. For comparative purposes, fabrics were cross-referenced with samples from other known assemblages, where possible.

The Roman fabrics comprised:

Fabric 1: Very Hard

Red 2.5YR/4/8 to Reddish Yellow 5YR/6/8. Occasional Bluish Grey GLEY2/6/1 to Light Bluish Grey 10YR/6/2 cores
 Frequent fine quartz grains (0.1-0.25mm)
 Moderate medium quartz grains (0.25-0.5mm)
 Occasional fine black flecks (0.1-0.25mm)
 Occasional fine mica flecks (0.1-0.25mm)
 Occasional coarse ?ironstone (0.5-1mm)
 Occasional coarse white-firing clay pellets (0.5-1mm)

Fabric 1a: Very Hard

As Fabric 1 with inclusions of:
 Occasional large degraded chalk (5mm x 6mm up to 18mm x 10mm)
 Occasional large glacial erratic pebbles (9mm x 18mm)

Fabric 2: Very Hard

Yellowish Red 5YR/5/6 to Reddish Yellow 5YR/6/8. Occasional Dark Bluish Grey GLEY2/4/1 cores
 Abundant fine quartz grains (0.1-0.25mm)
 Moderate medium quartz grains (0.5-1mm)
 Moderate coarse ?ironstone (0.5-1mm)
 Occasional fine mica flecks (0.1-0.25mm)
 Occasional fine black flecks (0.1-0.25mm)

Of the Roman CBM, Fabrics 1/1a were predominant (70.2%). The unidentifiable ‘crumbs’ and ‘chips’ of Roman CBM were recorded under a generic ‘RB fabric’.

The post-medieval and modern CBM were recorded under generic ‘PMED’ and ‘MOD’ fabrics.

Table E1: Fabrics by form

Form	Fabric 1	Fabric 1a	Fabric 2		RB Fabric (Generic)
Bessalis	0	1	0		0
Imbrex	1	0	1		0
Box-Flue Tile	4	17	0		0
RBTile (U-T)	1	0	0		0
RBCBM (U-F/T)	2	0	2		8
	PMED1		PMED2		
Post Medieval Roof Tile	0		1		
Post Medieval Brick	4		0		
	MOD1		MOD2	MOD3	
Modern Roof Tile	1		2	0	
Modern Brick	0		1	2	

Forms

Three forms were identified within the Roman assemblage: brick, roof tile and hypocaust tiles (box-flue; Table E2). Two pieces of tile were of indeterminate type (RBTile U-T) and ten fragments were not identifiable by form or type (RBCBM U-F/T).

The non-Roman CBM comprised brick and roof tile dated from the post-medieval period through to present day.

Table E2: Ceramic building material form

Form	Quantity	Weight (g)
Bessalis	1	376
Imbrex	2	371
Box-Flue Tile	22	1645
RBTile (U-T)	2	139
RBCBM (U-F/T)	10	18.3
Post-Medieval Roof Tile	1	111
Post-Medieval Brick	4	40
Modern Roof Tile	3	120
Modern Brick	3	151
Total	48	2971.3

The Roman ceramic building material

Imbrices

The only roof tile conclusively identified within the assemblage (see RBTile U-T) comprised two fragments from the secondary fill (64) of pit 65. Both had a wall thickness of 18mm and a combined weight of 371g. The thicknesses could suggest ridge tiles; however, thicker examples of this form of roof tile are not uncommon (Betts 1998, 227; Price 2000, 142). The gradual taper of the tiles was also characteristic of *imbrices*.

Two fabrics were represented, Fabrics 1 and 2. Therefore, it can be suggested that two individual *imbrices* were present. The upper surfaces of both tiles were finished by finger-smoothing (longitudinally) with finely sanded internal surfaces and original edges. No bonding material was recorded on either tile and both displayed crisp breaks.

The *imbrex* of Fabric 2 displayed two parallel finger strokes across the gable, at the edge of the open end of the tile (no. 1, Fig. 8); it was not possible to determine whether this was the wider or narrower end of the tile. Although the markings could represent an element of keying, Brodrigg (1987, 24) suggests this is not always the case. Examples of *imbrices* decorated in this manner have been noted at numerous sites (*ibid.*, 25), and at Piddington *imbrices* were ornately decorated with combed lines across the gable, at the open ends (Ward 1999, 21). Dark Grey (5YR/4/1) discolouration from direct heat exposure was also recorded on the upper surface and underside of the tile.

Bessalis

The only example of brick identified within the assemblage was a corner fragment of a *bessalis*, recovered from an occupation deposit (**51**) below cobbles **33**, Group no. **24** (no. 2, Fig. 8). Of Fabric 1a, the brick had a complete thickness of 31mm, with a finger-smoothed upper bed surface, knife-smoothed original edges and knife-trimmed arises. No evidence of bonding material or heat exposure was recorded. The *bessalis* had a weight of 376g and crisp breaks were noted.

On the upper bed surface at the corner, impressions of one and a half paw prints of a fox (*Vulpes sp.*) were evident that would have been made during the 'green' stage of manufacture, pre-firing.

Box-Flue Tile

This form represented the majority of the Roman CBM (59%). The twenty-two fragments had a total weight of 1645g, recovered from the following contexts: occupation deposit **25** above cobbles **32** and **33**, Group no. **22**; later cobble spread **33**, Group no. **23**; occupation deposit **51** below cobbles **33** and **5**, Group **24**; and wall/kerb line **46**.

The wall thickness of the tiles ranged between 18mm to 23mm. All displayed finger-smoothed faces, with the exception of one example with a knife-smoothed face, and fine sanding on the internal surfaces. Finger-smoothed/knife-smoothed/trimmed original top/bottom edges were recorded on 17 fragments. Fabrics 1, 1a and 2 were represented by four, 17 and one fragment(s) respectively.

Nineteen fragments were keyed by combing (Table E3). No roller stamping was present. The orientation of the tracks was determined by the presence of the original top/bottom edge.

Table E3: Combed box-flue tiles

Context	Group no.	No of fragments	Fabric	Combing details
5	24	1	Fabric 1a	1 vertical track: 4 tines. Broad U-shaped profile.
		2 (adjoining)	Fabric 1a	1 diagonal track: 6 tines. Broad U-shaped profile.
		1	Fabric 1	1 horizontal track: 4 (or >) tines. Very tip of tines used, very broad U-shaped profile.
		1	Fabric 1	1 diagonal track: 2 (or >) tines. U-shaped profile.
25	22	1	Fabric 1a	1 vertical track: 4 (or >) tines. Broad U-shaped profile.
		4 (adjoining)	Fabric 1a	1 diagonal track: 6 tines. Broad U-shaped profile.
46		1	Fabric 1a	2 tracks 'X' pattern: 4 (or >) tines. Broad U-shaped profile.
33 & 51	23 & 24	4 (adjoining)	Fabric 1a	1 diagonal track: 5 (or >) tines. Broad U-shaped profile.
51	24	1	Fabric 1a	1 vertical & 1 diagonal tracks: 5 tines. Broad U-shaped profile.
		2 (adjoining)	Fabric 1a	1 vertical track & 2 tracks 'X' pattern: 6 tines. Broad U-shaped profile.
		1	Fabric 1	2 tracks 'X' pattern: 4 (or >) tines. U-shaped profile.

No complete tiles were immediately apparent; however, numerous adjoining fragments were recorded including inter-contextual joins.

The inter-contextual joins within contexts **33** and **51** (a total of four fragments, no. 3; Fig. 8) formed approximately half of a plain faced side, broken at the horizontal edge of the knife-

trimmed lateral vent. The vent had width and depth dimensions of >58mm and 21mm respectively. The tile had a wall thickness of 20-22mm, width of 115mm and an incomplete height of >153mm. One corner was present with the remnants of the returning combed face: 1 diagonal track (incomplete) of 5 (or >) tines. Impressions from the former were noted on the internal surface. The tile was of Fabric 1a, with a knife-smoothed top/bottom edge.

A further two adjoining fragments within context **51**, also of Fabric 1a, had a complete width of 113mm, wall thickness of 22mm and an incomplete height of >155mm (no. 4; Fig. 8). The combed face had three tracks of 6 tines: 2 tracks in an 'X' pattern and a further vertical track forming an outer border. The original top/bottom edge was finished by knife-smoothing and trimming. Further fragments of the same tile – two non-joining – are also present within context **51**.

The four adjoining fragments recorded within context **25** were of Fabric 1a (no. 5; Fig. 8). The combed face had one diagonal track of 6 tines, with the remnants of a corner and the returning plain face, which was finger-smoothed. A knife-smoothed and trimmed original top/bottom edge was recorded. The tile was >115mm wide with a wall thickness of 21mm, and although non-joining, further fragments of the same tile are thought to be present in context **25**.

Albeit slight, the broken edges of five fragments from context **25**, including a further two adjoining pieces and the combed face of a fragment from context **5**, were possibly foot worn. Heat discolouration/burning, ranging between bluish grey (GLE2/6/1) and dark reddish grey 5YR/4/2, was evident on the external surfaces, original edges and over the breaks of four fragments from contexts **5**, **25** and **51**.

Although the sizes of box-flue tiles can “vary considerably” (Brodrigg 1979, 149; 1987, 74), based on joining fragments, fabric, combing and manufacturing characteristics, it is estimated that no more than three individual box-flue tiles were present.

Tile Unidentifiable by Type (RBTile U-T)

Two fragments of tile from occupation deposit **25** above cobbles **32** and **33** (Group no. **22**) had a combined weight of 139g. Fabrics 1 and 2 were represented. Both had remnants of a finger and/or knife-smoothed original surface, with fine sanding on the opposing surface. No evidence of bonding material was recorded on either fragment.

No distinguishing features were present to determine type although both had complete thicknesses of 19mm and 21mm respectively. The thickness dimensions and the manufacturing characteristics may indicate fragments of *tegulae*, but identification is inconclusive.

The sanded surface of the fragment of Fabric 2 was slightly worn, though not smooth enough to suggest heavily foot worn material.

Unidentifiable by Form or Type (RBCBM U-F/T)

Ten pieces were recovered from seven contexts, the majority (70%) from the processing of environmental samples. For the most part, the assemblage was heavily abraded with no original surfaces or distinguishing features. The remainder of the material was crisp and unabraded in appearance but, again, no original surfaces were present. No evidence of bonding material was present on any of the fragments.

Due to incomplete dimensions and their small fragmentary nature ('chips' and 'crumbs'), this material was unidentifiable by form or type. A larger fragment from the fill (**43**) of hollow-way **69** with a thickness >17mm may be a tile, but the lack of complete dimensions and original surfaces prevents conclusive identification of form or type.

This assemblage is considered to be Roman and was recorded under a generic 'RB fabric', with the exception of the larger piece from context **43**, which was of Fabric 1.

THE POST-MEDIEVAL CERAMIC BUILDING MATERIAL

Distinguishing Roman CBM from CBM of a later date can be problematic; however, in this instance the later material was of a distinctly different fabric, recorded under PMED1 and PMED2. Two forms were identified, namely brick (four fragments) and roof tile (one fragment).

The four small fragments of brick, weighing 40g, were of fabric PMED1. All were non-diagnostic bearing no complete dimensions or distinguishing features. Refined dating was not possible due to lack of diagnostic features and incomplete dimensions. This assemblage was recovered from the occupation deposit (**25**) above cobbles **32** and **33** (Group no. **22**) (two fragments), the fill (**29**) of hedgeline **28** and the fill (**43**) of hollow-way **69** (one fragment from each).

The roof tile was identified as pantile, with a thickness of 17mm and weight of 111g. The fragment was of fabric PMED2. The suspension nib was damaged with patches of Very Pale Brown (10YR/8/2) mortar over the broken surface, which suggests reuse. The tile was recovered from the fill (**90**) of pit **91** and dated to between the late 18th to early 19th century.

The post-medieval CBM from contexts 25 and 43 is considered intrusive.

THE MODERN CERAMIC BUILDING MATERIAL

All of the assemblage of modern CBM was intrusive. It consisted of three fragments of brick and three pieces of roof tile, recovered from the occupation deposit (**51**) below cobbles **33** (Group no. 24) (one fragment) and the occupation deposit (**25**) above cobbles **32** and **33** (Group no. **22**) (5 fragments). The fabrics were recorded under MOD1, MOD2 and MOD3 and all were dated to the 20th/21st century and were intrusive.

Two types of brick were identified. Two pieces of a plain brick were of fabric MOD3 and the fragment of a Beart-type brick with the remnants of three perforations through the body of the brick was of fabric MOD2. The plain brick from layer **51** had a complete thickness of 64mm with patches of Light Grey (2.5Y/7/1) mortar on the remaining original bed surface. Patches of a similar Light Grey (2.5Y/7/1) mortar were also noted over the breaks and the original surfaces of the Beart-type brick from layer **25**. The bricks had a combined weight of 151g.

The three fragments of roof tile had a weight of 120g and were a corrugated form of different styles. Two joining fragments were of fabric MOD2 with a thickness of 11mm. Very Dark Grey (7.5YR/3/1) sooting was recorded on one original surface, probably from original use. The remaining fragment of fabric MOD1 had a complete thickness of 18mm, with patches of Pinkish Grey (7.5YR/7/2) mortar over breaks and original surfaces indicating reuse.

THE ASSOCIATED BUILDING/BONDING MATERIAL (ABM)

Mortar

Approximately 19 fragments of mortar were recorded from the environmental sample (AA), taken from the occupation deposit (51) below cobbles 33 (Group no. 24). This material had a total weight of 9g.

The mortar was of a Pink (5YR/7/3), very fine-grained matrix, lime-based (tested with hydrochloric acid) with inclusions of abundant coarse quartz (0.5mm - 1mm) and moderate very fine mica (up to 0.1mm).

All of the fragments were amorphous, with no original surfaces or distinguishing features. The mortar appears to have been subject to exposure to heat, hence the pinkish hue.

FIRED CLAY

The assemblage of fired clay comprised c.50 pieces, recovered from the processing of environmental samples from seven contexts, with a combined weight of 103.3g. The 3rd to 4th century fill (47) of pit 49 produced the majority (84%).

For the most part, the assemblage comprised amorphous 'crumbs'; only eleven larger pieces were present. All were abraded, and as a result, any original surfaces were lost, although the larger fragment from the fill of pit 47 may have had one flat-ish original surface but was too abraded for this to be confirmed. No diagnostic features, such as rod and/or sail impressions, were evident.

The fired clay was of a 'soft' fabric with inclusions of moderate fine mica flecks (0.1-0.25mm) and white-firing clay lenses, with occasional fine black flecks (0.1-0.25mm) and coarse chalk (0.5-1mm).

DISCUSSION

Within the assemblage of Roman material, box-flue tiles were predominant (59%), followed by *imbrices* (5%) and the *bessalis* (2%). Further types may be present within the unidentifiable material, for example the possible *tegulae*, but they are not conclusively identified; given the proportion of tiles within the assemblage, these fragments could also be box-flue tiles. The small size of the assemblage could account for the noticeable paucity of other types of Roman ceramic building materials, such as *pedales* and *tegulae*. The indeterminate 'chips' and 'crumbs' (RBCBM U-F/T) are of interpretative value.

Distribution of the assemblage appears to relate primarily to the structural remains. The wall/kerb line, areas of cobbled hard standing and associated occupation deposits produced 71% of the Roman assemblage. Although not significantly smooth, the worn CBM from occupation deposits 5 and 25 (Group Nos. 24 and 22 respectively) would be consistent with reuse within areas associated with human and/or animal traffic. The material was probably incorporated as repair, patching and/or infilling. This would also be applicable to the box-flue tile within the matrix of the wall/kerb line. The presence of CBM within the fills of pits (15%) could perhaps indicate reuse as packing; however, the small quantity and size of the fragments does not substantiate this.

The inter-contextual joins between contexts **33** and **51** may be a result of the insertion of the stone wall/kerb line, redistributing material from earlier levels. Disturbance by later activity is also suggested by the intrusive post-medieval and modern material within contexts **25**, **43** and **51**, although conditions during excavation could also account for the presence of the later material.

The burning/heat discolouration, which is predominately post-breakage and the heat affected mortar, provides only limited evidence to suggest high temperature destruction at original source. It most likely occurred during reuse.

Despite abraded surfaces, the good condition of the material, including fresh breaks and joining fragments, would almost certainly suggest larger fragments or whole tiles at the time of deposition. This is supported by the potential quantities of the individual bricks and tiles present, an estimated two *imbrices*, one *bessalis* and three box-flue tiles. The original source of the assemblage may be in close proximity to the site, although, such a small quantity of individual bricks and tile could also have been easily transported from much further afield.

No bonding material, such as mortar or *opus signinum*, was evident on any of the Roman material, including within the tracks of the combed keying. This is unusual and could imply materials salvaged from a building that was in the process of construction, as opposed to reclamation from the demolition of a building for example. This is, however, only tentatively suggested.

The assemblage is of very good quality and finished to a high standard. The decorated(?) *imbrex* and the box-flue tiles are indicators of a 'high status' and/or affluent building within the vicinity. The material could have been sourced from buildings associated with the fort and vicus to the south of the excavation.

The number of fabrics is too few to suggest multiple sources of manufacture. At present, no counterparts have been identified that could indicate local products from an unknown kiln site within the area. Taking into account the proximity of the fort and *vicus*, this could also be a source of production. However, production sites at York or possibly Malton should not be discounted; possible York products have been noted at Catterick (Isserlin 2002, 525; Tibbles 2012). With all the fabrics discussed, scientific analysis (thin sections) would be required to verify and corroborate parallels and to confirm source of production. This could potentially shed further light on the distribution of ceramic building materials from their production sites.

Dating of the assemblage is inhibited by the lack of forms, diagnostic features and the uncertainty of the provenance of the fabrics; however, the combing of the box-flue tile can indicate a date range. Keying by scoring, incisions made by a knife or a stick, for example, is considered an early practise, superseded by combing (Brodrigg 1987, 109; Croom 1997, 156; Ward 1999, 48; Betts 2001, 228). The Piercebridge assemblage is probably within a 3rd to early 4th century date range.

The assemblage of fired clay could have served a multitude of functions, such as material from an oven or hearth, wall or partition, post-packing or possibly objects such as loomweights. However, no diagnostic or distinguishing features were present to ascertain original use. It most likely reflects reused material, incorporated as possible packing/patching within the contexts associated with the areas of cobbled hardstanding and chance deposition within pits and compartments of the cist. The fired clay was probably of Roman date but has no significant archaeological potential.

The mortar is also of no significant interpretive value. As with the fired clay, the mortar is considered to be of Roman date and was probably reused as packing/patching within occupation deposit **51**.

CATALOGUE OF ILLUSTRATIONS (FIG. 8)

1 Context: **64**, secondary fill of pit **65**

Imbrex. Fabric 2. Yellowish Red (5YR/5/6). Finger-smoothed upper surface, longitudinally. Decorated? with two parallel, horizontal finger-strokes across the gable, at the edge of the open end of the tile. Finely sanded underside. Finger-smoothed original edge. Tile Thickness: 18mm. Weight: 243g.

2 Context: **51**, deposit below cobbles **33**, group no. **24**

Bessalis. Fabric 1a. Red (2.5YR/4/8). Corner fragment. Finger-smoothed upper bed surface, knife-smoothed edges, knife-trimmed arrises. Impressions of one and a half paw prints at the corner on the upper bed surface, fox (*Vulpes sp.*). Thickness: 31mm. Weight: 376g.

3 Contexts: **33** and **51**, later cobble spread and occupation deposit beneath cobbles **33**, group nos. **23** and **24**

Box-flue tile. Fabric 1a. Reddish Yellow 5YR/6/6. Inter-contextual joins. Four adjoining fragments forming approximately half of a plain faced side. Finger-smoothed. Returning corner of combed face: 1 diagonal track, 5 (or >) tines. Broad U-shaped profile. Remnants of a knife-trimmed lateral vent: width >58mm depth 21mm. Impression from the former on the sanded internal surface. Knife-smoothed original top/bottom edge. Height: >153mm. Width: 115mm. Wall Thickness: 20-22mm. Weight: 586g. Vent width: >58mm. Depth: 21mm.

4 Context: **51**, occupation deposit beneath cobbles **33**, group no. **24**

Box-flue tile. Fabric 1a. Yellowish Red 5YR/5/9. Two adjoining fragments. Combed face: 2 tracks in an X pattern and 1 vertical track forming an outer border, 6 tines. Broad U-shaped profile. Knife-smoothed and trimmed original top/bottom edge. Sanded internal surface. Same tile as inter-contextual box-flue (**33/51**). Height: >155mm. Width: 113mm. Wall Thickness: 22mm. Weight: 230g.

5 Context: **25**, occupation layer above cobbles **32** and **33**. Group No. **22**

Box-flue tile. Fabric 1a. Reddish Yellow 5YR/6/8. Four adjoining fragments. Combed face: 1 diagonal track, 6 tines. Broad U-shaped profile. Remnants of returning plain face, finger-smoothed. Knife-smoothed and trimmed original top/bottom edge. Sanded internal surface. Width: >115mm. Wall Thickness: 21mm. Weight: 266g.

APPENDIX F:
FINDS ANALYSIS REPORT

G. Drinkall

INTRODUCTION

A total of 66 objects in a range of materials were recovered during the trial trenching and subsequent excavation. A conservation assessment was undertaken on 65 of these and included X-radiography of the metal finds (Appendix G), the results of which have informed this report, which has been prepared in accordance with English Heritage guidelines (2008). Cleaning and further analysis was undertaken on the ring-key, a stud and both pins. Three copper alloy coins from this assemblage are reported on elsewhere (Appendix H).

A catalogue of the finds ordered by function and material is presented below. The nature of the contexts from which they derive appears at the end of each catalogue entry. The discussion of the assemblage is limited to those items or groups that are of particular significance.

DISCUSSION

Dress and personal items

Two hairpins, one of copper alloy (no. 1; Fig. 9) and one of bone (no. 2; Fig. 9), are both late forms dating to between the 3rd and 4th century AD and similar to others found during earlier excavations at Piercebridge (Cool 2008, fig 11.2, 1205 and 1343), as well as being common at other sites (Crummy 1983; Wilson 2002b). Hairpins were decorative, functional and manufactured in a range of materials. The wide range of new hairstyles introduced during the Roman period entailed wearing the hair up and necessitated the use of these; the way in which they were used can be seen in works of art and in the positions they are found in graves (Cool 1990, 149-150). Changes in these hairstyles also influenced the pin length, with longer pins being generally more suited to the fashion of holding piles of plaits and curls on the crown during the 1st and 2nd centuries and short pins for fastening the hair close to the back of the head as favoured in the 3rd and 4th centuries (Cool 1990, 173-174).

An elliptical stud (no. 3; Fig. 9) was identified as having been plated with tin and would have served a decorative, as well as functional purpose. Similar published examples are known from Catterick Bridge (Thompson 2002, 145, fig. 301.5) and *Verulamium*, where it was dated to AD 280-315 (Waugh and Goodburn 1972, 101, fig. 38).

A rotary key on a substantial finger ring (no. 4, Fig. 9) came from a cleaning layer above cobbles (27). This item was cast and has moulded decoration on the shoulders bordered by incised lines. The ring is patinated from use and its thickness lessens at the back, indicating that it has been worn; although bulky, the key element would have lain flat against the finger. These keys were generally used for securing small boxes or caskets, as seen in an example from Colchester, which was found held in a casket lock by corrosion products (Crummy 1983, 85, fig. 90.2195). Finger rings with rotary keys are of late 3rd or 4th century date (*ibid.*, 84).

A single strand of twisted copper alloy wire forming a near complete ring (no. 5; Fig. 9) could have had a range of uses. The context from which this example derives contained mainly 3rd to 4th century pottery.

A diminutive copper alloy buckle (no. 6; not drawn) is characteristic of those from the medieval period dating from the late 13th or early 14th century, with later examples of late 14th and early 15th century date being identified as shoe buckles (Egan and Pritchard 1991, 57, e.g. fig 36.28).

Nailed shoes were represented by two possible hobnails (no. 7 and 8; not drawn), both being incomplete and highly corroded.

Structural fittings and fasteners

Iron finds from this category were limited in both range and quantity. Two strap fittings (nos. 9 and 10; Fig. 9) both with nail holes for attachment came from occupation deposit **25**. The remaining items consist of nails, with a total of 23 recovered from stratified contexts. Most were highly corroded, though it was possible to determine that those of Manning's Type 1b (Manning 1985, 134, fig. 32) with flat, sub-rectangular or rounded heads were present (nos. 11-15; Fig. 9) in the fill of cremation pit **15**, within occupation deposit **25** and from context **51**. This was to be expected given that the vast majority of nails from Roman sites fall into one of two types, with Type I being the most common (Manning 1985, 134). The remainder (nos. 16-29; not drawn) consist of incomplete and heavily corroded nails, shanks, and a strip likely to be a nail shank. Although all of these are non-diagnostic, none are of recent manufacture and could be Roman in date if derived from secure contexts.

Lead repairs and strips

Only a small amount of lead in the form of sheet fragments was recovered, a situation that is likely to be attributable to it being a valuable commodity and subject to stripping and reuse. Two sheet repair patches (nos. 30 and 31; Fig. 9) with square nail holes and an in situ nail were recovered from a deposit sealing road surface 10. Four other strips were non-diagnostic (nos. 8 and 9). None of these objects are solely typologically attributable to the Roman period.

SUMMARY AND RECOMMENDATIONS

A very limited range of artefacts were recovered, few of which were diagnostically Roman in date. A selection of finds should be retained with the site archive and deposited with the Bowes Museum. Those that can be discarded are indicated at the end of each catalogue entry.

Catalogue

Dress and personal items

(1) Copper alloy pin, near complete; tip missing; Crummy Type 5. Biconical head, bead and reel collar. Slightly swollen shank with patina. L 60mm+, D of head 5mm, D of shank 2-3mm. RF4, context **51**, group **24**, deposit beneath cobbles. Figure 9.

(2) Bone pin, near complete; tip missing; Crummy Type 3. Globular head, flattened on two opposing faces. Circular sectioned shank which is smooth and polished, slightly swollen. L 77mm, D of head 6mm, D of shank 4-6mm. RF 3, context **64**, secondary fill of pit **65**. Figure 9.

(3) Copper alloy lentoid stud with white metal plating on a convex upper surface; complete. Central ridge on upper face; disc head terminal for attachment on reverse. EDXRF analysis found the metal to be a high tin bronze with a trace of zinc present, the white metal plating

was also zinc. L 33mm, W 11mm, H 11mm. RF 20, context **25**, group **22**, occupation deposit. Figure 9.

(4) Ring key, complete; copper alloy. Thick D-shaped sectioned finger ring, roughly oval with cast decoration on shoulders; integral key with cylindrical hollow ward decorated with longitudinal lines, three bits. EDXRF analysis detected copper, tin and lead, with a trace of zinc present. External D 25mm, Th of ring 4 x 3.5mm, L of key 20mm, intact wards are c. 7 x 9mm. RF 14, context **27**, cleaning layer above cobbles. Figure 9.

(5) Copper alloy ring, near complete; single strand twisted wire. D 23mm, D of wire 2mm. RF 2, context **30**, fill of pit **31**. Figure 9.

(6) Copper alloy circular buckle; drawn wire pin looped around the frame; restriction for pin loop. D 14mm, D of wire 1.5mm. RF 7, context **51**, group **24**, deposit beneath cobbles.

(7) ?Hobnail, incomplete; iron. Highly corroded. D c.5mm. RF 11, context **25**, group **22**, occupation deposit. DISCARD.

(8) ?Hobnail, incomplete; iron. Highly corroded. L 15mm+. Context 50, sample AA, deposit beneath cobbles **32**.

Structural fittings and fastenings

All objects are iron unless stated otherwise. Measurements were taken from x-ray plates.

(9) Structural fitting or binding consisting of incomplete strap with three centrally placed sub-rectangular rivet or nail holes, dimensions 6 x 5mm; two off-centre rectangular holes with dimensions of 16 x 7mm. L 145mm+, W 27mm. RF 16, context **25**, group **22**, occupation deposit. Figure 9.

(10) Fitting, incomplete. Strip with circular, off-centre, hole at one end. Highly corroded. L 95mm, W 22mm, D of hole 10mm. RF 17, context **25**, group **22**, occupation deposit. Figure 9.

(11) Nail, complete; Manning Type 1b. Flat, roughly circular head, substantial shank. L 110mm, W (head) 20mm, W of shank 6mm. RF 1, context **17**, fill of cremation pit **15**. Figure 9.

(12) Nail, near complete; Manning Type 1b. Highly corroded; flat or flattened head. L 40mm+. Context **25**, group **22**, occupation deposit. DISCARD.

(13) Nail, near complete; Manning Type 1b. Highly corroded; flat or flattened head. L 32mm+. RF 19, context **25**, group **22**, occupation deposit. DISCARD.

(14) Nails, two near complete; Manning Type 1b and one shank. Rectangular sectioned shanks and flat roughly circular heads. L 35-37mm. Context **25**, group **22**, occupation deposit. DISCARD.

(15) Nail, near complete; Manning Type 1b. Highly corroded; flat or flattened head. L 47mm+. Context **51**, group **24**, deposit beneath cobbles. DISCARD.

(16) Nail, complete. Hand forged, slightly domed sub-rectangular head. L 100mm, W of shank 7mm. Context **45**, hedge line. DISCARD.

- (17) Nail, incomplete. Head indistinct. L 40mm+. Context 51, group **24**, deposit beneath cobbles. DISCARD.
- (18) Nail, incomplete. Head indistinct. L 55mm+. Context 51, group **24**, deposit beneath cobbles. DISCARD.
- (19) Nail, incomplete and in two pieces. Head indistinct. L 57mm+. Context **35**, later cobbled surface. DISCARD.
- (20) Nail shank, bent. L 85mm+. Context **67**, pit fill. DISCARD.
- (21) Nail shank. L 55mm. RF 10, context **25**, group **22**, occupation deposit. DISCARD.
- (22) Nail shanks; three fragments, two bent. Context **25**, group **22**, occupation deposit. DISCARD.
- (23) Nail shank. L 60mm. Context **42**, ditch fill. DISCARD.
- (24) Nail shank, fragment. RF 12, context **25**, group **22**, occupation deposit. DISCARD.
- (25) Nail shank, fragment. Context **67**, fill of pit **66**. DISCARD.
- (26) Nail shank, fragment. Context **45**, hedge line. DISCARD.
- (27) Nail shank, fragment. L 30mm+. Context **97**, fill of cist. DISCARD.
- (28) Two highly corroded fragments, possibly nail shanks. Context **35**, cobbled surface. DISCARD.
- (29) Strip, possible nail shank. L 58mm+. Context **51**, group **24**, deposit beneath cobbles. DISCARD.

Lead repairs and strips

- (30) Repair patch. Incomplete rectangular strip; one original edge with square nail hole. L 42mm+, W 25mm+, Th 1mm. Context **10**, deposit sealing road surface. Figure 9.
- (31) Repair patch. Incomplete rectangular strip, no original edges; square nail hole with iron nail head and part of shank in situ. L 45mm+, W 30mm+, Th 1mm. Context **10**, deposit sealing road surface. Figure 9.
- (32) Incomplete strip with folded edge. L 35mm+, W 25mm, Th 4mm. Weight 40g. Context **29**, group **26**, fill of possible hedge line **28**. DISCARD.
- (33) Three non-diagnostic strip and fragments. Weight 29g. Context **77**, stone layer. DISCARD.

Ceramic

- (34) Three fragments of possible kiln lining. Weight 19g. Context **42**, secondary fill of ditch **39**.

Miscellaneous and later ironwork

(35) Binding with 20mm long projection. Post-medieval to early modern. D 22mm, H 20mm. RF 18, context **25**, group **22**, occupation deposit. DISCARD.

(36) Tapering spike, incomplete; rectangular in section; heavily corroded. Non-diagnostic. L 145mm+, W 4-6mm. Context **50**, deposit beneath cobbles **32**. DISCARD.

(37) Horseshoe web with 5 rectangular nail holes. Post-medieval. RF 8, context **45**, fill of hedge line. DISCARD.

Iron strips and sheet fragments

(38) Folded strip. L 25mm+, W 12mm. Context **5**, group **24**, occupation deposit. DISCARD.

(39) Seven sheet fragments. Highly corroded. L 20-50mm. Context **51**, group **24**, deposit beneath cobbles. DISCARD.

(40) Three sheet fragments. Highly corroded. L 40mm+, 30mm+ and 25mm+. Context **51**, group **24**, deposit beneath cobbles. DISCARD.

(41) Three sheet fragments. Highly corroded. L 35mm+, 30mm+ and 17mm+. Context **77**, stone layer. DISCARD.

(42) Non-diagnostic and highly corroded fragment, 15 x 12mm. RF 15, context **25**, group **22**, occupation deposit. DISCARD.

(43) Two non-diagnostic and highly corroded fragment. L 18 and 20mm. Context **50**, deposit beneath cobbles **33**. DISCARD.

**APPENDIX G:
CONSERVATION ASSESSMENT**

J. Jones

QUANTIFICATION AND CONDITION

Sixty-three objects were received for examination, X-radiography and conservation assessment. All copper alloy and the non-metal objects were found to be stable when examined, but many of the iron artefacts were cracking or spalling. Objects were lightly, moderately and highly corroded.

Lightly corroded metallic material is defined as having a thin, often compact corrosion surface, sometimes with good patination, which obscures little of the object's form or surface detail. There is significant metal remaining below the corrosion surface. Moderately corroded metal objects are defined as having the surface detail, but not usually the general form of the object, obscured by corrosion products, and have some metal remaining below the corrosion. Highly corroded metal objects are defined as having both the form and the surface detail of the object obscured by corrosion, and/or having little or no metal remaining in the core.

X-RADIOGRAPHY

The objects were briefly visually examined to assess their condition and stability, to determine the material from which they were made, and to look for surface and technological detail. The metalwork was then X-radiographed.

Details of the artefacts examined, including an identification of the material, the condition of the object when examined, its XR plate number, and any technological or other observations, were added to a database (Table G1).

CONSERVATION RECOMMENDATIONS

XR 6576:

RF3: Bone pin. Surface soil removal and consolidation to stabilise the object.

RF4: CuA pin. Selective removal of soil and obscuring corrosion products to reveal further surface detail to assist with identification and dating.

RF5: CuA coin. Removal of obscuring soil and corrosion products to reveal surface detail to assist with identification and dating.

RF6: CuA coin. Removal of obscuring soil and corrosion products to reveal surface detail to assist with identification and dating.

RF14: CuA key ring. Surface soil removal and EDXRF analysis to identify alloy/surface coating.

RF20: CuA Fitting. Surface soil and obscuring corrosion removal and EDXRF analysis to identify alloy/surface coating.

XR 6577:

[50], [5]: selective corrosion removal using air abrasion to reveal form and surface detail to assist identification.

XR 6578:

RF17, RF18: selective corrosion removal using air abrasion to reveal form and surface detail to assist identification.

XR 6579:

RF16: selective corrosion removal using air abrasion to reveal form and surface detail to assist identification.

STORAGE

The metal objects should continue to be stored in an airtight container at a stable temperature and ideally below 20% relative humidity (RH), to inhibit further corrosion of the iron. RH should be controlled by active silica gel, which is regularly monitored and regenerated as necessary.

The non-metal objects may be stored in conditions of ambient temperature and relative humidity, avoiding extremes of both.

Table G1: Conservation assessment

Context	RF No	Material	Object	Condition	Qty.	Observations	Xr no
17	1	Fe	nail	highly corroded/ stable	1		6577
30	2	CuA	ring	highly corroded/ stable	1		6576
64	3	bone	pin	stable	1		none
51	4	CuA	pin	highly corroded/ stable	1		6576
42	5	CuA	coin	highly corroded/ stable	1		6576
45	6	CuA	coin	moderately corroded/ stable	1		6576
51	7	CuA	buckle	moderately corroded/ stable	1		6576
45	8	Fe	horseshoe	highly corroded/ spalling	1		6578
25	10	Fe	nail	highly corroded/ cracking	1		6579
25	11	Fe	?hobnail	highly corroded/ stable	1		6580
25	12	Fe	fragment	highly corroded/ cracking	1		6579
25	13	CuA	coin	moderately corroded/ stable	1		6576
27	14	CuA	key ring	lightly corroded/ stable	1	?white metal plating on surface	6576
25	15	Fe	fragment	highly corroded/ spalling	1		6580
25	16	Fe	bar	highly corroded/ cracking	1		6579
25	17	Fe	object	highly corroded/ cracking	1		6578
25	18	Fe	object	highly corroded/ cracking	1		6578
25	19	Fe	nail	highly corroded/ spalling	1		6578

Context	RF No	Material	Object	Condition	Qty.	Observations	Xr no
25	20	CuA	fitting	lightly corroded/ stable	1	white metal plating on surface	6576
5		Fe	folded object	highly corroded/ spalling	1		6577
10		Pb	sheet frags	moderately corroded/ stable	2	1 has fe nail/rievet	none
25		Fe	nails	highly corroded/ stable/ cracking	4		6577
25		Fe	nails	highly corroded/ cracking	2		6578
25		Fe	nail	highly corroded/ cracking	1		6579
29		Pb	sheet frag	moderately corroded/ stable	1		none
35		Fe	?nail	highly corroded/ spalling	2		6579
35		Fe	nail	highly corroded/ stable	2	partly adhering to stone	6580
42		Fe	sheet frags/nail	highly corroded/ spalling	1		6578
42		Ceramic	kiln lining	stable	3	traces of vitrified surface	6578
45		Fe	nails	highly corroded/ stable/ cracking	2		6577
50		Fe	twisted bar & nail	highly corroded/ stable/ spalling	3		6577
51		Fe	sheet frags	highly corroded/ stable	3		6577
51		Fe	nails + ?	highly corroded/ stable/ cracking	3		6579
51		Fe	nails, sheet frags, slag	highly corroded/ stable/ spalling	8		6580
66		Fe	nail	highly corroded/ cracking	1		6577
67		Fe	fragment	highly corroded/ cracking	1		6579
77		Pb	fragments	moderately corroded/ stable	3		none
77		Fe	nail head and frags	highly corroded/ cracking	3		6578
97		Fe	fragment	highly corroded/ stable	1		6578

APPENDIX H:

THE COINS

R. Brickstock

Three coins were found during the archaeological investigations, two of them Roman and one modern. Cataloguing conventions are as set out within the author's English Heritage guidance note (English Heritage 2004).

- 1 RF 13, Context 25
 Issuer: Hadrian Denomination: sestertius
 Obverse: [IMP CAESAR TRAI]ANVS HADRI-AN[VS AVG PM TRP COS III]
 Reverse: illegible
 Date: AD 119-21 Mint: Rome Die axis: illegible
 Condition: VW-EW/EW Diameter: 33 mm Weight: 27.2 g
 Catalogue reference: as RIC 580ff.

This coin was one of a number of finds recovered from context 25. The style of the bust and the legible portion of the obverse legend allow the coin to be closely dated within the early part of the reign of Hadrian. However, the obverse is extremely worn, which would normally be taken to suggest a lengthy period of circulation before deposition, perhaps in the middle or later years of the second century AD. The reverse is even more worn, indeed completely worn away, possibly as a result of further abrasion post-deposition.

- 2 RF 5, Context 42
 Issuer: probably Radiate fragment Denomination: 'Antoninianus'
 Obverse: Radiate head?
 Reverse: illegible
 Date: AD 260-73 Mint: illegible Die axis: illegible
 Condition: C/C Diameter: 14.5 mm Weight: 0.8 g
 Catalogue reference: RIC –

This corroded fragment of a coin was recovered from context 42 (above ditch 39), which also contained Roman pottery and iron objects. It is almost certainly a fragment of the series of base metal coins now known as 'Radiates', which were produced in great abundance in the years following AD 260.

- 3 RF 6, Context 45
 Issuer: George II Denomination: 1/4d
 Obverse: [GEORG]IVS [II REX] Bust, left.
 Reverse: [BRITANNIA 17--] Britannia, left.
 Date: AD 1727-60 Die axis: 12
 Condition: EW/EW Diameter: 20.5 mm Weight: 1.4 g
 Catalogue reference: -

This 18th century farthing was recovered from a modern feature, context 45, the fill of hedge line 44.

**APPENDIX I:
OSTEOLOGICAL ANALYSIS**

K. Keefe and M. Holst

INTRODUCTION

The two burials were located at the eastern edge of the site, within a stone lined cist that had been separated into two chambers, constructed from limestone slabs. The southern chamber was slightly smaller and contained cremation 94 in a headpot, together with pottery fragments, animal bone, an iron object and ceramic building material. The northern part of the cist was slightly larger and contained cremated bone that is assumed to have derived from a second individual, as well as an iron object.

Table 11: Summary of cremated bone assemblages

Feature No	Burial Contexts	Feature Type	Period	Burial Type	Artefacts and Inclusions	Bone Colour	Preservation	Weight (g)	% of Expected Bone
99	94/95	Cist	Roman	Urned face pot	Pottery, animal bone, an iron object and ceramic building material	Generally white, some blue grey colouration	Good	642.9	39.54%
99	96/97	Cist	Roman	Un-urned	Iron object	Generally white, moderate blue grey colouration	Good	262.35	16.14%

AIMS AND OBJECTIVES

The assessment aimed to identify whether all cremated bone recovered from the burial was human. The analysis then aimed to determine age, sex, minimum number of individuals interred, as well as any manifestations of disease from which the individuals may have suffered. Additionally, information was sought regarding the cremation techniques.

METHODOLOGY

The cremated bone was sieved through a stack of sieves, with 10mm, 5mm and 2mm mesh sizes. The bone recovered from each sieve was weighed and sorted into identifiable and non-identifiable bone. The identifiable bone was divided into five categories: skull, axial (excluding the skull), upper limb, lower limb and long bone (unidentifiable as to the limb). All identifiable groups of bone were weighed and described in detail.

OSTEOLOGICAL ANALYSIS

Osteological analysis is concerned with the determination of the demographic profile of the assemblage based on the assessment of sex, age and non-metric traits. This information is essential in order to determine the prevalence of disease types and age-related changes. It is

also crucial for identifying gender dimorphism in occupation, lifestyle and diet, as well as the role of different age groups in society.

Preservation

Skeletal preservation depends upon a number of factors, including the age and sex of the individual as well as the size, shape and robusticity of the bone. Burial environment, post-depositional disturbance and treatment following excavation can also have a considerable impact on bone condition. Preservation of human remains is assessed subjectively, depending on the severity of bone surface erosion and post-mortem breaks, but disregarding completeness.

Preservation was assessed using a grading system of five categories: very poor, poor, moderate, good and excellent. Excellent preservation implied no bone erosion and very few or no post-depositional breaks, whereas very poor preservation indicated complete or almost complete loss of the bone surface due to erosion and severe fragmentation.

The bone from both burials (94/95) and (96/97) had been preserved in good condition. The assemblages retained surface detail, with few fragments exhibiting worn edges. Warping and bone cracking, which occurs commonly during the cremation process, was evident in both burials and may relate to the larger fragment size of the majority of the cremated bone in these assemblages (Table I2).

Table I2: Summary of cremated bone fragment size

Cremation Burial	10mm (g)	10mm (%)	5mm (g)	5mm (%)	2mm (g)	2mm (%)	< 2mm (g)	< 2mm (%)	Weight (g)
(94/95)	311.8	48.5	250.8	39.0	67.6	10.5	12.7	2.1	642.9
(96/97)	67.9	25.9	151.75	57.8	40.1	15.3	2.6	1.0	262.35

The two cremated bone assemblages contained bone fragments that were 10mm in size or larger (Table I2). In each burial, the largest quantity of bone was derived from a different sieved fraction; Burial 94/95 contained mostly fragments larger than 10mm, while the majority of the bone from Burial 96/97 was recovered from the 5mm sieve. Bone can fragment during the cremation process, for example as a result of movement when the pyre collapses, during any tending of the pyre, if it was moved while still hot, or as the bone was collected from the pyre (McKinley 1994). However, work by McKinley (1994) has demonstrated that the fragment size of cremated bone is frequently the result of post-cremation processes. This is because skeletal elements retrieved from modern crematoria tend to be comparatively large before being ground down for scattering or deposition in the urn (*ibid.*).

In the case of both burials it is unclear whether post-depositional or post-burning disturbance of the bone caused the fragmentation. Burial 94/95 had been placed within an urn, which may have protected it to a degree from post-depositional disturbances, however, the pot had been heavily truncated and only the lower half remained. Burial 96/97 was unurned, and some of the cremated remains were discovered outside the cist, suggesting post-depositional activity, most likely bioturbation.

The quantity of cremated bone recovered from the cremation burials at Piercebridge varied in weight from 262.35g to 642.9g (see Tables I1 and I2), with an overall mean weight of 452.6g. Both burials yielded much less than the expected quantity of bone weight produced by modern crematoria, which tends to range from 1000.5g to 2422.5g with a mean of 1625.9g (McKinley

1993). Wahl (1982, 25) found that archaeologically recovered remains of cremated adults tend to weigh less (between 250g and 2500g) as a result of the commonly practised custom of selecting only some of the cremated bone from the pyre for inclusion in the burial, thereby representing a symbolic, or token, interment. It is possible that the burials from Piercebridge represent token burials and therefore only a portion of the individual's remains was required for interment.

According to McKinley (1989), the body requires a minimum temperature of 500° Celsius over seven to eight hours to achieve complete calcination of the bone. This process of calcination appears to have been incomplete in the Piercebridge bone assemblages, although the majority of the bones were very well burnt, causing the complete loss of the organic portion of the bone and producing a white colour, a number of bones exhibited blue-grey inner surfaces. This included the outer surfaces of occipital fragments from Burial **94** as well as the internal surfaces of lower limb bones from Burial **97**.

It was possible to identify between 64% and almost 82% of the skeletal elements in the cremation burials (Table 13), with an average of 73% of bone being identifiable. Both burials could be positively identified as human.

Table 13: Summary of identifiable elements in the cremation burials

Cremation Burial	Skull (g)	Skull (%)	Axial (g)	Axial (%)	UL (g)	UL (%)	LL (g)	LL (%)	UIL (g)	UIL (%)	Total ID (g)	Total ID (%)	Total UID (g)	Total UID (%)
(94/95)	105.9	16.5	57.6	8.9	80.5	12.5	147.3	22.9	134.9	21.0	526.2	81.8	116.7	18.2
(96/97)	53.35	20.3	14.6	5.6	5.7	2.2	16.9	6.4	78.3	29.8	168.85	64.4	93.5	35.6

The majority of identifiable bone from Burial 94/95 comprised lower limb bone fragments, including left and right talus fragments and distal femur articular fragments. The majority of identifiable bone from Burial 96/97 consisted of skull fragments, comprising largely sutural and general vault fragments. Since the cranial vault is very distinctive and easily recognisable, even when severely fragmented, it often forms a large proportion of identified bone fragments in cremated remains (McKinley 1994).

Minimum number of individuals

A count of the 'minimum number of individuals' (MNI) recovered from a cemetery is carried out as standard procedure during osteological assessments of inhumations in order to establish how many individuals were represented by the articulated and disarticulated human bones (without taking the archaeologically defined graves into account). The MNI is calculated by counting all long bone ends, as well as other larger skeletal elements, such as the hip joints and cranial elements.

It is not possible to calculate the MNI for cremation burials, because only a token selection of bone from the pyre tends to be buried. Double burials can be identified only if skeletal elements are duplicated, or if skeletons of different ages are represented in one burial. The two burials each appeared to contain a single individual. In fact, there were no duplicated elements in the two burials, which may suggest that the two burials represent a single individual.

Assessment of age

Age was determined using standard ageing techniques, as specified in Scheuer and Black (2000a; 2000b) and Cox (2000). Age estimation relies on the presence of the pelvis and uses different stages of bone development and degeneration in order to calculate the age of an individual. Age is split into a number of categories, from foetus (up to 40 weeks in utero), neonate (around the time of birth), infant (newborn to one year), juvenile (1-12 years), adolescent (13-17 years), young adult (ya; 18-25 years), young middle adult (yma; 26-35 years), old middle adult (oma; 36-45 years), mature adult (ma; 46+) to adult (an individual whose age could not be determined more accurately as over the age of seventeen).

Age could not be accurately determined from the remains of either burial, because the ageing criteria, which are normally used, did not survive. Burial **94/95** contained a distal tibia fragment (part of the ankle) and an iliac crest (top of the hip bone), suggesting that the individual was an adult, at least twenty years old. However, mild degenerative joint disease, recorded on the vertebral articular surface of the sacrum may suggest that the individual was older, over the age of 35. The presence of a fragment of femoral neck and head (part of hip joint) amongst the remains of Burial **96/97** suggests that the individual was at least nineteen years of age (Table I4).

Table I4: Summary of osteological results

Cremation No.	Preservation	MNI	Species	Age	Sex	Weight (g)	Period
(94/95)	Good	1	Human	Adult (20+)	-	642.9	Roman 3rd C?
(96/97)	Good	1	Human	Adult (19+)	-	262.35	Roman

Sex determination

Sex determination is usually carried out using standard osteological techniques, such as those described by Mays and Cox (2000). Assessment of sex in both males and females relies on the preservation of the skull and the pelvis and can only be carried out once sexual characteristics have developed, during late puberty and early adulthood. Neither of the assemblages contained any skeletal elements that were sexually dimorphic.

Metric analysis

Stature depends on two main factors, heredity and environment; it can also fluctuate between chronological periods. Stature can only be established in skeletons if at least one complete and fully fused long bone is present, but preferably using the combined femur and tibia. The bone is measured on an osteometric board, and stature is then calculated using a regression formula developed upon individuals of known stature (Trotter 1970).

Cremated bone shrinks at an inconsistent rate (up to 15%) during the cremation process and it was therefore not possible to measure any of the bones from these burials.

Non-metric traits

Non-metric traits are additional sutures, facets, bony processes, canals and foramina, which occur in a minority of skeletons and are believed to suggest hereditary affiliation between skeletons (Saunders 1989). The origins of non-metric traits have been extensively discussed in the osteological literature and it is now thought that while most non-metric traits have genetic origins, some can be produced by factors such as mechanical stress (Kennedy 1989) or environment (Trinkhaus 1978).

Non-metric traits were not identified in either burial.

Pathological and dental analysis

The analysis of skeletal and dental manifestations of disease can provide a vital insight into the health and diet of past populations, as well as their living conditions and occupations, oral hygiene, as well as information about environmental and congenital conditions.

No dental remains were present.

Degenerative joint disease

The term joint disease encompasses a large number of conditions with different causes, which all affect the articular joints of the skeleton. Factors influencing joint disease include physical activity, occupation, workload and advancing age, which manifest as degenerative joint disease and osteoarthritis. Alternatively, joint changes may have inflammatory causes in the spondyloarthropathies, such as septic or rheumatoid arthritis. Different joint diseases affect the articular joints in a different way, and it is the type of lesion, together with the distribution of skeletal manifestations, which determines the diagnosis (Rogers 2000; Roberts and Manchester 2005).

The most common type of joint disease observed tends to be degenerative joint disease (DJD). DJD is characterised by both bone formation (osteophytes) and bone resorption (porosity) at and around the articular surfaces of the joints, which can cause great discomfort and disability (Rogers 2000).

A moderate degree of osteophytic lipping was evident on the superior sacral articular facet recovered from Burial **94/95**. Such lesions would probably have reduced mobility within the lower back region.

Funerary ritual

Burial **94/95** has been dated to the 3rd century AD, due to its inclusion within a Roman headpot. Burial **96/97** is also believed to be Roman based upon its presence within the same burial cist as Burial **94/95**.

Both burials were placed within a purpose built stone-lined cist, constructed of limestone slabs. The cist was constructed in a sub-circular pit that had been split into two chambers for the two burials. It would appear that Burial **94/95** had been heavily truncated prior to its discovery, (based on the incomplete nature of the vessel it was placed within) and by association, Burial **95/96** is likely to have suffered a similar level of disturbance. Cist burials are a common form of burial during the Roman period in different parts of Britain and can include either cremation burials or inhumations.

Burial **94/95** had been placed in a 3rd century headpot. Both burials contained a small number of other artefactual evidence, with both burials containing iron objects, and Burial **94/95** also included animal bone, ceramic building material and pottery sherds. The headpot which contained the cremated individual was of a type that is most common in Britain and North Africa during the Roman period, but are rarely seen in other parts of the Roman Empire (Braithwaite 1984).

DISCUSSION AND SUMMARY

The osteological analysis of the two cremated bone assemblages has revealed that both were relatively well burnt, with some bone fragments retaining a blue-grey colouring, particularly on the inner surfaces of bones, which would suggest that the complete calcination of the bone had not been achieved, and the cremation process had been incomplete.

Both of the burials appeared to contain the remains of a single individual, in fact, it is possible that **94/95** and **96/97** together represent a single individual, as skeletal elements were not duplicated. The two burials **94/95** and **96/97** both contained the remains of adults aged at least twenty and nineteen years of age respectively when they died, although they may have been considerably older. Sex could not be estimated for either of the individuals. Both burials contained much less than the quantity of bone expected from modern cremations, suggesting that only a portion of the individual's remains were necessary for interment, or that later disturbances resulted in the truncation of the burials.

Pathological analysis of the remains revealed that the one of the individuals (**94/95**) suffered from mild degenerative joint disease in the lower back.

APPENDIX J:
ANIMAL BONE ANALYSIS REPORT

L. Gidney

Only one standard box of animal bone was recovered from the archaeological investigations. Given the large quantities of animal bone deposited in features associated with the Roman fort at Piercebridge (Rackham 2008) and the Holme House villa (Gidney 2008), it is clear that this area of Roman occupation attracted little in the way of activities generating faunal refuse, whether from direct food consumption or manuring with domestic midden material.

The majority of the animal bones were recovered from Roman features, with a few finds associated with a post-medieval hedge line. Preservation of the bones from the Roman deposits was poor to moderate. Even cattle bones have lost organic content, so that the shafts of long bones are splintering. The surfaces of many bones have decayed in a manner suggestive of sub-aerial weathering or disturbance and redeposition. Jaw bones have totally decayed, leaving only the tooth rows, and even the dentine in teeth has decayed, leaving only the enamel. The assemblage is therefore biased towards the survival of large and robust bones and will not be representative of the original presence of bones from smaller species. The post-medieval finds are in comparatively good condition, particularly the sheep size vertebra from context **90**.

Fragments of cattle, sheep/goat and pig bones were noted as identifiable if these encompassed a 'zone', or discrete diagnostic feature. This approach reduces multiple recording of fragments potentially from the same bone. Unidentifiable fragments were not recorded, unless all the fragments were indeterminate, as was the case for contexts **6** and **35**. The standard zooarchaeological term sheep/goat is used. However there is no evidence for the presence of goat and the elements present that are diagnostic to species are all sheep. The fragments recorded as cattle and sheep size are vertebrae and ribs. All identifiable fragments of the remaining species were counted.

The poor surface condition of the bones has obscured much evidence for butchery marks. Chop marks were recorded on 11 cattle and cattle-size bones and one sheep/goat bone. The breakage patterns of the bones are consistent with carcass dismemberment and marrow extraction.

It can be seen from Tables J1a-c that a very restricted range of species is represented. Robust cattle bones are represented throughout the site and are the only bones to survive on exposed open features such as cobble surfaces. Sheep/goat and pig bones have survived in the fills of Roman pits and ditches.

Table J1a Fragment counts for the species present in the evaluation trenches

Context	Cattle	Sheep/goat	Pig	Horse
5	5	2	1	1
10	2	1	-	-

Table J1b Fragment counts for the species present in Roman contexts

Context no.	Context type	Cattle	Cattle size	Sheep/ goat	Sheep size	Pig	Horse	Frog/ toad	Rabbit
52	Hollow-way fill	1	-						
67	Pit fill	2	-	1		1	1		
50	Occupation deposit	2	1						
51	Occupation deposit	13		3	1	2		1	
32	Cobble surface	2							
25	Occupation deposit	7		4		1			
30	Ditch fill	3		1					
43	Ditch fill	4		1		1			1
64	Pit fill	17	2	3		3	4		
79	Pit fill	1							

Table J1c Fragment counts for the species present in hedge lines and recent contexts

Context	Context type	Cattle	Sheep/ goat	Horse	Dog	Goose
29	Hedge line	1	-	-	-	-
32	Cobble surface	2	-	-	-	-
45	Hedge line	1	-	-	2	1
90	Pit fill	-	1	1	-	-

Table J2 Relative proportions of the domestic species

Species	Count	Rel. Proportion
Cattle and Cattle size	62	71%
Sheep/goat and sheep size	17	19%
Pig	9	10%
Total	88	

Although cattle bones predominate, little information has survived to indicate preferred age at slaughter. The epiphysial ends present are all fused and the few teeth are of the adult dentition and at full to advanced wear stages. No evidence for juvenile or immature animals has survived. Context **51** appears to have contained a cattle skull, now represented only by the teeth from both maxillae. The wear on these teeth is uneven, with V-shaped rather than flat cusps, and both 3rd molars are in the process of developing “hooked” posterior cusps. Comparison with modern reference specimens indicates that this “hook” on maxillary molar 3 causes excessive wear on the 3rd cusp of lower molar 3 and erosion of the bone on the dorsal surface of the mandible to the rear of molar 3. Ingham (2002, 171-2, figs. 5-6) describes several occurrences of this condition among Chillingham cattle, where such dental problems appear to be a contributory cause of death, since the animals are unable to cud efficiently. Context **32** produced an articulating distal tibia and astragalus. Pubic bones with female morphology were found in contexts **51** and **67**, with a male example in context **64**. Only one bone was measurable, a distal metacarpal from context **51**. The Distal Breadth (54.4mm) falls within the range of Dexter cows in the author’s reference collection.

Though few sheep/goat teeth were found, there are examples at early stages of wear indicating culling of animals possibly in their second year. No epiphysial ends have survived to complement this suggestion.

Despite the preservational bias against the smaller species, the Romanised nature of the assemblage is indicated by the comparatively good representation of pig bones, relative to those of sheep, as pig bones are generally infrequent on Iron Age settlement sites, for example

Creyke Beck (Gidney 2003). The few pig teeth exhibit early wear stages on the permanent teeth, suggestive of bacon weight animals in their second year. One canine tooth is certainly from a male.

Horse is represented by loose teeth except for the small concentration of elements in context **64** which include a chopped vertebra fragment and a gnawed humerus fragment. The gnaw marks suggest the practice of feeding horse meat to dogs is of venerable antiquity. Hyland (1990, 249) notes that the eating of horsemeat was repugnant to Romans and only resorted to in time of famine, while Cool (2006, 91-2) notes that regular and convincing evidence for human consumption of horse is sparse in Roman Britain.

No bones of dog were found in the Roman contexts but characteristic gnawing marks survive on three cattle bones and two sheep/goat bones, in addition to the horse bones. More gnawing marks have doubtless been obscured by the previously observed poor surface condition of the bones. Pre-depositional gnawing by dogs will have reduced the survival of identifiable fragments of sheep and pig bones, in particular. The post-medieval hedge line produced two fragments of dog bone, one from a fore limb and one from a hindlimb. Insufficient remains survives to indicate whether both bones derive from the same animal.

The only bird bone recovered was a goose wing bone, from the same post-medieval hedge line as the dog bones.

The frog/toad bone in context **51** appears to indicate a recent intrusion as the good condition of this small and fragile bone contrasts with that of the other fragments from the same context.

The rabbit bone in context **43** also indicates an intrusion but predating the frog/toad as this bone is already in the process of decay, with degeneration of the bone surface.

SAMPLES

It can be seen from Table J3a that faunal remains were not abundant in the samples. The background preservational bias may account for cattle bones remaining the most common but there is a tentative suggestion that pig remains may be under-represented compared to those of sheep in the hand-recovered assemblage. A concentration of three bones in context **67**, probably from one animal of rat or water vole size, indicates the presence of commensal small wild species on the site. Since this context is a pit fill, the feature may have acted as an inadvertent pitfall trap.

Table J3a. Species present in the samples

X = all fragments indeterminate

Context	Cattle	Cattle size	Sheep/ goat	Pig	Small mammal	Indeterminate
5				1		
30	1	1		1		
43			1			
47						X
50	1					
51						X
64	2					
67					3	
80						X

DISCUSSION

It is clear from the pottery finds that Roman domestic household waste was both disposed of in pit fills and accumulated in occupation deposits. The surviving animal bones indicate that the sherds of pottery were accompanied by organic refuse. The soil conditions were not favourable to the preservation of bone, hence the bias in favour of large and robust cattle bones. Despite this, pig bones were found throughout these deposits and in equal numbers to those of sheep in some contexts. Such broad representation of pig is an indication of Romanised husbandry and consumption patterns, contrasting with the native and Iron Age preference for sheep husbandry. The cattle appear to have been adult animals, with some possibly aged. There is some evidence to suggest that both the sheep and pigs were killed as second year animals, maximising the return of meat for feed inputs. The horse bone and dog gnawing marks indicate the presence of both these companion animals.

The post-medieval contexts produced direct evidence of dog bones and goose, the sole bird species represented.

APPENDIX K:

ANALYSIS OF THE PALAEOBOTANICAL REMAINS, CHARCOAL AND SHELL

L. F. Gardiner

INTRODUCTION

Fifteen bulk environmental samples were taken during the course of the archaeological excavation. This report presents the results of the assessment of the palaeobotanical and charcoal remains in accordance with Campbell *et al.* (2011) and English Heritage (2008).

METHODOLOGY

The fifteen bulk environmental samples were processed in their entirety at NAA. The colour, lithology, weight and volume of each sample was recorded using standard NAA pro forma recording sheets (Table K1). The samples were processed with 500 micron retention and flotation meshes using the Siraf method of flotation (Williams 1973). Once dried, the residues from the retention mesh were sieved to 4mm and the artefacts and ecofacts removed from the larger fraction and forwarded to the relevant specialists. The smaller fraction was scanned using a magnet in order to pick up any hammer scale that may have been present, but was not examined for artefacts and has been retained.

The flot, plant macrofossils and charcoal were retained and scanned using a stereo microscope (up to x50 magnification). Any non-palaeobotanical finds were noted on the pro forma (Table K2).

The plant remains and charcoal were identified to species, as far as possible, using Cappers *et al.* (2006), Cappers and Neef (2012), Hather (2000), Jacomet (2006) and Schoch *et al.* (2004). Nomenclature for plant taxa followed Cappers and Neef (2012) and Stace (2010).

RESULTS

Only charred plant material have been commented on as any uncharred plant remains would have been unlikely to have survived the aerobic soil conditions. The fruits and seeds of common fumitory (*Fumaria officinalis*), elder, (*Sambucus nigra*), goosefoots (*Chenopodium* sp.) and bramble (*Rubus* sp.) present in most of the samples were most likely to have been modern contaminants through aeolian deposition or bioturbation.

The results have also been presented in tabular form; charcoal in Table K3 and charred plant remains in Table K4. All the tables include the data from the evaluation assessment report; however, for discussion of the evaluation palaeoenvironmental data see Lowrie (2012).

Charred plant material

Samples **32** AA (later cobble spread), **43** AA (fill of hollow-way **69**), **47** AA (fill of pit **49**), **51** AA (deposit beneath cobbles **33**), **67** AA (fill of pit **66**), **94** AA (cremation, southern compartment), **95** AA (fill of cist, southern compartment), **96** AA (fill of pit **99**) and **97** AA (fill of cist, northern compartment) did not yield charred plant material. The remaining six samples presented 28 grains in total, with the largest quantity (**14**) from sample **30** AA (fill of pit **31**). The preservation of the charred grain was poor and made identification difficult, resulting in very few positive identifications. Sample **30** AA yielded five bread wheat (*Triticum aestivum* ssp. *aestivum*) grains

and one grain identified as spelt (*T. aestivum* ssp. *spelta*); however, due to preservational distortions eight grains remained un-identifiable. Two possible emmer (*T. turgidum* ssp. *dicoccon*) grains were identified from sample 80 AA (fill of pit 81). A single bread wheat grain and a possible barley (cf. *Hordeum vulgare*) grain originated from sample 64 AA (secondary fill of pit 65).

Charcoal

Charcoal fragments were more abundant than the charred grain and appeared in fourteen samples. However, these were still in very small quantities with 115 fragments identified from the whole assemblage. The most ubiquitous species was heather (*Calluna vulgaris*) with oak (*Quercus* sp.) and hazel (*Corylus avellana*) nearly as abundant. The species identified from the excavation were almost comparable with those from the evaluation, with the exception of two fragments of charcoal from sample 52 AA (fill of hollow-way 68), which had pore and ray arrangements indicative of conifer. Species from Amygdaloideae (a sub-family of Rosaceae which includes apples, pears and hawthorn) was identified from charcoal recovered from a pit containing burnt animal bone (16 AA), and appeared again in the cremation pit (96 AA), where hawthorn was identified.

Shell

Seven samples (47 AA, 51 AA, 52 AA, 64 AA, 80 AA, 95 AA and 96 AA) yielded 20 terrestrial shells between them. Three different species with good preservation were noted. However, due to the very small numbers and size, these snails were likely to have been intrusive.

Magnetic matter

All the magnetic matter picked up by the magnet was scanned under the microscope. All the samples had one or two pieces of plate- and spherical-hammerscale present. The ubiquitous distribution of the hammerscale indicated that it was present all over the site.

DISCUSSION

Charred grain

The charred grain assemblage, which included species found in the Roman period, was void of any glumes. The paucity of glumes, chaff and charred weed seed suggested that this was not a location where crop processing activities had occurred. The charred grain originated from samples that also yielded charcoal too, therefore the whole charred plant material assemblage suggested that their presence was part of household waste discarded onto a fire during cleaning.

Charcoal

The majority of the charcoal fragments were identified as oak, hazel, heather and willow/poplar (*Salix/populus*). These would be typical of general household fire-waste. Two slight anomalies appear in 52 AA and 96 AA. A conifer wood charcoal was identified in sample 52 AA. Conifers are difficult to assign to species therefore its presence in the charcoal may have alluded to anything from building materials to writing implements to ropes and baskets (Gale and Cutler 2000, 373-399).

The more interesting example centred on the fills with burnt bone (**16** AA, a pit-fill from the evaluation containing burnt animal bone) and **96** AA (fill of cremation pit). Both contained charcoal derived from *Amygdaloideae* taxa, which includes hawthorn and apple. These were the only presence of this wood-type. Oak charcoal fragments were found in very minimal quantities from inside the cist (**95** AA and **97** AA). Oak omits a high calorific heat and would be a more suitable fuel for a pyre (Challanor 2010, 442). Hawthorn wood was also used (*ibid.*, 442). This was comparable to a Roman cemetery near York, where oak and hawthorn had been found within the cremations' charcoal assemblage (Huntley 2010, 28). However, there was very little charcoal present and this may indicate specific bone collection practices such as winnowing or submersion in water (thus allowing charcoal to float away) prior to burial (McKinley 1994, 340).

STATEMENT OF POTENTIAL AND RECOMMENDATIONS

The quantities and size of charcoal fragments inhibit further analysis, and together with the shell and charred plant material, fine fraction residues and those from the evaluation may be discarded.

No further work on the palaeobotanical, shell and charcoal assemblage is recommended.

Table K1. The data from the processing pro forma recording sheets

C	SC	TQ	CP	TP	MP	CS	Components (sorting)	SW	SV	SW>	SV>
5	AA	4	Dark reddish brown	Loose	Sand	Dark yellowish brown	Stone>1cm 20%: stone<1cm 30%: sand 50%	10588	6900	4241	2500
8	AA	4	Dark reddish brown	Loose	Sand	Dark brown	Stone>1cm 10%: stone<1cm 20%: sand 70%	7561	5200	2296	2100
14	AA	2	Dark reddish brown	Loose	Sand	Dark greyish brown	Stone>1cm 10%: stone<1cm 30%: sand 60%	4386	3200	1088	900
16	AA	1	Dark reddish brown	Loose	Sand	Dark brown	Stone>1cm 10%: stone<1cm 20%: sand 70%	4596	3400	1514	700
30	AA	4	Very dark reddish brown	Friable	Silty sand	Greyish brown	Rounded stone>1cm 20%: stone<1cm 40%: sand 40%	11161	6800	5730	3100
32	AA	2	Very dark reddish brown	Loose	Silty sand	Yellowish brown	Rounded stone>1cm 20%: stone<1cm 30%: sand 50%	6617	4000	4611	2600
41	AA	4	Dark reddish brown	Friable	Silty sand	Yellowish brown	Rounded stone>1cm 40%: stone<1cm 30%: sand 30%	13020	8000	7569	4300
43	AA	3	Very dark yellowish brown	Slightly friable	Silty sand	Yellowish brown	Rounded stone>1cm 30%: stone<1cm 30%: sand 40%	13897	8500	9172	5400
47	AA	2	Very dark brown	Loose	Silty sand	Yellowish brown	Rounded stone>1cm 30%: stone<1cm 30%: sand 40%	15554	9400	12031	7000
50	AA	2	Very dark reddish brown	Loose	Silty sand	Greyish brown	Stone>1cm 10%: stone<1cm 40%: sand 50%	6316	3600	3478	1800
51	AA	2	Very dark brown	Loose	Silty sand	Dark greyish brown	Rounded stone>1cm 20%: stone<1cm 40%: sand 40%	6933	4300	4040	2400
52	AA	4	Very dark yellowish brown	Brittle	Silt	Very dark brown	Rounded stone>1cm 20%: stone<1cm 40%: sand 40%	11377	7200	4109	2400
64	AA	2	Very dark reddish brown	Slightly friable	Silty sand	Yellowish brown	Rounded stone>1cm 30%: stone<1cm 20%: bone 10%: sand 40%	12109	8100	8542	5800
67	AA	4	Very dark yellowish brown	Loose	Silty sand	Dark yellowish brown	Rounded stone>1cm 10%: stone<1cm 30%: sand 60%	8372	4200	4128	1300
80	AA	2	Very dark yellowish brown	Loose	Silty sand	Dark yellowish brown	Rounded stone>5cm 50%: stone1-5cm 10%: stone<1cm 10%: sand 30%	14340	10200	12167	8600
94	AA	1	Very dark yellowish brown	Loose	Silty sand	Greyish yellowish brown	Bone 90%: sand 10%	1076	1300	677	1000
95	AA	2	Very dark brown	Loose	Silty sand	Yellowish brown	Rounded stone>1cm 20%: stone<1cm 40%: sand 40%	6583	4000	4313	2500
96	AA	5	Dark yellowish brown	Loose	Silty sand	Brown	Rounded stone>1cm 40%: stone<1cm 30%: sand 30%	46618	29500	35440	22000
97	AA	1	Very dark reddish brown	Loose	Silty sand	Greyish brown	Rounded stone>1cm 10%: stone<1cm 40%: bone 10%: sand 40%	4046	2700	2143	1400

Key: C= context, SC= sample code, TQ= quantity of tubs in sample, CP= colour of pre-processed sediment, MP= matrix of pre-processed sediment, TP= texture of pre-processed sediment, CS= colour of sorted residues, SW= Weight (g) of dried residues, SV= volume (ml) of dried residues, SW>= weight (g) of residues >4mm, SV>= volume (ml) of residues >4mm. N.B. The texture of the dried residues for sorting was 'loose' for each sample.

Table K2: Data from palaeobotanical pro forma

C	SC	WP	VP	R?	WF	Components	EWC	NC	Shell		
5	AA	47	40	yes	6.9	Comminuted charcoal 65%, ecofacts 5%, sand 30%	5	-	yes		
8	AA	39	28	yes	3.8	Rootlets 10%, comminuted charcoal 70%, uncharred seeds 10%, sand 10%	1	-	yes		
14	AA	20	14	yes	2.1	Sand 60%, comminuted charcoal 40%	-	-	yes		
16	AA	10	9	yes	13.7	Sand 50%, comminuted charcoal 50%	-	-	yes		
						>2mm	1-2 mm	<1mm			
30	AA	48	35	yes	2.8	Coal 70%, wood 10%, stone 10%, cinder 10%	comminuted charcoal 50%, grit 50%	sand 50%, coal 50%	6	2	-
32	AA	23	16	yes	2	Wood 90%, charcoal 10%	Wood 90%, coal 5%, uncharred seeds 5%	Wood 80%, coal 10%, sand 10%	7	-	-
41	AA	36	28	yes	2.8	Wood 98%, charred grain 2%	Leaf litter 100%	Sand 10%, leaf litter 90%	4	-	-
43	AA	40	30	yes	7.7	Charcoal 40%, wood 10%, fine rootlets 50%	Grit 20%, comminuted charcoal 80%	Grit 90%, wood 10%	3	-	-
47	AA	23	16	yes	0.7	Very fine rootlets 95%, charcoal 5%, leaf litter 90%, comminuted charcoal 10%	Leaf litter 90%, sand 10%	Leaf litter 90%, sand 10%	-	1	5
50	AA	20	14	yes	2.6	Charcoal 40%, leaf litter 60%	Charcoal 40%, leaf litter 60%	Grit 80%, charcoal 20%	-	-	-
51	AA	21	16	yes	4.6	Charcoal 90%, leaf litter 10%	Uncharred weed seeds 40%, comminuted charcoal 60%	Grit 80%, comminuted charcoal 20%	-	1	3
52	AA	49	40	yes	5.2	Degraded charcoal 90%, rootlets 10%	Uncharred weed seeds 10%, degraded charcoal 90%	Grit 70%, degraded charcoal 30%	3	-	4
64	AA	28	20	yes	0.5	Charcoal 90%, rootlets 10%	Grit 90%, charcoal 10%	Sand 50%, charcoal 50%	-	-	2
67	AA	44	32	yes	2.1	Comminuted charcoal 80%, bone 5%, cinder 15%	Comminuted charcoal 80%, cinder 20%	Sand 50%, charcoal 50%	-	2	-
80	AA	22	14	yes	2.8	Charcoal 90%, grit 10%	Charcoal 90%, grit 10%	Sand 10%, comminuted charcoal 90%	-	-	1
94	AA	3	4	yes	<0.1	-	-	Sand 100%	-	-	-
95	AA	15	11	yes	0.5	Stone 50%, charcoal 50%	Sand 80%, charcoal 20%	Sand 100%	1	-	2
96	AA	65	42	yes	2.5	Stone 50%, coal 25%, charcoal 25%	Grit 50%, coal 50%	Coal 20%, sand 80%	-	-	3
97	AA	11	7	yes	0.3	-	-	cinder and coal	-	-	-

Key: C= context, SC= sample code, WP= weight (kg) or pre-processed sediment, VP= volume (l) of pre-processed sediment, R? = any unsorted residues remaining?, WF= weight (g) of flot, EWC= number of earthworm capsules, NC= number of nematode capsules

NB. The flots were sieved over 2mm and 1 mm meshes giving three fractions, hence the sub-columns within the components column for the excavation phase

Table K3: Charcoal identification and quantification (using actual fragment counts)

Context and sample code		5 AA	8 AA	14 AA	16 AA	30 AA	32 AA	41 AA	43 AA	47 AA	50 AA	51 AA	52 AA	64 AA	67 AA	80 AA	95 AA	96 AA	97 AA	
% identified		90	100	100	50	100	100	100	50	100	100	50	100	100	100	100	100	100	100	
Binomial name	Common name																			
Gymnosperm	Conifer-type												3							
<i>Acer</i> sp.	Maple													2						
<i>Betula</i> sp.	Birch						2													
<i>Calluna vulgaris</i>	Heather	3			5	3	2		6	2	9	7	4	1	1	2				
<i>Corylus avellana</i>	Hazel	15	2		11	2			4			10	1							
<i>Crataegus monogyna</i>	Common hawthorn				12														4	
<i>Fraxinus excelsior</i>	Ash	3																		
<i>Quercus</i> sp.	Oak		4					4	5				2		3	5	1			6
<i>Salix/Populus</i>	Willow/poplar	1			4							1				6	1			
Amygdaloideae	Sub-family of Rosaceae				2															
Grass stem						4								1						
Indet.		3		1	2				5			2		3		1				
<i>Totals</i>		25	6	1	36	9	4	4	20	2	9	20	10	7	4	14	2	4	6	

Key: C= context, SC= sample code, %= percentage of total charcoal identified from the recovered charcoal fragments

Table K4: Charred plant material identifications and quantifications (using actual counts)

Context and sample code		5 AA	8 AA	30 AA	41 AA	50 AA	52 AA	64 AA	80 AA
Binomial name	Common name								
<i>Triticum aestivum</i> ssp. <i>aestivum</i>	Bread wheat	1		5	1			1	
<i>Triticum aestivum</i> ssp. <i>spelta</i>	Spelt wheat			1			1		
<i>Triticum</i> cf. <i>aestivum</i>	Poss. Bread wheat								
<i>Triticum</i> sp.	Wheat sp.				1				1
cf. <i>Triticum turgidum</i> ssp. <i>dicoccon</i>	Emmer wheat								2
cf. <i>Hordeum vulgare</i>	Possible 6-rowed barley							2	
<i>Hordeum nudum</i>	Naked Barley	1							
<i>Hordeum</i> sp.	Barley		1						
indet. Cerealia	Indeterminate cereal grain	1		8	1				2
Poaceae sp.	Grass		2			1			
cf. <i>Brassica</i> sp.	Cabbage family						1		
Indet. Fruit			1						
<i>Totals</i>		3	4	14	3	1	2	3	5

Key: C= context, SC= sample code

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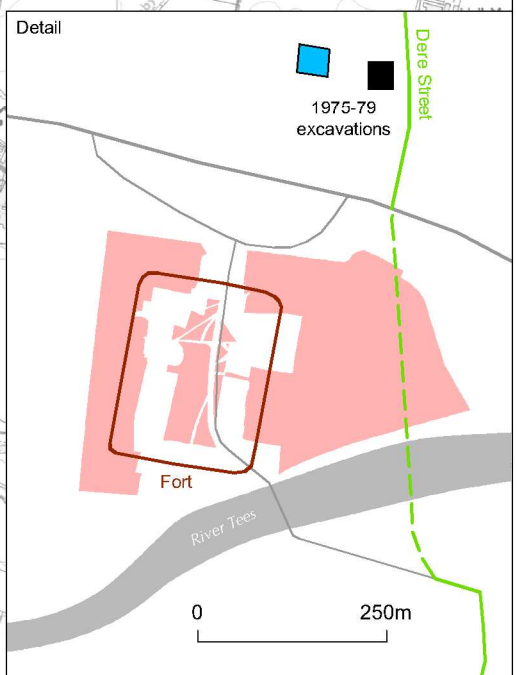
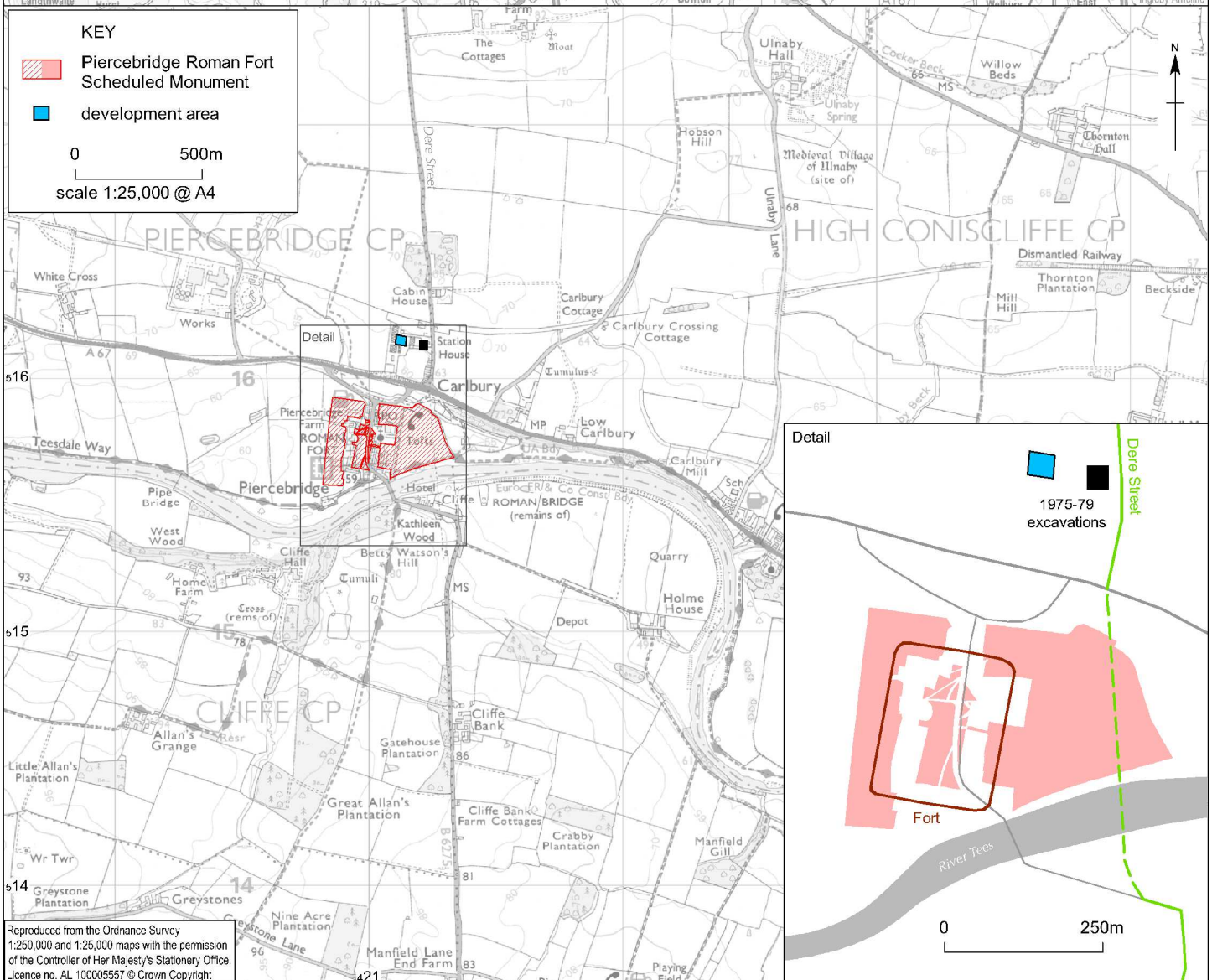
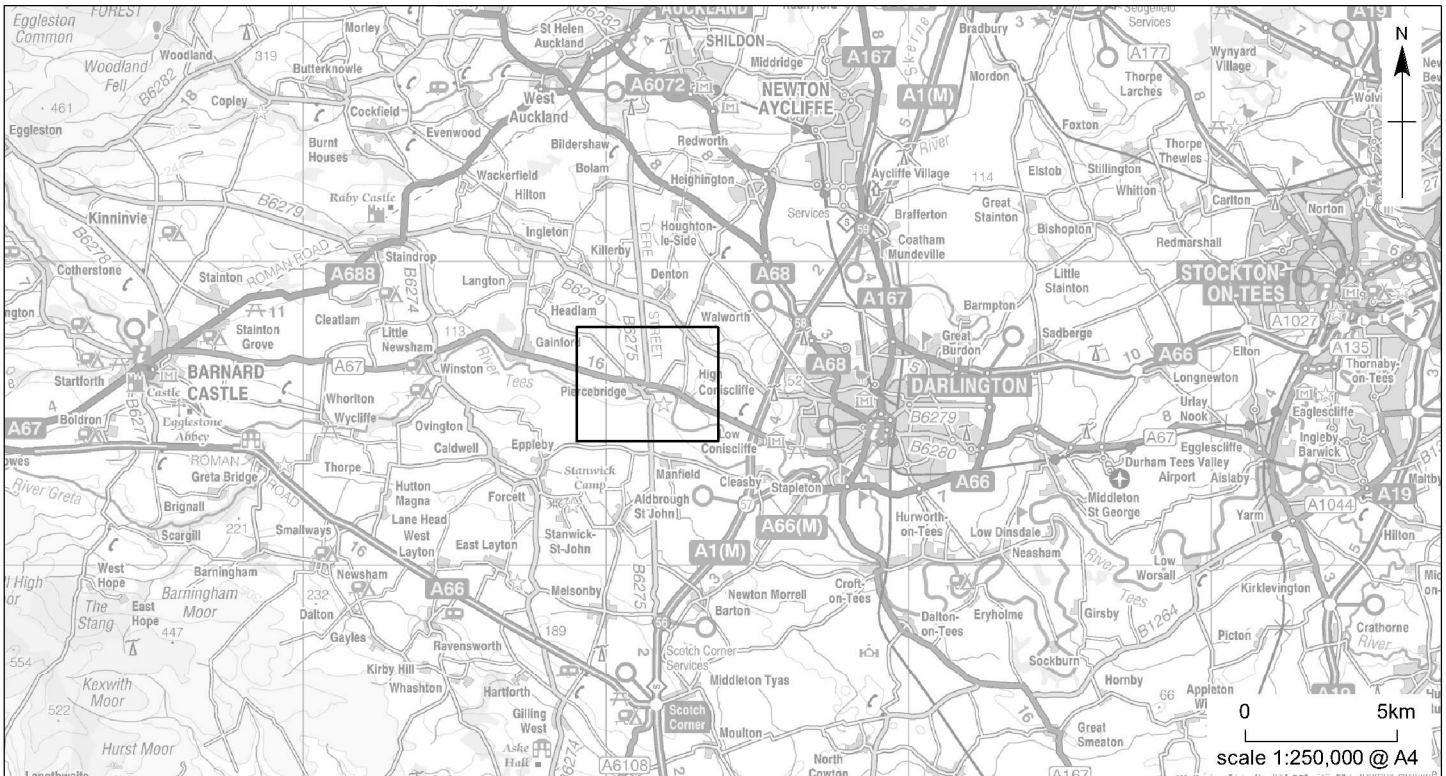
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Sam Turner and Sons, Piercebridge: site location

Figure 1

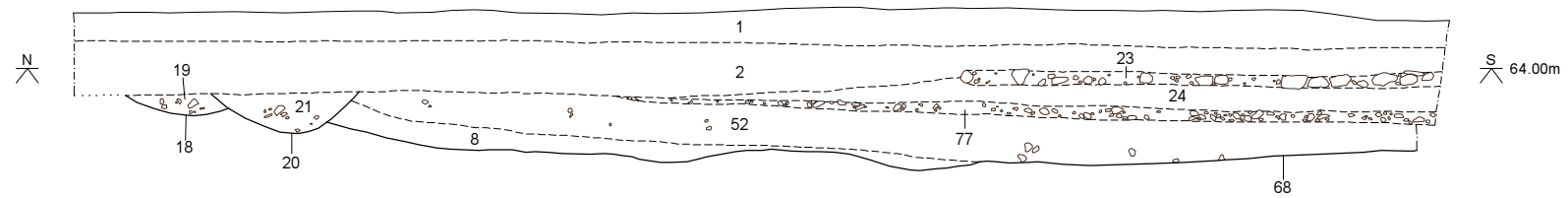


Sam Turner and Sons, Piercebridge: location of excavated areas

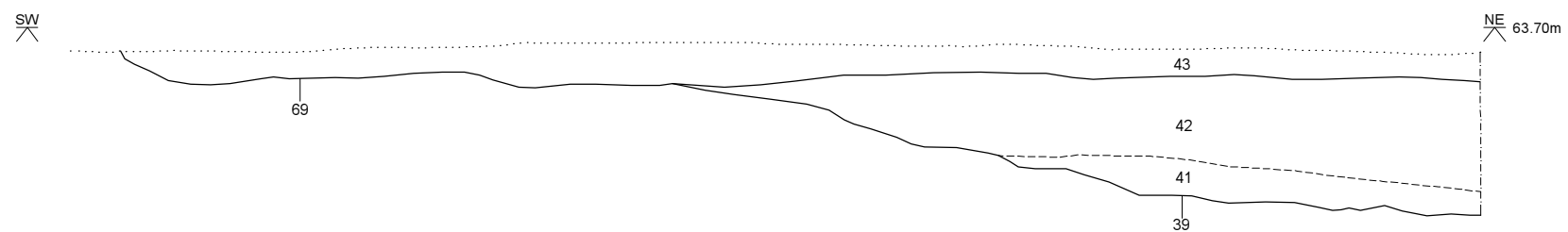
Figure 2



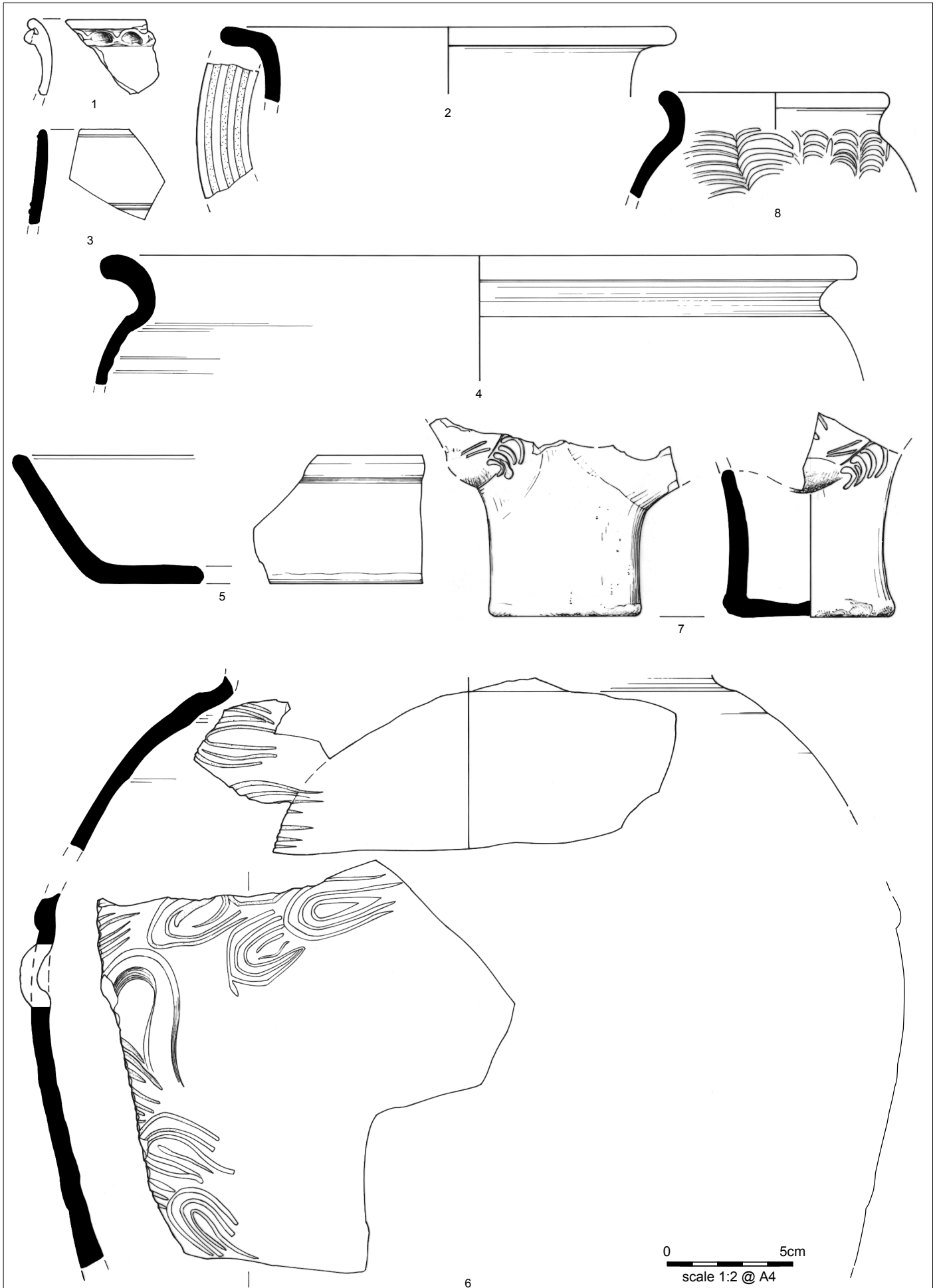
Section 1

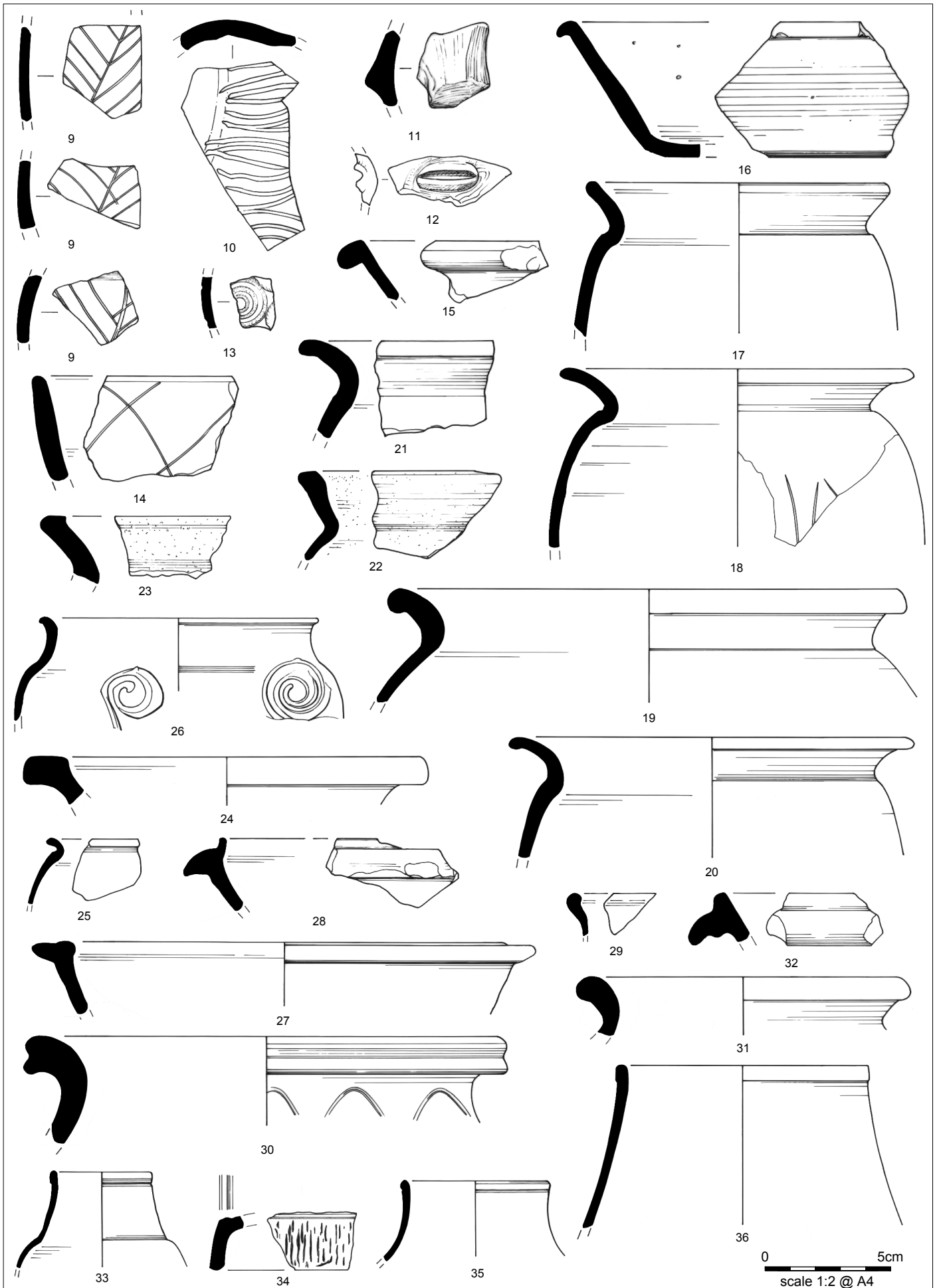


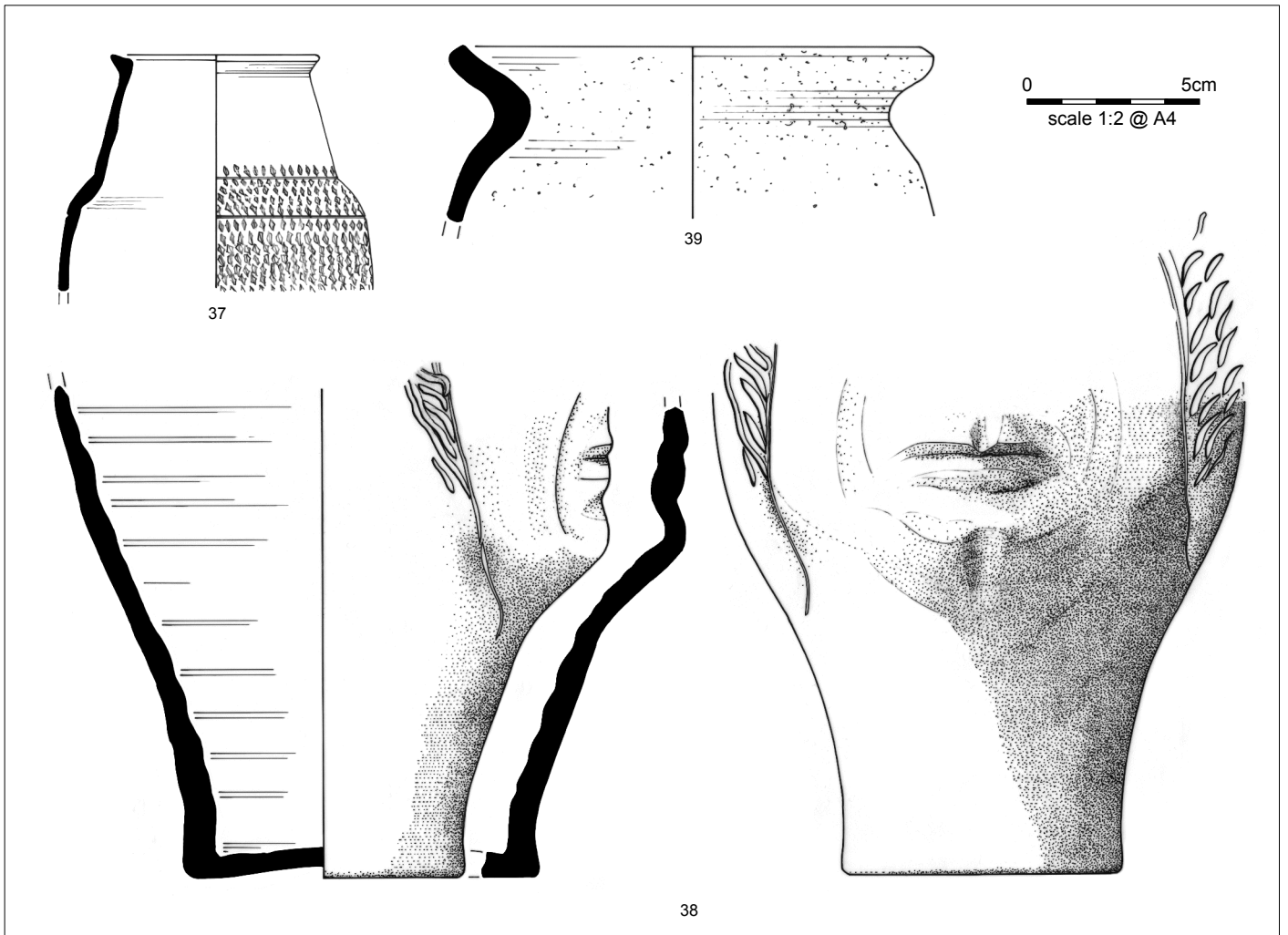
Section 2



0 2m
scale 1:50 @ A3



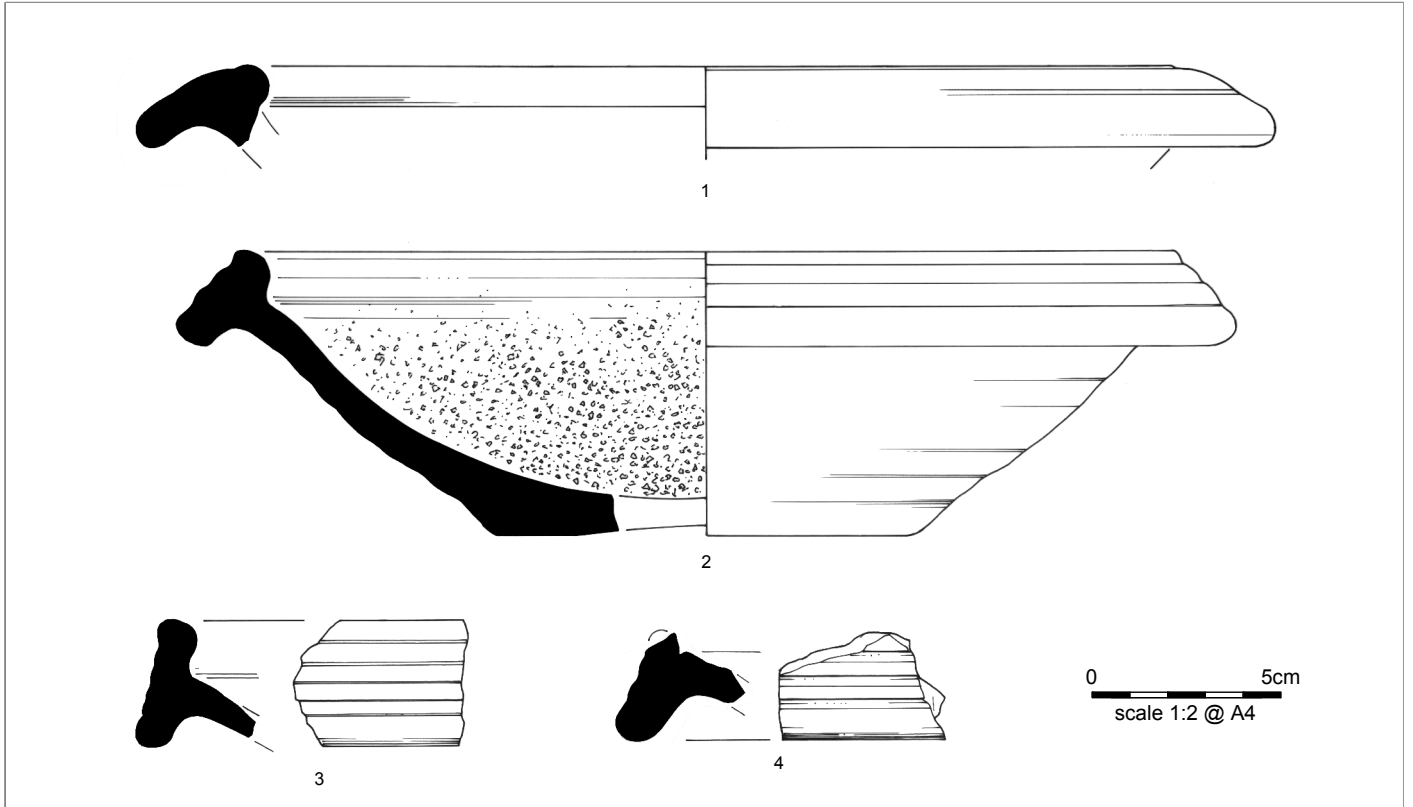




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Carlbury Garden Centre, Piercebridge: the Roman coarseware pottery

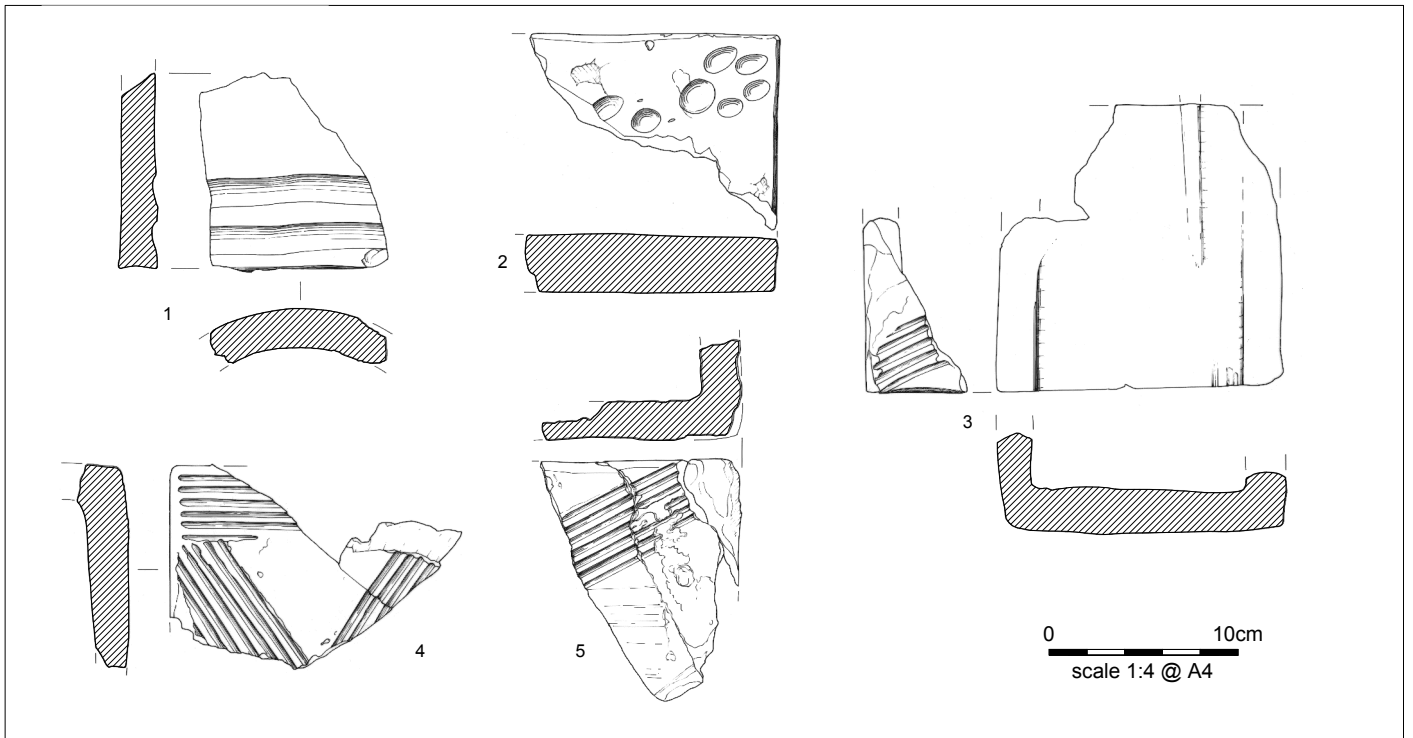
Figure 6



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Carlbury Garden Centre, Piercebridge: mortaria

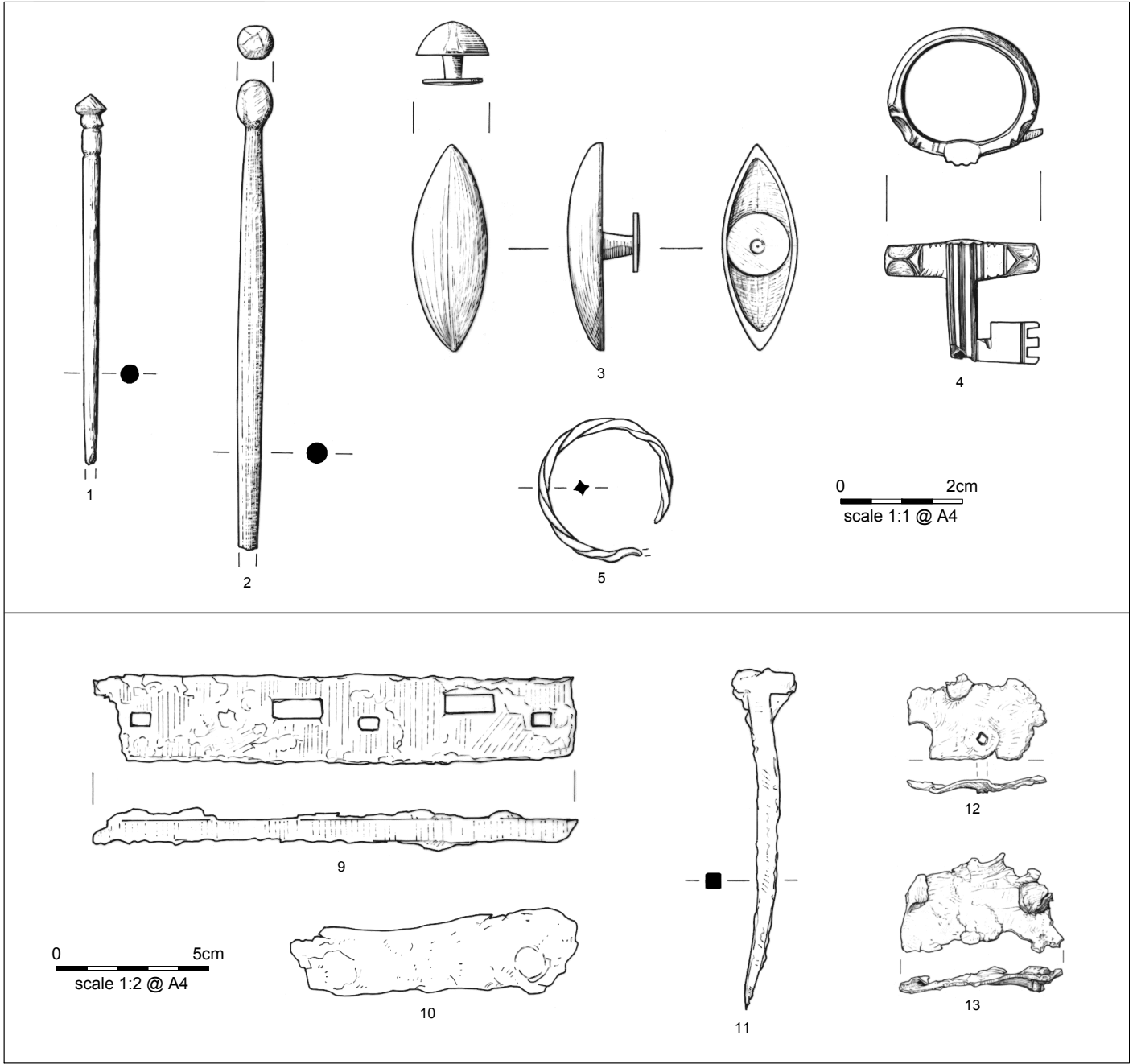
Figure 7



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Carlbury Garden Centre, Piercebridge: ceramic building material

Figure 8





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Sam Turner and Sons, Piercebridge: mechanical stripping of building footprint

Plate 1



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Sam Turner and Sons, Piercebridge: hollow-way (68) sealed by later cobble deposits

Plate 2



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Sam Turner and Sons, Piercebridge: primary cobbled surface (77) under excavation

Plate 3



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Sam Turner and Sons, Piercebridge: the second cobbled surface (23) from the south-west

Plate 4



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Sam Turner and Sons, Piercebridge: later cobbles (35) within the north-western corner of the site

Plate 5



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Sam Turner and Sons, Piercebridge: Cremation cist (98) fully excavated (left) and prior to excavation showing cremated bone (94) (right)

Plate 6



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*Sam Turner and Sons, Piercebridge: cremation cist (98)
following excavation of the southern chamber
showing the headpot in situ*

Plate 7



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Sam Turner and Sons, Piercebridge: Pit 65 during excavation

Plate 8