Archaeopress Roman Archaeology 122

Life and Death in Roman Carlisle

Excavations at 107–117 Botchergate, 2015

Matthew S. Hobson

With contributions from Sophie Beckett, Justine Biddle, David Jackson, Andrew Peachey, John Summers and Sue Thompson

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Archaeopress Publishing Ltd
13-14 Market Square
Bicester
Oxfordshire OX26 6AD
United Kingdom
www.archaeopress.com

ISBN 978-1-80327-843-8
ISBN 978-1-80327-844-5 (e-Pdf)

Cover: Artistic reconstruction of Cumbria House Cremation No. 10 by Mark Hoyle.

Matthew Hobson is an experienced field archaeologist specialising in the Roman period, with published research foci on Britain and North Africa. In numerous books and articles he has explored the themes of urbanism, municipalisation and the economy, examining how the expansion of the Roman Empire affected existing trajectories of social change.

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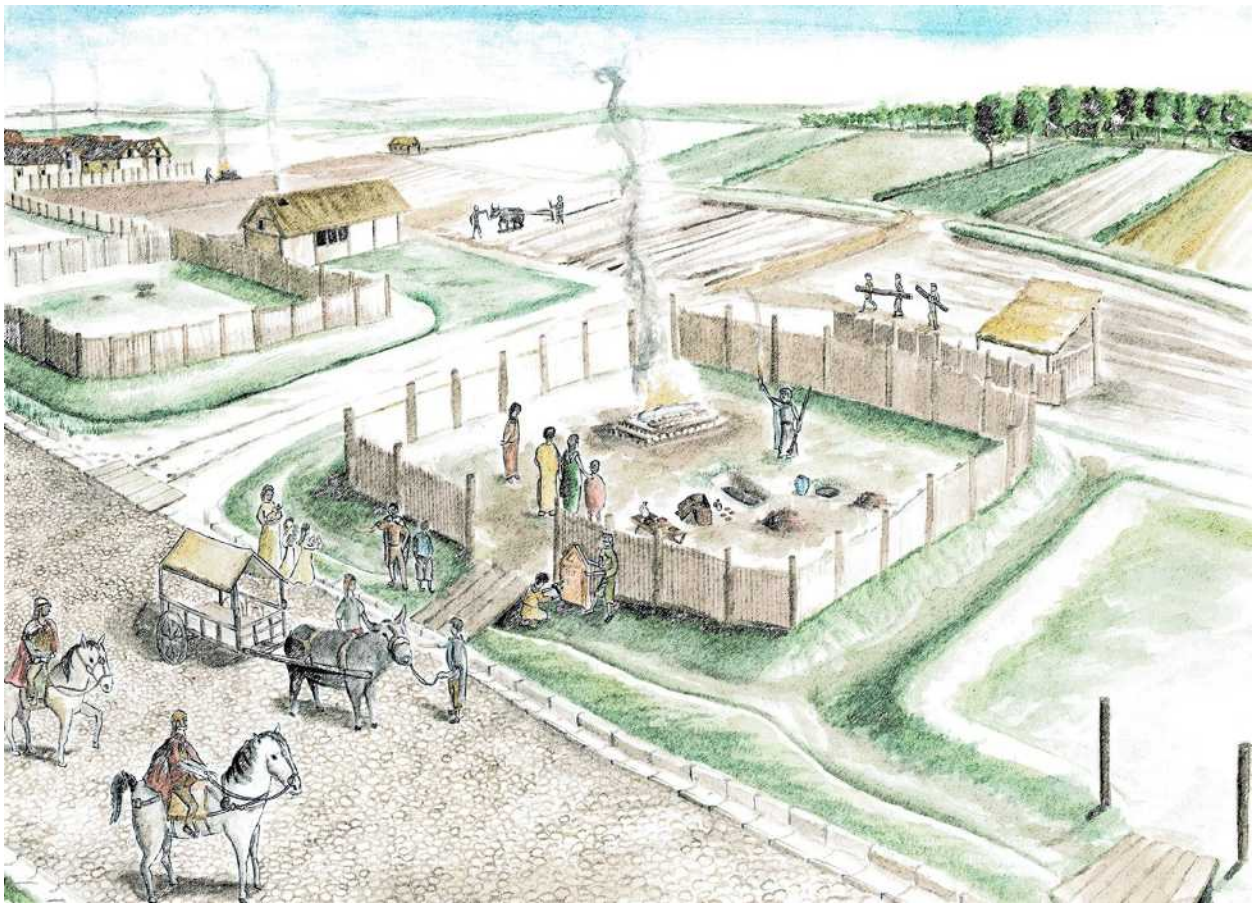
The Wardell Armstrong Team dedicate this volume
to the memory of Alan James (1940-2021),
friend, archaeologist and scholar.



Reconstruction painting of the Roman cremation cemetery by Kevin Horsley

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Acknowledgements

Wardell Armstrong thank Eric Wright Construction Ltd for commissioning the project and Cumberland Council for funding the post-excavation analysis. We also offer heartfelt thanks to many people who helped in the production of the book. Thanks are due firstly, to five individuals who offered peer review comments on the first full draft. John Pearce's comments were essential, not least because he was able to identify parallels for our cremation burials at Bavay and the surrounding region early on in the project. We thank Tony Wilmott for sharing a draft of his work on the Birdoswald cemetery and offering helpful comments on a full draft. We thank Sonja Willems sincerely for her comments on the book draft and very helpful interpretative discussion and identification of parallels for the ceramic forms in the territory of the *Nervii* and neighbouring regions. Mark Brennand and Jeremy Parsons of Cumbria County Council's Historic Environment Service are thanked for their help and advice during the fieldwork and for offering comments on a full draft. Susan Hobson is thanked for her help with the copyediting.

We thank a range of other people who helped with research and interpretation. Stefanie Hoss brought to our attention the rich and contrasting funerary assemblages from Nijmegen. Alessandro Pace helped us with the interpretation of the stone gaming board fragment. Louise Herd who produced the initial pottery assessment was generous in discussing several aspects of the assemblage further. Xavier Deru pointed out the presence of Curle 15 dishes in burials from Nijmegen and very kindly allowed the reproduction of figures from his book on one of the cemeteries excavated at Bavay. Charlotte Verrydt and Jamie Dodd helped greatly by scanning sections of books in the libraries at the Katholieke Universiteit Leuven and the Université catholique de Louvain.

We thank the Cumberland and Westmorland Antiquarian and Archaeological Society for a small grant towards the quantification of the finds from Carlisle Archaeology Ltd's 1998-1999 excavations at the neighbouring site between Tait Street and Mary Street. While much further work is still needed, this grant allowed some additional detail about one of the most significant cremation burials from that site to be included in the present book.

The archaeological excavations were supervised by David Jackson and undertaken with the aid of Jonathan Auty, Ron Brown, Ric Buckle, James Dunn, Kevin Horsley, Alan James, Ed Johnson, Sean Johnson, Mark Lawson, Kevin Mounsey, Ruby Neale, Cat Peters, Helen Phillips, Charles Rickaby, Karolina Siara, Megan Stoakley, Amy Talbot, Sue Thompson. The fieldwork was managed by Frank Giecco and the post-excavation work by David Jackson. Plans and illustrations were produced by Adrian Bailey, Matt Hobson, Mark Hoyle and Helen Phillips. The reconstruction images were produced by Mark Hoyle. The environmental assessment was undertaken by Don O'Meara and the analysis completed by John Summers. Finds were assessed by Megan Stoakley, Sue Thompson, Don O'Meara and Louise Hird, with additional analysis of iron and glass objects by Justine Biddle. The Roman pottery was analysed by Andrew Peachey. The non-cremated animal bone was analysed by Julie Curl. The osteological analysis undertaken by Sophie Beckett and the cremated faunal bone analysed by Sean Doherty.

Chapter 1
Roman Carlisle and the Cumbria House Excavations

Matthew S. Hobson

Introduction

This book presents the results of archaeological excavations that were carried out in 2015 on Botchergate, a main street just to the southeast of Carlisle city centre. The work was undertaken as part of a redevelopment project which saw the construction of a new municipal building for Cumbria County Council (now Cumberland Council) named Cumbria House. The excavations revealed two main periods of Roman activity. First came a roadside cremation cemetery in use between *c.* AD 100 and *c.* AD 130. The cemetery activity was gradually replaced and overlain by the remains of mid-2nd century buildings and workshops on the edge of the expanding settlement which developed outside of the Roman fort. The reigns of the emperors Trajan and Hadrian during which the cemetery was in use belong to an interesting time when Carlisle, or *Luguvalium* as it was then known, was the most important Roman military base in northwest Britain. The region was then undergoing major changes related to the halting progress of the Roman conquest of Scotland. The eventual result was a fall back to a defensive line between the Tyne and the Solway along which Hadrian's Wall was eventually constructed. With the construction of Hadrian's Wall in the early AD 120s Carlisle is thought to have gained its second permanent fort, further reinforcing the important crossing over the river Eden. The three legions that were involved in building Hadrian's Wall and its series of forts were accompanied by thousands of auxiliary troops. These units stood guard during the construction works, took part in excavating sections of the Vallum, and were eventually stationed along the Wall in its forts, milecastles and turrets, as well as within a supporting network of other camps and fortifications.[1]

While the frontier system was still in a dynamic state of flux, auxiliary units from various regions of the empire, with a great many coming from modern day northern France, Belgium and the Netherlands, would have been passing through *Luguvalium*. Evidence for a strong Gallic element to the various regiments stationed at Carlisle during this time is now complemented by indications of the identity of the population uncovered in the Cumbria House excavations. Two graves from our site are the most richly furnished examples to have ever been found in northern Britain and throw light on this multicultural aspect of Carlisle's early population. The burial rites used in these two examples have strong similarities with those seen in excavated graves of the same period from cemeteries in northern France and southern Belgium. This was a region that was a major source of auxiliary recruits for the Roman army during the 1st century AD and, as will be argued in detail within these pages, it is likely that these burials relate to individuals from this region who were either recruited into the Roman army and posted to Britain during the conquest, or connected with the movement of troops in some way (perhaps following on as traders, for example).

Until the present excavations took place, there was little indication that the identity of those serving in the fort and living in the extra-mural settlement at *Luguvalium* in the early 2nd century AD might be reflected in the archaeological remains of their burial traditions. The results of the excavations are all the more important because no other sample of any size relating to *Luguvalium*'s cemeteries has previously been published. Discoveries of large numbers of inhumation and cremation burials made during the 19th century were poorly recorded, leaving us with vague and often confusing accounts, which can only be substantiated partially by the handful of funerary urns and tombstones surviving in modern museum collections. Several modern excavations that encountered Roman funerary archaeology in Carlisle remain unpublished. This can be for various reasons, a major one being the collapse of the Carlisle archaeological unit at the turn of the new millennium. One particular modern excavation conducted by the Carlisle unit in close proximity to the current site encountered significant funerary evidence but has never been fully analysed or published.[2] The findings at the Cumbria House site validate a thorough re-examination of the burial evidence from *Luguvalium* and its relationship to the identity of its population.

In the northern frontier zone more generally publications of modern excavations of funerary assemblages of Roman date are also exceedingly

[1] Haynes 2013, 76; Hodgson 2017, 46–7.

[2] Giecco, F. O. et al. 2001.

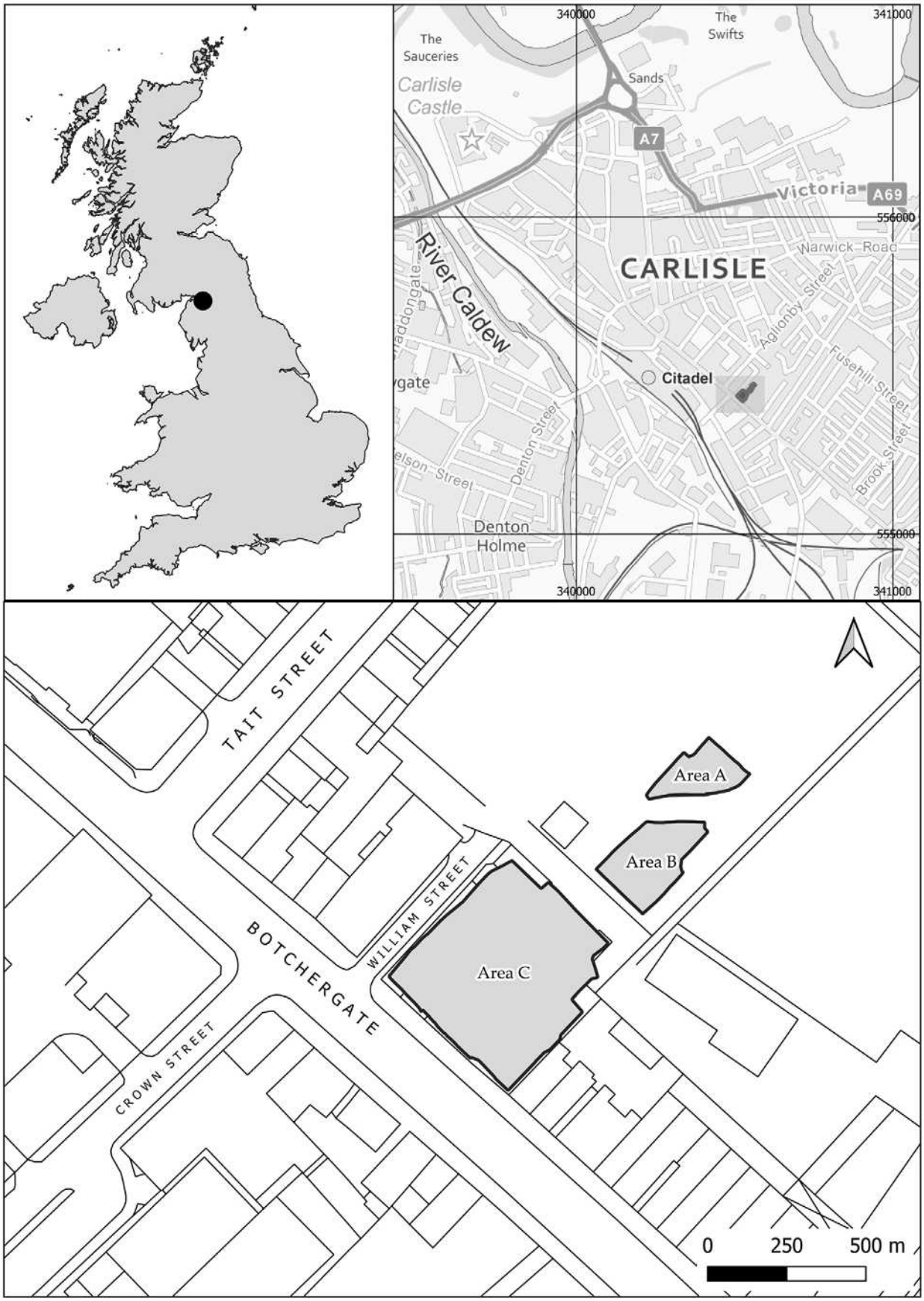


Figure *1.1* Location of the excavation areas at the Cumbria House site, 107-117 Botchergate and the former William Street Car Park.

rare.[3] While the connection between identity and burial practice has been made in the analysis of some legacy data, for example from Brougham,[4] much of the existing corpus of data has been difficult to interpret in this regard. The largest excavations of Roman-period cemeteries in northern England have taken place in Yorkshire, a significant distance from the early 2nd-century frontier.[5] When it appears in the coming months, the publication of the recent research excavations at Birdoswald fort on Hadrian's Wall will form the only truly comparable dataset with Carlisle.[6]

The project to build the new council building was planned with the aim of uniting 700 previously dispersed staff members together under one roof, reducing the council's carbon footprint and annual maintenance costs considerably. The new building was designed by AHR and built by Eric Wright Construction. It was completed in December 2016 and in 2023 the building became the headquarters of the newly formed Cumberland Council. Before construction work could get underway, a programme of archaeological investigation was planned and carried out. The plot of land in question is centred on NGR NY 4052 5544 (Figure 1.1). Prior to redevelopment it included buildings constituting 107-117 Botchergate, which needed to be demolished. Those at 107-109 Botchergate had been built of brick. They had at one time been retail units but had lost their shopfronts when they were later converted for residential use. The building at 113-117 Botchergate had previously been a medical treatment centre and the land at the rear of these properties had been in use as the former William Street Car Park.

At the planning stage, and while the Botchergate properties were still standing, an archaeological evaluation was carried out by Oxford Archaeology North within the former car park.[7] This work, undertaken in 2014, highlighted the presence of intact Roman remains and the likelihood of encountering further significant deposits below the footprint of the extant buildings. The potential for encountering significant archaeological remains within the proposed development area led Jeremy Parsons of Cumbria County Council's Historic Environment Service to request a programme of archaeological investigation in advance of the proposed development. This was in line with government advice as set out in Section 12 of the National Planning Policy Framework at the time.[8]

Archaeologists from Wardell Armstrong were first invited to take part in the project by Eric Wright Construction Ltd early in 2015. Two stages of archaeological excavation were planned. An area to the rear of the extant buildings was to be excavated first, with a further area within the footprint of 107-117 Botchergate being investigated once the buildings had been demolished. In practice, the presence of a live electricity cable that bisected the car park area and had to be left in situ, meant that the first excavation was split into two. These two excavation areas were designated A and B (Figure 1.2), with the larger area beneath the former buildings being described as Area C (Figure 1.3). Areas A and B were excavated simultaneously during the 2nd-20th of February 2015 with the Area C excavation taking place between March 16th and June 5th, 2015. Subsequently a post-excavation assessment report was prepared and submitted in June 2017.[9] Wardell Armstrong were then commissioned by what was then Cumbria County Council to undertake the post-excavation analysis and to produce a publication.

This book is the conclusion of this work of post-excavation analysis. It is divided into six chapters. The remainder of this opening chapter outlines the historical and archaeological background to Roman Carlisle before focussing on the previous discoveries of settlement and funerary activity in the region of Botchergate. Chapter 2 describes the main stratigraphic phases that were identified during the archaeological excavations. The details of the funerary archaeology are given in Chapter 3, with a description of each burial and its grave goods, as well as the details of several finds that were most probably derived from disturbed burials. Some of the graves, both those in which the cremated remains were collected up and deposited within pottery vessels and unurned burials, contained significant quantities of burnt human bone. Chapter 4 written by Dr Sophie Beckett presents results of the osteological analysis of these remains. The Roman pottery, which underpins the dating of the stratigraphy and much of what is said about identity and consumption practices on the site, is discussed in detail by Andrew Peachey in Chapter 5. A final chapter sets the site and its finds assemblages in the broader context of Roman Britain and the near continent. Appendices contain some of the methodological detail and tables of data.

The Roman conquest up to the building of Hadrian's Wall

In order to provide a context within which to interpret the discoveries made during the Cumbria House excavations it is necessary to give a brief historical background. Following the Roman invasion of Britain in AD 43, under the emperor Claudius, it took some

[3] Pearce 2013, 448–9.
[4] Cool, H.E.M. 2004.
[5] Wenham 1968; Wilson 1968, 182; Speed and Holst 2018.
[6] The author is grateful to Tony Wilmott for sharing an early draft of the Birdoswald burial catalogue.
[7] Lupton, A. 2014.
[8] MHCLG 2012.
[9] Jackson, D. 2016.

Figure *1.2* Areas A and B (shot faces southwest).

Figure *1.3* Area C (shot faces southwest).

decades before northern Britain saw the wholesale incursion of Roman armies. Four of Rome's 30 legions were committed to the attempted conquest, but while progress towards the midlands was initially rapid it was checked markedly by resistance and later by revolts within regions thought to have been subdued. After Boudicca led the Iceni of East Anglia to revolt in AD 60, for example, it was another decade before the advance northward was resumed in earnest. The civil war of AD 68 also played a part in the delay. With the emergence of the Flavian dynasty, however, a consolidated effort was once again made to push northwards. Under the new emperor Vespasian Wales was subjugated and northern Britain invaded for the first time. In AD 79 Gnaeus Iulius Agricola, Vespasian's governor, advanced as far north as the River Tay and there was clearly the intention at this time to complete the conquest of the island with the inclusion of Scotland. In the AD 80s, however, problems in the region of the Lower Danube had a negative impact on Rome's ability to pursue these ambitions. While we have no written records to help understand what was happening on the Roman frontier in Britain after Agricola's governorship, the archaeological remains at Roman fort sites in Scotland indicate that the Roman army was forced to abandon its most northerly gains. The scramble to subdue the tribes invading along the Lower Danube, and Trajan's later wars of vengeance against the Dacians, led to troop movements from west to east within the empire. A knock-on effect of this was the removal of several units from Britain to shore up the Rhine frontier. Around AD 105 it appears the Roman army had to withdraw from Scotland completely.[10] As a result, an east-west defensive linear arrangement of forts between the Tyne in the east and the Solway in the west was established, more or less on the same line that was eventually fortified by the construction of Hadrian's Wall. It is within the context of this narrative that one must understand the development of early 2nd-century AD *Luguvalium*, during which time the burials within the cemetery found beneath Cumbria House were interred.

Carlisle's Roman forts

The first fort at Carlisle was situated on a sandstone bluff on the south side of the River Eden, lying within the angle created between the Eden and its tributary the River Caldew (Figure 1.4). The narrow geological corridor available for the north-south movement of troops and supplies over land between what is now southwest Scotland and northwest England invested *Luguvalium* with a particular strategic importance, guarding as it did the main bridged crossing point over the River Eden. The remains of the northern part of the fort now lie beneath the site of Carlisle Castle and extend southward below a substantial part of the northern limits of the town centre. The low-lying boggy nature of the ground at this confluence of rivers has led to the spectacular preservation of organic remains on the south side of the Eden. For example, the excavations along Annetwell Street in advance of the construction of an extension to Tullie House Museum and the new BBC Radio Cumbria building in the 1970s and 80s uncovered wooden writing tablets and timber remains belonging to the southern parts of the fort.[11] Dendrochronological analysis of timbers from the southern rampart has demonstrated that they derive from trees felled between the autumn of AD 72 and the spring of AD 73.[12] Thanks to this precise dating, it can be stated confidently that the fort was established as part of the concerted push north which took place during the early Flavian period. The writing tablets date to the late 1st/early 2nd century and refer to various subjects.[13] One of the writing tablet fragments relates to a letter written to a *singularis* of the *ala Gallorum Sebosiana*. A *singularis* would have been seconded from his unit to serve in the personal mounted guard of a commanding officer, in this case quite possibly the well-known Flavian provincial governor of Britain Gnaeus Iulius Agricola, which would date the tablet to AD 77-84.[14] If the reference is to another Agricola, then a Trajanic or even early Hadrianic date is possible on stratigraphic grounds. A direct parallel with a letter from Vindolanda demonstrates that a *singularis* could have returned to his unit with a letter referring to his secondment, and thus it is thought quite probable that the *ala Gallorum Sebosiana* was stationed at *Luguvalium* in this period. Other fragments of writing tablet with a *terminus ante quem* of AD 103/105 relate to the distribution of grain rations and the loss of armour and weapons of a quingenary *ala*. It is thought quite possible the quingenary *ala* to which these documents relate was also the *ala Gallorum Sebosiana* in residence at the fort. There is evidence that the fort was rebuilt around AD 105, the time when the decision to fall back to the Tyne-Solway line was taken by the Roman administration. Based on the archaeological remains within the fort, it has been suggested that this rebuild was in preparation for the arrival of a new unit, which appears to have brought with it drinking vessels and mortaria from *Gallia Belgica* upon its arrival (see Chapters 5 and 6).[15]

It was probably when Hadrian's Wall was built that Carlisle gained its second fort, *Uxelodunum*, built as an integral part of the wall and positioned on the north side of the Eden on top of the hill at Stanwix. Construction of Hadrian's Wall probably began from the early AD 120s. Carlisle was important because it was here that the wall, after descending from the hill at Stanwix at Milecastle

[10] Hodgson 2017, 32–7.

[11] Stallibrass and Huntley 2011, 27–8; Caruana in prep.; in prep.b.
[12] Zant, J. and Howard-Davis, C. 2019, 4.
[13] Jarrett 1994, 41–2; Tomlin 1998; Kreiner 2023, 11.
[14] Davies 1976; Tomlin 1998, 75 n. 152.
[15] Swan et al. 2009, 596.

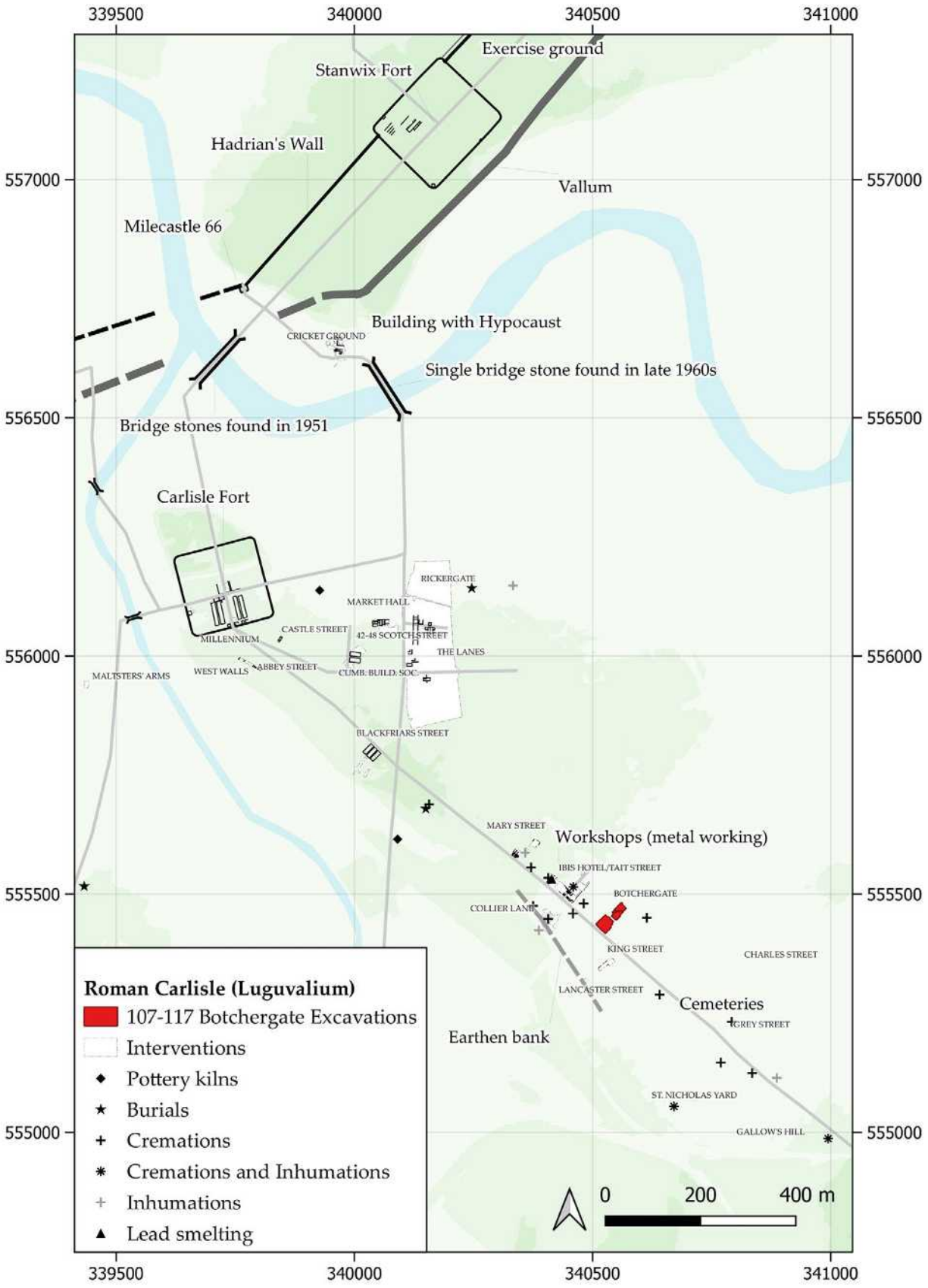


Figure *1.4* Plan of Roman Carlisle showing some of the key excavation sites.

66, crossed the river Eden just below its confluence with the Caldew. This part of the wall, and indeed the whole stretch west of the river Irthing, including its turrets, milecastles and forts, was originally built of timber and turf. It was later rebuilt in stone, probably not long after the Antonine Wall was abandoned. Excavations in 1984 at the rear of Cumbria Park Hotel in Stanwix recorded the unexpected discovery of the northern rampart of a stone fort. It is thought that this fort may have been a later enlargement, perhaps built around AD 160, when the wall was being rebuilt in stone.[16] The existence of the modern suburb of Stanwix makes archaeological investigation of the sequence of construction difficult. Excavation has been piecemeal and hard evidence for the presumed Hadrianic timber and turf fort remains slim.[17] The northern rampart of the stone fort at Stanwix sealed what may have been the original ditch that was excavated when the turf wall was built. This would indicate that the stone fort was indeed an enlargement of a Hadrianic timber predecessor. Where the defensive outline of the stone fort has been traced, its corner comes very close to the Vallum. This indicates that the Vallum was originally laid out to the plan of a fort that was smaller than the later stone fort, hinting at a Hadrianic fort for which more concrete evidence may be found at some stage in the future.[18]

Assuming there was a Hadrianic fort built at Stanwix, it saw contemporary use with the fort on the south side of the river for about two decades, from the Hadrianic period to the early AD 140s. Once enlarged, the fort was the largest of the major wall forts and able to house the full strength of Britain's largest auxiliary unit, the only double-strength cavalry regiment in the province, the *ala Augusta Gallorum Petriana*. This unit appears to have moved to the Carlisle region by the end of the reign of Trajan, eventually taking up residence in the Hadrian's Wall fort at Stanwix.[19] The fort on the original site on the south side of the river is thought to have been abandoned, or repurposed, for a time when the Roman frontier was pushed forward to a line between the Firth of Clyde and the Firth of Forth and a wall constructed under the reign of Antoninus Pius. There is good evidence for continued use, however, following the abandonment of the Antonine Wall. A major reconstruction in stone occurred in the early 3rd century and some of the intramural buildings gained roofs made of ceramic tiles. From the abandonment of the Antonine Wall, therefore, Carlisle once again boasted two forts in contemporary use.

Luguvalium in the Flavian period

Our excavation site is located at the edge of the settlement that grew up around the site of the Flavian fort. The written sources give us few details about the peoples inhabiting this area prior to the arrival of the Roman army. The names of tribes inhabiting northern Britain are known chiefly from Ptolemy's *Geography*, but we know little of inter-tribal relations or the nature of settlements. Latin inscriptions of later date demonstrate that the area of northern Cumbria was inhabited by a people called the *Carvetii*. It seems likely that this people had a dispersed settlement pattern prior to the Roman conquest, with the arrival of the Roman fort and the creation of a bridged crossing the River Eden providing the focus for settlement nucleation.

In contrast to the regions of southeast Britain, where client kingdoms had been established, the decades which followed Julius Caesar's brief campaigns of 55 and 54 BC had little visible impact on the archaeology of the north. Archaeological investigations show that the typical settlement type in the north was an enclosed farmstead, accommodating at most an extended family group.[20] The character of Middle and Late Iron Age settlements is better known in the northeast than in the northwest.[21] Aerial photographs reveal a number of small unenclosed farmsteads on the Cumberland Plain. At Cargo, close to Carlisle, the remains of a multivallate enclosure which may be Iron Age exist, overlooking the River Eden, with a possible Iron Age settlement being known at Burgh-by-Sands. In general, a lack of pottery and finds that are indisputably Iron Age in the region results in a high level of uncertainty. Although some settlement evidence of native character has been found within Carlisle during excavations at Durranhill,[22] the Southern Lanes, the Cumberland Infirmary,[23] and at Botcherby Nurseries, it remains poorly dated. The roundhouses excavated at the Southern Lanes and at Cumberland Infirmary, for example, could easily be contemporary with the establishment of the Flavian fort in the early AD 70s.[24] In the former case, the single roundhouse is likely to have been Flavian in date. At the Cumberland Infirmary site, a lack of material culture recovered from a group of several roundhouses made dating extremely difficult, although occupation clearly continued into the 2nd century AD. As far as one can tell from archaeological remains, the later size and importance of Roman Carlisle had little to do with the presence of any truly dense previous focus of human settlement. The bulk of evidence relating to possible Late Pre-Roman Iron Age settlement activity in Carlisle

[16] Dacre 1985.
[17] Zant 2011, 43–7; Zant, J. and Howard-Davis, C. 2019, 5.
[18] Caruana, I. 2000, 74–5.
[19] Jarrett 1994, 38 & 41–2; Tomlin 1998; 2018, 429–31; Kreiner 2023, 10–1.
[20] Mattingly, D. J. 2006, 83.
[21] Hodgson, N. et al. 2012.
[22] Jackson 2016.
[23] Reeves and Zant 2001.
[24] McCarthy, M. R. 2000; McCarthy 2002, 43–7.

itself has been the discovery of plough marks at several excavation sites within the city. This indicates that the landscape was farmed, but how far this can be pushed back into the Iron Age remains unclear. The Roman military presence was therefore established in a landscape about which we know remarkably little.

The presence of later phases at most extra-mural settlements in the frontier zone means that it is often not possible to distinguish their initial Flavian form. This is true even at sites which have not been overbuilt and for which geophysical survey results are available. What is evident, however, is that many extra-mural settlements grew up organically along the main routes of access into their associated fort.[25] This 'through-road' type of settlement is the most common form found on the Continent and in Britain. Indeed, it appears long-distance roads rarely bypassed forts, with through-traffic being channelled directly through their gates.

At Carlisle evidence for a road that, to judge from its alignment, originated at the south gate of the Flavian fort has been found in several places. It lay more or less precisely beneath the modern A6 entering Carlisle from the south, which today becomes London Road, Botchergate, English Street, and then Blackfriars Street as one approaches the city centre. The Lanes excavations also found evidence for a major road entering *Luguvalium* from the east, thought to have been constructed towards the end of the Flavian period in the early AD 90s. Another road approached from the southwest, the direction of the fort at Old Penrith, perhaps along the line of Dalston Road. Supporting evidence for this road is the presence of a tombstone and funerary urns which may have lined the road, found at the rear of Nelson's Marble Works on Junction Street in 1878 when the premises were being extended at their rear by cutting into Denton hill. The following year the cutting for the railway line was progressing through these same premises and the archaeological remains of a paved road, over 9m wide with ditches either side, and a further cist burial were discovered.[26] The road north into Scotland now lies beneath Scotch Street and led towards the important crossing of the River Eden, which was bridged close to the location of the current Eden Bridge. About half a kilometre farther downstream, slightly fewer than one hundred stones were dredged from the Eden in 1951. Today these stones are on display close to this location within a low-walled enclosure in Bitts Park. Many have dovetail notches and/or Lewis holes demonstrating that the stones once belonged to the piers of a Roman bridge.[27] It is unclear how far the dredged stones were moved downstream by the process of dredging. Some have argued that the stones relate to a bridge which carried Hadrian's Wall across the river, although this seems inherently improbable. Another stone, found very close to the current Eden Bridge by Dorothy Charlesworth, bears a depiction of the head of a marine deity, perhaps Oceanus.[28] This was probably also a bridge stone and may indicate more accurately the position of a Roman road bridge which linked up with the north-south road which now lies beneath Scotch Street to which the dredged stones may, or may not, relate.[29] It is evident from the position of some of the earlier burials, on the west side of English Street beneath the former County Gaol, that the Flavian settlement would have been considerably smaller than the town which emerged in the 2nd and 3rd centuries. It is not easy to trace its limits precisely, nor to find comparative data to elucidate its probable form.

The analysis of Lidar data at a number of other forts along Hadrian's Wall demonstrates the likelihood that multiple camps may have existed at *Luguvalium*. It is also not beyond the realms of possibility that elements of the spatial organisation of such early camps were retained in the delimitation of space in extramural areas within the immediate vicinity of the fort. Where excavations have taken place within a radius of *c.* 100m of the Flavian fort's ramparts, at Castle Street and Fisher Street, for example, there has been speculation as to whether activity encountered through the archaeological remains took place within delimited fort annexes. Excavations on the south side of the fort, off Castle Street for example, found the waterlogged remains of extramural timber buildings erected in the late AD 70s or early 80s, and it has been argued that these may have been contained within a putative southern fort annexe.[30] Finds from a site containing two pottery kilns excavated at 7a Fisher Street indicate that a pottery industry was active in this location from the Flavian period into the 2nd century AD, although the Flavian kilns themselves have not yet been located. The presence of the possible early camp on this side of the fort has led to the suggestion that another fort annexe may also have existed here before eventually being subsumed by the expanding extra-mural settlement.[31]

The state of the evidence means that this can be no more than speculation at this stage, but approximately 300m to the east of the Flavian fort ditches have been found which may have formed three sides of a putative military camp.[32] Parts of the possible south, east and north sides were found within the excavations of the Northern Lanes. In 1976, what may be another stretch of the southern ditch was found farther west

[25] Sommer 2006.
[26] Charlesworth, D. 1978, 126.
[27] Birley, E. 1951; Hogg, R. 1952; Caruana, I. and Coulston, J. C. 1987; Bidwell, P. T. and Holbrook, N. 1989, 107–10.
[28] Hingley 2022.
[29] Caruana, I. and Coulston, J. C. 1987, 46.
[30] McCarthy 1991, 9–10.
[31] Johnson et al. 2012.
[32] Zant, J. and Howard-Davis, C. 2019, 23–8 & 171–7.

at excavations off Scotch Street.[33] It is unfortunate that the Lanes excavations failed to establish the existence of the corners of this possible camp, leaving doubt as to whether the remains can be interpreted in this fashion. Another ditch dating to the late 1st or early 2nd century AD with a similar V-shaped profile has been found farther south on the east side of Botchergate. Although also interpreted initially as evidence for a Hadrianic camp, the recent excavations indicate that such features may simply have delimited different functional spaces in the landscape outside of the fort. Whether or not this is also true of the ditches interpreted as a possible camp found within the Northern Lanes remains to be seen. If these features did relate to an early military camp, it was bisected by the north-south road which is thought to have been built in the early AD 90s.

Neither the extent of putative fort annexes nor the extramural settlement during the Flavian period are known. Flavian period structures have, however, been found at multiple excavation sites within the city. At Blackfriars Street, between the fort and Botchergate, excavations have indicated that an extramural settlement existed already aligned to this road as early as the late AD 70s. Several timber strip buildings fronting onto this road were found in association with pottery of this date. Farther out of town to the south, excavations in the late 1990s on Botchergate close to the current Cumbria House site, between Mary Street and Tait Street, found evidence of a Flavian timber building and a ditch pre-dating the alignment of the road.[34] Here the remains of plot boundaries laid out in the late 1st or early 2nd century AD and aligned to the newly built road were observed, framing funerary activity of the same date. It seems therefore that extra-mural settlement was quickly established on the southern and eastern sides of the fort.

The extramural settlement in the 2nd century AD and beyond

The forts on the northern frontier, and the settlements which grew up around them, will have been the largest agglomerations of sedentary population in this region by a considerable margin and there is little doubt that veterans in combination with indigenous Britons would have made up a significant part of their populations. Inscribed milestones demonstrate that by the 3rd century AD the *Carvetii* had achieved a degree of autonomy, with *Luguvalium* becoming their administrative centre.[35] The settlement of *Luguvalium* was somewhat unique in *Britannia* in having two forts in contemporary use at various moments during the 2nd century AD. The presence and influence of more than one military community in the development of a town or settlement has parallels in some other parts of the Roman empire, mainly on important rivers along the frontier. Along the River Danube in Pannonia, for instance, towns which grew up close to legionary bases at *Carnuntum* (Bad Deutsch-Altenburg), *Vindobona* (Vienna) and *Aquincum* (Budapest) all had auxiliary forts placed just a couple of kilometres from the civil town.[36] Along the Rhine and its tributary the Main, *Mogontiacum* (Mainz) and *Nida* (Frankfurt) are other examples of Roman towns that emerged in the vicinity of multiple forts. In contrast to *Luguvalium*, the *limes* did not crystalise at their location but moved beyond it as the empire expanded. At the site of *Praetorium Agrippinae* (Valkenburg), in Germania Inferior, fieldwork in 2020 has revealed a legionary base occupying the southwest bank of an old channel of the River Rhine accompanied by one, and possibly, more auxiliary forts.[37] Dendrochronology demonstrates that these forts were built late in the reign of Caligula. Had the troops stationed here not departed to *Britannia* as part of the Claudian invasion fleet, the site may well have seen an urban development similar to that at *Luguvalium*, a multicultural melting pot of troops from various different regions mixing and intermarrying with the local population.

Excavations and geophysical surveys around other forts along Hadrian's Wall that have not been overbuilt have demonstrated some of the characteristics that early *Luguvalium* is likely to have shared with other extra-mural settlements on the frontier, but it is likely to have been the largest by some margin and with its own unique topography.[38] Crucial for success as a centre for significant population was the presence of tracts of good-quality free-draining soils within the immediate hinterland of the fort. While *Luguvalium* was bordered by some seasonally waterlogged, poor-quality soils to its north and south, lands much better suited to agricultural exploitation existed to the southeast and west. These included eskers, free-draining sandy gravel mounds dumped by previous glaciations, as well as the sandy loams of the Eden corridor at the base of the Pennine scarp and extending west towards Burgh-by-Sands.[39] By contrast, the soils in much of the north Cumberland Plain would have been difficult to exploit for agriculture in pre-industrial times. Much of this area and the surrounding uplands to the south and east were far better suited to the rearing of livestock, which may well have been marketed at *Luguvalium*.

Few towns in the ancient world could flourish without being able to grow grain reliably within their own

[33] Clare and Richardson in prep.
[34] Giecco, F. O. et al. 2001, 15–6.
[35] Edwards and Shotter 2005; McCarthy 2017, 58–60.
[36] Mladenovic 2019, 429 n. 108.
[37] Vos et al. 2021.
[38] Jones and Leslie, A. 2015; Hobson 2022.
[39] McCarthy 2017, 8–13.

agricultural hinterland, and the largest cities also had access to marine resources and trade afforded by close proximity to the coast.[40] It is only where one finds better soils in certain river valleys that larger settlements in the northern frontier zone developed. The closest regional parallels for *Luguvalium* are provided by *Derventio* (Papcastle) and *Coria* (Corbridge). The site at Corbridge, situated on the fertile alluvial soils of the River Tyne Valley, provides the most accessible and visible example of a mid-to-late Roman town in the region. The walled area of *Coria* enclosed roughly 16ha. Mass excavation between 1906 and 1914 exposed a good part of the remains which, in combination with the analysis of aerial photographs, makes clear that the mid to late Roman town possessed many stone buildings, including strip buildings and structures with more elaborate floor plans. The site at Papcastle is slightly less accessible, as part of it lies beneath the modern village. Recent geophysical survey and excavation work have demonstrated similarities to Carlisle, in that the extramural settlement spread to both sides of the River Derwent.[41] The settlement possessed a sizeable built-up core complete with a bathhouse, temples and other public buildings, covering an area perhaps 30ha in size.

Luguvalium at its height was probably larger still, although it is evident that until the late 2nd or early 3rd century most buildings within the extramural settlement were made of timber. It is impossible to put an exact figure on the size of the 2nd and 3rd-century town, but it is delimited on the south side of the river by known burial evidence to the east at the former Spring Gardens Bowling Green, to the south along Botchergate and to the southwest by the evidence between Junction Street and the now disused railway line mentioned above. The places of recorded Roman occupation indicate that the town could easily have had a built-up area of somewhere between 30 and 45 hectares, supplemented by 5-10ha south of Hadrian's Wall on the north side of the Eden, west of the fort at Stanwix. This would make *Luguvalium* the largest urban agglomeration in the frontier region by some margin.

Understanding of the nature and layout of Roman Carlisle has come on in leaps and bounds, thanks to a series of largescale excavations which took place from the 1970s through to the 1990s. Interpreting the little pockets of information provided by excavations, however, remains challenging and full of uncertainties.[42] The stratigraphy relating to the two fort sites and the settlements which grew up around them is buried beneath the modern city at various depths. While in some places it lies quite close to the surface, excavations provide only small windows through which to explore the nature of the various districts of the Roman settlement. The densest concentration of Roman buildings appears broadly to follow the 20m contour, with some discoveries also being made within the floodplain indicating that settlement would have lined the major roads in and out of the settlement. While little evidence of Roman structures has been found farther west than the medieval West Walls, ditches and pits of 2nd century date were discovered in 2004, for instance, on the site of the former Maltsters' Arms at 17 John Street.[43]

During the Hadrianic and Antonine periods it is evident that the settled area increased in size, with new building and expansion on the periphery to the north, east and south. All the areas known to have contained Flavian buildings continued in use into the 2nd century and it has been observed that different districts of the settlement contained buildings of markedly different character. The strip buildings at Blackfriars Street, thought to have been retired officers' dwellings in the Flavian period, perhaps became used for storage in the 2nd century AD. Such strip buildings are thought to have been characteristic of much of the core settlement. Excavations at the Northern Lanes, however, have indicated that this area was used for official administrative business. A massive timber building, probably a *mansio*, was built on the east side of Scotch Street around the beginning of the Hadrianic period.[44] When this building burnt down in the mid-2nd century AD the area was divided into a set of narrow building plots populated by a more extensive complex of timber buildings. Farther south, in the area of the Southern Lanes, the character of buildings was different again. Here several 2nd-century timber buildings were organised at a distance from the road adjacent to metalled yards surrounded by spacious hedged and ditched enclosures.[45] It has been argued that these might have been occupied by local farmers, beginning to settle on the edge of the growing town.

In the early 3rd century, during the rule of Septimius Severus, the settlement may have been reorganised and gained several stone buildings. Severus, after arriving in Britain, may have visited *Luguvalium* in person and there is some evidence in the archaeological remains of imperial influence.[46] It was at this time that the southern fort was rebuilt in stone. Roof tiles (*tegulae*) found within the fort and hypocaust tiles found within an impressive building equipped with a bath suite on the north side of the river Eden, between the modern Cricket Ground and Eden Bridge, have been found bearing the stamp IMP, indicating that they were

[40] Hobson 2019.
[41] Apperley 2016.
[42] Caruana 2011.
[43] Giecco 2004.
[44] Zant, J. and Howard-Davis, C. 2019, 182–3.
[45] McCarthy, M. R. 2000.
[46] Birley 1999, 184–5. Such a visit is not supported by the recently revised LOEB text of the *Historia Augusta*

property of the emperor, or made on lands belonging to the emperor.[47]

The latter findings support antiquarian reports of substantial remains relating to an extramural settlement on this side of the river. On the south side of the river it seems that the town also gained a number of important buildings in stone at this period, a possible *mansio* in the area of Abbey Street and a possible public bathhouse beneath the Market Hall.[48] Within the Northern Lanes excavations, the first stone-footed house was built in the late 2nd century. The building plots established in the 2nd century continued to develop into the 3rd century and in some of the plots buildings were still in use in the second half of the 4th century. Within the core of the Roman settlement there is good evidence for intensive occupation continuing into the late 4th or early 5th century AD, although parts of the periphery appear to have been abandoned during the course of the 3rd century.[49]

The epigraphic record from *Luguvalium* demonstrates the strength of the military presence and there is little doubt that many of the early 2nd-century town's leading figures would have been men of military origin. A series of dedications found west of English Street, for example, indicate that there may have been a concentration of temples in this part of the settlement.[50] There are dedications to Hercules,[51] Mars Barrex,[52] two to the Fates,[53] and a relief of the Mother Goddesses and a Genius. A dedication to Cautes, a torch-bearing attendant of the god Mithras, also found on English Street in the 19th century, indicates the presence of a *mithraeum*. The military aspect is reflected in many of the dedications, with two of those from English Street being made by prefects of the *Ala Petriana* stationed at Stanwix. Dedications to Mars and Victory,[54] Mars Barrex,[55] Mars Belatucadrus,[56] Mars Ocelus[57] and the Genius of the century of Bassilius[58] all have military connotations. Writing tablets from Vindolanda that are contemporary with the use of the cemetery evidence found at the Cumbria House site preserve military letters and documents, some of which mention *Luguvalium*. One letter, for example, refers to a senior official at *Luguvalium* in the Trajanic period, a *centurio regionarius*, which further demonstrates the administrative importance of the settlement for the region.[59]

Funerary and settlement evidence previously excavated in the area of Botchergate

The aim of this section is to introduce some of the evidence for funerary activity on the south side of *Luguvalium* in the immediate vicinity of the present excavations, to support interpretative discussion of the results which follow in the later chapters. A linear band of burials a little over a kilometre in length is known from beneath parts of the town centre and stretching out along the line of Botchergate and London Road as far as Gallows Hill, where the modern road crosses over the current railway line. Funerary deposits have been discovered in this part of Carlisle for more than a century. In 1786 the mail coach began to run between Manchester and Glasgow through Carlisle and improvements to the road led to some of the earliest discoveries. At the beginning of the 19th century, when the road was lowered through a cutting to facilitate its passage through Gallows Hill, for example, a large number of cremation urns were discovered. Some years later, in 1829, further discoveries were made when another deep cutting was made through the same hill in connection with the rebuilding of the bridge over the river Petteril. The sinking of a reservoir on the west side of Turnpike Road at Gallows Hill in 1847 also led to the discovery of funerary urns. Numerous other finds have been made in the same part of the city associated with the construction of the railway and its various depots, as well as during the digging of foundations for the various residential estates in the region of London Road.

A summary of these early finds was first made by Ferguson at the end of the 19th century and then updated by Patten in 1974, with some additions and omissions.[60] The most comprehensive attempt at compiling a gazetteer of the Roman burials from Carlisle, however, was made by Dorothy Charlesworth in 1978.[61] Charlesworth's work demonstrated that the task of accurately dating, or even quantifying, the antiquarian discoveries is not possible due to the lack of detail in the written accounts. Even the precise nature of some of the burials discovered during the 19th century, whether they were cremations or inhumations, for example, is in doubt. Indeed, a key aspect of the antiquarian reports is that they feature only very conspicuous archaeological remains such as lead (6 attested), stone (4) or wooden caskets or coffins

[47] Walas 2022, 412–5. The author has not yet been able to see photographs or illustrations of the stamped *tegulae* found at Annetwell Street to confirm the identity of the die, but fragments from other sites within Carlisle leave little doubt that this is the same phenomenon.
[48] Frere 1991, 235; Caruana and Morgan 1996; McCarthy 2002, 84–5.
[49] Zant, J. and Howard-Davis, C. 2019, 7.
[50] Charlesworth, D. 1978, 122; McCarthy 2017, 72–6.
[51] *RIB* 946
[52] *RIB* 947
[53] *RIB* 951 & 953
[54] *RIB* 950
[55] *RIB* 947
[56] *RIB* 948
[57] *RIB* 949
[58] *RIB* 944
[59] Bowman and Thomas 1994. *Tab. Vindol.* II.250.
[60] Ferguson, R. S. 1893; Patten, T. 1974.
[61] Charlesworth, D. 1978, 124–7.

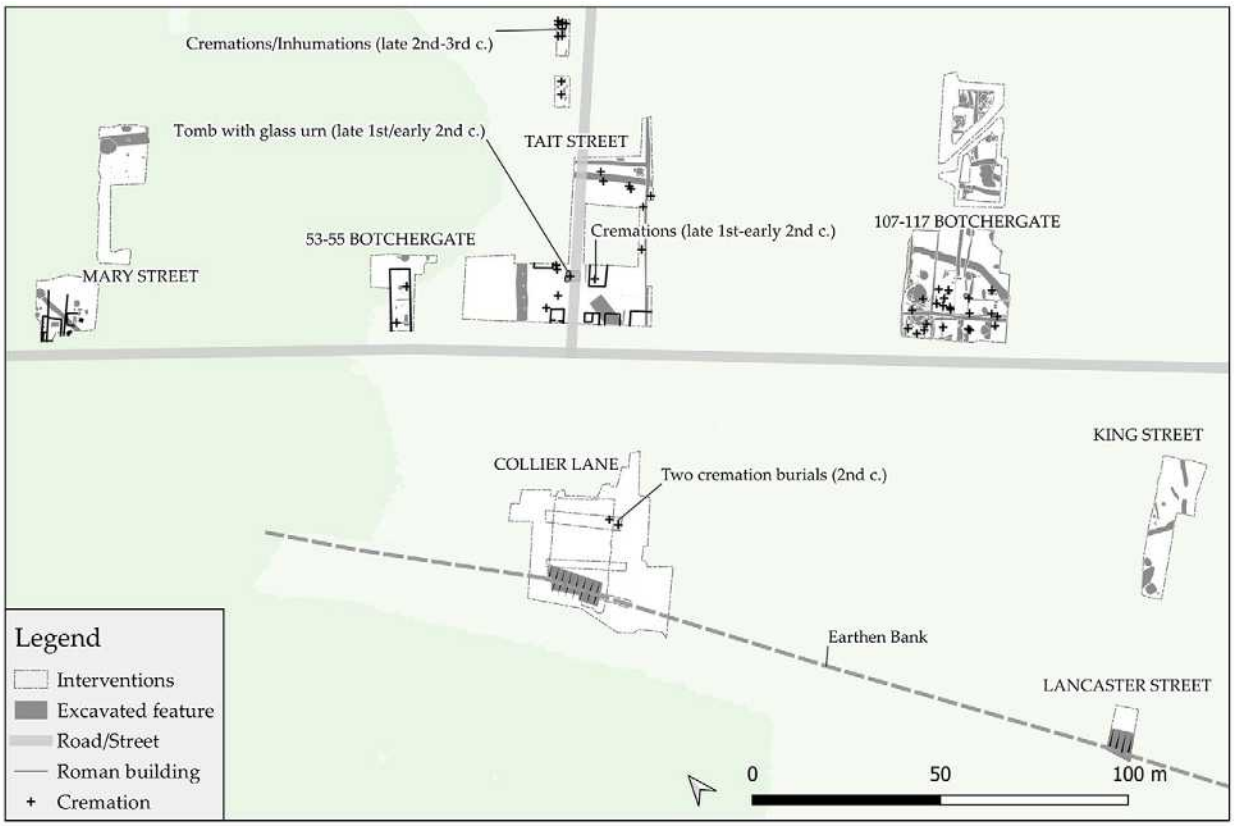


Figure *1.5* Schematic plan of excavated sites in the vicinity of Botchergate.

(3). Cists made of stone slabs are also fairly frequently attested (6). There is little doubt that inhumations which lacked the surviving elements of a coffin, or indeed uncontained cremation burials, interred without accessory vessels, will be underrepresented. Such burials are far less likely to have been noted by the workmen and consequently will not have made it into the written accounts, which partly come down to us through newspaper reports from the time.

In the same category of conspicuous remains are tombstones and parts of sculpted funerary architecture. The most recent discovery of a tombstone fragment comes from Stanwix, in the rubble of a large building on the outskirts of the fort next to Carlisle Cricket Ground, which saw phases of rebuilding carrying on into the mid-4th century. It relates to the relative of a soldier, reading "...aged 60...under the charge of Anic[...]...of the milliary ala Petriana...".[62] On the south side of the river, about ten tombstones have been found, mostly in fragmentary condition. Some preserve fragments of Latin epitaphs. One tombstone, for example, commemorates a woman called Anicia Lucilia who lived 55 years.[63] Another found associated with a lead coffin within a stone cist and an urn commemorates a woman aged 41 years at death.[64] A third tombstone, found lying on the cover of the cist, was too fragmentary to reconstruct more than parts of its inscription, beginning 'to the spirits of the departed'.[65] Another, associated with a wooden coffin, had an inscribed 4th-century gravestone dedicated to a man from Greece, aged 60 at his time of death.[66] Another fragmentary tombstone would have recorded the number of years of service given by a soldier, but unfortunately that part of the broken stone is lost.[67] A tombstone from the Bowling Green site records 'Vacia, an infant, aged 3'.[68] There is as yet no evidence for elaborate mausolea, although sculpted fragments give a clear indication that above-ground memorials existed. Some of the tombstones bear substantially complete carved reliefs. Similarities in artistic style with others in the region are sufficient to posit the presence of one or more workshops of sculptors associated with *Luguvalium*.[69]

[62] Tomlin 2018, 430 no. 6; Hobson in Walas 2022, 412–5. Sculpted stone heads, cremation burials and the base of a mausoleum found in 2023/24 to the south of the building indicate the presence of a substantial cemetery.

[63] RIB 958
[64] RIB 959.
[65] RIB 956.
[66] RIB 955.
[67] RIB 963.
[68] RIB 962.
[69] Phillips 1976.

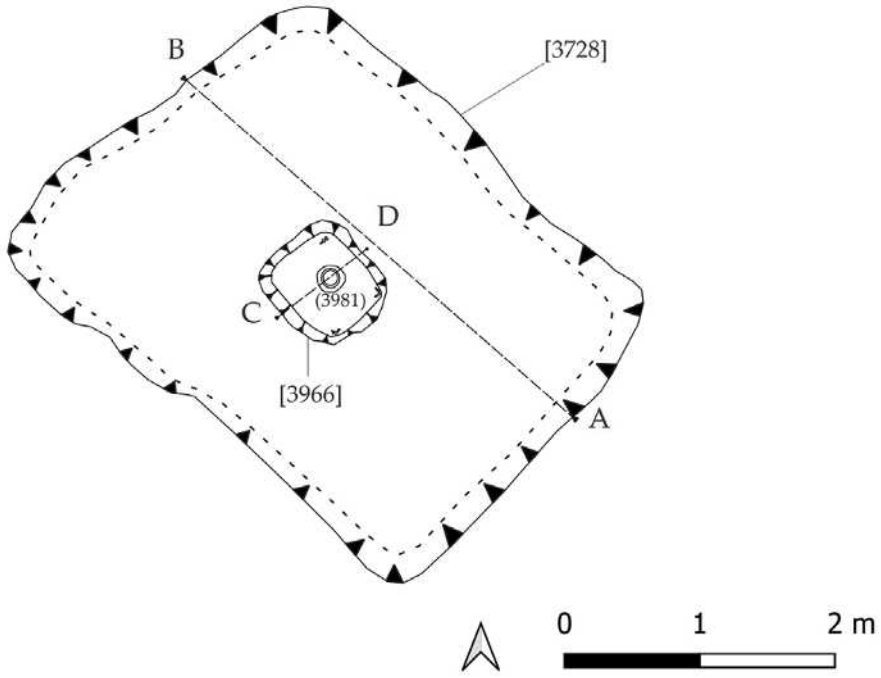


Figure *1.6* Plan of Tait Street tomb containing cremation burial.

While the details of many of the antiquarian finds are sketchy, the character of the Roman settlement and funerary activity at the southern edge of Roman Carlisle has been elucidated by several modern excavations on either side of Botchergate. Unfortunately, with one rare exception (53-55 Botchergate), these remain unpublished, with only brief summaries of the results entering later synthetic works.[70]

Modern sites excavated on the east side of Botchergate

Tait Street (1998-1999)

Beneath what is now the footprint of the Ibis hotel, only 70-130m to the northwest of the present site, excavations took place by Carlisle Archaeology Ltd in 1998-1999 (Figure 1.5).[71] A timber strip building (Building 1) dating to the Flavian period was recorded, which appeared to pre-date the construction of the Roman street leading to the south gate of the Flavian fort. Between the time when this Flavian building was constructed and when it was replaced with a new set of buildings aligned to the new Roman street, two cremation burials were interred. After roughly a century of use for artisanal purposes the settlement appears to have contracted, leaving space for the return of funerary activity by the early to mid-3rd century. The accumulation of soil could be observed, indicating the abandonment of the settlement in this area in the late 2nd century or early 3rd century. This soil layer was then cut by a series of about 30 cremation burials containing late 2nd to mid 3rd century pottery. A number of black-burnished ware jars were used as urns in these cremation burials. Also excavated was a significant number of inhumation burials, perhaps as many as 20.[72] The latter were identified by grave-shaped cuts, three of which had coffin brackets and grave goods associated with them.[73] No human bone survived to be recovered from these probable inhumation burials. None of the later cremation and inhumation burials cut through metalling of the side street. This indicates that the side street continued in use, although the buildings of the artisanal/industrial zone had been replaced by a cemetery.

One of the late-1st/early-2nd-century cremation burials was similar to some of those found in the present excavation, the urn being a 'legionary ware' pottery vessel thought by the excavators to date to the Flavian period. The other burial was of high-status and of great interest. Due to the folding of Carlisle Archaeology this site has never been fully analysed of published. While the budget of the current project could not stretch to this task, some effort has been made to furnish greater detail about the high-status burial. This cremation burial [3728]/[3966] was sealed by the metalled surfaces of a side street constructed at a right angle to

[70] e.g. McCarthy 2002, 77–9 & 85–7; Newman, R. 2011, 102–5; McCarthy 2017, 66–7 & 84.
[71] Giecco, F. O. et al. 2001.
[72] McCarthy 2002, 85–6.
[73] Giecco, F. O. et al. 2001, 25–6.

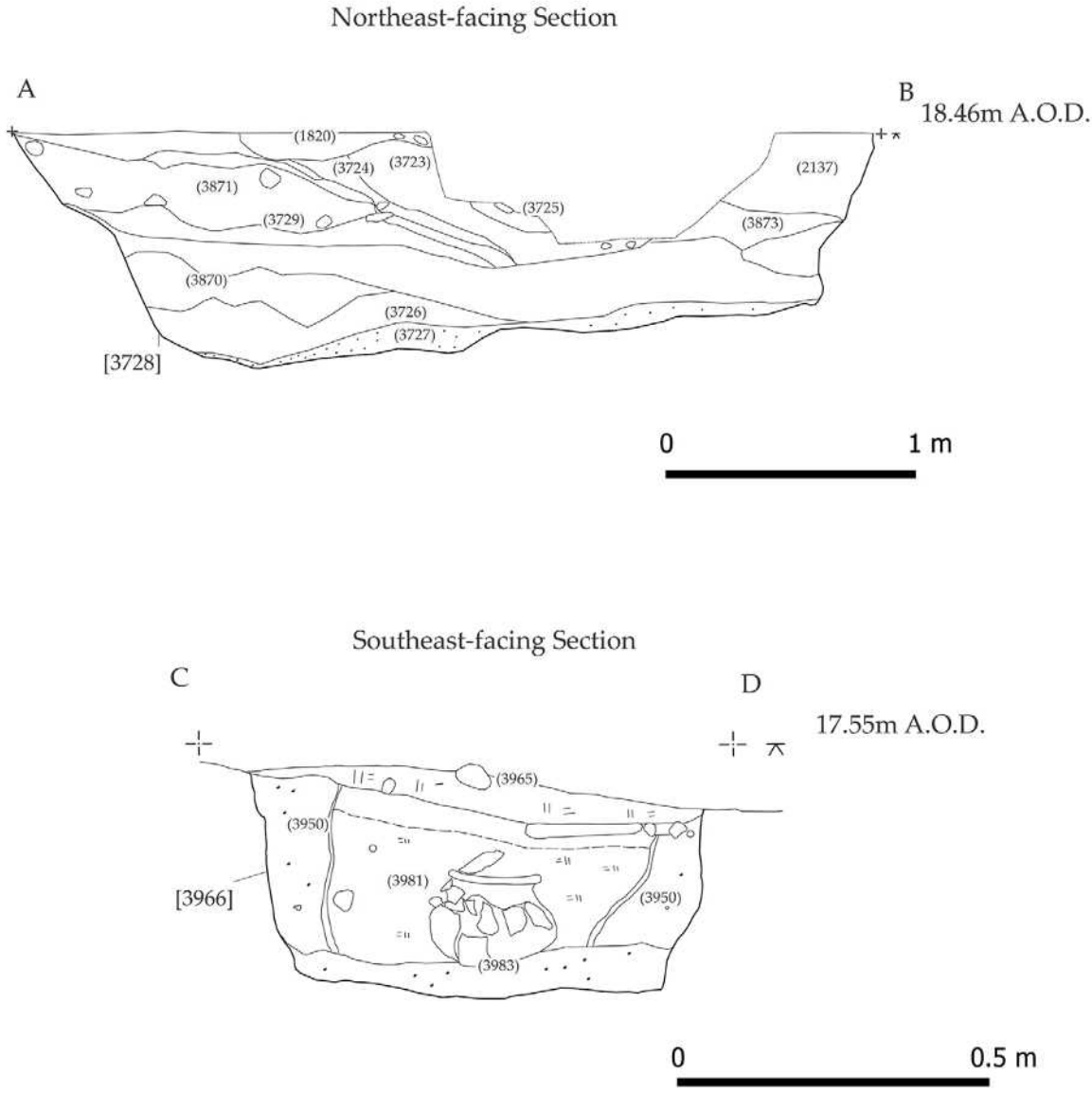


Figure *1.7* Section drawings of Tait Street tomb and cremation burial.

the main Roman road (Figure 1.5). The side street was contemporary with the set of timber buildings which aligned with, and fronted on to, the main Roman road fossilised in modern Botchergate. Some of the buildings may have been domestic in character, although one with evidence for multiple hearths has been posited as a possible bakery.[74] The burial beneath this side street might well be described as a tomb. It presented as a large squarish cut which measured 3.6m by 2.7m in plan and survived to a depth of 0.8m (Figure 1.6 & Figure 1.7). Just under 2kg of fired clay or daub was recovered, some of which remained in situ on the sides of the cut. Several of the fragments bear linear impressions, indicating some form of timber lining to the burial chamber. A second square cut measuring roughly 60cm in diameter was found in the centre of the burial chamber's floor. The remains of iron nails found towards the top of this smaller cut indicate that it contained the remains of a box. In the centre of the box was a large glass funerary urn, which can be dated to the late-1st to early/mid-2nd century AD and contained cremated human remains (Figure 1.8 & Figure 1.9).[75] Such glass jars (*ollae*) will have been used primarily as storage jars, or perhaps as tableware.[76] While similar examples have been found in burials in southeast Britain, glass urns are generally rare in burials in the northwestern provinces and are regarded as an element of superior burial furnishing.[77]

[74] McCarthy 2002, 78.

[75] Giecco, F. O. et al. 2001, 18; McCarthy 2002, 78.

[76] Koster 2013, 247.

[77] Philpott 2016, 23–4. A similar example is also known from

Figure *1.8* Photographs of Tait Street tomb containing cremation burial.

Figure *1.9* Glass urn from Tait Street cremation burial, on display in Carlisle Cathedral.

Aside from cremated bone, the glass urn contained an iron tack and some globules of molten glass, implying that at least one glass vessel had been placed on the funeral pyre. The smaller cut and the base of the larger timber-lined burial chamber were filled with a black charcoal-rich deposit likely to have been pyre debris. Above this, the tomb had been backfilled with redeposited natural. The presence of the pyre debris and the fact that some of the remains of the daub had been fired led the excavators to suggest that this may have been a *bustum* burial, in which the pyre was placed directly over what then became the burial pit. Direct evidence of in situ burning was not found, but this may have been at a higher level and lost, especially if the area was levelled prior to the construction of the side street which sealed the burial.

The Mary Street Site (1998-1999)

Farther to the northwest, below an area that is now occupied by shop frontages on the corner of Mary Street and Botchergate, a similar group of timber buildings was observed, first being constructed in the late-1st or early 2nd century AD. One of the strip buildings was 4.5m wide by 7m long and contained 'a large oven-like structure and at least two hearths associated with large quantities of metalworking slag, indicating an industrial function.[78] This building was extensively remodelled in the mid-late 2nd or early 3rd century but appeared to have continued in industrial use. Another of the buildings did not have such clear evidence for function. It appears to have been demolished, with external surfaces being laid over its remains from the mid-late 2nd or early 3rd century. The buildings all appear to have gone out of use in the early 3rd century, their remains being sealed by a thick layer of soil. No funerary activity was recorded in this area.

53-55 Botchergate (2001)

The excavation of an additional area beneath the corner of the Ibis hotel between the Tait Street and Mary Street excavation areas, at 53-55 Botchergate, characterised the sequence of settlement and funerary activity further.[79] Two cremation burials were excavated. One, set in a shallow sub-circular pit, contained a complete locally produced ceramic cooking pot used as the urn. The other burial was placed in a vertically sided rectangular pit. Both burials contained charred material from the pyre. The latter unurned cremation contained charred wood and three smashed, locally produced, reduced greyware flagons which had been broken in antiquity. These finds and central and

Noviomagus (Nijmegen) Burial 11 no. 34 (Koster 2013, 62–7, 135–6, 241 & 436).

[78] Giecco, F. O. et al. 2001, 10–1.

[79] Newman, R. 2011, 70–124.

southern Gaulish samian ware associated with other features from the same phase, some of which may have been funerary enclosure boundaries, dated the funerary activity to the late 1st-early 2nd century. A later timber strip building complete with a hearth for smelting lead ore at Botchergate supports the idea that this area was given over to artisanal activity in the early-mid 2nd century.[80] The same pattern of reduced activity by the late 2nd/early 3rd century was observed.

Modern sites excavated on the west side of Botchergate

St Nicholas' Yard (1996-1997)

Two broad ditch terminals were recorded, which appeared to form the entranceway into an enclosure. Evidence for a metalled trackway leading to the entrance from the east was found. Inside the enclosure an urned cremation burial and a coffined inhumation burial were excavated. Calcined bone was recovered from the cremation burial, but no human bone survived from the probable inhumation. Iron coffin brackets, two pottery vessels and glass were, however, recovered.[81] Three other shallow features were thought to have been possible cremation burials. Some contained medieval pottery, thought to be intrusive. The small quantity of calcined bone recovered from these features was deemed not to be worthy of further analysis.

The Collier Lane (1997) and Lancaster Street (2020) sites

At two sites, adjacent to Collier Lane and Lancaster Street respectively, parts of what was probably the same early 2nd-century linear earthwork have been found. The sites are approximately 100m west of the current excavation site, in the case of Collier Lane, and southwest in the case of Lancaster Street. At the Collier Lane site a clay core to the bank, as well as postholes along the top of the soil banking up on either side of the core, indicated that it carried some sort of structure. It was probably an aqueduct, or possibly a flood defence against the waters of the river Caldew. Large-scale rubbish dumping had occurred on the east side of the earthwork. Two urned cremation burials dating to the 2nd century were excavated. Both cremation pits cut through soils post-dating the construction of the bank and were sealed by dumped deposits, those immediately above containing 3rd-century material.[82] A clay core to the bank was observed at Collier Lane. This was not visible in the section explored at Lancaster Street, although only the northern part of the bank fell within the excavation trench. Micromorphological analysis undertaken as part of the *Earthen Empire: Earth and Turf Building in the Roman North West* project has confirmed that the bank was constructed of turves.

King Street (2005)

At King Street work ahead of the construction of a block of flats in 2005 revealed early-2nd to late 3rd-century settlement features. Ephemeral evidence of timber buildings was recorded, along with cobbled surfaces and ditch and pit features. No funerary evidence was encountered.

In conclusion, *Luguvalium* was the site of a Flavian fort important for the Roman army from the outset as a defendable location at a strategic river crossing. It gained in logistical significance once the Roman invasion of Scotland was called off, becoming an important node in the new Tyne-Solway defensive line under Trajan and gaining a second fort integral to the structure of Hadrian's Wall probably under Hadrian. An associated settlement appears to have quickly grown up around the Flavian fort. The pace of the fledgling town's development was no doubt increased by the importance of the military presence. From the reign of Hadrian into the 3rd century, apart from a brief period when the Antonine Wall was built and occupied, Carlisle boasted two Roman forts in contemporary use, one on each side of the important ford over the river Eden.[83] The strong military element in its population shaped the character of the town, reflected archaeologically in its architectural remains, inscribed dedications, and to an extent burial practices.

We know the names of two Gallic units stationed in the forts here, the *ala Gallorum Sebosiana* very probably at *Luguvalium* in the Flavian period and the *ala Augusta Gallorum Petriana* at *Uxelodunum* in the mid-2nd century and later. While the names of the units stationed at the forts in the early 2nd century are not yet known, the rebuilding of the fort at *Luguvalium* around AD 105 and the influx of different finds from within the fort at the same period have been used to argue for the arrival of a new unit from the region of *Gallia Belgica*.

Excavated sites on both sides of Botchergate, of which the present site is but one, have shown that in the late 1st and early 2nd century AD this area formed part of the periphery of the early settlement. Funerary activity appears to have ceased, or been pushed further away from the road, as the settlement expanded. Little of great significance can be said about the distribution of cremation and inhumation burials. What may have been the highest concentration of urned cremation burials was found at the far northern end of the distribution, only about 500m from the fort's southern gate and presumably buried by suburbs of the 2nd-century

[80] Newman, R. 2011, 77–9, 95–8, 108–13.
[81] Howard-Davis, C. and Leah, M. 1999, 91–5.
[82] Keppie, L. J. F. et al. 1998, 381–2.
[83] McCarthy 2017, 80–1.

extramural settlement. Reported on in Archaeologia Aeliana in 1832, these remains were found when the foundations for the gaol were being dug at the junction of English Street and the road meeting the Victoria Viaduct.[84] The presence of 3rd-century cremation burials and possibly even later inhumations within the Tait Street excavations makes clear that the area was repurposed on more than one occasion. The Tait Street site also revealed cremation burials dating to the late first or early 2nd century AD, including the high-status example illustrated above. The fact that this site has never seen full analysis, and that most antiquarian records lack sufficient detail about the earlier burials and their contents, increases the importance of the full publication of the findings from the Cumbria House site. The next chapter relates the stratigraphic sequence uncovered within the 2015 excavations, which provide new evidence for Roman funerary and settlement activity on the southeastern periphery of the Roman town during the 2nd century AD.

[84] Hodgson 1832.

Chapter 2
The Stratigraphic Sequence

Matthew Hobson and David Jackson

Introduction

This chapter describes the main features in each of the nine interpretative site phases. Phases 1-6 were Roman and form the bulk of the discussion. While the development of the Roman cremation cemetery in Phases 1, 2 and 3 is discussed, the specific stratigraphic detail of individual burials is deferred to Chapter 3. Phase 7 was medieval and Phases 8 and 9 post-medieval and modern. The information from these latter three phases can be summarised quite briefly. Thick layers of accumulated soil separated the phases of Roman activity from the medieval features of Phase 7, which included a stone-lined well and a series of 12th-14th century medieval pits. Phase 8 contained three post-medieval wells that were sunk through the Roman stratigraphy, followed by the foundations of buildings of the modern street frontage in Phase 9.

The depth of overlying modern and post-medieval deposits within the area of the former William Street Car Park was about 2.5m. This meant that for Areas A and B a policy of stepped excavation had to be followed, with the presence of a live electricity cable reducing the area that could be investigated still further to a total of about 245m^2. Away from the street frontage some of the former terraces of William Street and Jackson's Place had been provided with cellars and the excavation Areas A & B therefore targeted the part where it was thought that earlier strata were likely to have survived (Figure 2.1). Most of the overlying post-medieval and modern structures and deposits were removed by mechanical excavator to the first significant archaeological horizon. The same was done in Area C where, below the wall foundations and floor surfaces associated with the demolished buildings fronting Botchergate, *c.* 0.3-1.5m of post-medieval backfill and rubble deposits were removed. Fortunately, the depth of overburden encountered within the larger Area C (775m^2) was substantially less, approximately 2m at the eastern baulk and decreasing to less than half a metre along the Botchergate street frontage. No cellars were found to be present in this area and, while the medieval and early post-medieval archaeological strata had been significantly damaged, the preservation of the Roman archaeological remains was surprisingly good.

The greatest concentration of Roman-period archaeological remains occurred along the Botchergate street frontage, with the archaeological remains becoming less dense within the eastern half of Area C and throughout Areas A and B. The remains revealed along the frontage provided a relatively clear sequence of events which forms the basis of the separate phases discussed. The excavation of three separate areas presented certain challenges to the preparation of an overarching interpretation, although some linear features did span more than one trench, helping to link the stratigraphy together to some degree.

Broadly speaking the Roman site falls into two main periods of activity. The laying out of boundaries and the use of the area for funerary activity are represented by Phases 1 and 2. This was followed by a period of workshop and settlement activity represented by the erection and use of several buildings in Phases 3-5 before abandonment and the accumulation of soil layers took place in Phase 6. To judge from the pottery that was present in the infilled features, the first delineation of space in Phase 1 may have occurred in the late 1st or early 2nd century AD. Most of the funerary activity appears to have taken place in the first third of the 2nd century Although there are some clear distinctions between the pottery assemblages recovered from the cremation pits and those from the funerary enclosure ditches and settlement features, the material is similar in date. It is difficult to pin down exactly when the funerary activity gave way to the construction of buildings used for artisanal crafts, such as metal working, at the edge of the expanding settlement. It appears highly likely, however, that this transition may have been a feature of late Hadrianic or early Antonine *Luguvalium*.

Activity appears to have ceased within the boundaries of this site before, or during, the late 2nd century AD, and certainly before the early 3rd century. Within the pottery assemblages recovered from this excavation there is a fall-off in imported samian in the second half of the 2nd century, with no stamps post-dating AD 165. No 3rd-century samian sherds were recovered. There are strong indications, therefore, that this part of *Luguvalium* was replanned before the start of the 3rd century, leading to the abandonment of what had been the southern fringes of the mid-2nd century settlement (see Chapter 1). A very few coarse ware sherds could be dated to after AD 200. These come from a single set of intercutting pits spanning Phases 5 and 6 and from later

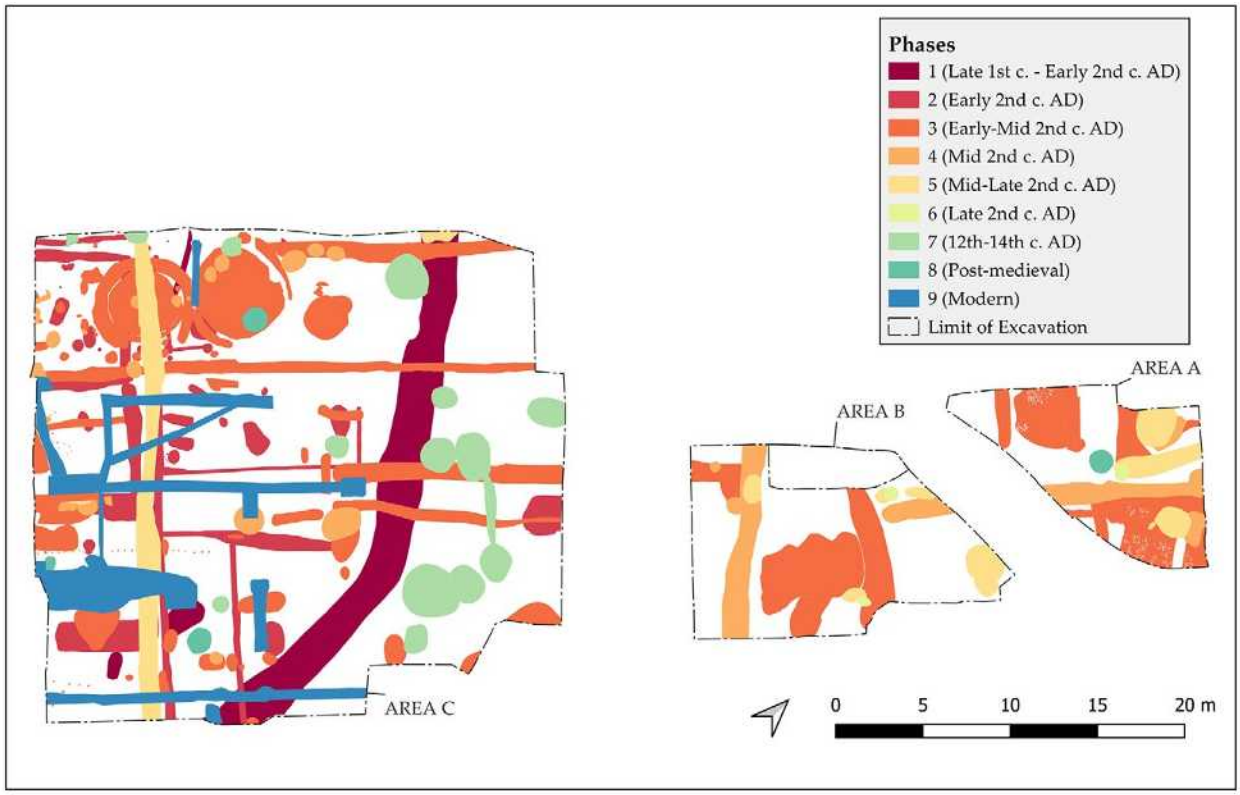


Figure *2.1* Phase plan showing post-medieval and modern features encountered during the excavations.

soil accumulation layers. These sherds demonstrate the continued occupation of the Roman town, but were mainly found in contexts that also contained medieval pottery.

In the stratigraphic descriptions that follow square brackets have been used to indicate cut numbers and round brackets to represent deposit numbers. Structure numbers appear within braces. Eighteen linear features through which more than one archaeological intervention was excavated have been given Feature Group numbers, abbreviated in the text and on the figures as FG001-FG018. Context numbers relating to deposits thought to belong to the same event have been grouped together, and these are referred to in the text as numbered deposit groups. Four Romano-British Buildings were identified, numbered as Buildings 1 to 4, as well as three structural areas. Five wells have been numbered as Wells 1 to 5. One of these was Romano-British, one medieval and three post-medieval. In Phase 2, four Funerary Enclosures were identified. Each of these has been given a number and these are labelled on the Phase 2 plan (Figure 2.6). Similarly, four sub-divisions of the funerary enclosures have been designated 'Burial Plots' and have been numbered from one to four. Finally, seven pit groups have been identified, spanning Phases 3 to 5, and these are also indicated on the relevant Phase plan abbreviated to PG001-PG007 on the figures.

Phase 1 - Initial roadside plot division (late 1st – early 2nd century AD)

Ditch FG001

The earliest feature on the site was large enclosure ditch FG001 (Figure 2.2, Figure 2.3). The ditch could be traced across the whole of excavation Area C, entering at the north on a northwest-southeast orientation and then turning south after about 20m. It had an average width of 2.2m and a maximum depth of 1.3m. It had a roughly V-shaped profile and contained between three and seven fills along its length (Figure 2.4, Figure 2.7). All of the cremation burials were found between the northwest to southeast aligned Roman road, that led to the south gate of the Flavian fort, and this boundary. That some funerary activity was taking place while this boundary ditch was still open is indicated by the find of a fragment of tombstone within one of its fills (see Chapter 3). It is clear, however, that this feature had eventually been backfilled and superseded by later ditches that subdivided the area and were contemporary with much of the funerary activity. Pottery finds from the fills of ditch FG001 date to the late 1st to mid-2nd century AD. Judging from its trajectory and profile, this ditch is possibly the same as two stretches of similar ditch observed in the 1998-99 excavations between Mary Street and Tait Street (Ditch [2600] = [1116]). The excavation report from these excavations dated

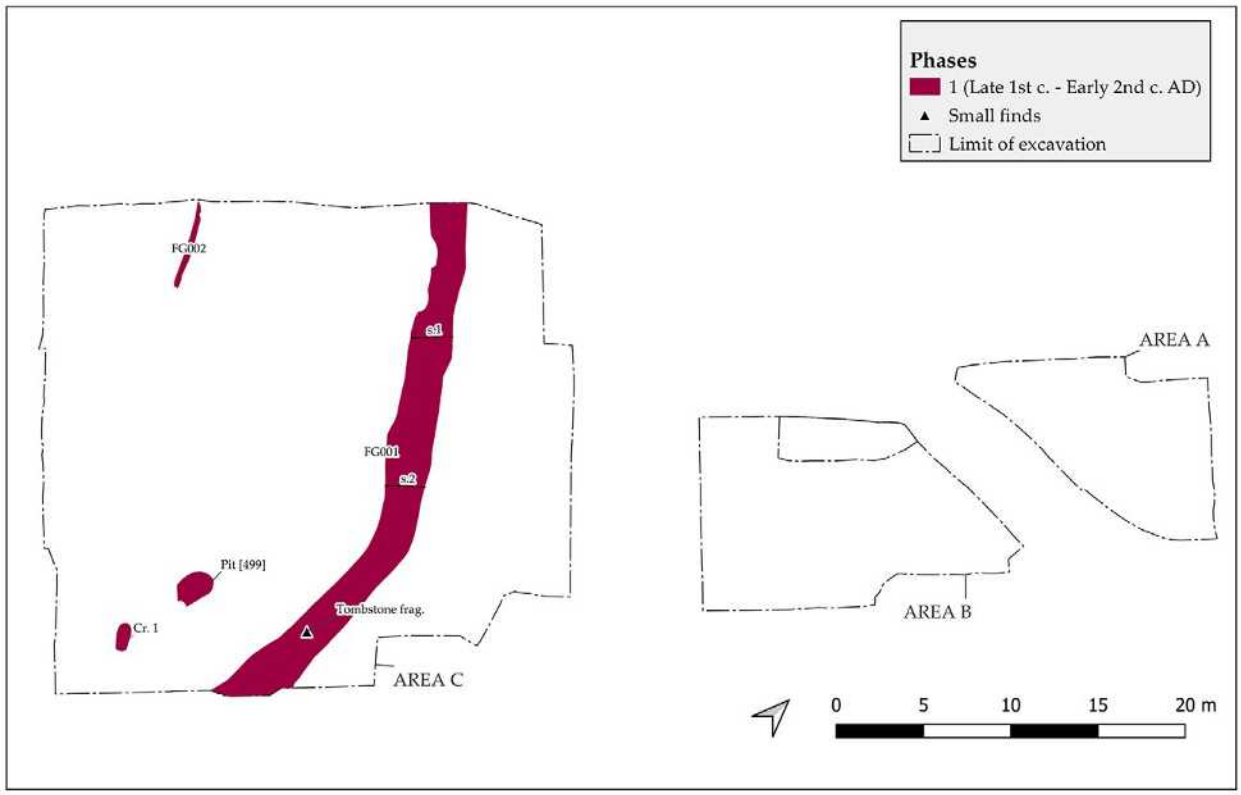


Figure *2.2* Plan of Phase 1 features.

the feature to the early 2nd century and postulated that it may have had a military origin.[1] Whatever its origin, the large boundary ditch FG001 appears to have enclosed an area of several hectares to the southeast of the Flavian fort.

Gully FG002, Pit [499] and Cremation Burial 1

Three further cut features relating to the main late-1st-early 2nd century AD period of the cremation cemetery have also been placed in Phase 1, because their fills were cut by Phase 2 features. All three were within the area enclosed by FG001. The first, shallow gully FG002, was 13.5m distant from ditch FG001 and on the same alignment. It had an observed length of 5.1m, a width of 0.35m and a depth of 0.13m. It had the appearance of a possible beam slot, but its function was unclear (Figure 2.5).

Second, discrete pit [499] was oval in plan and measured 2.1m by 1.4m, with a depth of 0.4m. It contained a primary fill of dark grey/brown sandy silt (500), a secondary deposit of mid-grey silty sand (501) and a tertiary deposit of dark greyish brown sandy silt (502). No finds or cremated material were recovered from this feature and its function remains unknown. Thirdly, and finally, there was Cremation Burial 1. This burial did not sit as comfortably as the others within the series of funerary enclosures that was laid out in Phase 2. Indeed, the edge of Cremation Burial 1 appeared to have been cut by Burial Plot 3, ditch FG006, although this could have been a result of weathering or later cleaning out of the ditch. Full details of this burial are given in the burial catalogue (Chapter 3). A Dorset black-burnished ware jar was used for the urn, providing a possible *terminus post quem* of *c.* AD 105 (although the ware appears only to have arrived in quantity from *c.* AD 125).[2]

Phase 2 – The creation of funerary enclosures and burial plots (early 2nd century AD)

In Phase 2 the interior of the large enclosure delineated by Ditch FG001 was sub-divided into, and eventually superseded by, a series of early-2nd-century funerary enclosures (Figure 2.6). Fourteen cremation burials (nos. 2-15), two possible cremations (A & B) and a possible inhumation have been placed within this phase. The burials were for the most part discrete, with few stratigraphic relationships to help establish the sequence of burial activity. Four cremation burials (nos. 16-19), however, cut through the fills of Phase 2 enclosure ditches and have thus been placed in Phase 3.

[1] Giecco, F. O. et al. 2001: 11–13 & 18–19.

[2] Swan, McBride, R., and Hartley, K. 2009: 601.

Figure *2.3* Phase 1 enclosure ditch FG001 (Shot faces south, 2m scale).

Figure *2.4* Detail of three sections through enclosure ditch FG001.

Figure *2.5* Phase1 shallow gully FG002 (Shot faces southeast, 2m scale).

Funerary Enclosure 1

Funerary Enclosure 1 was delineated by the northwest-southeast oriented Roman road, which lay just outside the excavation area to the south, and by a shallow ditch FG008 on the same alignment to the north (Figure 2.8). This framed an area of 185m^2 within excavation Area C and extended farther to the south and east beyond the limits of the excavation. The enclosure contained Burial plots 1, 2 and 3, each about 30 or 40 square metres in area and framed by ditches. The ditches enclosing the burial plots were far more substantial than that delineating Funerary Enclosure 1 (ditch FG008) and in some cases these had steep-sided 'V'-shaped profiles (Figure 2.7). The burial plots and the enclosure respected one another spatially and are highly likely to have been contemporary. A soil layer (Deposit Group 1) containing a single sherd of black-burnished ware, which was cut by the burial plot ditches and the enclosure ditch, provides a *terminus post quem* for their creation around AD 105. This dating is confirmed by the late-1st and early 2nd-century pottery finds from the fills of Burial Plots 1 to 3 (see Chapter 5).

Burial Plot 1 was delineated by ditch FG005, which framed the plot on its north, west and east sides. To the south the Burial Plot extended beyond the limits of

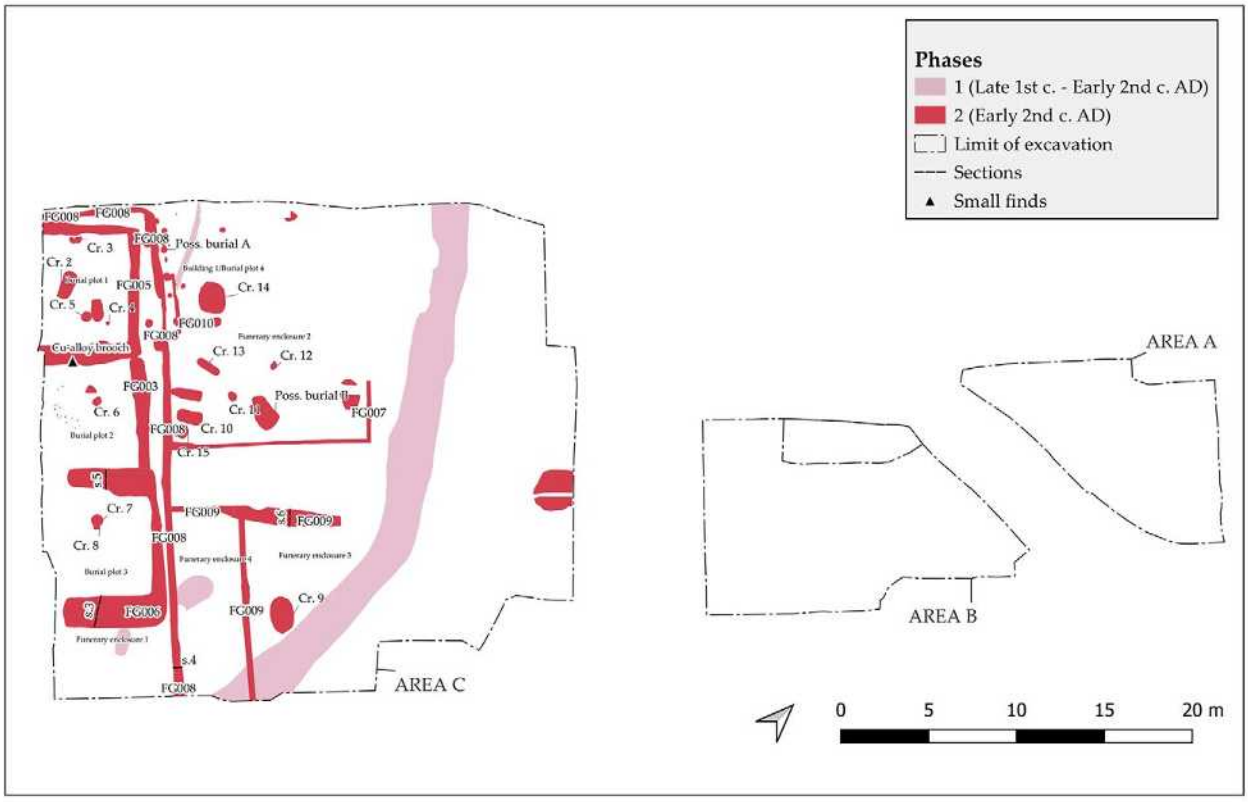


Figure *2.6* Plan of Phase 2 features.

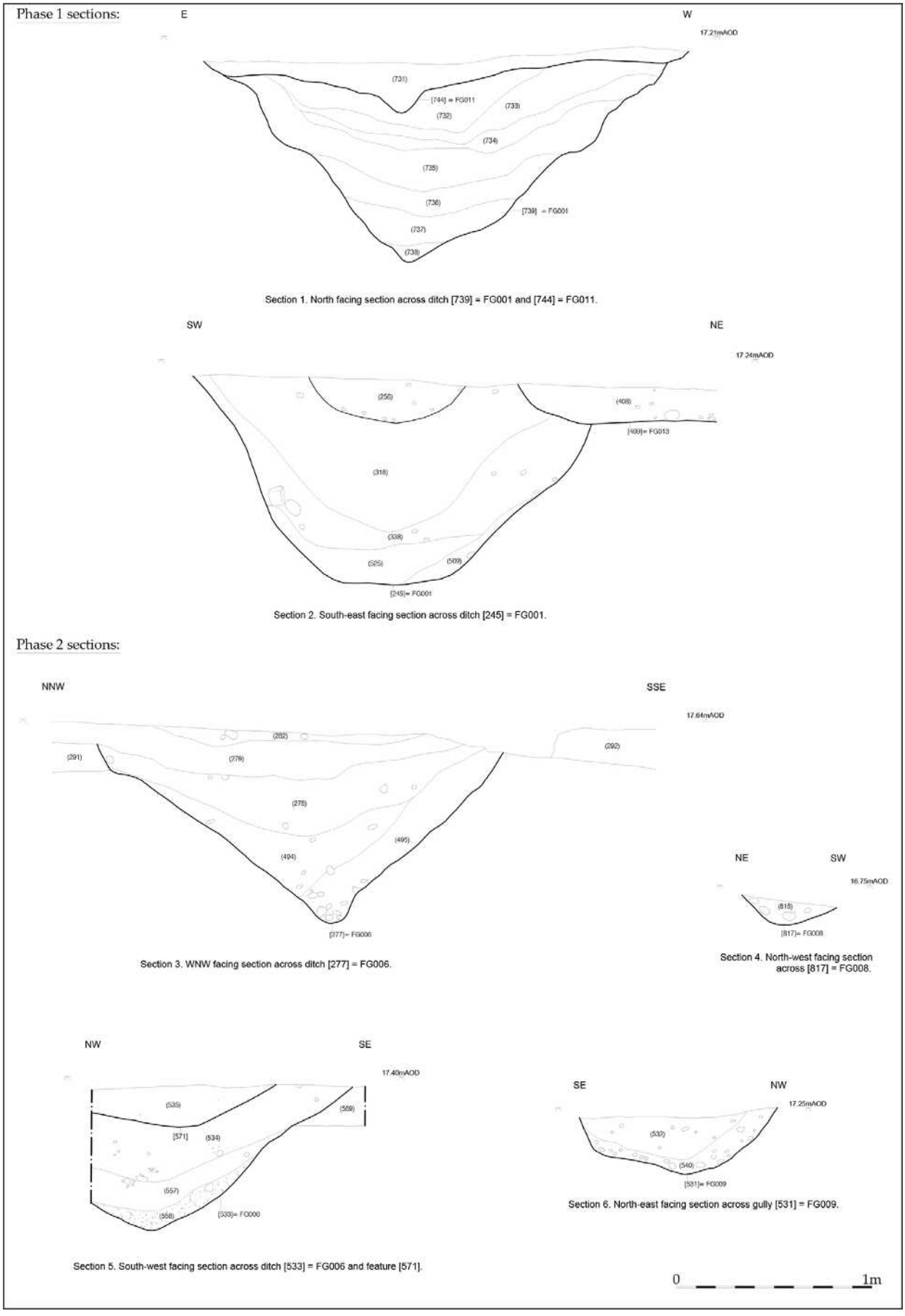


Figure 2.7 Selected sections from Phase 1 and Phase 2.

Figure *2.8* Northwest-facing section of Phase 2 ditch FG008 and Phase 5 ditch FG015 (1m scale).

Figure *2.9* Northwest-facing section of Phase 2 Burial Plot ditch FG003 (40cm scale).

the excavation area. Ditch FG005 had a width of 0.7m and a 'V'-shaped profile 0.5m in depth. This burial plot contained Cremation Burials 2, 3, 4 and 5, perhaps a family group (see Chapters 3 and 4). There is nothing to help identify the chronological order of internment. Cremation Burial 2 was by far the richest burial of this group (see Chapter 3), with a range of accessory vessels indicating the individual may have originated in the region of the modern France/Belgium border (see Chapters 5 and 6).

Burial Plot 2 was adjacent to the southeast. It was delineated by ditch FG003 on its east side (Figure 2.9) and by the ditches of Burial Plot 1 to the north and Burial Plot 3 to the south. Ditch FG003 retained a rounded profile and measured 6.3m in length, with an average width of 0.75m and an average depth of 0.4m. Burial Plot 2 contained only Cremation Burial 6 and an adjacent pit [654], which may well have been associated with the burial rite as it contained an almost complete eggshell beaker imported from northern Italy. Both pits were cut by a later linear feature. This, and a fragment of a stone gaming board (SF62) found in a later layer nearby, suggests the truncation of funerary deposits in this area.

The next adjacent plot was Burial Plot 3, which contained two intercutting Cremation Burials 7 and 8. Its boundary ditch (FG006) was more substantial than those of the other burial plots. It retained an average width of 1.3m and a 'V'-shaped profile with an average depth of 0.75m (Figure 2.10). Unlike Burial Plot 1 it did not extend south beyond the limits of the excavation area. No southern boundary was found, perhaps indicating that it was accessible from the road to the south. Its ditch (FG006) cut through the edge of Phase 1 Cremation Burial 1. The pottery recovered from the fills of this burial plot suggest a date in the late first to early 2nd century AD.

Figure *2.10* Southwest-facing section of Phase 2 Burial Plot ditch FG006 with Phase 3 clay surface visible as an upper fill (1m scale).

Funerary Enclosure 2

To the rear of Funerary Enclosure 1 (ditch FG008) and connected to it, a set of ditches (FG007 and FG009) delineated a series of funerary enclosures set farther back from the road (Funerary Enclosures 2, 3, and 4). These were similar in character to FG008, being narrow and generally less substantial than the burial plot ditches. Ditch FG009 cut through the upper fills of the Phase 1 boundary ditch (FG001), making it clear that it had been fully filled in by the time it was created. Spatially, this new set of enclosures appears to have been contemporary with the roadside Funerary Enclosure, but it is certainly possible that FG007 and FG009 were later additions, extending the area being used for burial farther back from the road as the need arose.

Funerary Enclosure 2, framed by ditches FG007 & FG008, contained a cluster of six cremation burials (nos. 10-15) within its southern half. A thin layer of

cemetery soil (316 = Deposit Group 2) sealed Cremation Burial 10 and an additional possible inhumation burial (Possible Burial C). This soil layer appeared to be cut by Cremation Burial 15, however, which may therefore have been one of the later burials within this phase. Cremation Burial 10 was notable for its high number of pottery accessory vessels. In many ways it was similar to Cremation Burial 2 with its suite of pottery vessels again demonstrating parallels with contemporary burial habits in the region of the France/Belgium border. There was also clear evidence that the pottery grave goods had been deposited in a wooden chest held together with iron brackets (See Chapter 3).

Building 1/Burial Plot 4

Funerary Enclosure 2 also contained some structural remains in the form of 15 substantial postholes and a right-angled beam slot (FG010). It was impossible to tell stratigraphically whether these remains pre-dated, were contemporary with, or post-dated the internment of Cremation Burial 14. The structural evidence indicates two possibilities (Figure 2.11 & Figure 2.12). The first is that the remains were part of the southwest side of a poorly preserved timber strip building (Building 1). The long side could be traced over a length of 6m and the return for about 2.5m. One argument in favour of interpreting these remains as a building is that it is precisely this part of excavation Area C which saw the construction of two circular buildings in Phase 3. A Phase 2 building could therefore be seen as a precursor to the settlement activity attested in the later phase. The presence of a copy of a North Italian oil lamp in local CO OX fabric in the fill of one of the postholes [990] may indicate that this was a building that was contemporary with the set of roadside funerary enclosures. Excavations located farther north along Botchergate have revealed similar evidence, which has been interpreted as the remains of timber strip buildings, some found to be workshops.[3] There is, therefore, the possibility that these remains represent a timber strip building that once fronted onto a side street running at a right angle to the main Roman road. Just such a side street was found during open area excavations beneath the Ibis hotel, 85m to the northwest. Another side street, parallel to the one found beneath the Ibis hotel, may have existed just beyond the northern limits of excavation Area C. If these remains did relate to a timber strip building, however, evidence for the northeast side of the structure did not survive. The presence of Cremation Burial 14 within what would have been the interior of this building, may indicate that it eventually went out of use as the area of funerary activity expanded during the 2nd century.

The second possibility is that Cremation Burial 14 was furnished with its own fenced burial plot (Burial Plot 4), set farther back from the road than the others and of a different character. Post-hole [990] containing the oil lamp could be seen as funerary related activity, or even as another possible cremation burial or cenotaph (see burial catalogue, Possible Cremation A).

Funerary Enclosures 3 and 4

Farther to the east was Funerary Enclosure 3. This was delineated by ditch FG009 on its north and west sides and by ditch FG008 to its south. Ditch FG009 averaged roughly 0.4m in width and 0.3m in depth (Figure 2.13). This enclosure contained a single burial, Cremation Burial 9.

Funerary Enclosure 4 was adjacent to the west of Funerary Enclosure 3. No burials relating to Phase 2 were found inside it, although its infilled ditches were cut by several Phase 3 cremation burials (see below).

Figure *2.11* Right-angled beam slot FG010 of Phase 2 Building 1/Burial Plot 4 (Shot faces N, 2m scale).

Figure *2.12* South-facing section of Posthole [959] from Phase 2 Posthole Group 001 of Building 1/Burial Plot 4 (30cm scale).

[3] Newman, R. 2011: 105–113.

Figure *2.13* Northwest-facing section of Phase 2 Funerary Enclosure ditch FG009 (50cm scale).

Discrete pit features [415] & [461]

Other discrete shallow pit features (pits [415] & [461]) were attributed to this phase, but contained little in terms of finds to distinguish them.

Phase 3 – The expansion of *Luguvalium* (early-mid 2nd century AD)

Phase 3 is characterised by the repurposing of the area for settlement activity, most probably when the town of *Luguvalium* expanded during the Hadrianic period. In this phase a new system of enclosure was imposed, beyond the area originally enclosed by ditch FG001 (Figure 2.14). The new series of plots was populated with structures and external yard surfaces. At the western edge of Area C two definite buildings (nos. 2 and 3) were constructed along with a stone-lined well, or water-hole. Other evidence, in the form of cobbled clay surfaces, traces of beam slots and lines of fence posts, hints at the presence of possible strip buildings along the street frontage (Building 4). This evidence fits well with what has been found at other excavated sites on the northeast side of Botchergate, where a 15-20m deep zone adjacent to the street frontage became intensively occupied during the first half of the 2nd

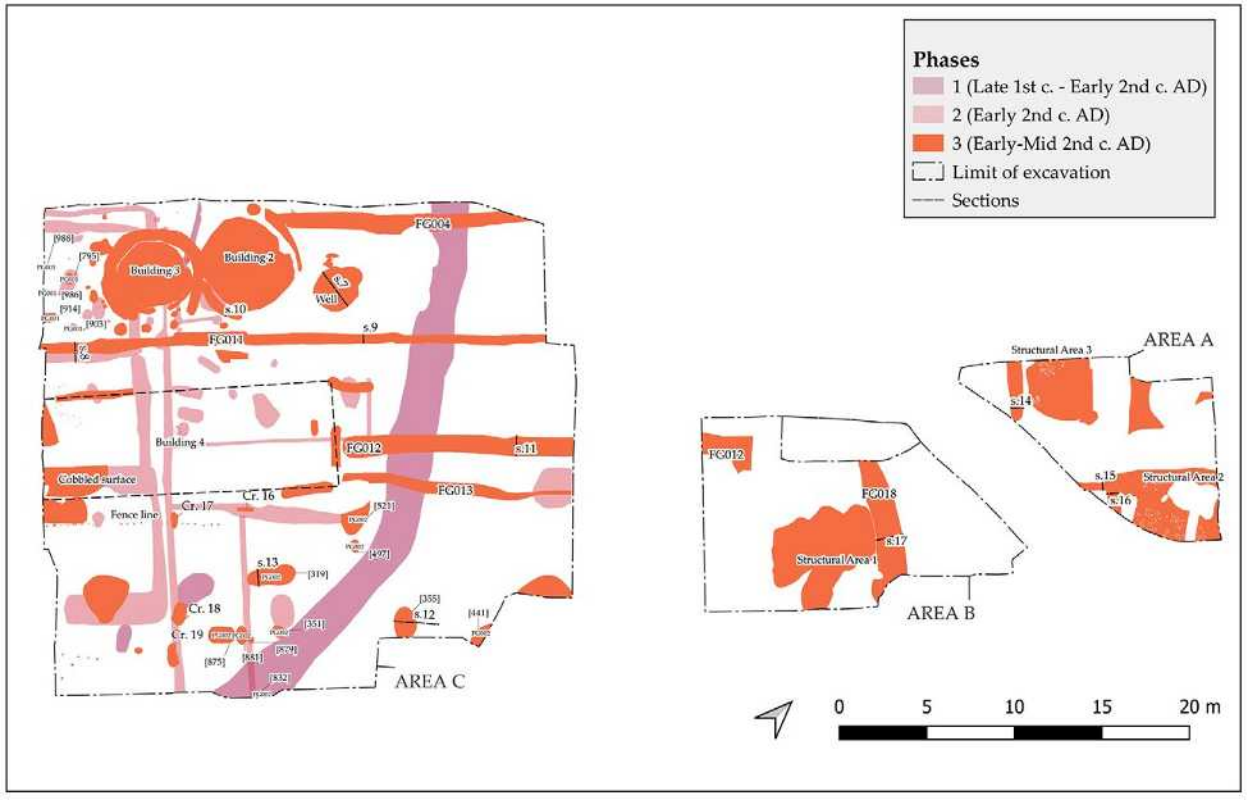
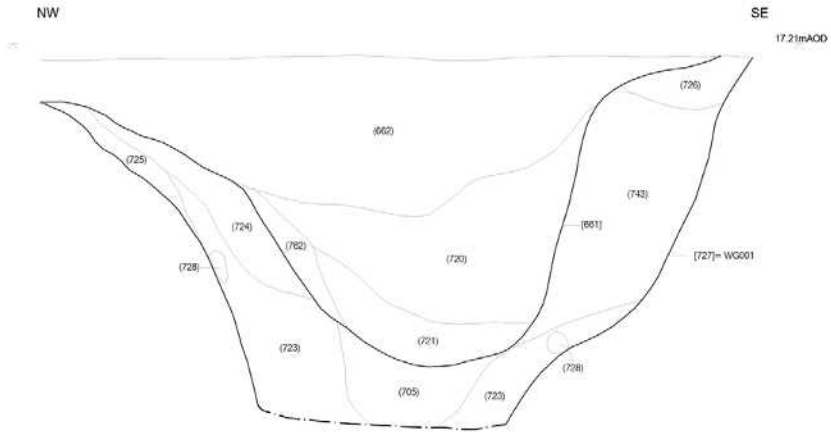
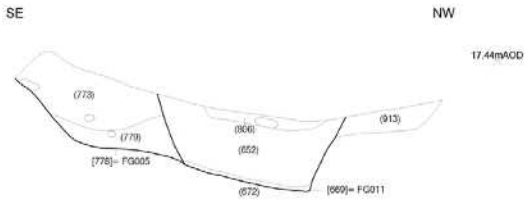


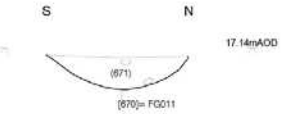
Figure *2.14* Plan of Phase 3 features.



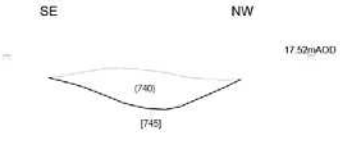
Section 7. South-west facing section across well [727] = WG001 and pit [661].



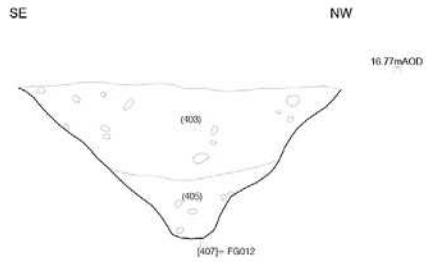
Section 8. North-east facing section across features [669] = FG011 and [778] = FG005.



Section 9. East facing section across gully [670] = FG011.



Section 10. South-west facing section across feature [745].



Section 11. South-west facing section across ditch [407] = FG012.

Figure *2.15* Selected Phase 3 sections.

century AD.[4] In Areas A and B, about 40m to 60m from the road, evidence of additional structural areas in newly created plots was also found which may have been broadly contemporary with the construction of Buildings 2 and 3 (Structural areas 1, 2 and 3).

Continued burial in Phase 3

This expansion of the settlement put an end to the system of funerary enclosure that had been established in Phase 2, building over much of it. It seems likely, however, that some funerary activity continued in the southern part of excavation Area C. Four cremation burials from this part of the site have been placed in Phase 3, because they cut through the fills of the Phase 2 features. These four cremations constitute an interesting group. Unlike the other burials, they were not placed within funerary enclosures or burial plots. Rather, they were dug deliberately into the fills of the boundary ditches belonging to Phase 2 Funerary Enclosure 4. Cremation Burial 16 cut through the fills of ditch FG009 and Cremation Burials 17, 18 and 19 cut through the fills of ditch FG008. In general, these cremation burials were preserved less well than those of Phase 2. Given the contrasts between this set of burials and the more richly furnished examples of the previous phase, we may be seeing indications that the cemetery activity in this phase related to individuals of lower status. At any rate, it seems that funerary activity continued in this area for a time, while the new buildings of the encroaching settlement were in use.

Parallel plot boundary ditches FG004, FG011, FG012 and FG013

The new system of enclosure is represented in Area C by a series of four parallel ditched plot boundaries oriented at right-angles to the main Roman road (FG004, FG011, FG012 and FG013). All four ditches cut through the upper fills of enclosure ditch FG001. Ditches FG011 and FG012 were also observed to cut through the fills of the Phase 2 system of funerary enclosures (Figure 2.15). Ditch FG012 extended northeast into excavation Area B, providing the only clear stratigraphic link between the excavation trenches. A linear plot boundary demarcating space farther away from the road, in an area where no cremation burials were recorded, perhaps marks the change in function of this area for settlement use.

Despite marking a change in the function of the area, none of these ditches appears to have cut through a Phase 2 cremation burial. Indeed, ditches FG004, FG012 and FG013 seem to have respected the area of roadside funerary activity. The terminal ends of FG012 and FG013 were located close to the terminus of Phase 2 ditch FG009 and did not run farther south. This hints at continuity of use of the area, as it gradually became subsumed by the expanding 2nd-century settlement. Ditch FG011, by contrast, extended right across Area C, partitioning off the northeastern area that was used for the construction of Buildings 2 and 3 (Figure 2.16). It cut through the fills of Burial Plot 1's enclosure ditch (FG005) and was about twice as deep.

Figure *2.16* Phase 3 ditch FG011 (Shot faces northeast, 1m scale).

Buildings 2 and 3

The remains of Buildings 2 and 3 probably represent a single building that was rebuilt next to where it originally stood. Both of the buildings were circular, probably of wattle and daub construction, with shallow foundation trenches and clay floors (Figure 2.17). Their construction marked a significant end to the funerary activity represented by Phase 2 features in this part of the site. These two circular structures were built right over the top of the north end of Funerary enclosures 1 and 2, sealing Burial plot 1 and Cremation Burial 14. Indeed, in the northwest of Area C in general, the upper fills of the Phase 2 ditches associated with Funerary Enclosure 1 and Burial Plot 1 preserved evidence of

[4] Newman, R. 2011: 105.

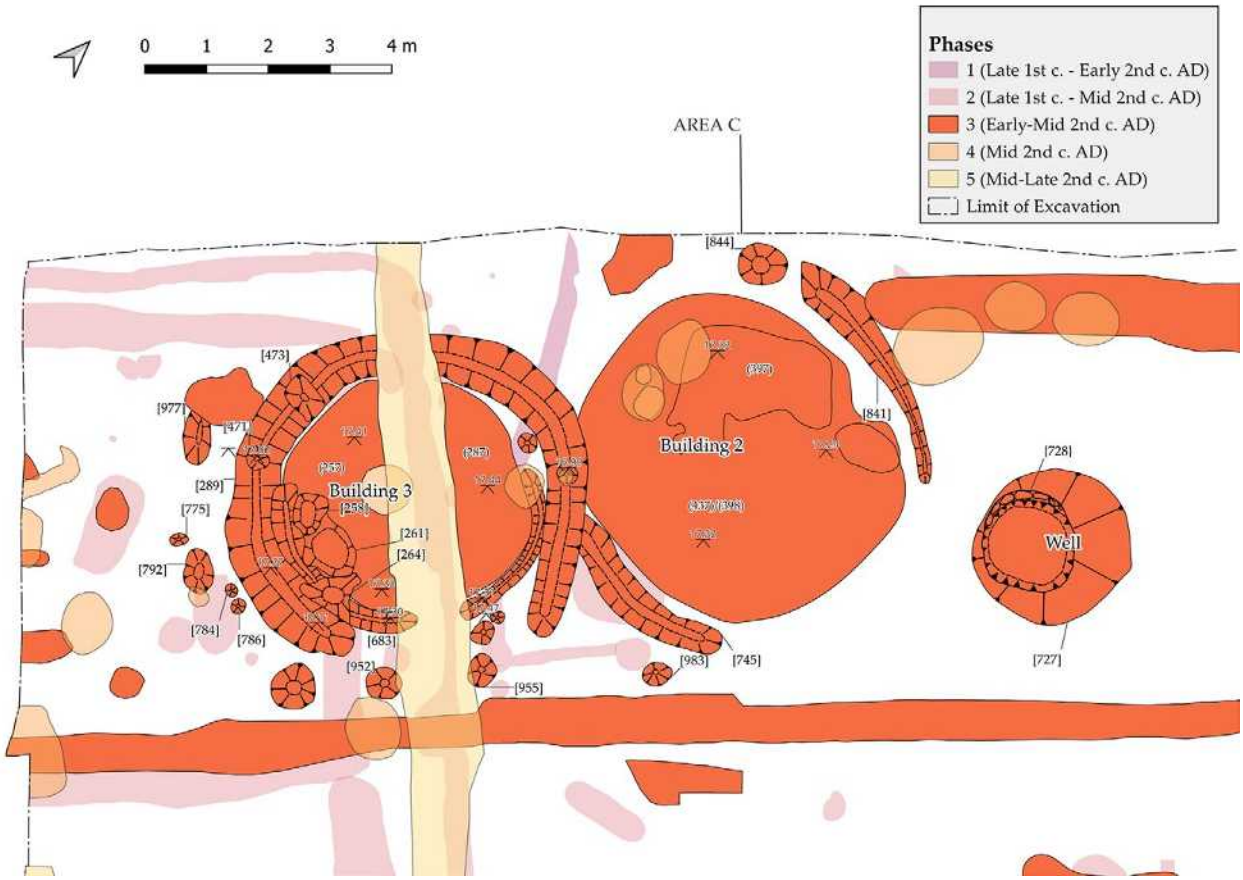


Figure 2.17 Plan of Buildings 2 and 3

imported levelling layers of clay and cobbles, laid down in preparation for the construction of these two buildings (Figure 2.18). These levelling deposits (Deposit Group 3: 440, 445, 760, 862, 843, 948 & Deposit Group 4: 688, 770, 812, 887, 940) sealed the funerary enclosure ditches in the northwest of excavation Area C and pottery finds within them provide a *terminus post quem* in the second quarter of the 2nd century AD for the construction of Buildings 2 and 3. A newly laid down cobbled surface (Deposit Groups 10, 16 & 20) west of Buildings 2 and 3 appeared to represent a yard or street surface. This surface sealed a deposit of smashed Baetican amphora sherds (691), which in quantity represented about half an amphora.

The buildings must have been in contemporary use with a shallow stone-lined well or waterhole (Well 1) that was sunk just to their northeast. The well was located approximately 1.2m east of Building 2. The proximity of the buildings to the well may be an indication that they were used for small-scale industrial purposes that required an easily accessible water source. The cut of the well [727] measured approximately 2.5m at ground level, reducing to 1.3m at its base, with a maximum surviving depth of 1.4m. Around the northwestern edge of the feature, a stone-lining was revealed, comprising large sub-angular stones with cobble packing (728). Although several dispersed stones associated with the well lining were recovered during the excavation of the feature, these were relatively few, suggesting that the stone lining had largely been robbed away at some point. The uppermost fill contained sherds of samian, providing a *terminus post quem* for the final infilling of *c.* AD 150. This could of course have happened some decades later but, as with the other Romano-British cut features on the site, the absence of 3rd-century material indicates that it had been completely infilled before the close of the 2nd century.

Building 2 was the easternmost and stratigraphically earlier of the two circular structures. It possessed a partially surviving circular foundation trench and retained a maximum diameter of 6.2m. Observing the stratigraphic relationship between the two structures was complicated by the presence of a modern service trench. There were strong indications, however, that the foundation trench for Building 3 had cut through the fills of the foundation trench for Building 2, indicating that the remains related to a single circular building which had been rebuilt just next to its original position. Building 2 survived less well than Building 3. Its foundation trench was only noted at the southern

Figure *2.18* Northwest-facing section of Phase 2 Burial Plot ditch FG005 with make-up and floors of Phase 3 Building 3 visible as upper fills (1m scale).

Figure *2.19* Southeast-facing section of Posthole [844] from Phase 3 Building 2 (40cm scale).

[745] and northern [841] edges of the building, although it is likely to have originally extended around the entire perimeter of the structure. The shallow foundation trench retained a width of *c.* 0.6m and had been filled by deposits of silty clay and cobbles (644/740). Unlike Building 3, only a single post-hole could be associated with the actual structure of Building 2. It was a substantial post-hole however, suggesting that it formed a key element of the structure. The post-hole [844] measured 0.5m in depth and had a maximum diameter of 0.85m, which narrowed to *c.* 0.25m at its base (Figure 2.19). The feature retained much post-packing material, which comprised large cobbles and sub-angular stones (846) and had been filled by a deposit of mid-brown sandy silt (845). The fill produced a sherd of samian ware dated to AD 120-150.

Two clay surfaces were identified within Building 2. These were interspersed with material possibly associated with the activities undertaken within the structure (Figure 2.22). The initial deposit identified within the structure comprised a thin deposit of mottled black and orange sandy silt (439), which included large quantities of burnt material. This was sealed by a deposit of heated clay (437), which probably represented the earliest substantial surface within the building. The surface (437) had been cut by a small U-shaped feature [435], which measured 0.2m in width, 0.12m in depth and retained a single fill of dark grey sandy silt (436). It is unclear what this feature was used for, although it was only noted within the section of an investigation slot suggesting that it was not very substantial. The surface (437) had also been sealed by a heavily burnt deposit of sandy silt (414). Following this, a further substantial clay surface (398/438) had been laid down. Reddish in colour, it also appeared to have been severely heated. A total of eight stakes had been driven into this clay surface (398/438), represented by regular stake-holes [487] which measured *c.* 0.06m in diameter and *c.* 0.18m in depth. Although these stake-holes did not appear to form any clear pattern, that may be a consequence of survival. The secondary clay surface had also been cut by a post-hole and a pit, both of which were located towards the northwestern extent of the building. The post-hole [905] measured *c.* 0.45m in diameter, 0.35m in depth and retained a number of cobbles used for packing (907), as well as silty sand backfill (906) and a deposit of clay (908). The small pit [675] measured 0.7m in diameter, 0.23m in depth and contained a single fill of greyish brown sandy clay/silt (676). The clay surface (398/438) had also been sealed by a dark brown/black sandy silt spread (397), which possibly represented the final use of Building 2. Just to the south of the building, deposit (747), similar to (398/438), was found to contain a frit melon bead (SF106).

Building 3 appears to have been constructed as a direct replacement for Building 2. It had a diameter of 6m (Figure 2.20). In a similar manner to Building 2, the construction of the building appears to have involved the creation of a shallow circular ditch [289], forming a *c.* 0.75m wide foundation trench around the periphery of the structure. A total of three post-holes were noted within the foundation trench, although it is likely that there would have originally been a series of these features forming the structural support for the building. Based upon two of the surviving post-holes, these are likely to have been spaced at 1.2m intervals. The three surviving post-holes were relatively consistent, retaining diameters of 0.3m and depths ranging from 0.15m to 0.25m. Two also had evidence of post-packing, which comprised fragments of sandstone and large cobbles. The foundation trench had also been backfilled with a deposit of orangey-grey sandy silt (290/477/496), which was below a thick deposit of clay (273/367/368/369). Although this clay only partially survived, it was noted within several distinct places

Figure *2.20* Phase 3 Building 3 viewed from the edge of the excavation area (Shot faces southeast).

and probably originally extended around the entire circumference of the foundation trench (Figure 2.21). It is probable that the clay foundation formed a solid base for the wall of the structure, which was made of perishable material, perhaps wattle and daub.

Building 3's internal space appears to have been subject to several changes. Initially, several thin deposits of silty clay and gravel (287/389/391/476) were laid down over the internal footprint of the building, which acted as a sub-base for a fine cobbled surface (508). At some point, the southern extent of this surface appears to have been cut by a short section of a curvilinear feature which followed the internal curve of the foundation trench [289]. The curvilinear feature [683], which was severely disturbed by a later ditch, measured *c.* 0.2m in width and 0.15m in depth and had an observed extent of *c.* 2m. There was no evidence that the feature extended around the entirety of the building, and it is likely that it was confined to the southern extent of the structure. A *c.* 0.1m-thick yellow clay floor was laid down over the internal footprint of Building 3. This clay surface (257/396/481) had clearly abutted the walls of the structure, as the entire periphery of the surface formed a vertical edge. Three cut features [258], [261] and [264], may have been related to activity taking place within the building.

Figure *2.21* Foundation trench [289] of Phase 3 Building 3 (Shot faces southeast, 40cm and 1m scales).

Figure *2.22* Phase 3 Building 2 (Shot faces southeast, scale 1m).

Although Building 3 may well have been a rebuild of Building 2, it is possible that they were used for different functions. This was especially apparent within Building 2, which contained successive floor surfaces which had been subjected to great heat and burnt deposits, suggesting that it had been used for non-domestic purposes. The environmental samples recovered from Building 2 revealed a significant quantity of fuel ash, suggesting that the structure was used for small-scale industrial purposes. Even though both of these buildings were subject to several modifications, the dating evidence recovered from the structures suggests that they were relatively short lived.

Building 4

To the southeast of Buildings 2 and 3, post-hole fence lines were recorded delimiting plot divisions (Posthole groups 2 & 3). Additionally, highly truncated ephemeral evidence for a possible timber strip building was recorded, measuring 16m long (within excavation Area C) and about 5m wide. The evidence took the form of several areas of clay and cobble floor surface (282/597/677/865). Clear evidence for walls was difficult to identify, although several shallow linear features may have been traces of beam slots: [357], [365], [417], [547] & [642]. A line of stakeholes aligned northeast to southwest appeared to be the remains of a fence line, which marked the edge of one area of cobbled surface. Two plot boundary ditches FG012 and FG013 both terminated north of this area, and perhaps this is an indication that something substantial, like a building, stood farther to the south. The later Cremation Burials 16, 17, 18 and 19 were all located to the east of this possible structure, although Cremation Burials 16 and 17 might have been buried right up against it. The highly ephemeral nature of the remains allows no certainty regarding the nature of this possible structure.

Farther south, the remains of what was probably a clay levelling layer (279) survived as the upper fill of Phase 2 burial plot boundary ditch FG006. The layer may well have been far more extensive in antiquity, but only survived here as a consequence of slumping down into the decaying fills of FG006.

Structural Areas 1, 2 and 3

The remains of additional areas of structural activity were recorded farther away from the road, in excavation Area A and B. These are indicated by the development of plot boundaries, patchy surviving floor surfaces, and the surviving bases of pits. Structural Area 1 was found within Area B. Here a compacted floor surface of mottled yellow-grey sandy clay (238) covered an area of 19m^2 and had a surviving thickness of between 5 and 15cm. To the northeast of this surface, a northwest to southeast aligned, slightly curving ditch (FG018) was observed (Figure 2.23).

To the north, within Area A, the remains of two more structural areas were identified. Within the east half of the excavation, Structural Area 2 was mainly represented by the patchy remains of a floor. Here the corner of a shallow, rectilinear ditch, or foundation trench, framed an area within which construction deposits survived. The ditch [156] had a maximum width of 0.68m, a depth of *c.* 0.2m with a gently sloping profile. Very little of this linear feature survived as it had been severely truncated by a later ditch and by some pit-cutting activity. Within the area framed by this feature there were two deposits. The first was apparently a levelling layer (146) of grey silt on top of which had been placed a make-up layer consisting of a 5cm think layer of redeposited natural sandy gravel (147). Patchy remains of a compacted floor surface of sandy clay with rounded cobble and small stone inclusions survived, indicating that this may have been part of a building.

Figure *2.23* Northwest-facing section through Phase 3 ditch FG018 (1m scale).

Figure *2.24* Structural area 3 (Shot faces N, 1m and 2m scales).

In the west half of the trench, Structural Area 3 was represented by the terminal ends of two parallel northwest to southeast aligned linear features, spaced 3m apart (Figure 2.24). The full extent of each of these features lay below the modern buildings of William Street to the northwest. Both were similar in character. The westernmost linear [109] had a U-shaped profile and measured over 3.5m in length, 0.8m in width and 0.38m in depth. The eastern ditch [148] measured over 3.5m in length, 1m in width and *c.* 0.5m in depth. These linear features framed a 10cm-thick deposit of compact grey silty clay (130), which appeared to have been used as a foundation layer for a cobbled surface (111/127). This surface only survived in patches and appeared to have been severely disturbed by later activity.

Whether the surfaces encountered in these three structural areas were internal or external is impossible to decide on the strength of the surviving evidence. They demonstrate, however, that activities were being carried out over a broader space. The settlement had clearly expanded beyond the area originally enclosed by Phase one ditch FG001.

Pit groups associated with buildings and structural areas

Two of the seven Romano-British pit groups identified belong to Phase 3. Finds from some of the pits indicate that they were dug and infilled in the middle decades of the 2nd century AD. For some of the pits, however, no clear dating evidence was recovered.

Pit Group 1

Pit Group 1 is represented by five pits located just to the southwest of Building 3: [795], [903], [914], [986], [988]. Mid-Late 2nd century AD pottery was recovered from pit [795], a shallow subcircular pit that was cut into the fills of Cremation Burial 2.

Pit Group 2

Pit Group 2 consists of ten pit features, which possibly represent refuse disposal activity on the eastern side of Building 4: [319], [351], [355], [441], [497], [521], [832], [875], [879], [881]. Pit [319] contained late-1st-century to early-2nd-century samian. Pit [351] cut through Cremation Burial 16 and contained mid-2nd-century samian in its fill. Pit [355] contained fragments of a copper alloy and iron brooch SF43. It was cut by medieval pit [342]. Pit [497] contained a couple of sherds of late-1st-century to early-2nd-century coarse ware. These finds are consistent with the other features from Phase 3, with a probable date range of *c.* AD 130-160.

Phase 4 – Continued occupation (mid-2nd century AD)

In Phase 4 only small redefinitions to plot boundaries and additional pit cutting relating to settlement activity took place (2.25). In Area C there was the continued cutting of pits (Figure 2.30). It appears that Buildings 2 and 3 went out of use, as several pits cut through their floor surfaces. The settlement activity in this period is difficult to characterise in terms of clearly defined buildings and activities, but short stretches of gully and clusters of refuse pits indicate a bustling quarter on the outskirts of the 2nd-century settlement. With few linear features linking different parts of the site together stratigraphically, the features are loosely associated chronologically by the pottery finds.

Pit Group 3

The six pit features of Pit Group 3 appear to have been created after Building 4 had gone out of use. Only two of the pits contained datable pottery. Pit [571] yielded early 2nd-century samian and early to mid-2nd-century

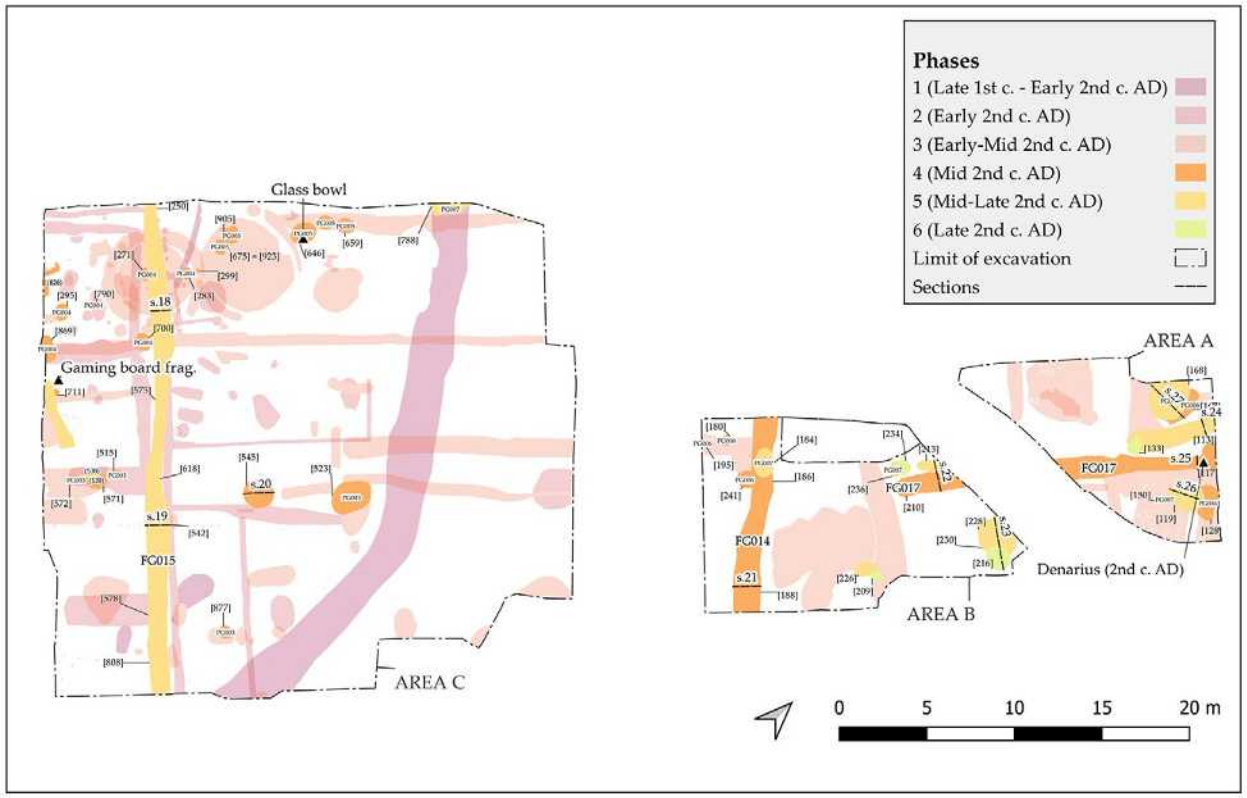


Figure *2.25* Plan of Phases 4, 5 and 6.

coarse ware. Large pit [545] (Figure 2.27) contained fragments of glass bottle, samian ware (mid-2nd century or later), black-burnished ware, and Baetican amphorae. Its upper fill contained several sherds of samian pottery, including a flagon base and a Ritterling 13 inkwell. The pottery indicates that the pit went out of use no earlier than about AD 160 and is consistent with a date in the mid-2nd century AD (see Chapter 5).

Pit Group 4

After Buildings 2 and 3 went out of use the area was subjected to pitting. Pit Group 4 consisted of seven pits: [271], [283], [295], [700], [711], [790] and [869]. The two most northerly pits were cut into the clay surface of Building 3, indicating perhaps that it had gone out of use. The first, pit [283], measured 0.65m in diameter, 0.32m in depth and had a U-shaped profile. It had been filled by a single deposit of mottled yellow/brown sandy silt (284). Feature [283] was sealed by a clay capping layer (285). Located centrally within the building, the western half of a further large circular feature [271] was revealed which had an observed diameter of 0.45m, an observed extent of 0.21m, and retained a steeply sloping profile with a flat base. Both these pits contained undiagnostic coarse ware sherds, but three other pits from this group indicate a date in the mid-2nd century AD.

Pit Group 5

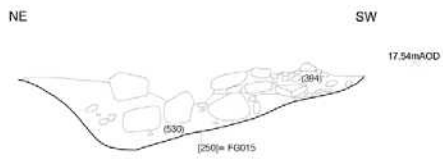
In a similar fashion, a row of five pits (Pit Group 5) was either associated with, or post-dated, the use of Building 2: [646], [659], [668], [675]=[923] and [905]. The two most southerly pits, [675]=[923] and [905], cut through the clay floor of Building 2. The pottery in the fills of this pit group dates from the early to late 2nd century AD. Deposit (647), secondary fill of [646] (Figure 2.28), contained about 20% of a fine clear glass beaker, or bowl (SF71).

Settlement plot boundary ditches FG014 and FG017

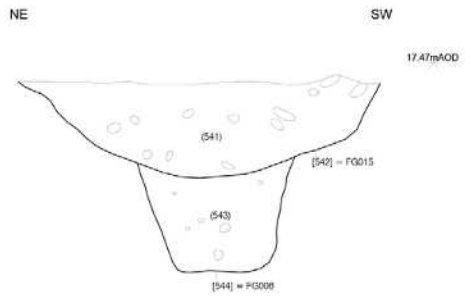
Within excavation Areas A and B the use of space was redefined by ditches FG014 and FG017, oriented at right-angles to one another and following the same alignment to the road that characterised the Roman activity from Phase 2 onwards (Figure 2.26). A handful of pits – Pit Group 6 – cut through Phase 3 deposits.

Pit Group 6

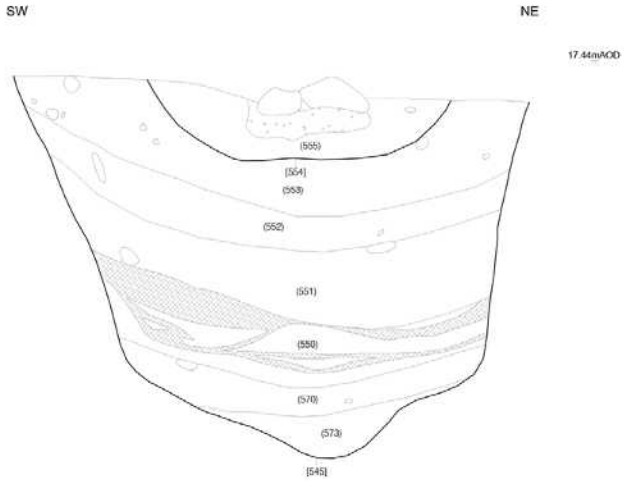
Pit Group 6 contains five pits located in Areas A and B: [128], [167], [180], [195], [241]. In Area B, pits [180], [195] and [241] cut through Phase 3 features, notably the fills of ditch F012, and contained 2nd-century pottery, the latest sherds being late 2nd century in date.



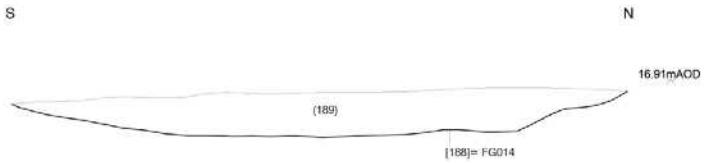
Section 18. North-west facing section across ditch [250] = FG015.



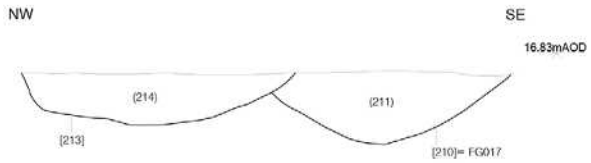
Section 19. North-west facing section across features [542] = FG015 and [544] = FG006.



Section 20. South-east facing section across features [545] Pit Group 3 and [554].



Section 21. ESE facing section across ditch [188] = FG014.



Section 22. South-west facing section across ditch [210] = FG017 and pit [213].

0 1m

Figure *2.26* Phases 4, 5 and 6, selected sections.

Figure *2.27* East-facing section of pit [545], from Phase 4 Pit Group 3 (1m & 2m scales).

Figure *2.28* South-facing section of pit [646], from Phase 4 Pit Group 5 (1m scale).

Phase 5 – Reorganisation of space (second half of 2nd century AD)

In Phase 4 the digging of pit groups 5 and 6 indicates that Buildings 2 and 3 had gone out of use. In Phase 5 this is confirmed by the imposition of a new northwest to southeast aligned boundary (FG015), which cut through the remains of Building 3 (Figure 2.29). This constitutes the most significant re-use of space on the site since the shift from funerary to settlement activity. Samian from the fills of ditch FG015, one of the latest Roman cut features on the site, provides a *terminus post quem* of AD 160 for the final infilling of this ditch. The redefinition of space appears to have put an end to the workshop and refuse pit digging activity which took place in Phases 3 and 4.

Additionally, plot boundary ditch [113], which terminated within Area A contained 18 sherds of pottery, including part of a DOR BB1 dish, Gillam 329, dated AD 190-340.

Pit Group 7

Also farther away from the road in Areas A and B a series of nine later pits was excavated – Pit Group 7: [119], [150], [184], [202]=[230], [213], [226], [228], [236], [788] . Mostly these pits contained 2nd-century pottery. Sherds of samian provide a *terminus post quem* of *c.* AD 165 for the final infilling of large pit [168] in the far north corner of Area A. and of *c.* AD 150 for pit [202] in Area B. One pit in this group [202]=[230], however, contained several sherds which may have been produced in the early 3rd century AD. The pit measured over 2.2m in diameter, 0.65m in depth and retained a sloping profile which had been filled by four separate deposits. The eastern edge of pit [202] was cut by Phase 6 pit [216], which measured *c.* 1.4m in diameter, 0.46m in depth and retained a gradual to steeply sloping profile. Pit [216] was filled by a single deposit.

Phase 6 - Abandonment (late 2nd century AD)

Phase 6 marks the final use and abandonment of the Roman settlement, possibly in the final decade of the 2nd century AD. It contains just three discrete pit feature which cut Phase 5 features. There is nothing in terms of ceramic dating to place their infilling later than the fills of Phase 5 features dated from the presence of stamped and decorated samian sherds. After this, a thick accumulation of soil developed.

Phase 7 - Medieval

After the abandonment of the area in the mid-late 2nd century AD, there is little evidence for occupation until a series of twelve pits were excavated through the accumulated soil (Figure 2.31). Well 2 was also sunk through these soil layers during the 12th-14th century AD (Phase 7). The fills of the twelve medieval pit features contained good evidence for nearby pottery production throughout the 12th-14th centuries.

Phases 8 & 9 - Post-medieval and Modern

Post-medieval evidence (Phase 8) comes in the form of three further wells – nos. 3, 4 and 5 – and some building foundations, which were removed during the demolition of the modern buildings that had fronted on to Botchergate. The partial removal of these foundations and services left large linear areas of truncation in the southern corner of the site (Phase 9).

Discussion of Roman cemetery and settlement stratigraphy

A discussion of the stratigraphic phases identified by the excavations will make the broad sequence of events fairly clear. As we saw in Chapter 1, we have within the bounds of the excavation an archaeological window

Figure *2.29* Phase 5 boundary ditch FG015 (Shot faces northwest, 1m and 2m scales).

onto an area that was adjacent to the main Roman road leading to the south gate of the fort. It was an area that was peripheral to the settlement which developed outside of the fort, initially being used for burial in the early-to-mid 2nd century AD. This is evidenced by around twenty cremation burials or funerary deposits, often yielding significant quantities of human bone, sometimes buried in urns and with accessory vessels. Due to the lack of survival of unburnt bone, the presence of inhumation burials is not confirmed. The concrete example of Possible Burial C, however, makes this highly likely, although in the early 2nd century it was evidently a minority burial rite.

The burials were located within a series of funerary enclosures, some being further divided into burial plots containing one or more burials. It is worth noting that the arrangement of space within each of the other funerary enclosures differs. Funerary Enclosure 1 is characterised by a series of roadside burial plots. Funerary Enclosure 2 has a cluster of burials within its southern half and also contained a short-lived building, or a fenced burial plot. Funerary Enclosure 3 contained a single cremation placed within it. One must sound a note of caution, however. Because of the uncertainties of the sequence, it is difficult to be confident that the enclosures and burial plots were intended to frame specific groupings of funerary activity.

Figure *2.30* Southwest-facing section of pit [202] from Phase 5 Pit Group 7 and Phase 6 pit [216] (2m scale).

At some time in the middle of the 2nd century the settlement expanded southeastwards along the road, with building plots, imported levelling layers and buildings being built over the top of the previous funerary enclosures. It may well be that the reorganisation of space was due to needs created by an expanding population, and more directly to the creation of side streets branching off at right angles to the main Roman road, effectively delineating new

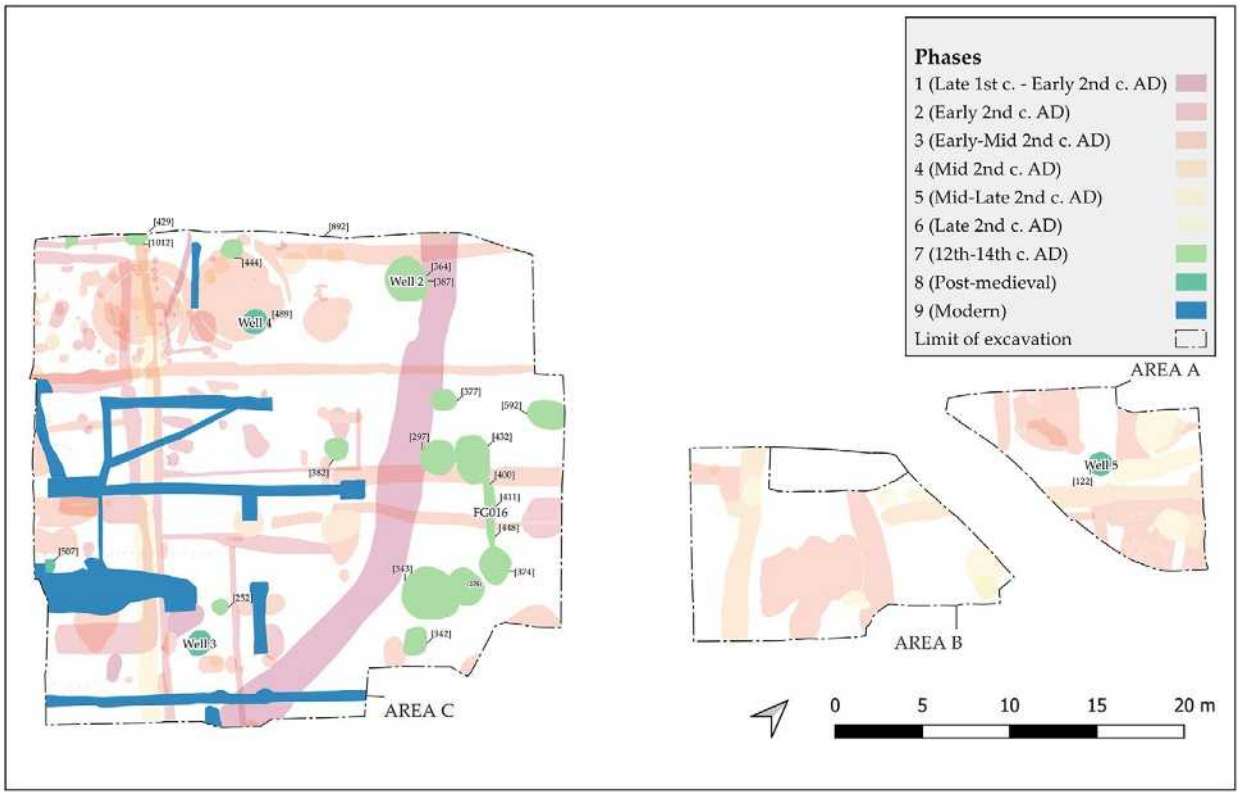


Figure *2.31* Plan of Phases 7 to 9.

roadside plots. Part of the area, however, may well have retained a funerary function, with the later cremations tentatively being placed within the same phase of activity. Funerary Enclosure 3 is characterised by cremation burials cutting through its filled-in boundary ditches, rather than within it. It is possible, therefore, that burial during the second and possibly third quarters of the 2nd century, once the integrity of the cemeteries burial plots had been compromised, related to individuals of lower status. It seems to be significant, however, that none of the ditches associated with the division of space within the encroaching settlement cut through cremation burials.

Farther back from the main road leading to the fort, but perhaps closer to an offshoot of this road beneath modern William Street, more evidence of settlement activity was recorded in the form of structural areas 1 to 3. Whether or not the imported clay and gravel surfaces related to buildings is difficult to conclude definitively, but there was certainly plot division here and pit digging during the same phase. Building 2 was replaced by a similar Building 3 and there were several phases of pit digging in Phases 3-6. Ultimately, however, the settlement activity here was quite short-lived, perhaps only lasting a few decades, scaling down in the late 2nd century AD and ceasing in the early 3rd century. This can be said definitively for Buildings 2, 3 and 4, which were cut through by ditch FG015, running parallel to the Roman road. Activity farther away from the road, however, may have continued a little longer.

The next two chapters deal with the burial evidence in more detail. We will see that it seems likely that this burial activity related to the inhabitants of the extra-mural settlement as well as quite probably auxiliary soldiers serving in the fort, some of whom may well have originated in *Gallia Belgica*. It will be shown that clear indications of this are found in the suite of ceramic vessels buried with Cremation Burials 2 and 10, which parallel burial practices in the region of the France/Belgium border at the same period. The fact that a chest was used for the burial of the cremation urn and accessory vessels in Cremation Burial 10, for instance, further mirrors the practices from this region of the continent. The fragments of tombstone and gaming board are perhaps also indications of disturbed burials of members of the military community, known from other epigraphic evidence from *Luguvalium* discussed in Chapter 1.

Chapter 3
The Burials

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With contributions from

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Introduction

This chapter presents a catalogue of 22 burials. Nineteen of these are cremation burials, numbered consecutively from 1 to 19. The final three are possible burials, labelled A, B and C. Possible Burial A may have been a cenotaph deposit, Possible Burial B may have been a truncated cremation burial, and Possible Burial C may have been an inhumation or cenotaph. The catalogue proceeds in chronological order by stratigraphic phase and in numerical order by cremation number. All of the burials were found within Area C, spread across Phases 1 to 3, with the majority belonging to Phase 2. The three possible burials belong to Phase 2 and are included at the end of that section.

Each entry in the catalogue is presented with a description, a plan, a list of the finds recovered and summary information about the human remains. During the excavations, bulk samples were taken from the cremation and pyre debris deposits for the recovery of carbonised plant macrofossils, charcoal, bone and small artefactual remains. Samples were processed at the Wardell Armstrong facilities in Carlisle using standard flotation methods. The light fractions were washed onto a mesh of 500µm (microns), while the heavy fractions were sieved to 500µm. Identifications were made on remains previously extracted from the dried light fractions at the assessment stage of the project, which were examined under a stereomicroscope (x8-x80 magnification). Botanical remains were identified and recorded using reference literature[1] and John Summer's reference collection of modern seeds. Taxonomic nomenclature follows Stace 2010.[2] Charcoal identifications were made by Lynne Gardiner. All available fragments were fractured. Identifications were made by examining transverse sections under a stereomicroscope (up to x45 magnification), and tangential and radial sections at x400 magnification using a metallurgical microscope. Reference literature was used for identification of the microscopic characteristics.[3] Details of the carbonised plant macrofossils and charcoal recovered are also included in each catalogue entry.

Detailed chapters on the osteological analysis and the Roman pottery follow, prior to a concluding chapter, which includes a discussion of the significance of carbonised plant macrofossils and charcoal with regard to pyre construction, fuel wood selection and possible pyre offerings.

In addition to pyre debris and faunal remains, a range of other non-bone finds were retrieved from the cremation burials during post-excavation processing and the initial osteological assessment.[4] These included small fragments of pottery sherds as well as iron and glass fragments. During the further osteological analysis presented in part in the catalogue and more fully in Chapter 4, small quantities of additional non-bone finds were identified from amongst the burnt bone fragments.

Iron and iron corrosion product fragments were recovered from most burials during the initial assessment (Cremation Burials 1-4, 6-8, 12, 14-16 and Possible Burial B) and from Cremation Burial 10 during excavation. For most of these, additional fragments were also later retrieved (1, 3, 4, 6, 7, 13 and 19). For some burials, fragments were retrieved from amongst the cremated bone even though none were initially recovered (Cremation Burials 9, 12, 14 and 15). This leaves only Cremation Burials 5 and 16 where no iron fragments were recovered from either the assessment or analysis stage. Both these burials were heavily truncated and so it may be that iron was present at the time of burial but was disturbed and lost during later activity. No iron fragments were recovered from within the intact urn from Cremation Burial 10, making it distinct from the other burials that contained intact urns where iron fragments were found both within the grave fill and within the urns. In general, iron fragments had become adhered to, or had incorporated, bone fragments within the corrosion product due to contact between the two materials within the burial environment. Some appeared to have been nails.

[1] Cappers et al. 2006; Jacomet 2006; Neef et al.
[2] Stace, C. 2010.
[3] Schweingruber, F. H. 1982.
[4] Jackson, D. 2016.

Glass was identified as a find from several burials during the initial assessment (Cremation Burials 1, 2, 7, 10, 11, 19 and Possible Burial B). It was also retrieved from amongst the bone from Cremation Burials 10 and 13 during the later osteological analysis and in both cases had an appearance consistent with glass that had resolidified after heating to high temperatures and had incorporated fragments of burnt bone during the cooling process. For Cremation Burials 10 and 13 (and probably others) this clearly indicates that glass objects of some form were burnt with the body on the pyre (see below). These glass finds further corroborate the conclusion of high pyre temperatures inferred from the white colour of most bone fragments.

For the location of each burial within the excavation area the reader should refer to Figure 3.1. Also appearing on this figure are the locations of two finds which, although not found within burial fills, may have been derived from disturbed burial contexts. These are a fragment of tombstone (SF114) found in the Phase 1 ditch FG001 and a fragment of gaming board found in a layer sealing the cremations pits in the western corner of the excavation. Descriptions of these two finds appear at the end of the chapter, following the catalogue.

Ten of the 21 possible and confirmed cremation burials contained no trace of an urn (Figure 3.2), although in a few cases significant later truncation had left it unclear as to whether an urn was once present. Eleven of the burials contained an urn or vessel possibly used as an urn (47%). Within this group two examples may have used a flagon as the urn, but later truncation made this unclear. The other nine examples all used coarse ware jars. Six of these survived in a more or less complete condition, with three having suffered fairly serious truncation. The unurned cremation burials also contained no ceramic accessory vessels, with a notable exception. 'Possible Burial A' contained a lamp, making it possible this was a symbolic burial or cenotaph, with the body never having been recovered. Additionally, a pit in close proximity to Cremation Burial 6 and truncated by the same ditch contained an Eggshell ware bowl, possibly a high-status grave good. This vessel is discussed along with that cremation burial.

Figure 3.1 Plan of burials in Area C in relation to archaeological features from Phases 1 to 5.

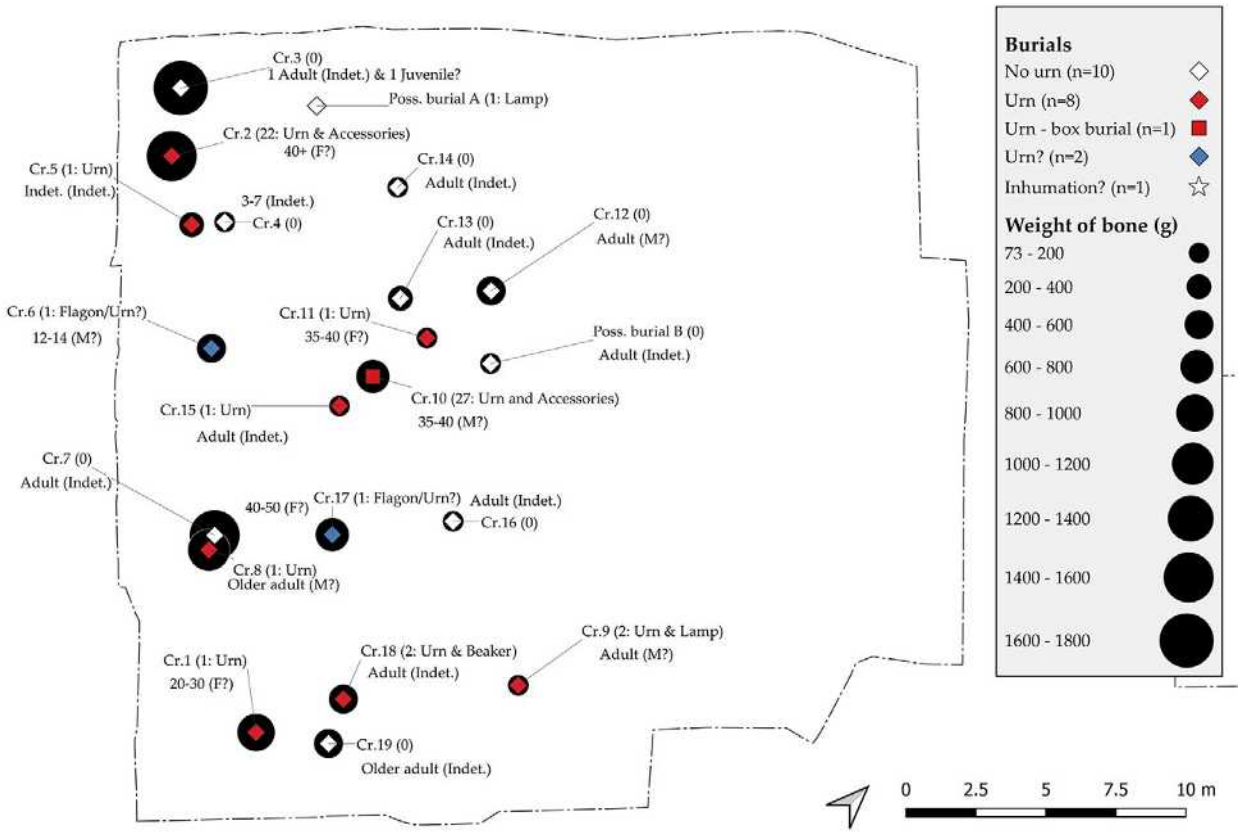

Figure 3.2 Presence/absence of pottery urns and accessories alongside age and gender determinations for the Cumbria House burials (numbers in brackets denote the total number of pottery vessels in each grave).

Four of the urned cremation burials contained additional ceramic accessory vessels, but there is a significant difference in quantity separating these into two groups. Two of the burials, nos. 9 and 18, contained just a single accessory: a lamp and a beaker. However burial nos. 2 and 10 each contained more than 20 accessory vessels. Cremation Burial 10 had the added distinction of having been a box burial, in which all of the accessory vessels were contained in a wooden chest with iron strap fittings. It is also the only burial in which there was clear evidence of accessories from the pyre entering the grave. A little glass phial which had clearly melted on the pyre was found when the urn was micro-excavated after block lifting. Each pair of burials, those with one additional accessory and those with more than 20, were in close proximity to one another, implying a level of zoning within the cemetery.

The two richly furnished graves are unique in the excavated funerary evidence from northern Britain, but close parallels for the burial rite can be found in modern-day regions of northern France and southwest Belgium. In addition to this catalogue, Chapter 5 provides detailed discussion of the ceramic assemblages from these two richly furnished burials, with a full discussion of the significance of the evidence being deferred to the concluding chapter (Chapter 6).

Catalogue

Cremation Burial 1 (Phase 1)

An urned cremation burial. The pit [814]=[859] measured 1m by 0.7m. It had a surviving depth of 0.21m and contained two fills. The lower fill (816)=(858) was a charcoal-rich blackish silt, containing a quantity of burnt wood, presumably pyre debris. Also found within this context were the collapsed remains of a cremation urn (Figures 3.3 & 3.4). The urn and the contents which had escaped it were lifted as samples <291> and <294>. Fragments of iron rivets and nails were also recovered from the same deposit. The upper fill (815)=(857) was a light greyish-brown silty sand with frequent stone inclusions.

Grave goods/pyre material

1. Cremation urn in CO RE fabric. Jar/cooking pot with a flaring plain rim and crude burnished lattice decoration that imitates types in black-burnished ware 1 (DOR BB1) which emerged at the fort site *c.* AD 105 and in *Luguvalium* in greater quantities from *c.* AD 125.[5]

[5] Swan et al. 2009, 601.

2. A square shank iron nail with circular head, broken into four pieces. Found within the urn.
3. Five single iron nails with square shanks recovered during sieving of cremation pit fill (816). Two are corroded together and two have heads.

Date: early-mid 2nd century AD based on the pottery.

Human remains

A total of approximately 1kg of burnt bone (excluding faunal remains) was recovered from contexts (816) and (858). Only a small proportion of the burnt bone could be identified as human by element (23g, 2%) or by type (153g, 15%). Only one individual is likely to be represented, with tentative age-at-death and sex estimations (pelvis pubis fragment) suggesting a possible female of 20-30 years of age.

Charcoal

Charcoal from pyre debris (816) was dominated by oak (*Quercus* sp.), mostly from larger trunks/branches but with some pieces of roundwood. Ash (*Fraxinus excelsior*) was also recorded, along with a small number of pieces of willow/poplar (*Salix/Populus* sp.) roundwood and Rosaceae (i.e. hawthorn/apple/pear/rowan type). This indicates that oak was the primary fuel wood for the pyre, most likely accompanied by ash and other minor components, some of which may have been present as brushwood used as kindling. The charcoal from fill

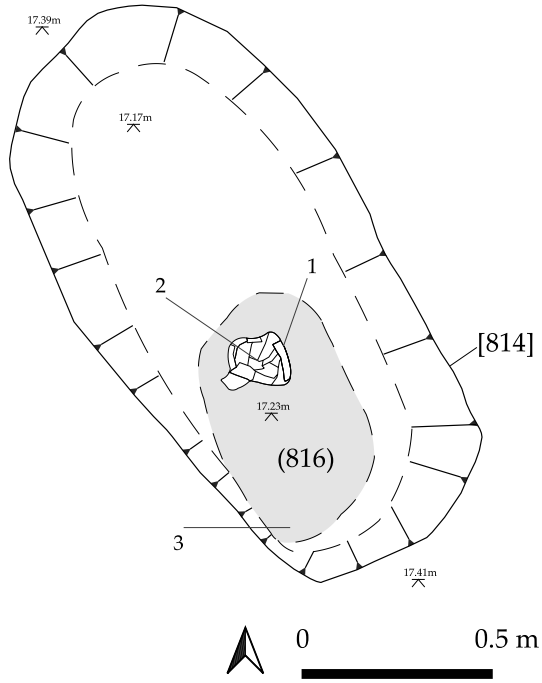

Figure *3.3* Plan and mid-excavation photograph of Cremation Burial 1 (shot faces northwest, scale 40cm).

Table *3.2* Charred plant macrofossils from Cremation Burial 1.

Sample number	291	294
Context number	816	816
Feature number	814	814
Description	Pyre Debris	Pyre Debris
Phase	2	2
Volume (litres)	30	10
Cereal grains:		
Cereal NFI	1	-
Hordeum sp. - Barley	1	-
Hordeum sp. - Hulled barley	2	-
(*Hordeum vulgare* - twisted grain)	(1)	-
Triticum spelta type - Spelt type wheat	1	-
Avena sp. - Oat	2	1

Table *3.1* Charcoal identifications from Cremation Burial 1 deposits (RW = roundwood).

Sample	Context	Cremation	Conifer	Rosaceae	*Quercus* sp.	*Salix/Populus* sp.	*Fraxinus excelsior*	Indet.
<291>	(816)	1	1	2	15 (3=RW)	3 (2=RW)	4	10
<294>	(816)		-	2	12	3 (1=RW)	1	16
<295>	(858)		2	-	7 (1=RW)	4	5 (1=RW)	2

Figure 3.4 Urn from Cremation Burial 1.

(858) was comparable in being a mixture of oak, ash and willow/poplar. Interestingly, a small amount of conifer wood was also recorded, although it was not possible to identify more precisely the genus/species.

Two pieces of charcoal were also recovered from (816) by hand, measuring 50mm by 29mm and 30mm by 20mm. Both were recovered with an associated grey, ashy sediment matrix containing small pieces of cremated bone that are likely to have been part of the pyre. Both were identifiable as alder (*Alnus glutinosa*). The larger fragment had a moderate ring curvature with bark still attached. A minimum ring count of 35 was recorded, indicating that the wood came from a mature alder tree >35 years of age when felled. This was the only instance of alder associated with the pyre on this site, but is consistent with results from Brougham, Cumbria, where birch and alder were the primary fuel woods.[6]

Charred plant macrofossils

The charred plant macrofossils from pyre debris (816) were all cereal grains, with barley, wheat and oat identified. The barley grains were identified as hulled barley, with one asymmetric grain indicating the cultivation of hulled, six-row barley. A single wheat grain was identified as spelt-type (*Triticum spelta* type), although species identification of wheat grains without associated diagnostic chaff elements should be treated with caution.[7] This range of cereal remains could have occurred as scattered debris from nearby domestic activity, but could also have been included in the pyre.

Cremation Burial 2 (Phase 2)

An urned cremation burial with 21 pottery accessory vessels. The pit [824] was sub-rectangular, measuring 1.65m in length, 0.78m in width, and 0.6m in depth. It retained a straight-sided profile with a flat base. Several fill numbers were allocated. A clear distinction was noted between an orangey-brown silty sand (889) around the large suite of accessory vessels, and a black charcoal-rich silty sand (900) around the urn. This may well indicate that the accessories were deposited in some form of container (cf. Cremation Burial 10). On top of these fills the pit was backfilled with several successive deposits including a 0.28m thick deposit of mid-brown silty sand (867), a 0.08m thick deposit of light grey clay (902), and a 0.2m thick deposit of light grey sandy silt (823), before being sealed by a further deposit of grey clay (796).

Grave goods/pyre material

The cremation urn (Figures 3.7 and 3.8 no. 1), was accompanied by 21 accessory vessels, notably including a factory lamp imported from northern Italy (no. 15) and a beaker from central Gaul (no. 16), with the latter not likely to be imported before *c.* AD 100/110. The bulk of the accessory vessels comprised miniature cups (nos. 2-9) and dishes (nos. 10-14) that appear to form a set with the cremation urn, a patera (no. 18), a jug (no. 17) and a handled bowl (no. 19), supplemented by three

[6] Campbell 2004.
[7] e.g. Campbell and Straker 2003, 23.

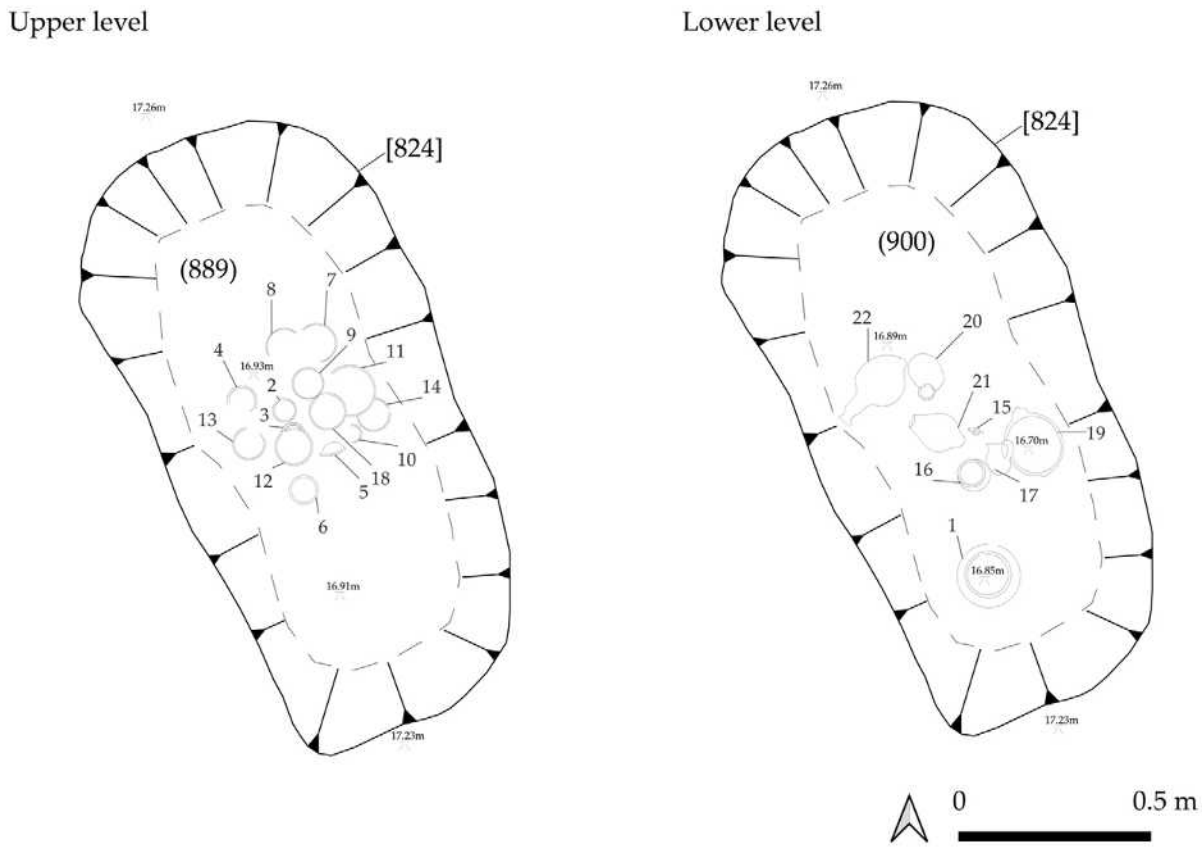

Figure 3.5 Plan of Cremation Burial 2.

ring-necked flagons (nos. 20-22) that suggest a date no later than *c*. AD 130.

There is a clear arrangement of vessels within the sub-rectangular cut, possibly also indicative of a sequence of deposition. The cremation urn was at the southern end. The three flagons were clustered towards the centre, with the lamp, beaker, jug and handled bowl placed together between the flagons and cremation urn. The cups and dishes appear to have been placed as a united layer over the top of the flagons (Figures 3.5 and 3.6).

1. Cremation urn in CO OX fabric. Jar. Very unusual form type with upright plain rim, broad upper and lower cordons filled with rouletted decoration; likely to have been heavily influenced by a bronze vessel, although similar slightly smaller 'beakers' are attested in the Tongeren region.[8]
2. Cup miniature/small vessel in CO OX fabric with a relatively shallow body and horizontal rim with an upward pointing tip; an imitation of samian ware form Curle 46.
3. *Idem.*
4. *Idem.*
5. *Idem.*
6. *Idem.*
7. *Idem.*
8. *Idem.*
9. *Idem.*
10. Dish, miniature/small vessel in CO OX fabric, with a relatively shallow body and horizontal rim with an upward pointing tip; an imitation of samian ware form Curle 15.
11. *Idem.*
12. *Idem.*
13. *Idem.*
14. *Idem.*
15. Factory Lamp (Loeschcke type IXa) in LAMP fabric, with a single ring handle and two unpierced lugs on the shoulder. The near illegible maker's mark on the base, probably of Fortis, suggests this was a surmoulage copy produced by a workshop in north Italy, which was then transported or traded to Carlisle. Nonetheless it is a high-quality item that was deposited un-used (un-lit).
16. Beaker in CNG CC1 fabric, with a cornice rim, bag-shape body and roughcast decoration.

[8] Vanvinckenroye 1991,133: pl.LXIII.604 & 608.

17. Jug in CO OX fabric, with a slightly everted plain rim with no spout, a shallow neck and globular body with a 2-rib strap handle rising above the rim. Likely to be a miniature imitation of a bronze vessel.
18. Patera in CO OX fabric, with a semi-hemispherical body, a small bead rim, a rod handle that has been poorly applied (smoothed) onto the wall, and a shallow kick to the base. An imitation of a bronze vessel.
19. Handled bowl in CO OX fabric, with a semi-hemispherical body, a small bead rim and opposed horizontal handles with additional applied 'blobs' between handle and rim. The rim is slightly misshapen and the vessel generally poorly finished. Likely to be a miniature imitation of a bronze vessel, and also known to have been produced in the south Nervian region and found in graves there, for example, at Fontaine-Notre-Dame.[9]
20. Flagon in CO WH fabric, with slightly everted ring neck and 2 rib strap handle. Fairly small for type.
21. *Idem.*
22. Flagon in CO OX WS fabric, with slightly everted ring neck and 3 rib strap handle. Fairly small for the type.

Date: early 2nd century AD based on the pottery.

Human remains

Approximately 1.5kg of burnt bone (excluding faunal remains) was recovered from across all contexts associated with this cremation burial, most of which was contained within the urn (1.3kg, 87%). Almost 70% of this was able to be identified as human by either element (323g, 24%) or type of bone (613g, 46%). Osteological findings suggest one adult individual is represented, estimated to be over 40 years of age (pelvis auricular surface fragment). This age-at-death estimation is corroborated by evidence of osteophytic lipping on cervical, thoracic and lumbar vertebra, as well a Schmorl's node observed on the inferior surface of a lumbar vertebra. A tentative sex estimation of possible female was assigned (presence of preauricular sulcus).

Of the six fill deposits within the cremation pit, four - (823), (867), (889) and (900) - also contained small quantities of burnt bone (between approximately 20 – 130g per context). Some bone fragments from all four of these contexts could be identified as human bone. Additionally, some bone from contexts (867) and (900) could be identified as human by element as well as by type of bone. A lack of duplication of identifiable elements and consistency in size suggest a single individual represented across all contexts (overall MNI of one for this cremation burial).

Charcoal

Oak (*Quercus* sp.) charcoal was dominant in the majority of samples associated with Cremation 2, generally accompanied by hazel (*Corylus avellana*) and ash (*Fraxinus excelsior*). Other taxa included small amounts of Rosaceae (i.e. hawthorn/apple/pear/rowan type), plum/cherry (*Prunus* sp.) and willow/poplar (*Salix/Populus* sp.). This suggests that a range of wood types was used to supplement the primary oak fuel. Heather (*Calluna vulgaris*) may have had a specific role in the funeral pyre, but could also have been present as part of the surrounding natural vegetation, becoming carbonised as a result of proximity to the pyre.

Charred plant macrofossils

The plant macrofossil remains from the fills in Cremation Burial 2 were all carbonised cereal grains. Most prominent were numerous oat (*Avena* sp.) grains

Table 3.3 Charcoal identifications from Cremation Burial 2 deposits (RW = roundwood).

Sample	Context	Cremation	Rosaceae	*Prunus* sp.	*Quercus* sp.	*Corylus avellana*	*Salix/Populus* sp.	*Calluna vulgaris*	*Fraxinus excelsior*	Indet.
<279>	(796)	2	4 (4=RW)	-	2	-	1 (1=RW)	-	-	-
<307>	(823)		-	2	13	6 (1=RW)	-	6 (1=RW)	4	9
<306>	(867)		3	2 (1=RW)	18	6	-	10	15	33
<310>	(889)		2	-	28 (5=RW)	5 (1=RW)	1	-	6	14
<311>	(900)		7	-	41 (1=RW)	23 (2=RW)	-	-	8 (2=RW)	23
<312>	(902)		-	-	16	-	-	-	1	-

[9] Marcy et al. 2008 fig. 7.

Table 3.4 Charred plant macrofossils from Cremation Burial 2.

Sample number	310	126	306	311
Context number	889	867	867	900
Feature number	824	824	824	824
Description	Fill Around Accessories	Fill Around Accessories	Fill of Cremation Pit	Fill Around Urn
Phase	2	2	2	2
Volume (litres)	40	30	170	40
Cereal grains:				
Cereal NFI	-	4	-	-
***Hordeum* sp. - Barley**	-	3	1	1
***Hordeum* sp. - Hulled barley**	-	-	1	-
***Triticum* sp. - Wheat**	-	1	-	-
***Triticum dicoccum/spelta* - Emmer/spelt wheat**	1	-	-	1
***Triticum spelta* type - Spelt type wheat**	-	-	1	-
***Avena* sp. - Oat**	-	18	-	-

Figure 3.6 Cremation Burial 2 pre- and mid-excavation photos (Scale 1m).

in (867). Also present were grains of hulled barley (*Hordeum* sp.) and spelt-type wheat (*Triticum spelta* type). The numerous oat grains in (867) could have been part of the cremation pyre. The low concentration of cereal remains in the remaining samples likely indicates background scatters of material and could be residual.

Figure 3.7 Pottery vessels from Cremation Burial 2.

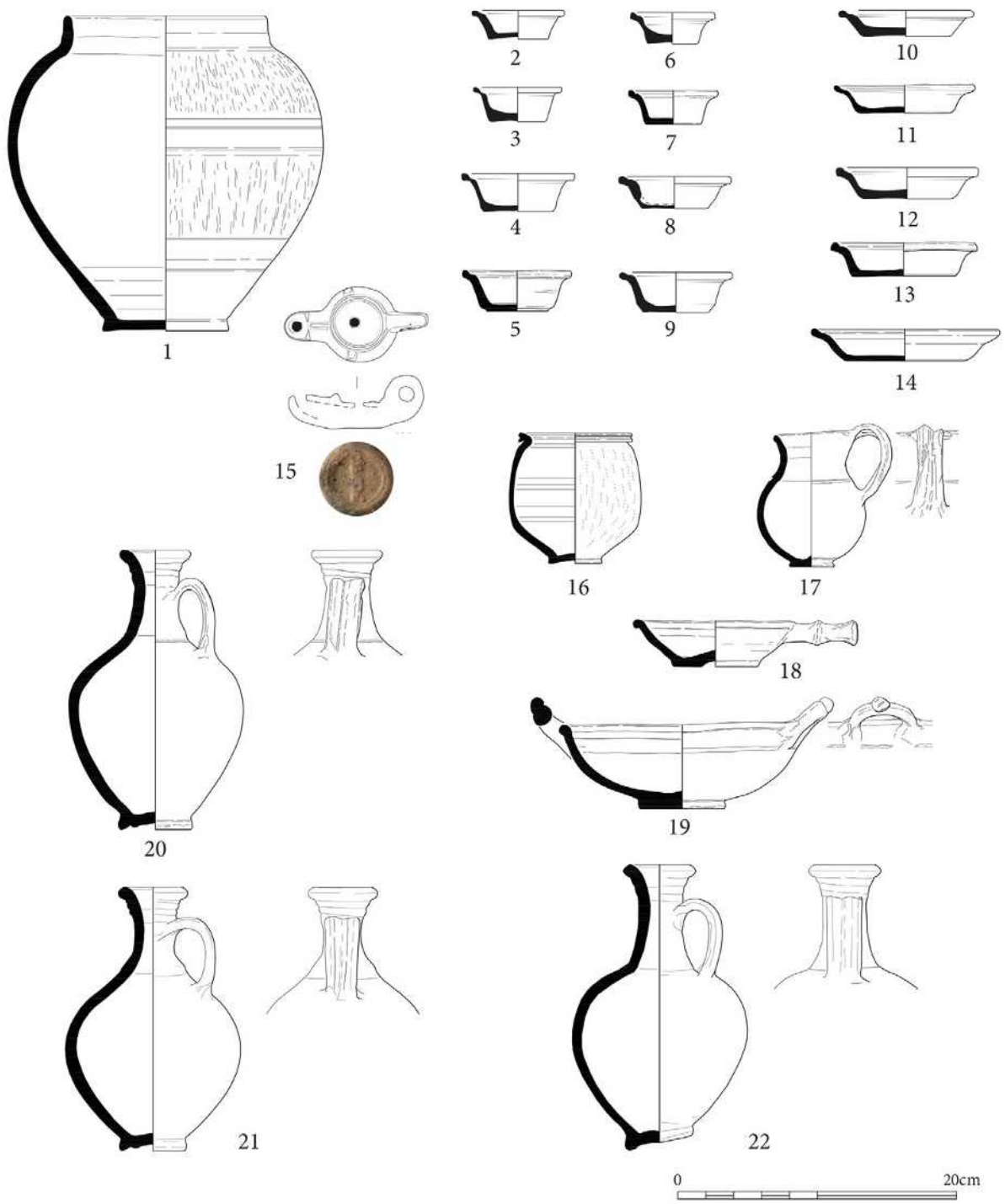

Figure *3.8* Profile illustrations of pottery vessels from Cremation Burial 2.

Table *3.5* Charcoal identifications from Cremation Burial 3 deposits (RW = roundwood).

Sample	Context	Cremation	*Quercus* sp.	*Corylus avellana*	*Calluna vulgaris*	*Fraxinus excelsior*	Indet.
<322>	(927)	3	44 (1=RW)	11 (1=RW)	3	5	14

Cremation Burial 3 (Phase 2)

An unurned cremation. The pit [928] measured 0.4m in diameter and was 0.25m deep (Figure 3.9). The fill (927) was a charcoal-rich dark grey/black silty clay. No finds were recovered from excavation and sampling.

Date: no diagnostic pottery or artefacts. Early 2nd century AD by stratigraphic phase.

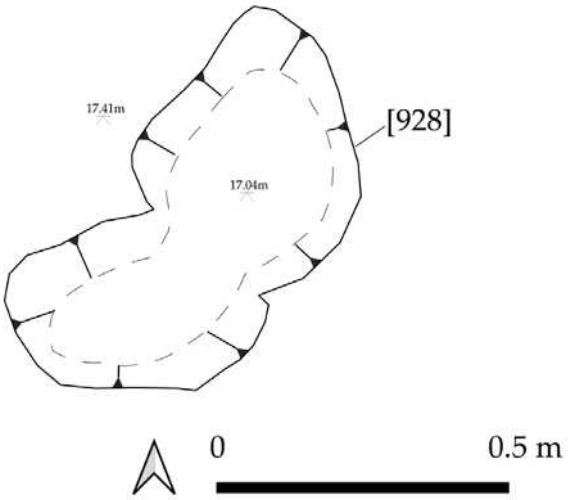

Figure *3.9* Plan of Cremation Burial 3.

Human remains

A total of 1.8kg of burnt bone (excluding faunal remains) was recovered as a sample <322> from one context (927). Only a small proportion of this could be identified as human by bone element (101g, 6%) but just over 20% (429g) could be categorised by type of bone. In general, bone size was consistent with an adult individual, no duplications of elements were apparent and only permanent tooth sockets or tooth fragments were identified. Two fragments of possible human juvenile remains (proximal tibia epiphysis and phalange) were recovered but these are possibly faunal. In addition to these fragments, 78g of faunal bone was recovered (4% of total cremated material), including unfused epiphyseal fragments. These findings suggest that one adult individual is represented and possibly, one juvenile. No age-at-death nor sex estimation indicators were observable.

Charcoal

The charcoal from cremation fill (927) was predominantly identified as oak (*Quercus* sp.). Three pieces of oak charcoal were recognised to have tyloses deposits in the vessels, which is an indication of mature heartwood from larger trunks or branches. A single piece of oak roundwood implies that a range of available timber was employed. The oak fuel appears to have been supplemented by hazel (*Corylus avellana*) and ash (*Fraxinus excelsior*), with one small diameter piece of hazel identified. Three pieces of heather (*Calluna vulgaris*) are present, which may have been used as kindling or occurred as part of the surrounding vegetation, with the additional possibility that it had a specific role in the funeral pyre.

Charred plant macrofossils

No carbonised plant macrofossils were present in the deposits from Cremation Burial 3.

Cremation Burial 4 (Phase 2)

An unurned cremation. A small circular cremation pit [898] (Figure 3.10). Only the base of the pit survived because of later disturbance. The pit measured 0.23m in diameter, 0.07m in depth and was filled by a deposit of greyish-brown sandy silt (899) <309>.

Grave goods/pyre material

Three sherds of Roman pottery, fabric CO RE, were recovered.

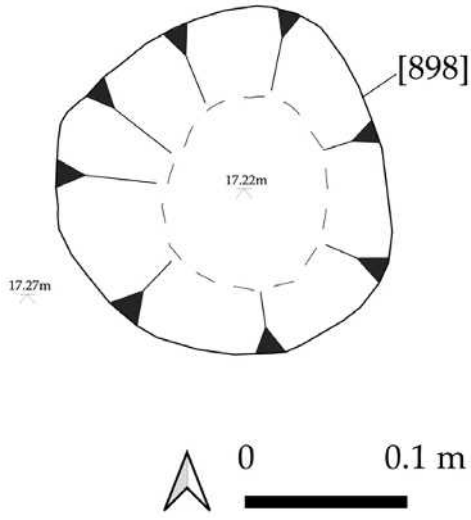

Figure *3.10* Plan of Cremation Burial 4.

Date: no diagnostic pottery or artefacts. Early 2nd century AD by stratigraphic phase.

Human remains

Approximately 166g of burnt bone (excluding faunal remains) was recovered from context (899), sample

<309>. Over 20% (37g) could be identified as human by element (although this does include two fragments of bone adhering to iron and metal corrosion product). All regions of the skeleton (skull, axial, appendicular) were represented, and all of the identifiable fragments were classified as juvenile. Age-at-death estimations consistently fell within a 3 – 7 years age category. In addition, approximately 30% of the burnt bone could be categorised by type. The hand/foot fragments were juvenile remains. Also, the cranial and long bone fragments, as well as the larger unidentified fragments were all morphologically consistent with juvenile remains. No adult bone fragments were apparent nor was there any duplication of elements found. These results suggest that one juvenile individual is represented, within the range of 3 - 7 years. A tentative age-at-death estimation of 5 years old is suggested.

Charcoal

The small number of charcoal fragments from cremation fill (899) included single fragments of hazel (*Corylus avellana*) and Rosaceae (i.e. hawthorn/apple/pear/rowan type). It is difficult to be confident that this low concentration of material is directly related to the funeral pyre and may have come from other sources.

Table *3.6* Charcoal identifications from Cremation Burial 4 deposits.

Sample	Context	Cremation	Rosaceae	*Corylus avellana*	Indet.
<309>	(899)	4	1	1	3

Charred plant macrofossils

No carbonised plant macrofossils were present in the deposits from Cremation Burial 4.

Cremation Burial 5 (Phase 2)

An urned cremation, in which a flagon appears to have been used for the urn. The circular cremation pit [871] measured 0.6m in diameter, 0.12m in depth (Figures 3.11 and 3.12). It had a concave profile and was filled by a deposit of yellowish-brown sandy silt (872). The broken base of a flagon comprising 54 sherds (CO OX) was recovered. The fill inside the flagon base (882) was 100% sampled <303>.

Grave goods/pyre material

1. Cremation urn in CO OX fabric. Flagon, lower part of globular body only (truncated).

Date: late 1st to mid-2nd century AD based on the pottery

Human remains

Approximately 400g of burnt bone (excluding faunal remains) was recovered from micro-excavation of the urn base (882) sample <303> and from fill context (872). Only 20% (75g) of the burnt bone was recovered from the surviving base of the flagon. However, both the flagon contents and pit fill were relatively consistent in terms of general osteological findings. No bone could be identified as human by element (with a potential exception of a possible humerus shaft fragment from inside the flagon base). Bone could be categorised by type (cranial and long bone). These fragments were consistent in size and morphology to that expected for adult human cremated bone. The estimated minimum

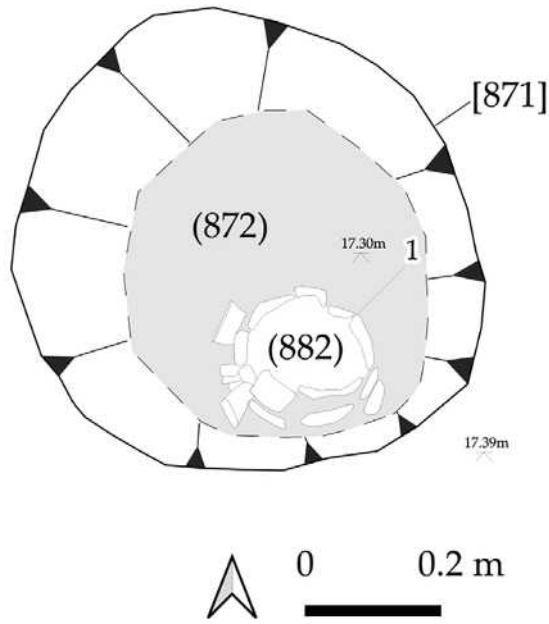

Figure *3.11* Plan of Cremation Burial 5.

Figure *3.12* Cremation Burial 5 mid-ex.

number of individuals is one. However, due to the lack of identifiable bone, it was not possible to attempt age-at-death, nor sex estimation.

Charcoal

The small number of charcoal fragments from cremation fill (882) included two fragments of hazel (*Corylus avellana*). It is difficult to be confident that this low concentration of material is directly related to the funeral pyre and may have come from other sources.

Table 3.7 Charcoal identifications from Cremation Burial 5 deposits.

Sample	Context	Cremation	*Corylus avellana*	Indet.
<303>	(882)	5	2	4

Charred plant macrofossils

A single indeterminate carbonised cereal grain was identified in cremation fill (872). It is more likely that this derived from scattered debris from nearby domestic activity rather than being part of the cremation pyre.

Cremation Burial 6 (Phase 2)

A possible urned cremation burial in which a flagon was used for the urn. The circular cremation pit [656] measured 0.58m in diameter, *c.* 0.3m in depth and retained a rounded profile (Figures 3.13 and 3.14). It was filled by a charcoal-rich deposit of black silty sand (657) = (666) <225/226/227>. Truncated on its northeast side by ditch [642], cremation pit [656] contained the truncated lower portion of a flagon.

Grave goods/pyre material

1. Urn(?) in CO OX WS fabric. Flagon, lower part of globular body only (truncated).

Date: late 1st to mid-2nd century AD based on the pottery.

Human remains

Approximately 500g of burnt bone (excluding faunal remains) was recovered from pit [656] samples <225>, <226> and <227>. Only a small proportion of this could be identified as human by bone element (20g, 4%) but a third (169g, 34%) could be categorised by type of bone. A juvenile individual is represented with an approximate age of 12 – 14 years (metacarpal and femoral epiphyses, fused dens on second cervical vertebra). Although poorly preserved, the size of the femoral head (approximately 40mm) enables a tentative sex estimation of possible male. Where age-at-death estimation was not possible for some fragments, although some may potentially represent an adult individual, they could not be excluded from belonging to the adolescent juvenile. For this reason they did not increase the estimate for the minimum number of individuals. However, several fragments of rib (size inconsistent with a 12–14-year-

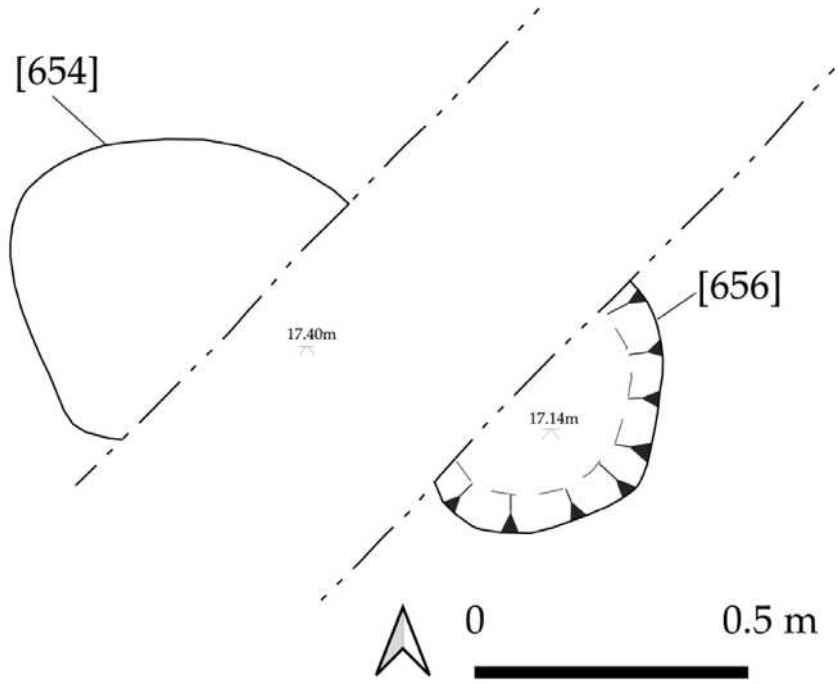

Figure *3.13* Plan of Cremation Burial 6.

old juvenile) were also recovered. These possibly represent faunal bone, but if human they would suggest a second, younger individual is also represented.

Only one fragment of burnt bone (<1g) was recovered from the fill (655) of pit [654]. It was not possible to identify this as human by either element or type of bone.

Figure *3.14* Northeast-facing section of Cremation Burial 6 cut by Phase 3 linear [642].

Charcoal

The charcoal assemblage from both (657) and (666) was composed primarily of oak (*Quercus* sp.). A small number of fragments had tyloses deposits in the vessels, indicative of heartwood from mature trunks or branches, but this was not extensive. Small amounts of ash (*Fraxinus excelsior*) and hazel (*Corylus avellana*) were also present. Fragments of heather (*Calluna vulgaris*) were also common, and may have occurred as part of the surrounding vegetation or used as kindling, although could also have had a specific role in the funeral pyre.

Charred plant macrofossils

The carbonised plant macrofossils from Cremation Burial 6 deposits included a range of cereals, comprising hulled barley (*Hordeum* sp.), glume wheat (*Triticum dicoccum/spelta*) and oat (*Avena* sp.). A single asymmetric barley grain indicates the presence of hulled, six-row

Table *3.9* Charred plant macrofossils from Cremation Burial 6.

Sample number	226	227	225
Context number	657	666	657/666
Feature number	656	656	656
Description	Fill of Cremation Pit	Fill of Cremation Pit	Fill of Cremation Pit
Phase	2	2	2
Volume (litres)	10	20	30
Cereal grains:			
Cereal NFI	-	2	8
***Hordeum* sp. - Barley**	2	-	5
***Hordeum* sp. - Hulled barley**	1	2	3
(*Hordeum vulgare* - twisted grain)	-	-	(1)
***Triticum* sp. - Wheat**	-	-	2
***Triticum dicoccum/ spelta* - Emmer/spelt wheat**	1	1	-
***Triticum spelta type* - *Spelt* type wheat**	1	-	-
***Avena* sp. - Oat**	-	-	1
Other cultivars:			
cf. *Pinus pinea* - Stone pine	-	1	-
***Lens culinaris* Medik. - Lentil**	3	3	1
cf. *Lens culinaris* Medik. - Lentil	7	13	2
***Pisum sativum* L. - Pea**	-	3	3
Fabaceae indet. (large) - Pea/bean	-	2	2

Table *3.8* Charcoal identifications from Cremation Burial 6 deposits.

Sample	Context	Cremation	*Quercus* sp.	*Corylus avellana*	*Calluna vulgaris*	*Fraxinus excelsior*	Indet.
<226>	(657)	6	45	2	5	6	8
<227>	(666)		60	-	7	7	1
<225>	(657)+(666)		54	1	16	2	7

barley. A single wheat grain was identified as spelt-type (*Triticum spelta* type). These could have occurred as scattered debris from nearby domestic activity, but could also have been part of the pyre.

Also prominent in the samples were carbonised pulses. These included large spherical seeds, some of which were identifiable as peas (*Pisum sativum*), and smaller, rather flat seeds, some of which still preserved the hilum and were identifiable as lentil (*Lens culinaris*). Numerous specimens were morphologically comparable to *Lens culinaris* and were recorded as probable lentils. A single probable stone pine (cf. *Pinus pinea*) kernel was also recorded in (666). It is possible that these represent a deliberate deposit associated with the cremation.

Pit [654]

Also truncated by ditch [642] was pit [654], located immediately to the west of the cremation pit (Figure 3.16). This pit measured *c.* 0.7m in diameter and was 0.34m in depth. It was filled by a single deposit of mid-greyish brown sandy silt (655), which lacked the levels of charcoal seen in the fill of the adjacent Cremation Burial 6. This pit contained most of a broken white eggshell ware bowl in WH EG fabric imported from north Italy and likely to have been an accessory vessel (Figure 3.15). It has a slightly everted plain rim on shallow sinuous body, with parallel incised grooves on the upper and lower body. The remainder of the bowl was recovered from gully [642], a process that may have introduced fragmentary sherds of coarse ware jars and bowls into the deposit.

Cremation Burial 7 (Phase 2)

An unurned cremation burial, cut by Cremation Burial 8. The pit [600] measured 0.66m in diameter and was 0.25m deep (Figure 3.17). It had a rounded profile, which had been filled by a primary deposit of black silt

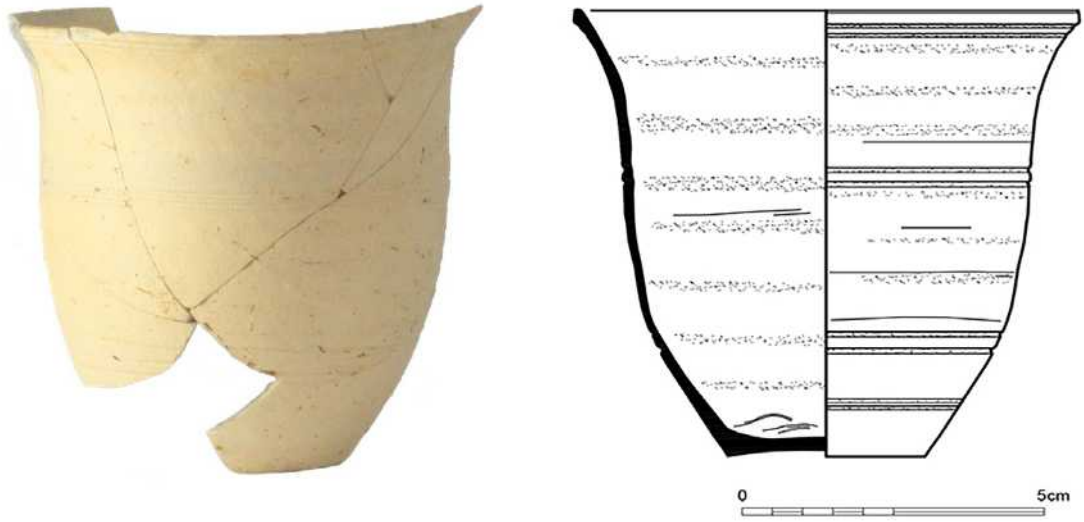

Figure *3.15* Profile of 'Eggshell' bowl from pit [654].

Figure *3.16* Pit [654].

and charcoal (601) <198> and a secondary deposit of mottled orange and black sandy silt (602) <199>.

Grave goods/pyre material

Pyre debris, fragments of iron and a shard of glass were recovered during the wet sieving.

Date: no diagnostic pottery or artefacts. Early 2nd century AD by stratigraphic phase.

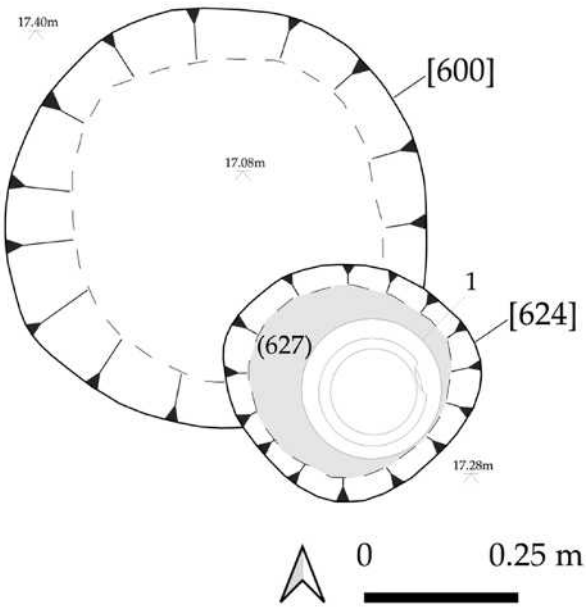

Figure *3.17* Plan of Cremation Burials 7 and 8.

Human remains

Approximately 1.6kg of burnt bone (excluding faunal remains) was recovered from contexts (601) and (602). The majority was unidentifiable as human by element or type (1.3kg, 82%). A few fragments (6.5g, <1% of burnt bone) that could be identified as human by element were recovered from the lower, primary deposit (601) <198>. These included portions of mandible, cervical vertebra, carpals, patella and a tarsal bone. Each of these was consistent with an adult size. A lack of duplication of identifiable elements suggests that one adult individual is represented. Age-at-death and sex estimations are not possible.

Charcoal

The small charcoal assemblage from cremation fill (602) was dominated by oak (*Quercus* sp.), accompanied by a single fragment of Rosaceae (i.e. hawthorn/apple/pear/rowan type). Although the concentration of charcoal was quite low, this probably indicates a pyre constructed predominantly of oak.

Table *3.10* Charcoal identifications from Cremation Burial 7 deposits.

Sample	Context	Cremation	Rosaceae	*Quercus* sp.
<199>	(602)	7	1	9

Charred plant macrofossils

The small number of carbonised cereal grains in pyre debris (602) included barley (*Hordeum* sp.), emmer-type wheat (*Triticum dicoccum* type) and oat (*Avena* sp.). These could have occurred as scattered debris from nearby domestic activity, but could also have been carbonised as part of the pyre.

More common than cereals were leguminous seeds that were identifiable as lentil (*Lens culinaris*) or probable lentil (cf. *Lens culinaris*). It is quite possible that these represent a deliberate deposit associated with the cremation.

Table *3.11* Charred plant macrofossils from Cremation Burial 7.

Sample number	198	199
Context number	601	602
Feature number	600	600
Description	Pyre Debris	Pyre Debris
Phase	2	2
Volume (litres)	50	40
Cereal grains:		
Cereal NFI	-	2
***Hordeum* sp. - Barley**	-	1
***Triticum dicoccum* type - Emmer type wheat**	-	1
***Avena* sp. - Oat**	-	1
Other cultivars:		
***Lens culinaris* Medik. - Lentil**	2	1
cf. *Lens culinaris* Medik. - Lentil	12	11
Fabaceae indet. (large) - Pea/bean	2	2
Other carbonised:		
Rhizome	1	11

Numerous small rhizomes were present, although not identifiable as a particular plant, mostly in (602). These could be from uprooted vegetation included in the cremation pyre or have been carbonised in the soil underlying the pyre.

Cremation Burial 8 (Phase 2)

An urned cremation burial, cut through the fills of Cremation Burial 7. The pit [624] was much smaller than that for Cremation Burial 7, being just big enough for the large, decorated urn deposited within it (Figures 3.17, 3.18 and 3.19). The pit measured 0.3m in diameter and was 0.34m deep. It retained a straight-sided profile with a rounded base. Following the deposition of the urn, the pit had been filled with a deposit of pyre debris (625)=(626), <202/203>, which was then sealed by a mottled orangey-grey-black sandy silt (627) <204>.

Grave goods/pyre material

1. Cremation urn in CO RE fabric. Beaker, short everted bead rim, ovoid body with 'ring-and-dot' decoration formed of alternating panels of vertical zones of barbotine rings and panels of dots.

Date: late 1st to mid-2nd century AD based on the pottery.

Human Bone

Approximately 1.2kg of burnt bone (excluding faunal remains) was recovered from within pit [624]. Most of this was recovered from the urn itself (1.1kg, 96%). About half of this material could be identified as human by element (169g, 15%) or categorised by type of bone (381g, 33%). Osteological findings suggest that an older adult possible male individual is represented (femoral head diameter and osteophytic lipping, pelvis auricular surface and greater sciatic notch). Sex estimation is tentative due incomplete presence of the pelvic sex estimation features. A distal foot phalange exhibited a healed but malaligned fracture. There was a lack of duplication of elements and so the estimate for the minimum number of individuals is one. A second individual (adult female or adolescent male) is possibly also represented, based on gracile appearance of secondary sexual characteristics of one bone fragment (frontal bone, supraorbital margin). Evidence of chronic anaemia is apparent (frontal bone, cribra orbitalia and cranial vault fragments, porotic hyperostosis), although this could relate to either individual, if two individuals are indeed represented (separate fragments of frontal bone).

Figure *3.19* Cremation burials 7 and 8 with urn Cr8/1 in situ.

Figure *3.18* Urn from Cremation Burial 8.

Burnt bone (53g) was also recovered from fill (625), samples <202> and <203>, and fill (627), sample <204>. None of this was able to be identified as human by element or type of bone.

Charcoal

The charcoal from Cremation Burial 8 was predominantly oak (*Quercus* sp.), accompanied by small amounts of hazel (*Corylus avellana*) roundwood. It is likely that these remains were from the cremation pyre but the low concentration makes it difficult to state this with certainty.

Table *3.12* Charcoal identifications from Cremation Burial 8 deposits (RW = roundwood).

Sample	Context	Cremation	*Quercus* sp.	*Corylus avellana*	Indet.
<202>	(625)	8	-	2 (2=RW)	1
<203>	(626)		5	2 (1=RW)	1
<204>	(627)		3	-	-

Charred plant macrofossils

All three samples from fills of Cremation Burial 8 contained leguminous seeds identifiable as lentil (*Lens culinaris*) or probable lentil (cf. *Lens culinaris*), which probably represent a deliberate deposit associated with the cremation. Only two cereal grains were present, both in (627), including a single barley grain (*Hordeum* sp.), which could easily have been present in background scatters of debris across the site.

Table *3.13* Charred plant macrofossils from Cremation Burial 8.

Sample number	202	203	204
Context number	625	626	627
Feature number	624	624	624
Description	Pyre Debris	Pyre Debris	Pyre Debris
Phase	2	2	2
Volume (litres)	10	10	20
Cereal grains:			
Cereal NFI	-	-	1
***Hordeum* sp. - Barley**	-	-	1
Other cultivars:			
***Lens culinaris* Medik. - Lentil**	1	-	-
cf. *Lens culinaris* Medik. - Lentil	4	3	3

Cremation Burial 9 (Phase 2)

An urned cremation burial with accessory lamp and assorted pottery assemblage. This appears to have been a sizeable cremation pit [307], truncated on its south side by Phase 3 pit [351] and by the foundations of a modern building (Figure 3.20). The surviving dimensions of pit [307] were 2m by 1m+, with a depth of 0.25m. It retained a steeply sloping profile with a flat base. The cremation pit was filled by a deposit of black silty pyre debris (309) <97>, which contained the smashed remains of cremation urn and a small oil lamp. Sealing the fill of the cremation was a spread of dark brown sandy silt (308) containing burnt sherds of samian and Lyon ware. This deposit may have post-dated the funerary event, but could also be a good example of *Brandschuttgrab*. The level of truncation of this burial makes it difficult to interpret with confidence. There is no evidence of the complete ceramic lamp having been placed on the funeral pyre or burnt in any way.

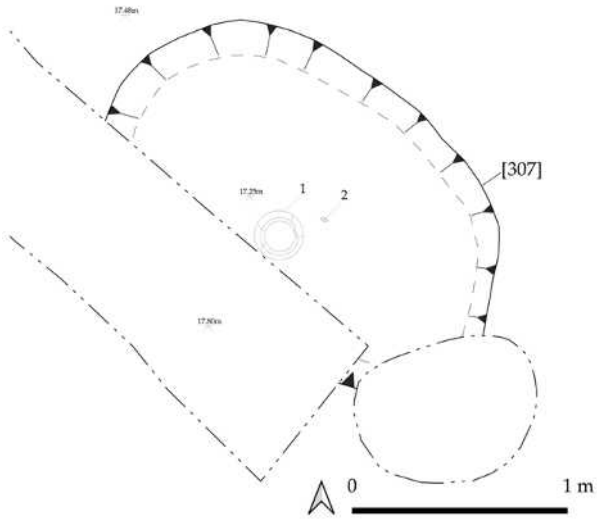

Figure *3.20* Plan of Cremation Burial 9.

Pit [307] contained the disturbed remains of a CO RE beaker utilized as a cremation urn. The form had a currency in the early to mid 2nd century AD. It was associated with a fine example of a factory lamp imported from northern Italy (Figure 3.21). The character of this cremation has been blurred by the presence of deposit (308), which sealed the feature and contained fragments from an array of vessels, including ring-necked flagons, a Lyon ware beaker, and at least five samian ware vessels from south Gaul (LGF SA). Several fragments of the latter have been partially burnt to varying degrees. The possibility was considered that these were associated with a funeral pyre. However,

it appears that at least the Lyon ware and an LGF SA cup base stamped by Quintio i do not pre-date *c.* AD 80/5, while the other vessels are more typically mid to late 1st century AD (possibly to *c.* AD 110); thus they are likely to pre-date the cremation and appear more consistent with material re-deposited from the fort and nucleus of Roman Carlisle as it was re-developed, as has been suggested for other Lyon ware in the assemblage (see Chapter 5).

Grave goods/pyre material

1. Cremation urn in CO RE fabric. Beaker, with short pointed rim (devolved cornice) and round-shouldered body decorated with zone of judder rouletting.
2. Factory Lamp (Loeschcke type X) in LAMP fabric, no handle, two unpierced lugs on shoulder and an air hole pierced through the nozzle channel. The base exhibits a crisp maker's mark of Fortis, one of the most prolific factories making lamps near Modena in north Italy. An exceptionally fine item that is un-used (un-lit). Late 1st century to early 2nd century AD.

Date: early 2nd century AD based on the pottery.

Human Bone

A small amount of burnt bone (116g, excluding faunal remains) was recovered from contexts (309) and (308). Bone that could be categorised by type was recovered from all contexts (total 32g, 28%). Bone fragments that could be identified as human by element (10g, 9%; frontal, temporal, thoracic vertebra) were only recovered from the lower fill context (309), not the sealing context (308). Although, three fragments of temporal bone were recovered, there were no apparent duplications of portions and so the estimated number of individuals is one adult. The sex estimation assigned to this individual was possible male (frontal bone, glabella and supra-orbital margin).

Approximately 40 fragments of burnt bone (9g) were recovered from a sample <107> of the fill (352) of Phase 3 pit [351]. None of this was identifiable as human by element or type of bone, with the exception of a possible human tooth fragment. It is possible that this small amount of bone (not included within results tables in Appendix 2) was redeposited from disturbance of the cremation burial pit [307], rather than representing an additional cremation burial.

Charcoal

No identifiable charcoal fragments were present in the deposits from Cremation Burial 9.

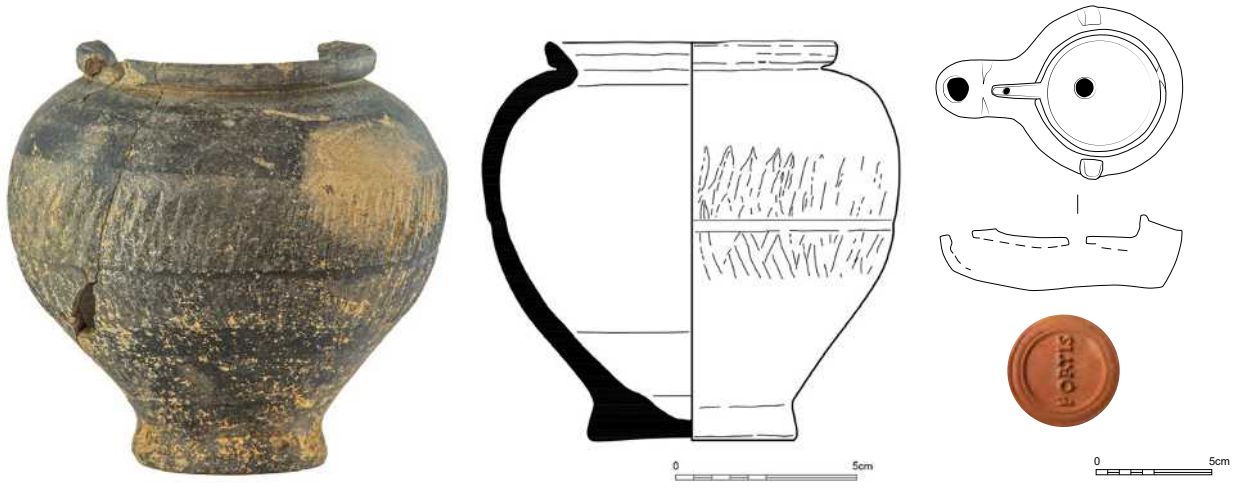

Figure *3.21* Urn and lamp from Cremation Burial 9.

Table *3.14* Charred plant macrofossils from Cremation Burial 9.

Sample number	97
Context number	309
Feature number	307
Description	Fill of Cremation Pit
Phase	2
Volume (litres)	20
Cereal grains:	
Cereal NFI	3
***Hordeum* sp. - Hulled barley**	1
***Triticum spelta* type - Spelt type wheat**	2
***Avena* sp. - Oat**	2

Charred plant macrofossils

The carbonised plant macrofossils from cremation fill (309) comprised a small number of cereal grains, including hulled barley (*Hordeum* sp.), spelt-type wheat (*Triticum spelta* type) and oat (*Avena* sp.). This low density of cereal remains could be reflective of background scatters of carbonised debris across the site from nearby occupation activity, although it is also possible that cereal grains became carbonised as part of the pyre.

Cremation Burial 10 (Phase 2)

A wooden chest burial containing an urned cremation and 23 pottery accessory vessels. The rectangular pit [614] retained a steep sided profile with a flat base and measured 1.45m in length, *c.* 0.8m in width and *c.* 0.25m in depth (Figure 3.22). The burial was excavated in two halves to avoid the possibility of night hawking. Impressions of the wooden chest and its iron brackets were found at the base of the cut (Figure 3.23). Iron strap and nail fragments were also recovered around the base of the accessory vessels (nos. 26-34). Following the deposition of the chest, the cremation pit appears to have been backfilled with a deposit of dark greyish-brown silty sand (615) <205/213/219>, which at its maximum thickness was 0.2m. This was below a further 0.1m-thick deposit of firm greyish-yellow silty clay (613/653) <206/212/220>, which seems to have slumped into the pit, probably following the decay of the wooden chest.

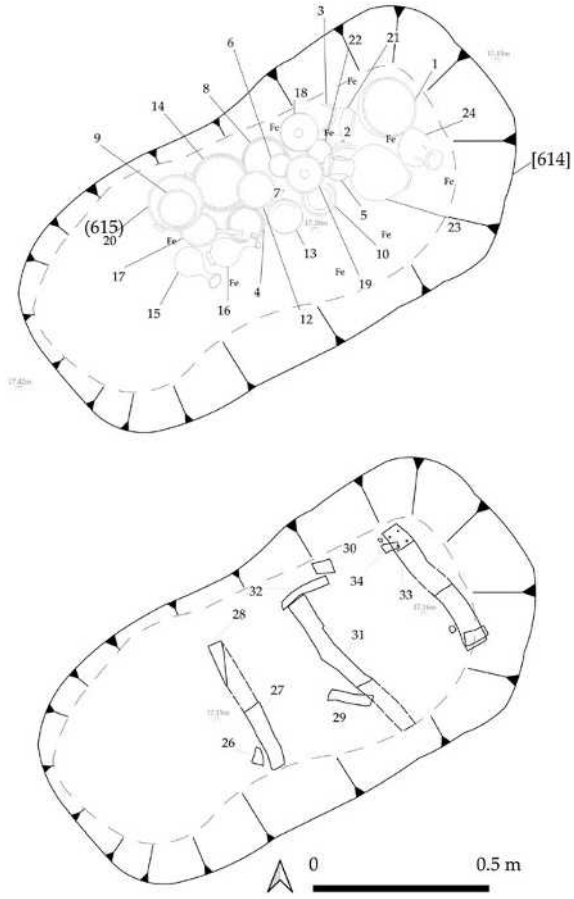

Figure *3.22* Plan of Cremation Burial 10. Top: pottery vessels. Bottom: Iron remains of wooden chest.

Grave goods/pyre material

1. Cremation urn in DOR BB1 fabric. Jar/cooking pot, short flaring plain rim with burnished wavy line on exterior or rim and burnished lattice on body.
2. Cup, miniature/small vessel in CO OX fabric with a relatively shallow body and horizontal rim with an upward pointing tip; an imitation of samian ware form Curle 46.
3. *Idem.*
4. *Idem.*
5. *Idem.*
6. *Idem.*
7. *Idem.*
8. *Idem.*
9. *Idem.*
10. Dish, miniature/small vessel in CO OX fabric with a relatively shallow body and horizontal rim with an upward pointing tip; an imitation of samian ware form Curle 15.
11. *Idem.*
12. *Idem.*
13. *Idem.*
14. *Idem.*

Figure *3.23* Cremation 2 mid-excavation photographs showing pottery vessels and iron strap fittings.

Figure *3.24* Reconstruction of Cremation Burial 10 (Artist: Mark Hoyle).

15. Flagon in CO OX fabric. The everted rim has an upward-pointing bead at its tip (complementing the cups and dishes), double groove on shoulder and single strap handle. Miniature type based on bronze prototype.
16. Jug in CO OX fabric with pinched spout/rim, double groove at base of neck, high looping handle. Miniature type based on bronze prototype.
17. Patera in CO OX fabric, semi-hemispherical body with small bead rim, rod handle that has been poorly applied (smoothed) on to the wall. An imitation of bronze vessels.
18. Bowl with fitted lid in CO OX fabric. It has a reed rim and a single groove above a mid-body carination; the lid has a splayed profile with a slight upward pointing bead in the rim, and a basal knob retained as a 'handle'. Likely to be a miniature type of more typical cooking vessels.
19. *Idem.*
20. Handled bowl in CO OX fabric, semi-hemispherical body with small bead rim and opposed horizontal handles with additional applied 'blobs' between handle and rim. Likely to be a miniature vessel and an imitation of a bronze vessel.
21. Beaker in CO OX fabric, with short-pointed rim (devolved cornice) and waisted body.

Figure *3.25* Accessory vessels and other grave goods from Cremation Burial 10.

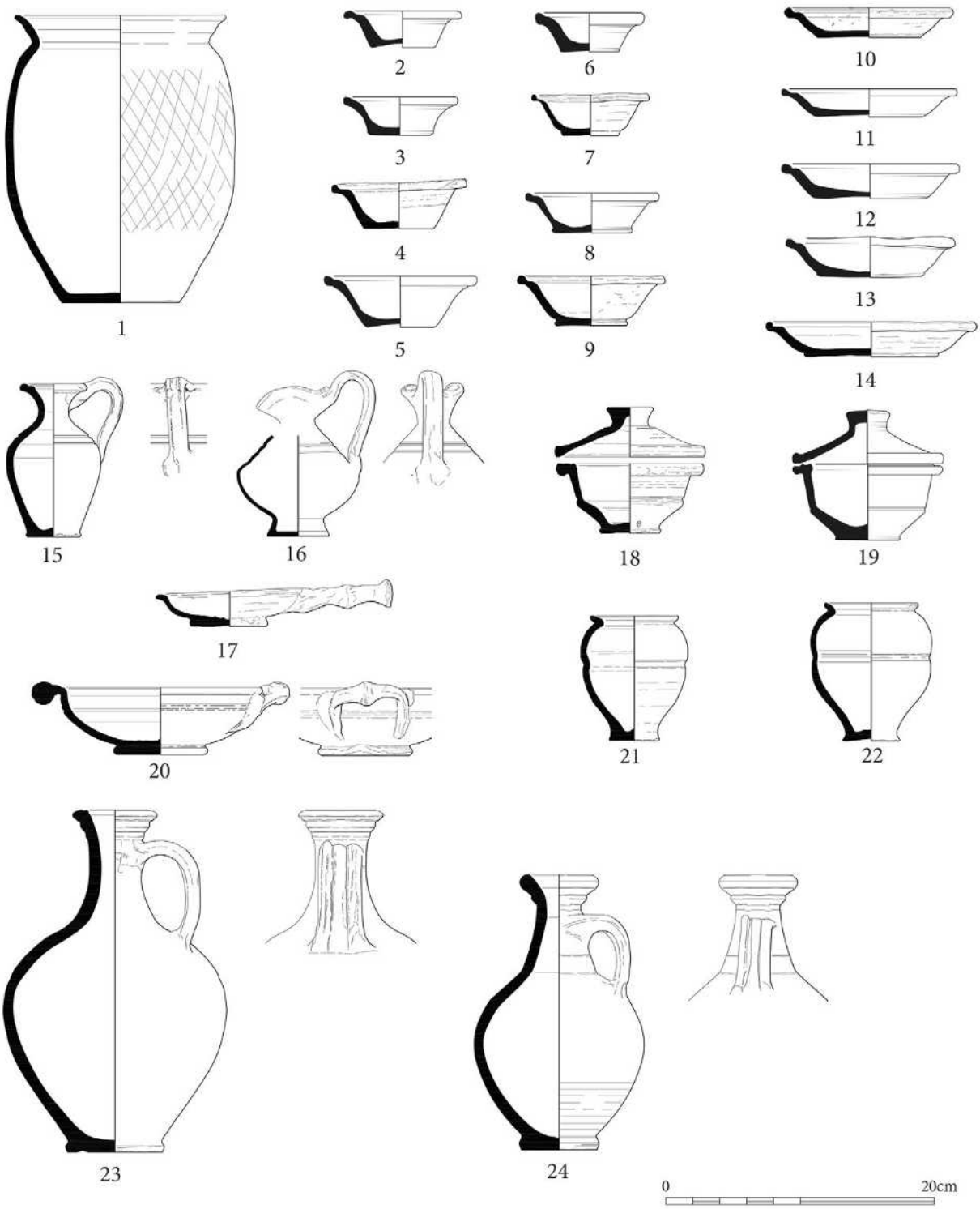

Figure *3.26* Profile illustration of pottery vessels from Cremation Burial 10.

22. *Idem.*
23. Flagon in CO OX fabric with slightly everted ring neck, 3 rib strap handle and slight footring.
24. Flagon in CO OX WS fabric with slightly everted ring neck, 3 rib strap handle and slight footring.
25. Molten glass unguentarium found within the urn (no. 1 above). L: 64.7mm Diameter at rim: 24.0mm Diameter at base: 9.7mm, Weight: 12.1g.
26.-34. Fifty-one fragments of iron strap fittings and six fragments of nail weighing 244g and belonging to wooden box.

Pottery (nos. 1-24)

The cremation urn (Figure 3.24, 3.25 and 3.26 no. 1), was accompanied by 23 accessory vessels. These included two ring-neck flagons (nos. 23 & 24) and a suite of specialist vessels in CO OX that can be considered a set of purpose-made grave goods. The group is dominated by miniature cups (nos. 2-9) and dishes (nos. 10-14) and is complemented by further miniature/small vessels, including two carinated bowls with fitted lids (nos. 18 & 19) and two beakers (nos. 21 & 22). Also present is a range of vessels the form of which is based on bronze equivalents. These include a patera (no. 17), a handled bowl (no. 20), a flagon (no. 15) and a jug (no. 16). The DOR BB1 jar used as the cremation urn did not arrive in the region until the early 2nd century AD, possibly from *c.* AD 120, while the ring-necked flagons suggest a date no later than *c.* AD 130.

There appears to be a clear arrangement of vessels within what was once a rectangular wooden chest. The cremation urn has been placed in the northern corner, abutted to the south by the two ring-necked flagons and to the west by the two beakers. Immediately to the southwest of these were placed the two carinated bowls with fitted lids, while slightly detached farther to the southwest was a cluster of vessels that imitated bronze types, including the patera, handled bowl, jug and flagon. Seemingly overlying these vessels and occupying the central area of the cremation group was a mix of the cups and dishes, although it remains possible some were also placed on the base of the cut.

Date: early 2nd century AD based on the pottery.

Human remains

A total of 664g of burnt bone (excluding faunal remains) was recovered from contexts (615) and (613). All but 2.5g of this was recovered from within the cremation urn. Although 31% (202g) of the bone from the urn could not be identified as human by element or type of bone, a relatively large proportion (267, 40%) could be identified as human by element. All skeletal regions were represented (skull, axial, appendicular) and there was no apparent duplication of any portions of identified elements. Osteological findings suggest that one adult individual is represented, with an age-at-death estimation of 35-40 years (pelvis auricular surface). A tentative sex estimation of possible male is proposed (femoral head size). Three fragments of vertebrae (including two thoracic) exhibited Schmorl's nodes, indicative of herniation of intervertebral discs and suggestive of joint degeneration. No evidence for osteoarthritis was evident and so, perhaps, activity might have had a larger contribution than age to the intervertebral joint degeneration.

In addition to the bone from the cremation urn, one fragment of unidentifiable burnt bone was found within vessel no. 2 (<1g, 2mm sieve fraction, white in colour) but no bone was recovered from any of the other block lifted pottery vessels. The only other fill found to contain burnt bone was the secondary grave fill (613), sample <220>. This was a small quantity of bone (2g, 10 fragments), all of which was unidentifiable as human by element or type of bone.

Iron fittings for wooden box (nos. 26-34)

By Justine Biddle

Fifty-one fragments of iron strap fittings and rivets, alongside six fragments of nail represent the remains of a wooden chest which contained the urn and other pottery accessory vessels. Collectively the iron remains of the chest fittings weigh 244g. They were found in three parallel lines and are likely to be the remains of three strap bindings on the base of the wooden chest (Figure 3.22). The three straps were spaced approximately 0.35m from one another, with the distance between the two end straps being 0.7m. Their position, beneath a suite of pottery vessels that included the cinerary urn, indicates that all items were held within the box when it was placed within the grave at its northeast end. The recovery of many of the pottery vessels in an upright position further supports this hypothesis, as it suggests that they remained within the box and did not fall as the box decayed. The arrangement of vessels covered a greater width than the distance between the straps, being approximately 0.85m in length. This would suggest that the grave goods filled the box when it was deposited and that the width of the box was slightly larger than the distance between the two end straps.

The western iron strap was lifted in three portions (nos. 26-28):

26. Two nails at right angles to each other and covered with concretions.
27. Seven pieces of strap fitting. All of the pieces, barring one exception, are broken on all edges. The other is possibly an end piece.

Table *3.15* Charcoal identifications from Cremation Burial 10 deposits (RW = roundwood).

Sample	Context	Cremation	Rosaceae	*Quercus* sp.	*Alnus/Corylus* sp.	*Corylus avellana*	*Salix/Populus* sp.
<220>	(613)	10	4 (1=RW)	11 (1=RW)	-	1 (1=RW)	1 (1=RW)
<213>	(615)		-	3	2 (1=RW)	-	-
<219>	(615)		4 (1=RW)	2	-	-	-

28. Five pieces of strap fitting from wooden box and one square shank from a nail, broken at both ends. Two of the pieces of strap fitting have their original edges intact, although they are broken at both ends; the smaller piece has two rivets still in place; the largest single fragment has a convex end which may be a decorative terminal, but it may be broken. Two of the other fragments have one and two nails respectively.

The central strap fitting was lifted in four portions (nos. 29-32):

29. Two flat pieces of strap fitting, four pieces of nails and a flat piece of iron, which tapers towards one end. One of the pieces of strap fitting is l-shaped and possibly a corner fitting.
30. Two nail heads with square shanks; two fragments of square nail shaft; six fragments of strap fitting.
31. Eighteen fragments of strap fitting from wooden box. Several pieces are the full width, measuring around 37mm, but all appear to be broken at both ends; one piece has two nails in situ.
32. Seven pieces of strap fitting. One piece, which is full width, measures 35mm across. All the others are broken on all edges. The piece with the surviving width has two nails in situ, as does one other. Another piece has one nail present.

The eastern strap was lifted in two portions (nos. 33-34):

33. Six fragments of strap fitting. Two are corner pieces, one of these with two nails in situ. Both these pieces are full width (38mm) but broken at both ends. The other pieces are flat, two have two nails in situ and one has one. All are full width and broken at both ends; the other is very small. Finally, there are two nails with square shanks and round heads.
34. Fragment of strap fitting. All edges are broken; there is a nail in place at one end of the flat piece of iron which would have attached to the box.

Charcoal

The charcoal remains associated with Cremation Burial 10 can be characterised as being dominated by oak (*Quercus* sp.), accompanied by smaller amounts of Rosaceae (i.e. hawthorn/apple/pear/rowan type), hazel (*Corylus avellana*) and willow/poplar (*Salix/Populus* sp.). The oak charcoal included a single piece of roundwood and a single piece with tyloses deposits in the vessels, indicating a range of mature timber and smaller branches. The other taxa had a higher proportion of roundwood, which may indicate brushwood or twigs used as kindling.

Charred plant macrofossils

Carbonised plant macrofossils were quite sparse in the samples from Cremation Burial 10, consisting primarily of carbonised cereal grains. These included hulled barley (*Hordeum* sp.), oats (*Avena* sp.) and a range of wheat (*Triticum* sp.) species, although identified from grain morphology alone, which can be unreliable. Grains morphologically consistent with free-threshing type wheat (*Triticum aestivum/turgidum* type) were recorded in equal number to probable spelt wheat (*T. spelta*) grains. It is possible that the free-threshing type wheat grains were short, rounded spelt wheat grains,[10] although small amounts of bread wheat are relatively common in Roman archaeobotanical assemblages.[11] A single slender grain with a high dorsal ridge in (615) was identified as emmer wheat (*T. dicoccum*). Germinated grains of barley and glume wheat were recorded in (613) but the number of specimens was quite low and may represent spoilage rather than deliberately malted grain.

A single grass seed of probable chess-type (*Bromus secalinus* type) in (613) was probably present as an arable weed contaminant of the cereals. A single fragment of hazelnut shell (*Corylus avellana*) was most likely carbonised as nuts attached to hazel branches used as fuel, although another source cannot be ruled out.

The charred plant macrofossils from small samples associated with block lifted vessels 5, 14 and 20 showed no significant variation, such as higher densities of carbonised remains, compared to samples from the surrounding matrix (615).

[10] e.g. Campbell and Straker 2003, 23.
[11] Lodwick and Brindle 2017, e.g.

Table *3.16* Charred plant macrofossils from Cremation Burial 10.

Sample number	220	213	219	246	Vessel 5	Vessel 20	Vessel 14
Context number	613	615	615	615	615	615	615
Feature number	614	614	614	614	614	614	614
Description	Fill of Cremation Pit	Fill of Cremation Pit	Fill of Cremation Pit	Fill of Cremation Pit	Fill of Cremation Pit	Fill of Cremation Pit	Fill of Cremation Pit
Phase	2	2	2	2	2	2	2
Volume (litres)	20	10	30	60	-	-	-
Cereal grains:							
Cereal NFI	3	2	1	3	-	1	-
***Hordeum* sp. - Barley**	3	2	1	3	-	-	-
(*Hordeum* sp. - germinated grain)	(1)	-	-	-	-	-	-
***Hordeum* sp. - Hulled barley**	2	1	2	3	1	-	-
***Triticum* sp. - Wheat**	4	2	2	3	-	-	-
***Triticum dicoccum/spelta* - Emmer/spelt wheat**	4	-	-	2	-	-	1
(*Triticum dicoccum/spelta* - germinated grain)	(2)	-	-	-	-	-	-
***Triticum dicoccum* type - Emmer type wheat**	-	-	-	1	-	-	-
***Triticum spelta* type - Spelt type wheat**	1	-	-	2	-	1	-
***Triticum aestivum/turgidum* type - Free-threshing type wheat**	-	1	1	1	-	-	-
***Avena* sp. - Oat**	3	1	-	1	-	-	-
Wild taxa:							
***Bromus secalinus* type L. - Rye brome/chess**	-	1	-	-	-	-	-
Other carbonised:							
***Corylus avellana* L. - Hazelnut shell fragments**	-	1	-	-	-	-	-

Cremation Burial 11 (Phase 2)

An urned cremation burial. The pit [590] measured *c.* 0.5m in diameter, 0.26m in depth and retained a steep-sided profile with a flat base (Figure 3.27). Following the deposition of the cremation urn, a large number of cobbles had been deliberately placed around the urn before the pit was backfilled with a deposit of dark grey/black clayey silt (591) (Figure 3.28).

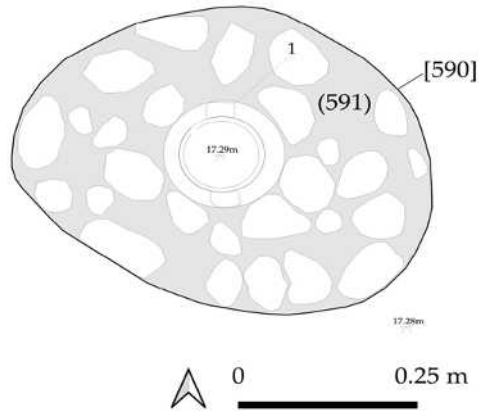

Figure *3.27* Plan of Cremation Burial 11.

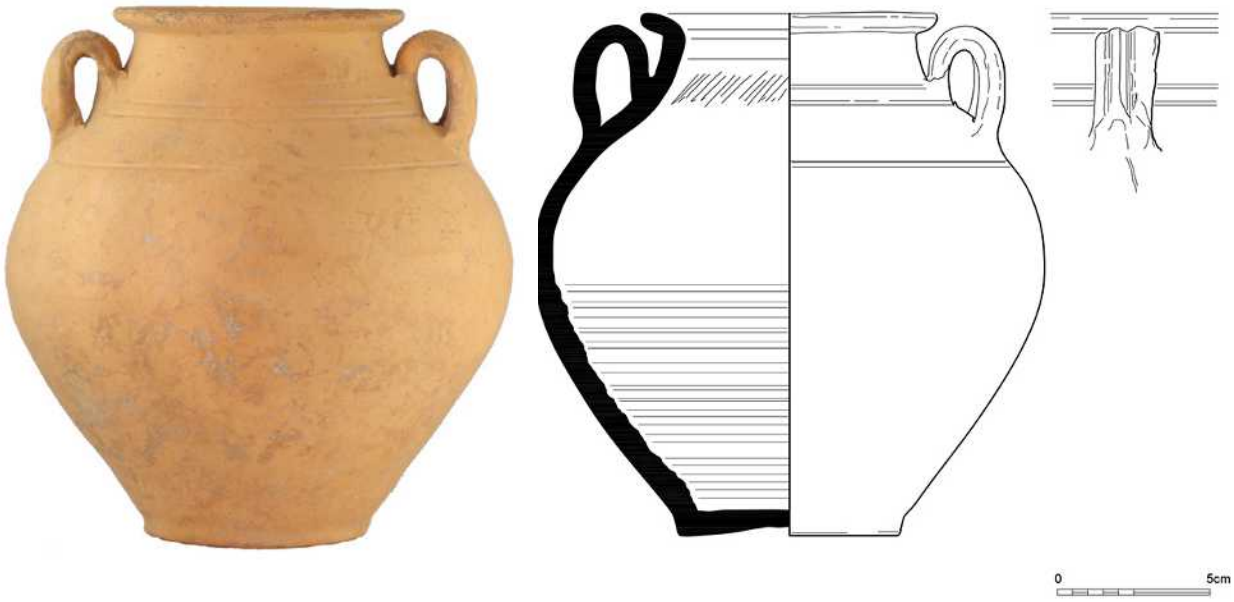

Figure *3.29* Urn from Cremation Burial 11.

Grave goods/pyre material

1. Cremation urn in CO OX fabric (Figure 3.29). 'Honey jar', short out-turned rim on a slightly narrowed neck, and a shouldered body with opposing 3-rib strap handles. Potentially a miniature version of standard types in Roman Britain, but similar-sized examples were produced in the region around Tongeren (Belgium).[12]

Figure *3.28* Cremation Burial 11 with urn in situ.

Date: mid-1st to mid-2nd century AD based on the pottery.

Table *3.17* Charcoal identifications from Cremation Burial 11 deposits.

Sample	Context	Cremation	*Quercus* sp.	Indet.
<196>	(591)	11	10	1

Table *3.18* Charred plant macrofossils from Cremation Burial 11.

Sample number	196
Context number	591
Feature number	590
Description	Fill of Cremation Pit
Phase	2
Volume (litres)	30
Cereal grains:	
***Hordeum* sp. - Barley**	1
***Avena* sp. - Oat**	1
Other cultivars	
cf. *Lens culinaris* Medik. - Lentil	1

[12] Vanvinckenroye 1991: 77, pl.XXXIV.357.

Human remains

Only 122g of burnt bone (excluding faunal remains) was recovered from context (591). The majority of this was recovered from within the urn (118g, 97%). Only 5g of bone was recovered from the surrounding fill (591) and, with the exception of four tooth root fragments, this was not able to be identified as human by element or type. Of the bone recovered from the urn, nearly 40 % (43g) of this could be categorised by type, but only long bone fragments were found. The urn also contained bone that could be identified as human by element and in addition to lower limb fragments (femur and tibia), mandible and pelvis fragments were also recovered. Lack of duplication of elements, lack of evidence of juvenile remains and general size suggest one adult is represented. The characteristics of mandible and pelvis fragments suggest tentative sex and age-at-death estimations of possible female adult of 35-40 years (partial pubic symphysis).

Charcoal

The identifiable charcoal fragments from cremation fill (591) were exclusively oak (*Quercus* sp.), which suggests that the pyre was constructed primarily from oak timber.

Charred plant macrofossils

Single specimens of barley (*Hordeum* sp.), oat (*Avena* sp.) and probable lentil (cf. *Lens culinaris*) were identified in cremation fill (591). The low density of remains makes it difficult to be confident that they were directly associated with the cremation, although lentil is not likely to have been a locally cultivated crop.[13]

Cremation Burial 12 (Phase 2)

An unurned cremation burial. The cremation pit [249] was an irregular oval shape in plan, measuring 0.5 by 0.3m (Figures 3.30 and 3.31). It was shallow, surviving only to a depth of 0.06m and retained a straight sided profile with a flat base. It was filled by a single deposit of dark grey/black sandy silt (248) <63>.

Date: no diagnostic pottery or artefacts. Early 2nd century AD by stratigraphic phase.

Human remains

Less than 500g of burnt bone (excluding faunal remains) was recovered from context (248), sample <63>. Less than half of the burnt bone could be categorised by type of bone (87g, 20%) or identified as human by bone element (86g, 19%). All bone that was identifiable by bone element was recovered from the 10mm sieve fraction and all skeletal regions were represented. There were no duplications of elements apparent, and the size of the femoral head would suggest that an adult male is represented. The slight osteophytic lipping on the cervical vertebra fragments suggest that this individual was of mature and perhaps old age. Although only a small portion was present, the features observed on the frontal bone being tentatively categorised as possible female, or adolescent male, are potentially at odds with the femoral and vertebral evidence. This is perhaps an indication of an additional individual being represented.

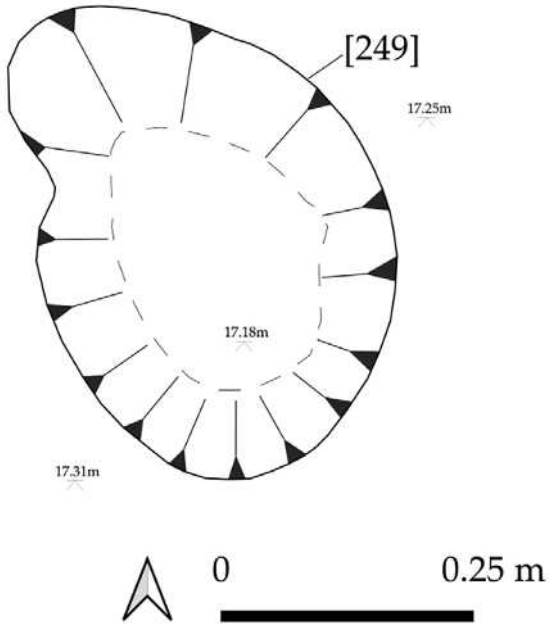

Figure *3.30* Plan of Cremation Burial 12.

Figure *3.31* Cremation Burial 12.

[13] e.g. Lodwick and Brindle 2017, 78.

Charcoal

No identifiable charcoal fragments were present in the deposits in Cremation Burial 12.

Charred plant macrofossils

Two cereal grains, one of which was identifiable as oat (*Avena* sp.), were recorded in cremation fill (248). The presence of such a low concentration of cereal remains in the sample likely indicates scattered background debris and could be residual, rather than having a direct association with the cremation.

Table *3.19* Charred plant macrofossils from Cremation Burial 12.

Sample number	63
Context number	248
Feature number	249
Description	Fill of Cremation Pit
Phase	2
Volume (litres)	10
Cereal grains:	
Cereal NFI	1
***Avena* sp. - Oat**	1

Cremation Burial 13 (Phase 2)

An unurned cremation burial. An elongated cremation pit, truncated on its eastern side by a post-medieval/ modern wall (Figure 3.32). The east-to-west aligned cremation pit [314] measured 1.05m in length, 0.5m in width and 0.18m in depth. The pit retained a steeply sloping profile with a rounded base. It had been filled by a 0.12m-thick primary deposit of dark brown/black silty clay and charcoal (324) <103>. Fill (324) was sealed by a 0.05m-thick deposit of mid-greyish brown silty clay (315) (Figure 3.33).

Grave goods/pyre material

Sixteen fragments of amphora (GAL AM1) weighing 196g were recovered from the primary fill (324). The presence of several hobnails was noted on the context sheet, but these do not feature in the quantification of the finds assemblage from the assessment stage. No further iron was recovered from sample <103>.

Date: Early 2nd century AD by stratigraphic phase.

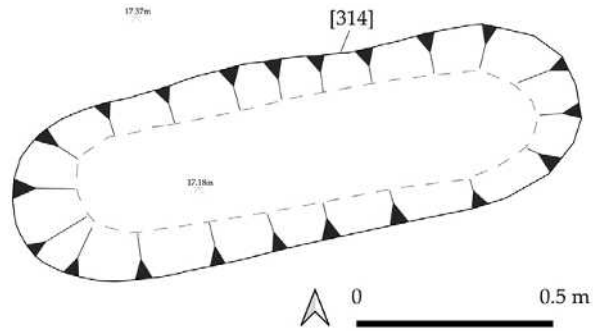

Figure *3.32* Plan of Cremation Burial 13.

Figure *3.33* Cremation Burial 13 pre-ex.

Human remains

A total of 264g of burnt bone (excluding faunal remains) was recovered from contexts (315) and (324), samples <102> and <103> respectively. The majority of the burnt bone was recovered from context (324) (259g, 98%). Nearly 70% (179g) of this was not able to be identified as human by element, nor categorised by type. However, where bone could be identified by element or type, all skeletal regions were represented (skull, axial and appendicular). Lack of duplication of elements, presence of permanent tooth sockets and general size of elements suggest that one adult individual is represented. Sex was not able to be estimated from the remains recovered. The 5g of burnt bone from the upper fill (315), was comprised of four cranial fragments, one long bone fragment and 19 fragments that could not be identified by element or type.

Charcoal

No identifiable charcoal fragments were present in the deposits from Cremation Burial 13.

Charred plant macrofossils

No carbonised plant macrofossils were present in the deposits from Cremation Burial 13.

Cremation Burial 14 (Phase 2)

An unurned cremation burial. A single cremation pit was revealed which measured 0.56m in diameter and 0.31m in depth (Figure 3.34). The cremation pit [912] retained a gently sloping profile, which had been filled by a single deposit of pyre debris (911) <315>, a dark blackish-brown charcoal-rich sandy silt.

Date: no diagnostic pottery or artefacts. Early 2nd century AD by stratigraphic phase.

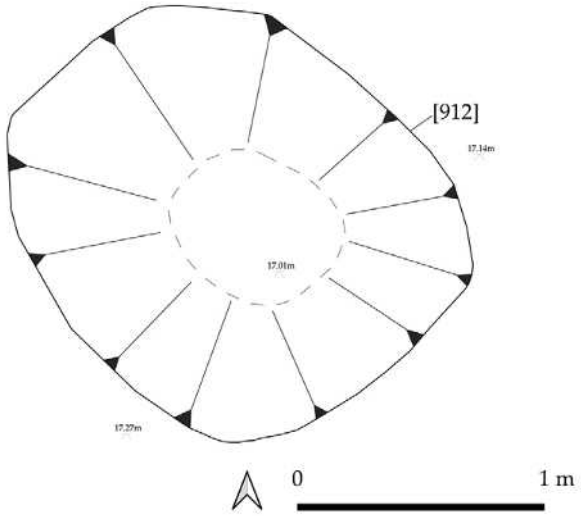

Figure *3.34* Plan of Cremation Burial 14.

Human remains

Only 73g of burnt bone (excluding faunal remains) was recovered from context (911) within sample <315>. Three fragments could be identified by element (3.5g, 5%; temporal, mandible, radius), although these were tentative identifications, except for the temporal bone. Approximately 50% (37g) of the burnt bone could be categorised by type of bone, with cranial, tooth, vertebra and long bone fragments represented. The estimated minimum number of individuals was one, with the size of the temporal bone fragment being consistent with an adult individual. Sex estimation was not possible.

Charcoal

The charcoal from pyre debris (911) was dominated by oak (*Quercus* sp.), with smaller amounts of ash (*Fraxinus excelsior*), hazel (*Corylus avellana*) and willow/poplar (*Salix/Populus* sp.) also present. This suggests a pyre fuelled primarily by oak but probably supplemented by other wood/timber.

Table *3.21* Charred plant macrofossils from Cremation Burial 14.

Sample number	315
Context number	911
Feature number	912
Description	Pyre Debris
Phase	2
Volume (litres	20
Cereal grains:	
***Hordeum* sp. - Barley**	1
***Hordeum* sp. - Hulled barley**	2
***Avena* sp. - Oat**	1

Charred plant macrofossils

Three cereal grains, including hulled barley (*Hordeum* sp.) and oat (*Avena* sp.), were recorded in pyre debris (911). Although these could result from pyre inclusions, it is equally possible that they originated from scattered background debris and could be residual.

Table *3.20* Charcoal identifications from Cremation Burial 14 deposits (RW = roundwood).

Sample	Context	Cremation	*Quercus* sp.	*Corylus avellana*	*Salix/Populus* sp.	*Fraxinus excelsior*
<315>	(911)	14	8	1	1	3 (1=RW)

Cremation Burial 15 (Phase 2)

An urned cremation burial, of which only the truncated shallow base survived. The ovoid cremation pit [254] measured 0.7m in diameter and had a depth of 0.08m (Figures 3.35-3.37). It cut through layer (316) and was thus thought to be one of the later burial events in the cemetery. The pit was backfilled with two markedly different deposits on its east and west sides. A blackish charcoal-rich fill (268) on the west side of the pit was recovered in Sample <70>. On the east side was a deposit of light yellowy-brown silty sand (255), Sample <69>.

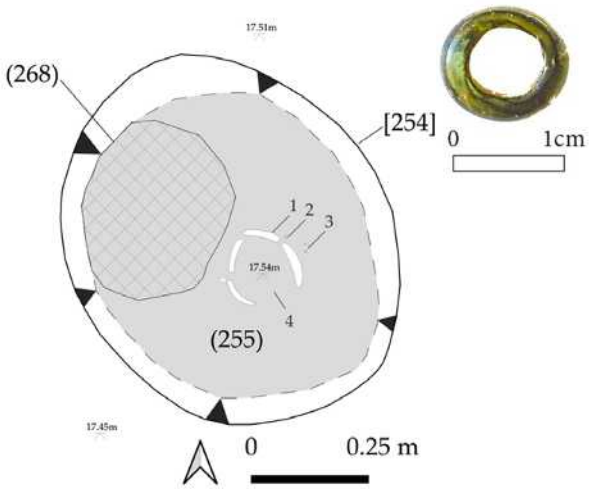

Figure *3.35* Plan of Cremation Burial 15 and glass bead (SF170).

Grave goods/pyre material

1. Cremation urn in DOR BB1 fabric. Jar/cooking pot; base and lower body with burnished lattice decoration (truncated).
2. A copper alloy object found just on the east side of the urn in fill (255), only survived as unidentifiable small fragments (SF29), visible in Figure 3.37. An additional fragment of copper alloy pin, possibly from a brooch, was found during the analysis of the cremated bone.
3. Four fragments of iron nail (SF17), possibly hobnails, were also recovered from fill (255).
4. A glass bead (SF170) was recovered from Sample <69> taken from the area inside the broken cremation urn. A green glass annular bead with a central circular perforation. The bead is a Guido (1978, Plate II) Group 6: 'undecorated annular beads'. It is a long-lived type which first appears in the Iron Age and continues through to the early medieval period.[14]

Date: early to mid-2nd century AD based on the pottery.

Figure *3.36* Cremation Burial 15 (Scale 40cm).

Figure *3.37* Cremation Burial 15, showing base of urn and SF29 (Scale 30cm).

[14] Guido 1978, 65.

Human remains

The total mass of burnt bone (excluding faunal remains) that was recovered from contexts (255) and (268) was approximately 157g. Most of the burnt bone (141g, 90%) was from context (255), including bone from the urn base. None of the fragments could be identified as human by element but a third (53g, 34%) could be categorised by type, including cranial, tooth and long bone fragments. Only 16g (10%) of burnt bone was recovered from context (268), sample <70>. Again, no human bone was identified by element but of the 4g identified by type, phalange and human tooth fragments (consistent with permanent teeth) were recovered. These suggest that an adult individual is represented. Sex estimation was not able to be attempted and so sex is indeterminate. With the lack of identifiable bone fragments, it was not possible to determine whether more than one individual was represented across the two contexts.

Charcoal

No identifiable charcoal fragments were present in the deposits in Cremation Burial 15.

Charred plant macrofossils

Individual carbonised grains of wheat (*Triticum* sp.) and oat (*Avena* sp.) were recorded, accompanied by a single pea/bean (large Fabaceae), in cremation fill (268). These remains represent a low density of carbonised material and it is not possible to determine whether they were directly associated with the cremation or present in scattered background debris from domestic occupation in the wider vicinity.

Table *3.22* Charred plant macrofossils from Cremation Burial 15.

Sample number	70
Context number	268
Feature number	254
Description	Fill of Cremation Pit
Phase	2b
Volume (litres)	10
Cereal grains:	
***Triticum* sp. - Wheat**	1
***Avena* sp. - Oat**	1
Other cultivars:	
Fabaceae indet. (large) - Pea/bean	1

Possible burial A (Phase 2)

A shallow circular pit [990], which was located within a northwest to southeast alignment of similar features (Figure 3.38). The pit measured 0.47 by 0.36m and had a depth of 0.11m. It contained a single fill of dark greyish-brown silty sand (991), which included a high concentration of charcoal, fragments of metal, and an almost intact oil lamp. Although this feature did not produce any cremated human or animal bone, the presence of the complete oil lamp suggests that it may have been some form of funerary deposit. Indeed, the possibility of an infant burial in which the bone did not survive cannot be ruled out.

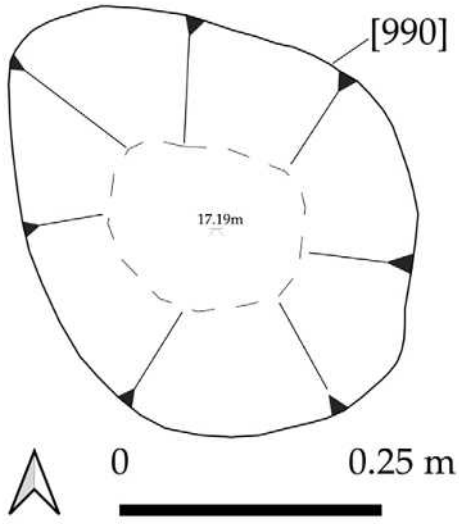

Figure *3.38* Plan of Possible Burial A.

Pottery

The charcoal-rich fill of pit [990] may not represent a cremation but appears to relate to burial rites on the site, and these rites may have consumed the single lamp that was found within (Figure 3.39). In contrast to the two finely finished imported lamps recorded in other cremation groups, this example was locally made, possibly copied by a legionary potter, and it is also distinguished by having been used and broken, potentially as part of a burial rite before it was deposited as a 'token' offering.

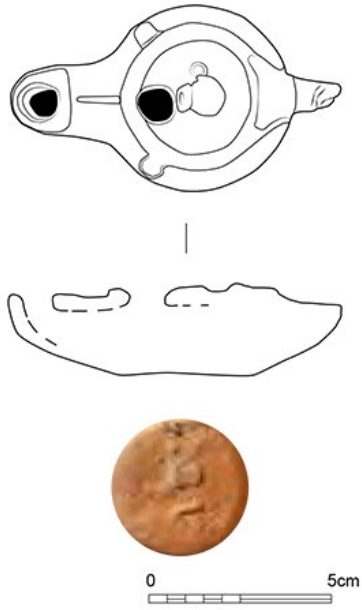

Figure *3.39* Illustration of lamp from Possible Burial A.

Grave goods

1. Factory lamp in CO OX fabric (Loeschcke type IXa). The closed discus has an aperture towards the spout with a poorly impressed/degenerate mask behind it, a single broken ring handle, and two unpierced lugs on the shoulder. The base has an illegible maker's mark, possibly of CASSI but inconclusive. The degenerated, blurred appearance of the mask and maker's mark confirm this is a local copy (of a copy?). There is burning in and around the opening of the nozzle, confirming the lamp was lit and used.

Date: late 1st to 2nd century AD based on the pottery.

Charcoal

No identifiable charcoal fragments were present in the deposit from Possible Cremation Burial A.

Charred plant macrofossils

No carbonised plant macrofossils were present in the deposit from Possible Cremation Burial A.

Possible Cremation Burial B (Phase 2)

An irregular shaped pit measuring *c.* 2m in length, *c.* 1.2m in width and 0.3m in depth (Figure 3.40 & 3.41). The pit [582] had been largely filled by a deposit of mottled grey/yellowish brown sandy clay and gravel (583), which had been sealed by a thin spread of black sandy silt (275) <76>. This secondary deposit contained frequent fragments of charcoal and cremated material. Given the irregular nature of this feature, it is unlikely to represent a formal cremation burial. The presence of burnt bone and other burnt material, however, suggests that it may represent a deposit of pyre debris close to the associated cremation pits.

Date: no diagnostic pottery or artefacts. Early 2nd century AD by stratigraphic phase.

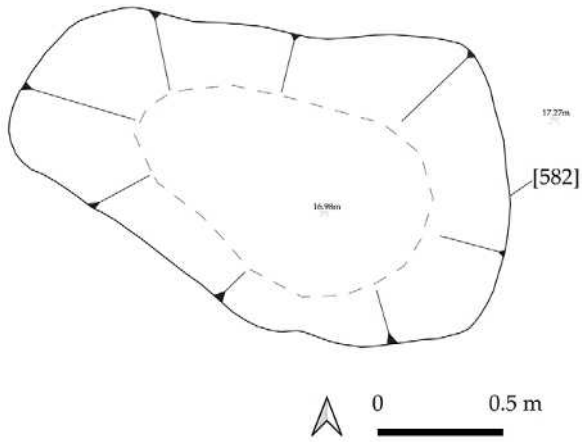

Figure *3.40* Plan of Possible Burial B.

Figure *3.41* Possible Burial B.

Human remains

A total mass of 130g of burnt bone (excluding faunal remains) was recovered from the secondary fill, context (275), sample <76>. None of the burnt bone was identifiable as human by element but approximately 30% could be categorised by type, including a two joining fragments of a human phalange. These findings suggest that one adult individual is represented. No burnt bone was recovered from the primary fill (583).

Charcoal

No identifiable charcoal fragments were present in the deposits in Possible Cremation Burial B.

Charred plant macrofossils

Carbonised cereal grains in fills (275) and (583) included hulled barley (*Hordeum* sp.) and glume wheat (*Triticum dicoccum/spelta*). Asymmetric barley grains indicate hulled six-row barley (*Hordeum vulgare* var. *vulgare*). The presence of a single germinated grain could be from malted barley or simply grain which had spoiled in storage. Based on a low density of cereal remains it is not possible to determine whether they were directly associated with the cremation or present as scattered background debris from surrounding domestic activity.

A single fragment of hazelnut shell (*Corylus avellana*) could represent food debris or could be from nuts attached to wood used as fuel.

Table *3.23* Charred plant macrofossils from Possible Cremation Burial B.

Sample number	76	200
Context number	275	583
Feature number	582	582
Description	Fill of Cremation Pit	Fill of Cremation Pit
Phase	2	2
Volume (litres)	20	10
Cereal grains:		
***Hordeum* sp. - Hulled barley**	3	2
(*Hordeum* vulgare - twisted grain)	(2)	-
(*Hordeum* sp. - germinated grain)	(1)	-
***Triticum dicoccum/spelta* - Emmer/spelt wheat**	1	-
Other carbonised:		
***Corylus avellana* L. - Hazelnut shell fragments**	-	1

Possible burial C (Phase 2)

A grave-shaped cut containing a more or less complete but smashed flagon (Figures 3.42 and 3.43). No human bone was recovered. As the preservation of bone that was not cremated was extremely poor on this site, the lack of bone may indicate that this was an inhumation burial. Alternatively, this pit may have been a cenotaph deposit for an individual whose remains could not be recovered. The grave-shaped pit feature [634] retained a steeply sloping profile with a flat base and retained

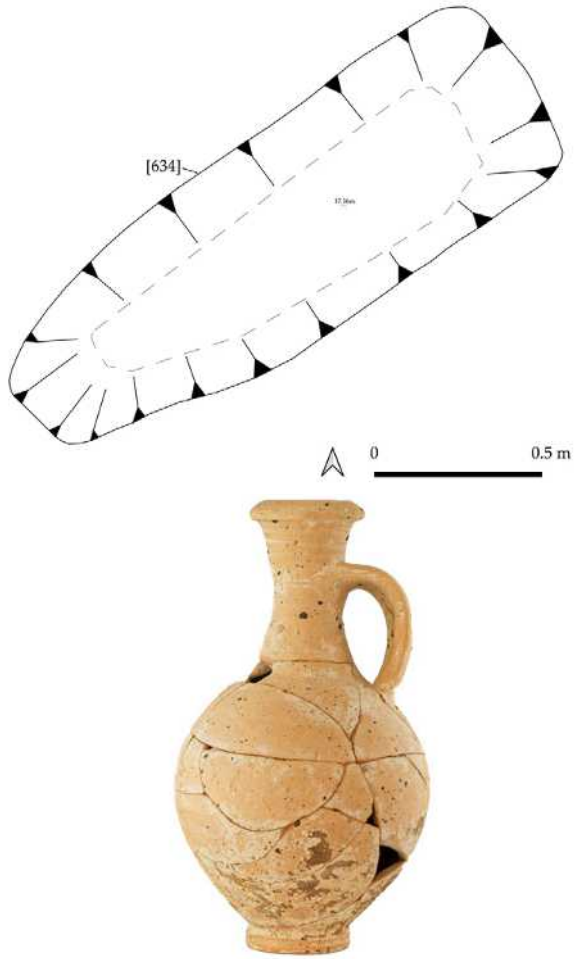

Figure *3.42* Plan of Possible Inhumation Burial C and reconstructed flagon.

lumps of yellow clay (635) packed around its eastern periphery and a single fill of mid-greyish brown silty clay (636). Spatially, it fits well within the group of cremation burials found within Funerary Enclosure 2 (Phase 2).

Figure *3.43* Possible Inhumation Burial C.

Grave goods

The form of the flagon is the same as those recovered from Cremation Burials 2 and 10, dating to the late 1st/ early 2nd century AD.

Date: late 1st to early 2nd century AD based on the pottery.

Cremation Burial 16 (Phase 3)

The truncated base of an unurned cremation burial, which itself cut through the fills of ditch FG009. The pit [503] was elongated, measuring 0.8m by 0.35m in plan (Figure 3.44). The surviving depth was only 0.05m. The fill (504) was a black charcoal-rich silt, visible against the fill of the earlier ditch.

Grave goods/pyre material

Fill (504) contained a coarse ware sherd (CO RE) and three amphorae sherds (BAT AM2).

Date: early-mid 2nd century AD by stratigraphic phase.

Human remains

A small amount of burnt bone (96g) was recovered from within sample <181>, context (504). Less than 2g (2%) of fragments were identifiable by element (frontal and mandible), although the mandible assignment is tentative. The minimum number of individuals represented is one, with the size of the frontal bone being consistent with an adult individual.

Charcoal

The charcoal fragments from cremation fill (504) comprised a significant amount of oak (*Quercus* sp.), accompanied by a smaller number of pieces identified as willow/poplar (*Salix/Populus* sp.). The oak remains included pieces of roundwood, as well as an almost equal number with tyloses deposits in the vessels. This indicates a mixture of heartwood from mature trunks and branches, accompanied by smaller branches in the pyre construction. A proportion of the willow/poplar was also roundwood. Whether this formed part of the pyre itself, brushwood kindling or other artefacts associated with the cremation is unclear.

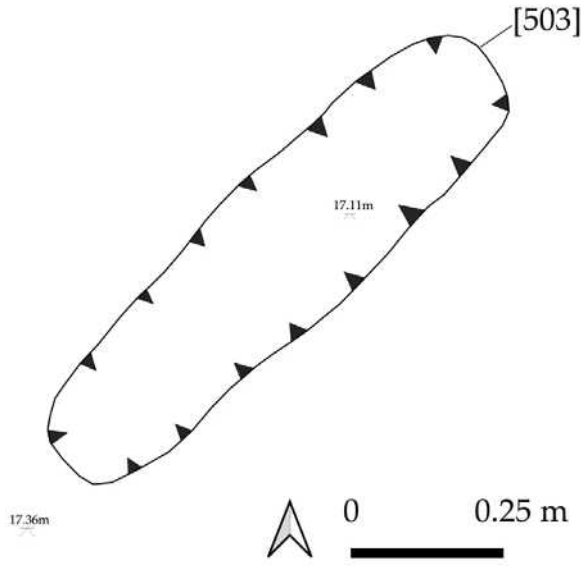

Figure *3.44* Plan of Cremation Burial 16.

Table *3.24* Charcoal identifications from Cremation Burial 16 deposits (RW = roundwood).

Sample	Context	Cremation	*Quercus* sp.	*Salix/Populus* sp.	Indet.
<181>	(504)	16	79 (12=RW)	10 (4=RW)	11

Charred plant macrofossils

Four cereal grains, including hulled barley (*Hordeum* sp.) and oat (*Avena* sp.), were recorded in cremation fill (504). With a low density of carbonised remains such as this it is not possible to distinguish scattered background debris or residual material from surrounding occupation activity from material directly associated with the cremation pyre.

Table *3.25* Charred plant macrofossils from Cremation Burial 16.

Sample number	181
Context number	504
Feature number	503
Description	Fill of Cremation Pit
Phase	2
Volume (litres)	20
Cereal grains:	
Cereal NFI	1
***Hordeum* sp. - Hulled barley**	1
***Avena* sp. - Oat**	2

Cremation Burial 17 (Phase 3)

The truncated base of a possible urned cremation burial. The cremation pit [269] had dimensions 0.9m by 0.4m, with a surviving depth of 0.12m (Figures 3.45 and 3.46). It cut the western side of Funerary Enclosure 4, linear boundary FG008. The pit contained a primary fill of dark blackish-brown charcoal-rich sandy silt, presumably pyre debris (270) <74>. Found within were 39 joining sherds of a fragmented flagon base in white fabric, as well as the cremated remains of an adult individual. The pit also included a secondary fill of brown silty sand (274) <75>.

Grave goods/pyre material

1. Cremation urn in CO WH fabric. Flagon, base and lower part of globular body (truncated).
2. Twenty-four fragments of iron nail; some are hobnails, some are parts of wood nails with square shanks.

Date: late-1st to mid-2nd century AD based on the pottery. Early-mid-2nd century AD by stratigraphic phase.

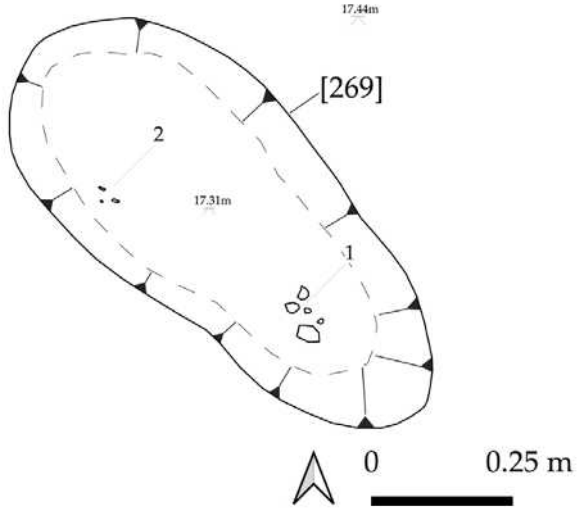

Figure *3.45* Plan of Cremation Burial 17.

Human remains

A mass of 725g of burnt bone (excluding faunal remains) was recovered from the contexts (270) sample <74>, SF34 and, (274) sample <75>. Almost all the burnt bone (99%) was recovered from the main fill context (270) <74>. Approximately 80% (578g) of this was not able to be identified as human by element or categorised by type. However, where bone was identified as human by element or categorised by type, all skeletal regions were represented (skull, axial and appendicular). There was a lack of duplication of elements and bones were consistent in size with an adult individual. Pelvic fragments have enabled very tentative age-at-death and sex estimations of 40-50 years, possible female. The presence of epiphyseal surfaces suggests that a juvenile individual might also be represented. However, these poorly preserved fragments are possibly faunal remains.

Less than 90g of burnt bone was recovered from the secondary fill (274) sample <75>. This included a human vertebra fragment and two long bone fragments, as well as 5g of bone unidentifiable by element or type. However, the majority of the bone fragments from this context were faunal remains (79g, 90%).

Figure *3.46* Cremation Burial 17.

Charcoal

The charcoal from cremation fill (270) was almost exclusively oak (*Quercus* sp.), with single pieces of hazel (*Corylus avellana*) and willow/poplar (*Salix/Populus* sp.) roundwood also recorded. This indicates a pyre constructed of oak, with other taxa perhaps representing kindling or remains of artefacts burnt in the cremation.

Charred plant macrofossils

Two carbonised cereal grains were present in cremation fill (274), one identified as hulled barley (*Hordeum* sp.) and the other as oat (*Avena* sp.). These could have been associated with the pyre but could equally have been introduced to the deposit from background scatters of material generated by nearby domestic occupation.

Table *3.27* Charred plant macrofossils from Cremation Burial 17.

Sample number	75
Context number	274
Feature number	269
Description	Fill of Cremation Pit
Phase	2b
Volume (litres)	10
Cereal grains:	
***Hordeum* sp. - Hulled barley**	1
***Avena* sp. - Oat**	1

Cremation Burial 18 (Phase 3)

A truncated urned cremation? The pit measured 1.7m in length, 0.75m in width and was 0.13m deep (Figures 3.47 and 3.49). It contained a primary fill of pyre debris (468) <160>, a black charcoal-rich silt. A secondary deposit of dark brown sandy silt (469) <161> constituted the final fill. The pit cut the western side of Funerary Enclosure 4, linear boundary FG008.

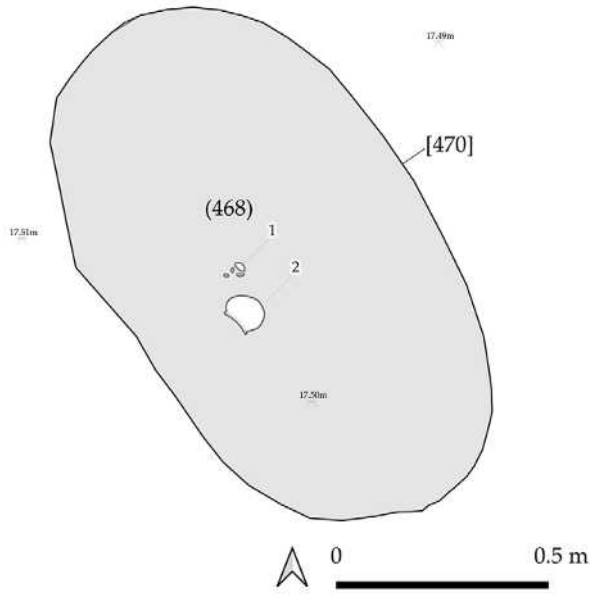

Figure *3.47* Plan of Cremation Burial 18.

Table *3.26* Charcoal identifications from Cremation 17 deposits (RW = roundwood).

Sample	Context	Cremation	*Quercus* sp.	*Corylus avellana*	*Salix/Populus* sp.	Indet.
<74>	(270)	17	56	1 (1=RW)	1 (1=RW)	2

The primary fill contained the truncated base of a broken jar and a complete beaker. The cut of the pit [470] was 0.13m deep, 075m wide and 1.34 m long. A 0.07m-thick primary black charcoal-rich silt fill (468) surrounded the ceramic vessels. Above this was a 0.06m-thick dark-brown sandy silt upper fill (469).

Grave goods/pyre material

1. Cremation urn in CO RE fabric. Jar? Basal fragments only.
2. Beaker, in CO RE fabric, short out-turned rim (devolved cornice?) on a fairly globular body with a small foot (Figure 3.48).

Date: late 1st to early 2nd century AD based on the pottery.

Figure *3.49* Cremation Burial 18.

Human remains

A total of 431g of burnt bone (excluding faunal remains) was recovered from the fill contexts (468) sample <160> and (469) sample <161> as well as within the complete beaker. Just less than half (431g, 49%) of this was burnt bone. The majority of the burnt bone (385g, 89%) was from the primary fill (468), sample <160>. Approximately 20% (90g) of this could be identified as human by element, although some identifications are tentative. All areas of the skeleton were represented at least by bone type. Lack of duplication and general size of bones would suggest that one adult individual is represented but sex and age-at-death estimations (beyond adult) were not possible.

The upper fill (469) <161> also contained burnt bone (44g, 10%). No fragments could be identified as human by element and only long bone fragments (17g, 39%) were able to be identified by type for this context. The complete beaker contained a small amount of burnt bone (3g). This included 8 unidentified fragments from the 5 and 10mm sieve fractions, plus one possible human acetabulum fragment from the 10mm fraction. Faunal bone was also recovered from within this vessel (mandible and tooth fragments, 1g).

Charcoal

No identifiable charcoal fragments were present in the deposits in Cremation Burial 18.

Charred plant macrofossils

Deposits associated with Cremation Burial 18 produced carbonised grains of hulled barley (*Hordeum* sp.), glume wheat, including emmer-type grains (*Triticum dicoccum* type) and oat (*Avena* sp.). A single pea/bean (large Fabaceae) was recorded in (468), along with seeds of medium Fabaceae (vetch/tare type), which most likely represent arable weeds associated with the cereal remains. The carbonised plant macrofossils were present in quite low density and it is difficult to determine whether they were part of the cremation deposits or originated from background debris generated by surrounding domestic activity.

Table *3.28* Charred plant macrofossils from Cremation Burial 18.

Sample number	160	161
Context number	468	469
Feature number	470	470
Description	Fill of Cremation Pit	Fill of Cremation Pit
Phase	2b	2b
Volume (litres)	60	20
Cereal grains:		
Cereal NFI	2	-
***Hordeum* sp. - Barley**	1	-
***Hordeum* sp. - Hulled barley**	4	-
***Triticum dicoccum/spelta* - Emmer/spelt wheat**	1	-
***Triticum dicoccum* type - Emmer type wheat**	1	-
***Avena* sp. - Oat**	-	1
Other cultivars:		
Fabaceae indet. (large) - Pea/ bean	1	-
Wild taxa:		
Fabaceae indet. - Pea family (medium)	2	-

Figure *3.48* Profile illustration of beaker from Cremation Burial 18.

Cremation Burial 19 (Phase 3)

Truncated base of an unurned cremation pit, filled with pyre debris. Cremation pit [800] measured 1.2m in length, 0.6m in width and 0.07m in depth (Figures 3.50 and 3.51). The pit cut the western side of Funerary Enclosure 4, linear boundary FG008. The feature retained a single deposit of pyre debris (801), Sample <283>.

Date: no diagnostic pottery or artefacts. Early-mid 2nd century AD by stratigraphic phase.

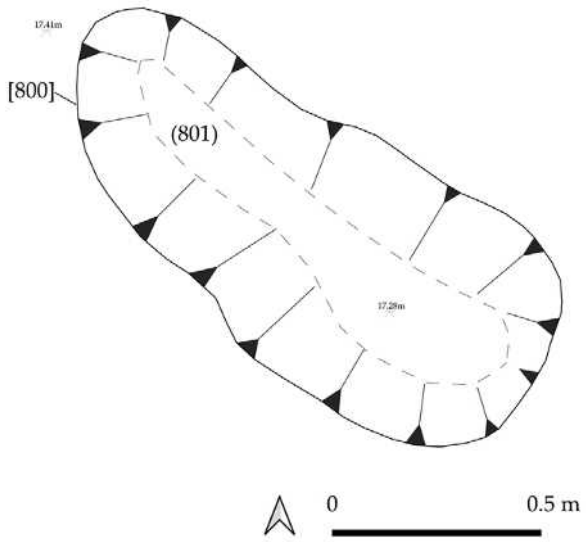

Figure *3.50* Plan of Cremation Burial 19.

Human remains

A total of 579g of burnt bone (excluding faunal remains) was recovered from context (801). Only 5% (29g) of this was identifiable as human by bone element, but a third (198g, 34%) could be categorised by type of bone. All regions of the skeleton were represented (skull, axial, appendicular). A lack of duplication of elements suggests one adult individual is represented. Sex estimation was not possible, but an age category of mature to older adult is proposed (flat appearance of partial pubic symphysis, osteophytic lipping evident on cervical vertebra facets and femoral condyle).

Charcoal

The charcoal in cremation fill (801) was dominated by oak (*Quercus* sp.), accompanied by hazel (*Corylus*

Figure *3.51* Cremation Burial 19.

Table *3.29* Charcoal identifications from Cremation Burial 19 deposits.

Sample	Context	Cremation	*Quercus* sp.	*Corylus avellana*	*Fraxinus excelsior*	Indet.
<283>	(801)	19	25	11	10	14

avellana) and ash (*Fraxinus excelsior*). No roundwood was recognised and all three taxa may have been used in the pyre construction.

Charred plant macrofossils

The carbonised plant macrofossil remains from cremation fill (801) were carbonised cereal grains, including hulled barley (*Hordeum* sp.), wheat (*Triticum* sp.) and oat (*Avena* sp.). Asymmetric barley grains likely represent hulled six-row barley (*Hordeum vulgare* var. *vulgare*) and a single wheat grain was probably spelt (*Triticum spelta* type). These could have been part of the cremation but could also have originated from background scatters of carbonised debris associated with domestic occupation in the wider vicinity.

Table *3.30* Charred plant macrofossils from Cremation Burial 19.

Sample number	283	289
Context number	801	801
Feature number	800	800
Description	Fill of Cremation Pit	Fill of Cremation Pit
Phase	2b	2b
Volume (litres)	10	40
Cereal grains:		
Cereal NFI	-	1
***Hordeum* sp. - Barley**	-	2
***Hordeum* sp. - Hulled barley**	-	4
(*Hordeum vulgare* - twisted grain)	-	(2)
***Triticum* sp. - Wheat**	-	3
***Triticum spelta* type - Spelt type wheat**	-	1
***Avena* sp. - Oat**	2	1

Inscribed Tombstone Fragment

By Roger Tomlin

A fragment of a red sandstone tombstone (Figure 3.52), 22cm by 27cm by 9cm thick (SF114) found in fill (850) of ditch FG001.[15] Below a pediment carved in relief, a recessed panel. Only the first letter of the first line survives:

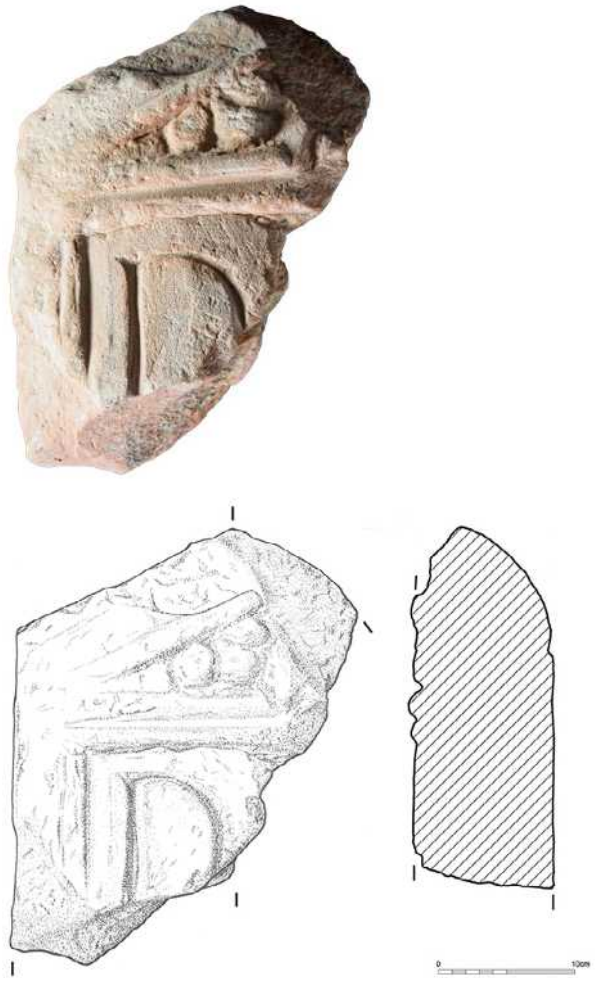

Figure *3.52* Fragment of tombstone.

[15] Tomlin 2018, 429 no. 3.

D[...]
[...]
D[is Manibus | ...] or *D(is) [M(anibus) ...]*
'To the shades of the dead (and) to [*name lost* ...]'

The letter D is now incomplete but would have been *c.* 0.10 m high. It began the funerary formula *Dis Manibus*, but it is impossible now to tell whether this was abbreviated or not. There are 319 instances of the formula from Britain, but only 13 are not abbreviated to *D M*. Since *Dis Manibus* unabbreviated is typically first-century, it is not surprising that only three come from the northern frontier: *RIB* 1172 (Corbridge) and 2213 (Ardoch), both Flavian, and 2029 (Stanwix) which is later since the man's widow bears the nomen *Ael(ia)*, which would imply that she, or rather her father (quite likely an auxiliary veteran), was enfranchised in the reign of Hadrian.

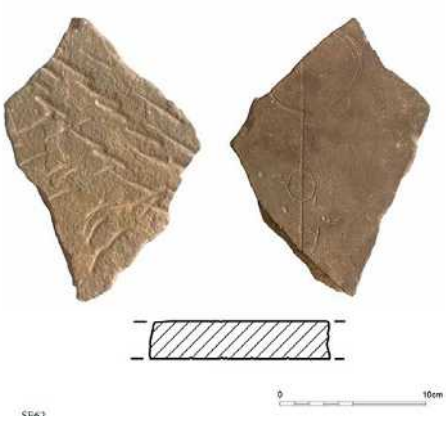

Figure *3.53* Front and back of stone gaming board fragment (SF62).

The well-cut D might be first-century, making *Dis Manibus* (unabbreviated) a possibility, but the odds are that the formula was abbreviated as usual to *D [M]*. The names would have followed of the deceased and his (or her) executor(s).

Gaming Board fragment

A fragment of basalt gaming board 12.4cm by 10.7cm by 2.5cm and weighing 742g (SF62). The object was found in a layer (611) which sealed the Roman features in the western part of excavation Area C but pre-dated the post-medieval overburden (Figure 3.1 & Figure 3.53). The incised marking on the stone fragment indicates that it was probably a *tabula lusoria* for the *ludus XII scripta*, a board game similar to modern backgammon. The board was divided into 36 slots, which could have different symbols, ranging from a simple circle or cross to a more complex decoration.[16] In this case the symbols are simple circles. Such an object, not uncommon in cremation and inhumation burials in Britain, could well have been deposited in a grave and later disturbed.[17]

[16] Alessandro Pace pers. comm.
[17] Philpott 2016, 185.

Chapter 4
The Human Remains

Sophie Beckett

Introduction

Bone fragments, including burnt tooth fragments and unburnt faunal remains, were recovered from various features across the excavation site. Significant quantities of burnt bone fragments were recovered from each of the cremation burial pit features (1-19), as well as the Possible Cremation Burial B. These are discussed below (see also Chapter 3). A summary explanation of the osteological methods employed is provided in Appendix 1 and additional results tables provided in Appendix 2. Categorisation of bone fragments included those identifiable as human by specific element (such as maxilla, 1st rib, femur), by anatomical type (such as cranial, rib, long bone) or, as faunal remains. If none of these categorisations were possible, bone fragments were categorised as unidentifiable (UnID).

Types of deposits

Detailed explanation of the phasing of the cremation burials and the deposit type for each burial is given in chapters 2 and 3. Most of the cremation burials (and Possible Burial B) belong to Phase 2. Cremation Burial 1 was deposited during Phase 1 and Cremation Burials 16-19 relate to Phase 3. Four cremation burials (2, 8, 10 and 11) were clearly upright ceramic urned deposits, where the urn was recovered intact or with minimal damage (referred to as intact within this chapter). Burials 2 and 10 were notable for the presence of over 20 accessory vessels within each burial (see chapters 3 and 5). A further four cremation burials (1, 5, 9, 15) were also upright ceramic urned deposits, but in each case the urn was heavily damaged (truncated and/or smashed). Cremation Burial 6 was also probably an urned cremation deposit. Although the pit feature containing the burnt bone had been truncated by a gully [642], it had a surviving depth of 0.3m and the lower portion of a flagon was recovered, along with nearly 500g of burnt bone. Two cremation burials (3 and 7) appear to have been unurned, as no pottery sherds were found within any of their pit fills, over 1.5kg of burnt bone was recovered from each burial and both had a surviving depth greater than 0.2m.

There is less certainty surrounding the interpretation of the deposit type for the remaining eight burials (4, 12, 13, 14, 16, 17, 18, 19). These may represent heavily disturbed urned burials (with or without additional unurned pyre debris deposit) or unurned burials (with or without accessory vessels). No clear evidence of an urn was found in any. Some (4, 13, 16) contained a few sherds of pottery, but from three (12, 14, 19) no pottery was recovered. Most were heavily truncated, with Cremation Burial 13 having a survival depth of <0.2m and four burials having surviving depths <0.1m (4, 12, 16, 19). Cremation Burial 14 is possibly an unurned cremation, with a survival depth of 0.3m. However, unlike Cremation Burials 3 and 7, only a small amount of bone and pyre debris was recovered (80g total cremated material). The quantity of bone recovered from Cremation Burials 12 (439g) and 19 (579g), despite their considerable truncation, perhaps suggests that these might also represent unurned cremation burials. Cremation Burials 17 and 18 both had survival depths of just over 0.1m. Cremation Burial 17 may have been an unurned deposit with an accessory vessel, as flagon fragments were recovered. Burnt bone fragments were attributed to this vessel upon excavation, but given the level of fragmentation of the vessel it is unclear whether these were contained within the flagon at the time of burial. Cremation Burial 18 is possibly an urned cremation with an accessory vessel but no bone was directly attributed to the broken jar. Given the position of the beaker, on its side, the small quantity of bone (3g) contained within is likely to have been intrusive from the surrounding grave fill context (469).

Possible Cremation Burial B was atypical due to its dark coloured, bone-containing fill overlying a lower fill and irregular shape. However, burnt bone that could be identified as human by type of bone was recovered (36g, 28% of the total bone recovered, excluding faunal remains). It does therefore represent a cremation deposit but (as proposed within Chapter 3), this is possibly one of pyre debris rather than formal burial. The types of deposit represented at this site are discussed further below, with respect to aspects of cremation and funerary practices.

Aside from these funerary contexts, burnt bone (a total of >700g) was also found within more than 100 other excavated deposits. Whilst some of the burnt bone could potentially represent further cremation burials or cenotaph deposits, none could be convincingly identified as such (see Chapter 3). None of the deposits

contained a sufficient quantity of burnt bone, nor other supporting evidence, to be identified as a pyre site or feature containing redeposited pyre debris separate to a burial. One exception is perhaps Possible Burial B (see below). Furthermore, as a number of the cremation burial pit features had been disturbed and truncated by later human activity on the site, it is likely that the additional burnt bone fragments relate to incidental redeposition of material or may be faunal remains not associated with funerary activity.

One example of such a deposit is layer (566), which sealed the upper fill of ditch FG006, the boundary for Burial Plot 3. It contained 3g of unidentifiable bone fragments (mostly from ≤ 5mm sieve fraction and mostly white but some black in colour). Another example is a small spread of burnt material (799), located immediately adjacent and to the west of Cremation Burial 2 (see Chapter 3). One fragment of long bone (possibly tibia) was recovered from this context (2g, white in colour). From context (850), the secondary fill within large boundary ditch FG001, there was a fragment which could be definitively identified as human bone; a portion of left temporal bone (including mastoid process). An adult (possibly female) individual is represented by this bone (but does not increase the overall minimum number of individuals estimate). Possible human bone fragments were also recovered from five other contexts but in each case, due to the level of preservation, there is uncertainty around whether these were human or faunal fragments. The fragments came from various contexts. A possible human phalanx came from fill (736) <275> of large Phase 1 boundary ditch FG001. A possible scapula fragment came from primary fill (161) (<17>) of Phase 3 beamslot/gully [109] on the south side of Structural Area 3. Fill (320) <98> of elongated pit [319] in Phase 3 Pit Group 2 contained a long bone shaft fragment. Tooth roots were found in fill (352) <107> of pit [351] from Pit Group 2 and in fill (662) <241> of Phase 3 Well 1. All of these, except (161), contained other unidentifiable burnt bone fragments and most contained small quantities of faunal remains.

No bone fragments (burnt or otherwise) were recovered from the Possible Cremation Burial A [990] and Possible Burial C [634] and so these two features are not discussed further within the next section. However, Possible Cremation Burial B [582] is included below, due to the recovery of burnt bone that could be categorised by type (cranial, rib, long bone) and a human phalanx fragment.

Bone fragmentation, preservation and identification

Bone fragments with dimensions over 50mm were recovered but most were smaller than this. In general, bone was poorly preserved and friable. Most of the bone fragments that could be identified by element were recovered from the 10mm sieve fraction, but some were recovered from the 5mm and 2mm fractions also.

The amount of burnt bone that could be identified as human by bone element varied considerably between the cremation burials. For most, less than 10% of the burnt bone could be identified by element. For two heavily truncated burials (5 and 15) which contained damaged urns none of the bone was identifiable by element. This was also the case for Possible Burial B. However, for all burials that contained intact urns (2, 8, 10 and 11), a higher proportion of bone could be identified by element (22%, 14%, 40% and 16% respectively). These figures all increased when only urn contents were considered. Undoubtedly, bone within an undisturbed urn will have been better protected from degradation compared to unurned bone. A greater level of selection of identifiable elements from the pyre for placement within an urn may also have been a contributing factor. The intact cremation urns were also found to contain a relatively low proportion of unidentifiable fragments (31-54%) compared to the majority of cremation burials (most had unidentifiable proportions of >60%). Cremation Burials 2 and 10 were similar to each other (31% and 33%) whilst Cremation Burials 8 and 11 had greater proportions of unidentifiable bone (54% and 49%). Other burials from which relatively low proportions of unidentifiable bone fragments were recovered included Cremation Burials 4 and 14 (both 45%). This further strengthens the case in favour of these being unurned cremation deposits, with selective deposition of bone.

For all burials (1-19), all regions of the skeleton were represented (skull, axial and appendicular) even if bone was only able to be identified by type (cranial, axial and long bone), which was the case for Cremation Burials 5 and 15. Cranial and long bone fragments were recovered from Possible Burial B but only one axial fragment (rib, tentatively identified as human but which might be faunal).

With one of the largest quantities of bone recovered (1.5kg) and one of the lowest proportions of unidentified bone (approximately 500g, 33%) the burial with the most complete skeletal representation was Cremation Burial 2. Most elements, or groups of elements (such as vertebrae, ribs, hand or foot), were present. Scapula fragments were not found, and few skull bones were identified, although 52 cranial vault fragments (156g) were recovered. Hyoid, manubrium and sternum-body fragments were also identified. Each of spits two to five contained identifiable bone from all skeletal regions, except for spit five where any skull fragments were only able to be identified by type as 'cranial'. There was therefore a relatively even distribution of elements

within the urn, suggesting that the placing of human remains into the urn was not done in any particular anatomical order.

Demography

All of the cremation burials contained burnt bone that was consistent in size with adult remains. Most contained bone that was also consistent with adult remains in terms of skeletal maturity (fused epiphyses), (see below). There was clear evidence for the presence of two juvenile individuals (Cremation Burials 4 and 6). For these, age-at-death was able to be estimated relatively precisely, with consistency apparent across different bone elements (3-7 years and 12-14 years respectively). Although sex estimation is not generally possible for sub-adult remains, a tentative sex estimation was assigned (possible male) to the 12-14 year old based on femoral head size (approximately 40mm diameter, and taking into account some heat shrinkage).[1] For three burials (3, 6 and 17), bone that was tentatively identified as possibly human juvenile was also recovered. In these cases, it was not possible to estimate an age-at-death beyond the sub-adult assignment, except for a narrower range of 'younger than 12 years' for bone fragments from Cremation Burial 6, which indicates that a second younger individual may also have been present amongst the remains.

A conservative estimate of minimum number of individuals (MNI) represented across all the excavated cremation burials is six individuals (4 adults, 2 juveniles). This estimation was based on the petrous portion (including the internal auditory meatus) of the left temporal bone being the most numerous of any duplicated portions present. It also took into consideration, the juvenile age-at-death estimations (see also Chapter 3 and appendices 1 and 2). It did not take into account any adult age-at-death and sex estimations, nor the possible juveniles.

It was not possible to estimate age-at-death or sex for all burials. However, for some, age-at-death estimation and sex estimation were both attempted (1, 2, 10 and 17) and for others just sex estimation (8, 9, 11, 12). Each assignment is tentative due to incomplete preservation of features used as indicators of age and sex and uncertainties surrounding extent of heat-induced shrinkage. Nevertheless, it is proposed that the following adult individuals are represented; a possible female of 20-30 years of age (Cremation Burial 1), two possible females over 40 years (Cremation Burials 2 and 17), a possible female adult (Cremation Burial 11), a possible male approximately 35-40 years of age (Cremation Burial 10) and three possible male adults (Cremation Burials 8, 9 and 12), one 'older' (Cremation Burial 8) as well as a mature/'older' adult of indeterminate sex (Cremation Burial 19). Although no duplication of skeletal elements within a burial was apparent for any of the burials, two (8 and 12) contained a fragment of burnt bone that could each potentially represent a further individual, in addition to the male adult remains. In both cases, very tentative estimations of either female adult or late adolescent male individual were assigned based on frontal bone fragments. These findings suggest that at least four adult females and at least four adult males might be represented. The adult age estimation assignments of mature and 'older' for individuals represented by Cremation Burials 8 and 19 were based on the observations of degenerative joint changes evident on some bone fragments (see below).

It is plausible that each of the nineteen cremation burials and Possible Cremation Burial B contained skeletal remains of at least one unique individual. Therefore, the likely number of individuals represented could be deemed to be twenty (18 adults and 2 juveniles), possibly twenty-five (20 adults and 5 juveniles) when the potential additional individuals possibly represented by bone from some of the burials (3, 6, 8, 12 and 17) are also included.

When considering the total amount of burnt bone recovered from each cremation burial (excluding the <2mm sieve fractions), none of the values were greater than that expected for cremated remains from an adult individual.[2] This means that no multiple individual burials were apparent from evaluation of bone mass alone and this does not increase the likely number of individuals. Neither were any multiple individual burials identified through duplications of bone portions across different contexts within the same burial (see below).

However, the intercutting of Cremation Burial 7 by Cremation Burial 8 is suggestive of a combined burial, especially when the funerary nature of the two deposits (unurned and urned) and the osteological findings are considered. Although over 1.6kg of bone was recovered from Cremation Burial 7, most of this was not able to be identified by element or type. What was identifiable by element, did not duplicate any of the bone recovered from the urn or fill deposits of Cremation Burial 8 and it is plausible that the elements contained within burial 7 represent those that might be commonly missed when collecting bone from a pyre after cremation. Therefore, Cremation Burial 7 could possibly represent a pyre debris deposit of one individual whose remains were interred within the urn of Cremation Burial 8, possibly with remains of another individual (possible female). Although a tentative hypothesis, this scenario would reduce the likely number of individuals to twenty-four

[1] Chamberlain 1994: 11, Table 1.

[2] McKinley 1993.

(19 adults and 5 juveniles). These figures would also be reduced by one adult if, Possible Burial B represented pyre debris from one of the other excavated burials but not if, it represented pyre debris from cremation of an individual, some of whose remains were buried elsewhere. Unfortunately, it is not possible to determine which scenario applies.

Pathology

For most assemblages of cremated skeletal remains evidence for pathology is uncommon, or inconclusive. This is due to the fragmentary nature of burnt bone and the incomplete skeletal representation of individuals. The burnt bone recovered from the Cumbria House site fits this pattern, although some pathological lesions were observed.

Osteophytic new bone growth (lipping) was present on bone fragments from several burials (2, 8, 12, 15 and 19). This is indicative of degenerative joint disease of synovial joints. All lesions were slight and osteoarthritis could not be definitively diagnosed due to an absence of evidence of any eburnation, porosity, or joint contour change.[3] However, the results suggest each of the individuals exhibiting this pathology are all older individuals, corroborating age-at-death estimates by other means (see above). Bone elements affected included articular margins of femoral head (burial 8), femoral condyle (burial 2, 19) and phalanx (15), as well as on facets or centra of cervical (2, 12, 19), thoracic (2), and lumbar vertebral fragments (burial 2). For burials 2 and 8 these fragments were recovered from within the urn. No osteophytic lipping was found on bone fragments from Cremation Burial 10 but several fragments of vertebra (at least two thoracic) had evidence of Schmorl's nodes (superior and inferior surfaces of centrum) which are indicative of intervertebral disc disease.

A distal foot phalanx from Cremation Burial 8 exhibited trauma pathology in the form of a misaligned healed fracture (slight callus). A first distal foot phalanx from Cremation Burial 13 also exhibited evidence of a healed fracture with new bone growth on the distal end.

A fragment of distal tibia, from within the urn from Cremation Burial 2, had new bone growth and striations indicative of remodelled (healed/healing) periostitis (non-specific bone surface infection). This is a relatively common finding on archaeological human remains, especially on the tibia which has minimal soft tissue coverage and is prone to knocks and scrapes. Additional pathology was also observed for Cremation Burial 8, including cribra orbitalia and porotic hyperostosis (ectocranial surface), indicative of chronic anaemia (orbit porosity, active at time of death, cranial vault fragments).

Aspects of Cremation and Funerary Practice

The colour of burnt bone can provide some insight into cremation practice and the time and duration of burning. For all burials (urned and unurned), the bone was mostly white in colour. This is indicative of bone having been burnt at high temperatures over several hours and is consistent with cremation practice within the Roman period.[4] Variations in temperature within the pyre and with respect to the burning body inevitably result in some colour variations. Such variation was observed for all the burials discovered at the Cumbria House site. Some fragments were grey or black in colour and some were a mixture of colours. There were no apparent differences to these general trends with respect to deposit or context type, although any differences may have been obscured by the high proportion of damaged urns and/or truncated deposits. Nevertheless, bone does not seem to have been preferentially selected from the pyre on the basis of colour for its inclusion in any of the urns.

Mass values for the total amount of burnt bone within a grave (all contexts, excluding faunal remains) ranged from 73g (Cremation Burial 14) to 1833g (Cremation Burial 3) with an average (mean) of approximately 600g. Some of the lower quantities can be attributed to burials containing juvenile remains (Cremation Burials 4, 166g and 6, 496g). In general, the more disturbed/truncated burials tended to contain smaller amounts of bone. However, this was not always the case. This is demonstrated by the intact cremation urns. There was considerable variation in the amount of burnt bone contained in each of the intact urns. Two cremation burials (2 and 8) contained between approximately 1.2kg and 1.3kg, whereas the other two (10 and 11) contained much less, (662g and 118g respectively). This may in part be due to slightly smaller sized vessels (fewer spits) with respect to Cremation Burials 10 and 11. However, it perhaps also reflects the extent to which each was filled, at the time of burial. In the case of Cremation Burial 11 the deposition of stones around the urn may have been given greater significance than the collection of cremated bone. Given the size of the opening and neck of its urn, Cremation Burial 11 may also have only had bone contained within the urn at the time of burial, with the small quantity of bone recovered (5g, unidentifiable bone and tooth root fragments) from the single fill surrounding the urn and cobbles having possibly become dislodged from the urn over time. Only a rough approximation can be proposed without detailed consideration of urn shape and volume. Even so, values and proportions of mass of bone from each

[3] Waldron 2020: 84.

[4] Carroll 2019; McKinley 2015.

spit suggest that the urns from Cremation Burials 2 and 10 were proportionally filled to a greater extent than those from Cremation Burials 8 and 11.

In general, burnt bone was recovered from more than one context within a burial, whether that was from within an urn and at least one grave fill context, or from at least two grave fill contexts in the case of unurned deposits. As there were no duplications of identified bone portions across different contexts within the same burial and considering the level of disturbance of many burials, bone fragments within upper fill contexts are interpreted as intrusive and the result of context mixing at the time of disturbance rather than these contexts representing separate funerary deposits to the primary fills (and therefore possibly separate individuals).

Almost all the cremation burials, whether they were urned or unurned, contained burnt bone fragments within a dark/black coloured fill that contained pyre debris. These findings are suggestive that, although no pyre site was found, cremations took place nearby to this cemetery site. Possible exceptions to this are Cremation Burials 4, 5, 10 and possibly also 11. For these burials, there were no clearly apparent associated deposits of pyre debris, although burnt bone was recovered from at least one grave fill context as well as from within the urns. Whilst lack of a pyre debris deposit does not preclude a nearby location of the pyre, it increases the likelihood that the individuals represented by Cremation Burials 4, 5, 10 and possibly Cremation Burial 11 may have been cremated elsewhere.

Cremation Burial 1 (Phase 1) was clearly an urned burial with a pyre debris fill deposit, but it also had the highest proportion of unidentifiable bone. Although high proportions are to be expected in such cases, such a high figure is perhaps an indication that some of the identifiable bone was selected from the pyre and deposited elsewhere.

Cremation Burial 10 was unusual compared to the rest of the urned burials as only one fragment of burnt bone was recovered from outside the urn and this was from within one of the accessory vessels. This could not be identified as human by element or type and so it is not possible to determine whether this fragment represents an additional individual. The relatively small quantity of bone contained within the urn compared to that expected for an adult individual suggests that collection of remains from the pyre was selective, and the relatively low proportion of unidentifiable bone fragments (31%) is consistent with this.[5] The lack of bone within the surrounding grave fills is likely to be the result of the deposition of the urn and accessory vessels within a wooden chest, evidenced by the survival of fragments of iron brackets.

Most cremation burials contained burnt bone that could be clearly categorised as non-human (faunal) bone. When present, the quantity recovered varied between approximately 1g-100g. This included the Cremation Burials with intact urns, where most (2 and 8) or all (10 and 11) of the faunal bone was recovered from within the urn. The urns from Cremation Burials 2 and 10 only contained a few grams (7g and 3g respectively) whereas Cremation Burials 8 and 11 contained more (approximately 65g and 17g). When considering the total mass of bone recovered, the urn from Cremation Burial 11 contained proportionally more faunal bone compared to the other intact urns. Discovery of burnt faunal remains was not limited to urned deposits. The two unurned burials (3 and 7) contained 78g and 100g of burnt faunal bone. All burials where human juvenile remains (or possible juvenile remains) were found, also contained over 20g of non-human bone. There was no clear evidence of faunal remains apparent for burials 12, 14, and 19. However, these were all heavily truncated burials with <0.1m surviving depth and no pottery finds. Perhaps these represent simpler cremation and funerary practices but with the level of disturbance, it is not possible to make assertions to further substantiate such a hypothesis. Two burials which contained a few pottery sherds (13 and 16) also had a lack of faunal remains. There were no patterns apparent with respect to burial phase. The burial from Phase 1 and at least two burials from Phases 2 and 3, each contained over 50g of burnt faunal bone. These findings suggest that most of cremation events represented by this site, but not necessarily all of them, involved the inclusion of non-human remains on the pyre. In general, the burnt faunal bone could be categorised as originating from either small or medium-sized mammals. Where species was able to be identified, sheep or pig bones were found to be present, including juvenile sheep bones. Cremation Burials 3 and 4 contained both sheep and pig bones. Most regions of the skeleton (skull, axial, limb) were present amongst the faunal bone, suggesting perhaps that in some cases whole carcasses may have been placed on the pyre. Cremation Burial 10 was distinctive in being the only burial with burnt bone from a large mammal present (a vertebrae fragment).

Summary

Osteological analysis of the burnt bone from the Cumbria House site, despite the disturbance and truncation of many burials, has enabled some insight into the individuals represented, as well as the cremation and funerary rites which caused their survival as archaeological remains. Burnt bone was recovered from many features including cremation burials.

[5] McKinley 1993.

Table 4.1 Summary table of osteological findings for Cremation Burials 1-19 and Possible Cremation Burial B.

Deposit Type		Urned (intact or near intact)				Urned (damaged)				Unurned		Urned?		Unurned?							
Cremation Burial		2	8	10	11	1	5	9	15	3	7	6	17	4	13	16	12	14	18	19	B (Poss.)
Phase		2	2	2	2	1	2	2	2	2	2	2	3	2	2	3	2	2	3	3	2
MNI for Burial		1	1 +1?	1	1	1	1	1	1	1 +1?	1	1 +1?	1 +1?	1	1	1	1 +1?	1	1	1	1
Primary Individual	Sex Estimation	F?	M?	M?	F?	F?	Indet.	M?	Indet.	Indet.	Indet.	M?	F?	Indet.	Indet.	Indet.	M?	Indet.	Indet.	Indet.	Indet.
	Age Estimation (years)	40+	-	35 - 40	35 - 40	20 - 30	-	-	-	-	-	12 - 14	40 - 50	3 - 7	-	-	-	-	-	-	-
	Age Estimation (General Category)	OA?	OA?	OA?	MA	MA	A	A	A	A	A	J	MA	J	A	A	A	A	A	MA/OA?	A
Possible Individual	Sex Estimation	-	F?/M?	-	-	-	-	-	-	Indet.	-	Indet.	Indet.	-	-	-	F?/M?	-	-	-	-
	Age Estimation (years)	-	-	-	-	-	-	-	-	-	-	<12?	-	-	-	-	-	-	-	-	-
	Age Estimation (General Category)	OA?	A/AJ	-	-	-	-	-	-	J	-	J	J	-	-	-	A/AJ	-	-	-	-
Mass Values* (g)	Burnt Bone (Burial)	1551	1206	664	123	1022	398	116	157	1833	1616	548	725	166	264	96	439	73	431	579	129
	Burnt Bone (Burial) ID by Element	342.5	169	267	19.5	23	-	10	-	101	6.5	19.5	29.5	37	7.5	1.5	85.5	3.5	7.5	29	-
	Burnt Bone (Urn)	1342	1153	661.5	117.5	290	75	5	?												
	Burnt Bone (Urn) ID by Element	323	169	267	19.5	8	-	3	?												

*Mass values exclude burnt faunal remains. MNI = Minimum number of individuals. F? = possible female, M? = possible male, Indet. = sex indeterminate. A = adult, J = juvenile, OA = old adult, MA = mature adult, AJ = adolescent juvenile.

Much of the burnt bone was heavily fragmented and poorly preserved, as expected for a heavily disturbed site. However, a significant proportion of bone from the cremation burials could be identified by element or by type of bone. Analysis has demonstrated that all regions of the skeleton were generally represented within a burial.

A mixed population of adults (probably both males and females) and juveniles was buried within the cemetery, with a mixture of grave types including urned and unurned deposits, single and multiple burials and possibly, a combined burial. However, there was no apparent osteological indication that any age or sex characteristics were specific to particular burial rituals. Some evidence of the use of glass as a pyre good was found but this was limited. A 'possible burial' assignment for burial B must remain tentative as osteological evidence was not able to clarify beyond this.

The two distinctive cremation burials with many accessory vessels (2 and 10) both contained the highest proportions of bone that could be identified by element and the lowest proportions of bone that was unidentifiable. Whilst skeletal representation for Cremation Burial 2 was the most comprehensive, Cremation Burial 10 contained many identifiable fragments that are normally poorly preserved such as sphenoid and vertebral body fragments. Both age-at-death and sex estimations were able to be attempted for both burials and each burial contained one adult individual of at least 35 years, probably older. One probably represents a female (Cremation Burial 2) whilst the other likely represents a male individual (Cremation Burial 10). Bone from both burials exhibited evidence of degenerative joint disease.

Further discussion of the osteological findings with respect to other archaeological sites is provided in Chapter 6. Further details of the osteological results are provided in Chapter 3 and Appendix 2.

Chapter 5
The Roman Pottery

Andrew Peachey

Introduction

Excavations at 107-117 Botchergate recovered a total of 4184 sherds of Roman pottery weighing 111.276kg. The assemblage spans a relatively narrow chronological period from the late 1st to mid/late 2nd century AD, incorporating contrasting depositional patterns relating to both funerary and settlement activity on the site (Table 5.1). The most striking component of the assemblage comprised a series of cremations that included cinerary urns and accessory vessels, catalogued in Chapter 3, and discussed in further detail relative to technology and identity in this chapter. These account for 51.1% of the rim vessel estimated equivalent (R.EVE) within the assemblage, reflecting the fact that the funerary contexts contained vessels that were complete when deposited. Of the 12 cremations that incorporated ceramic vessels, two contained over 20 vessels each. Within these two large burial assemblages were groups of miniature votive vessels (or grave goods), as well as lamps, flagons, and cooking pots, which indicate the selection of so-called legionary-type pottery for use in the graves.

Methodology

The pottery was quantified by sherd count and weight (g), with fabrics analysed at x20 magnification and all data was entered into a Microsoft Excel spreadsheet that forms part of the site archive. Recording was undertaken following the *Standard for Pottery Studies in Archaeology*, which complements the guidelines of the Study Group for Roman Pottery.[1] Where possible, fabric types have been cross-referenced with the National Roman Fabric Reference Collection and published assemblages from Carlisle.[2] Local or indistinguishable coarse wares were assigned an alpha-numeric code and are fully described in the report, or referenced to major type sites/kiln groups in the area. Coarse ware form types were cross referenced where possible to two type series,[3] abbreviated as:

G.XXX Gillam (1968) – Types of Roman Coarse Pottery Vessels in Northern Britain

GAJ.XXX Gillam (1976) – Coarse Fumed Ware in Northern Britain and Beyond

The mortaria were catalogued by E. Hudak as part of the assessment report in 2018, and the data integrated with that for the whole Roman assemblage for the purposes of the research archive report. The primary mortaria fabric codes/descriptions were drawn from the Blackfriars Street, Carlisle assemblage.[4]

The samian ware was catalogued by J.M. Mills as part of the assessment report in 2018, and the data from that catalogue was integrated with that for the whole pottery assemblage for the purposes of the research archive report. At the assessment stage, significant decorated/stamped sherds and other pieces of intrinsic interest were selected for illustration (or rubbing), and where not included in this report are held in the site archive. Samian ware form types refer to the standardised form types/codes outlined by Webster, with figure types abbreviated as *O.XX*, after Oswald, and other motifs *R.XX*, after Rogers.[5] Potters' names and die numbers for the stamps are taken from the several volumes of *Names on Terra Sigillata*.[6]

The pottery fabrics are described below (Table 5.3) and the fabrics quantified in Table 5.4; with a catalogue of the pottery entered into a Microsoft Excel spreadsheet that forms part of the site archive.

The pattern of supply

The earliest pottery groups associated with settlement activity in Phases 1 and 2 comprise relatively sparse groups. These were contained within the fills of a large boundary ditch and with the bounding ditches and gullies of funerary enclosures and burial plots. The pattern of supply and consumption in these phases was dependent on Dorset black-burnished ware 1, with local coarse wares being influenced by that fabric. Modest quantities of samian ware, amphorae, and a limited number of fine ware beakers, all imported from the continent, indicate a chronology spanning the late 1st to early/mid-2nd centuries AD.

[1] Willis 2004; Barclay et al. 2016.
[2] Tomber R. and Dore, J. 1998; Hird et al. 2019.
[3] Gillam 1968; 1976.
[4] Hartley 1990.
[5] Oswald 1936–1937; Rogers 1974; Webster 1996.
[6] Hartley and Dickinson, B. M. 2008–2012.

Table *5.1* Quantification of Roman pottery by phase

Phase	Feature Group	Date	Sherd Count	Weight (g)	R.EVE
1	Settlement/occupation	Late 1st-Early/Mid 2nd c. AD	288	5084	5.29
	Cremations		68	463	0.25
2	Settlement/occupation	Late 1st-Early/Mid 2nd c. AD	150	3126	2090
	Cremations		519	17924	57.08
3	Settlement/occupation	Early-Mid 2nd c. AD	1664	54731	29.20
	Cremations		47	1126	1
4	All features	Mid 2nd c. AD	313	6802	2.15
5	All features	Mid-Late 2nd c. AD	391	6282	4
6	All features	Late 2nd c. AD	15	100	0
7	All features	Medieval	34	561	0.2
8	All features	Post-medieval	6	28	0
Unphased	All features	n/a	689	15049	12.17
Total			**4184**	**111276**	**114.24**

In Phase 3 there is a floruit of deposition in settlement plot boundaries, associated with surfaces, levelling deposits and buildings, with local coarse ware vessels becoming dominant over black-burnished ware 1. In these same contexts local mortaria, samian wares from central Gaul and amphorae from Baetica and Gaul have a distinctive presence that defines a chronology in the early-to-mid 2nd century AD. Residual material from Phases 1 and 2 may make up a significant proportion of the Phase 3 groups. The residuality noted in this and subsequent phases, however, does not appear to result to any significant degree from earlier funerary deposits being disturbed.

This pattern of supply and consumption appears to continue relatively unaltered in Phase 4, principally in mid-2nd century AD pit groups. This is also true in Phase 5 in a mid-to-late 2nd-century AD boundary ditch and pit group, albeit in reduced quantity, before activity appears to cease before or during the late 2nd century AD.

Samian ware accounts for 7.4% of the assemblage by sherd count (3.4% by weight) (Table 5.2). In general it is highly fragmented. It includes a modest component from south Gaul, notably Dr.18 platters and Dr.27 cups in Phase 1. The presence of these alongside Dr.15/17 platters and Dr.37 mould-decorated bowls in Phase 2 indicates a currency that was maintained into the initial decades of the early 2nd century AD. The bulk of the samian ware is from the super-industry of Lezoux, with only sparse, typically residual sherds from Les Martres-de-Veyre, although these include a Dr.27 cup bearing a graffito. The Lezoux samian ware is dominated by Dr.37 bowls, Dr.18/31 platters, with Dr.27 cups more common than Dr.33 cups, and Dr.31 dishes a negligible presence. This profile strongly supports the idea that activity declined dramatically in the mid-2nd century AD. This is also consistent with the virtual absence of

Table *5.2* Summary quantification of Roman fabric groups in the total assemblage

Fabric Group/Type	Sherd Count	Weight (g)	R.EVE
Samian ware	309	3810	5.07
Imported fine ware	68	630	4.57
Romano-British fine ware	35	215	0.65
Coarse reduced ware (CO RE)	1399	22655	21.46
Coarse oxidised ware (CO OX)	1107	21504	61.8
Dorset black-burnished ware 1 (DOR BB1)	567	9245	9.38
Coarse white ware (CO WH)	125	2332	2.37
Coarse oxidised white-slipped ware (CO OX WS)	98	2636	4.55
Other coarse ware	9	149	0.3
Amphorae	403	42468	1.55
Carlisle area mortaria	39	4356	2.06
Other mortaria	25	1276	0.48
Total	**4184**	**111276**	**114.24**

samian ware from east Gaul, whose major period of importation was yet to commence.

Fine wares were principally imported from the continent, and are almost entirely comprised of beakers. Most common are roughcast types from central Gaul produced in the 2nd century AD, although the presence of a white eggshell ware bowl and lamps from northern Italy is of intrinsic interest. Local fine wares appear to have included a low number of beakers. In a similar fashion to the samian ware, the material suggests a decline in activity in the mid-2nd century AD. For instance, vessels from the lower Nene Valley are rare, occurring in the latest deposits. This must be because of the lack of later activity on the site, which mitigated against the appearance of regionally traded Romano-British fine wares in greater quantity.

Although not as common as local coarse wares, Dorset black-burnished ware 1 was clearly the principal influence on local production of utilitarian jars and dishes. It accounts for 13.6% of the total assemblage by sherd count (8.3% by weight) (Table 5.2). Only a narrow range of utilitarian form types are present in black-burnished ware 1, principally cooking pots/jars with a flaring plain rim slightly narrower than the ovoid body, and dishes with a flat rim. This reflects the chronological focus of the assemblage on the first half of the 2nd century AD, if not slightly earlier.

The locally produced coarse reduced wares dominate the assemblage, accounting for 33.4% of the assemblage by sherd count (20.4% by weight) (Table 5.2). They are equally dominated by the same type of cooking pot as in black-burnished ware 1, albeit typically with a plain body. This is supplemented by jars with rusticated decoration, dishes with flat rims, bowls with reeded rims, and tall necks or imitations of samian ware Dr.37. Again this is a reflection of declining consumption following the early/mid-2nd century AD. Locally produced coarse oxidised wares, coarse white wares, coarse oxidised white-slipped wares appear to fulfil the same market niche in the assemblage, and collectively account for 31.8% of the assemblage by sherd count (23.8% by weight). However, in contrast to the coarse reduced wares, these fabrics appear to have had a specialist and dual focus. Firstly, they were used for the production of flagons, principally ring-neck types. These are common in the settlement deposits and also occur as accessory vessels in the cremations. Secondly, these fabrics were used for the production of votive vessels, including cups, shallow dishes, reed rim bowls with associated lids, beakers, jugs, paterae, and tazze. A single lamp is a surmoulage copy of an import from northern Italy. The occurrence of these forms is almost entirely limited to accessory vessels deposited in the cremation burials. Other coarse wares have a negligible presence in the assemblage, demonstrating that regionally traded wares from the Severn Valley, Verulamium and the production centres of black-burnished ware 2, did not make an impact on consumption at this site by the 2nd century AD.

Amphorae have a substantive presence in the assemblage (Table 5.2), which may be statistically over-stated due to large proportions of these bulky robust vessels being present in several layers and levelling deposits. Nevertheless, as one would expect, the bulk of the amphorae were imported from Baetica in southern Spain as containers for olive oil. The Baetican amphorae are entirely of the common Dressel 20 (P&W Class 25) type, with rim profiles consistent with their evolution in the Flavian to Trajanic period (late 1st/early 2nd century AD), supported by the presence of a partial workshop stamp on a handle that was not produced later than *c.* AD 130. The olive oil amphorae are supplemented by lesser quantities of Gaulish wine amphora likely produced in the Narbonne region of southern France, while sparse body sherds of amphorae from southern Italy are likely also derived from wine amphorae. Other specialist vessels in the form of mortaria are perhaps anomalously rare in the assemblage, accounting for just 1.5% of the assemblage by sherd count (5.1% by weight) (Table 5.2). This may reflect the character of consumption in the immediate vicinity of the site. The bulk of the mortaria present were produced in the Carlisle area, notably drooping flange types that were produced into the mid-2nd century AD. This dating is supported by the presence of four stamps representing two potters/workshops. Other regionally traded mortaria are rare, but a notable presence is a form type with a wide horizontal flange imported from north Gaul, potentially in the late 1st/early 2nd century AD.

Discussing the pattern of supply of pottery pertinent to the occupation deposits on the site, relative to the presence of the fabric groups above, and to the nuances of the form types explored in each fabric group below is slightly constrained by the narrow chronology of Phases 1-5. These span the late 1st to mid-2nd centuries AD with an apparent decline during the mid-2nd century AD.

The Roman fabric groups

A total of 42 fabric groups were identified (Table 5.3 & Table 5.4). This reflects both the substantial industry associated with the Carlisle (Eden Valley) area through the local production of coarse wares and mortaria, and the strong pattern of supply enabled by the military associations of an urban centre on the northern frontier. This manifested itself most notably through the supply of Dorset black-burnished ware 1, as well as samian

Table 5.3 Roman fabric codes and descriptions (after Hird 2019)

Fabric Code	Carlisle Code*	Fabric Name/Description
Samian ware		
LGF SA	n\a	La Graufesenque samian ware (Tomber & Dore 1998, 28)
LMV SA	n\a	Les Martres-de-Veyre samian ware (Tomber & Dore 1998, 30)
LEZ SA2	n\a	Lezoux samian ware 2 (Tomber & Dore 1998, 32)
ARG SA	n\a	Argonne samian ware (Tomber & Dore 1998, 34)
EG	n\a	East Gaulish samian ware; uncertain factory
Imported fine ware		
LYO CC	38	Lyon Ware (Tomber 7 Dore 1998, 59)
WH EGG	n\a	White 'eggshell' ware; likely (north) Italian; grey fabric with white slip (Symonds & Wade 1999, 242)
CNG CC1	35	Central Gaulish colour-coated ware; white body (Tomber & Dore 1998, 52)
CNG CC2	35	Central Gaulish colour-coated ware; cream/buff body (Tomber & Dore 1998, 53)
MOS BS	34	Moselkeramik black-slipped (Rhenish) ware, probably from Trier (Tomber & Dore 1998, 60)
LAMP	n\a	Lamp fabric; North Italian. Mid orange; inclusions of common-abundant very fine quartz (<0.1mm) with occasional red iron-rich grains (0.1-0.25mm). A hard smooth fabric.
Romano-British fine ware		
F OX	25	Fine oxidised ware. As CO OX but with few visible inclusions; likely a related local product.
LNV CC	21	Lower Nene Valley colour-coated ware (Tomber & Dore 1998, 118)
Coarse wares		
CO RE	11 (inc. 3)	Coarse reduced ware; local. Typically mid grey with a slightly contrasting paler/darker core; inclusions comprise common fine quartz (<0.1mm) with sparse polycrystalline grains (<0.5g), sparse dark grey/red-brown pellets/lens and occasional pale/grey/cream clay pellets (both typically <0.5mm occasionally to 1.5mm).
DOR BB1	1	Dorset black-burnished ware 1 (Tomber & Dore 1998, 127)
CO OX	12	Coarse oxidised ware; local. As CO RE, but oxidised orange, perhaps with slightly greater variation in degrees of coarseness from smooth to gritty.
CO WH	6?	Coarse white ware; local. As CO RE/CO OX but white, off-white to cream throughout.
CO OX WS	4	Coarse oxidised white-slipped ware; local. As CO OX but with a white/cream slip.
BB2	2	Black-burnished ware 2; uncertain production centre.
COO BB2	2	Cooling black-burnished ware 2 (Tomber & Dore 1998, 166)
SVW OX2	17	Severn Valley oxidised ware 2 (Tomber & Dore 1998, 149)
VER WH	64	Verulamium region white ware (Tomber & Dore 1998, 154)
Amphorae		
BAT AM1	202	Baetican (Early) amphorae 1 (Tomber & Dore 1998, 84)
BAT AM2	202	Baetican (Late) amphorae 2 (Tomber & Dore 1998, 85)
GAL AM1	200	Gaulish amphorae 1 (Tomber & Dore 1998, 93)
GAL AM2	299	Gaulish amphorae 1 (Tomber & Dore 1998, 94)
ITA AM2	n/a	Italian amphorae 1 (Tomber & Dore 1998, 97)
Mortaria		
CSA WS	301	Carlisle/Scalesceugh Area White-slipped Ware

Fabric Code	Carlisle Code*	Fabric Name/Description
F102	305?	Old Penrith (Carlise/Eden Valley area) . A very hard, coarse fabric, orange-brown in colour. Trituration grits are white quartz, black, and red-brown particles, and large golden flakes of mica (Hartley 1991a).
F602	n/a	Carlisle/Scalesceugh area. A very hard, fairly rough, sandy fabric which is creamy pink throughout. Trituration grits are sandstone, coarse sand and pebble (Hartley 1990).
F609	304?	Carlisle/Scalesceugh area. A very hard, slightly rough fabric which is buff throughout. Trituration grits are quartzite, quartz, sandstone, and distinctive large golden flakes of mica (*ibid.*). The examples in this assemblage are rather under fired with a thick grey core.
F610	n/a	Carlisle/Scalesceugh area. A very hard, slightly rough fabric that is light red throughout. Trituration grits are sandstone, coarse sand and pebble (*ibid.*).
F611	305?	Carlisle/Old Penrith area. A very hard, fairly smooth, and slightly micaceous fabric (*ibid.*). No trituration grits remain in the examples in the assemblage, only large voids.
NOG WH4	n/a	North Gaulish White Ware 4 (Tomber & Dore 1998, 75)
RHL WH	317	Rhineland White Ware (Tomber & Dore 1998, 78)
COR WH	n/a	Corbridge White Ware (Tomber & Dore 1998, 172)
HOL OX	n/a	Holt Oxidised Ware (Tomber & Dore 1998, 181)
LNV WH	328	Lower Nene Valley White Ware (Tomber & Dore 1998, 119)
LTC WH	339	Lincoln Technical College White Ware (Tomber & Dore 1998, 160)
MAH WH	324	Mancetter-Hartshill White ware (Tomber & Dore 1998, 189)
OXF RS	353	Oxford red-slipped ware (Tomber & Dore 1998, 177)
WRX RS	n/a	Wroxeter Red-slipped Ware (Tomber & Dore 1998, 179)

ware, continental fine ware and amphorae. Beyond these common fabric groups, other coarse wares, locally produced fine wares and regionally traded fine wares are relatively rare; although within individual phases several vessels are of intrinsic interest.

Discussion of fabric groups

Fine wares

Samian ware

The presence of samian ware in the assemblage is focused on settlement/occupation deposits across Phases 1-5 (Table 5.5). There is a single possible exception to this: a group of small burnt sherds in Cremation Burial 9 (308) that may represent pyre or re-deposited debris. Excluding all of the pottery in the cremations, the proportion of samian ware in the assemblage is 8.9% by sherd count (3.8% by weight), which is fairly typical for extra-mural occupation at military sites and urban centres.[7] In Phase 1, samian ware accounts for 12.8% of the pottery by sherd count (Figure 5.1 & Figure 5.2), comprising approximately equal proportions from south Gaul (LGF SA) and central Gaul (LEZ SA2 and a single sherd of LMV SA); falling to *c.* 5-7% in Phases 2-3, where LEZ SA2 dominates, with sparse LGF SA maintaining currency. In Phases 4 and 5, samian ware accounts for 11.1% and 16.1% respectively of the sherd count in each phase group, principally LEZ SA2, with other fabrics likely to be residual.

The limited presence of samian ware from south Gaul is consistent with the pattern at the Northern Lanes,[8] but in stark contrast to the groups recorded at the Millenium Project.[9] This potentially reflects the relative absence of Neronian to early Flavian activity on this site, also indicated by the paucity of Dr.29 bowls. Samian ware from Les Martres-de-Veyre is significantly less common than in the Northern Lanes and Millenium Project assemblages. This is perhaps more consistent with the 'Trajanic gap' in samian supply that has been observed at neighboring sites in Carlisle,[10] but could also be a reflection of sample size. The upsurge in activity noted in the samian ware at the Millenium Project, the Northern Lanes[11] and other sites in Carlisle appears evident at 107-117 Botchergate in the products of Lezoux, whose focus appears to span the Hadrianic to

[7] Willis 2005: 7.2.8 & Table 32.

[8] Wadeson 2019, 257.
[9] Ward 2009, 541.
[10] Ward 2009, 545.
[11] Wadeson 2019, 259.

Table 5.4 Quantification of Roman fabric types

Fabric group	Fabric type	Sherd Count	Weight (g)	R.EVE
Samian ware	LGF SA	77	708	1.13
	LMV SA	25	350	0.37
	LEZ SA2	204	2629	3.57
	ARG SA	1	83	0
	EG	2	40	0
Fine ware	LYO CC	14	16	0.05
	CNG CC1	25	273	1.25
	CNG CC2	14	70	0.27
	MOS BS	1	2	0
	WH EGG	12	62	1
	LAMP	2	207	2
	F OX	23	135	0.55
	LNV CC	12	80	0.1
Coarse ware	CO RE	1399	22655	21.46
	CO OX	1107	21504	61.8
	DOR BB1	567	9245	9.38
	CO WH	125	2332	2.37
	CO OX WS	98	2636	4.55
	BB2	5	67	0.12
	COO BB2	1	19	0.08
	SVW OX2	2	55	0
	VER WH	1	8	0.1
Amphorae	BAT AM1	211	23668	0.85
	BAT AM2	92	13317	0.6
	GAL AM1	67	2647	0.1
	GAL AM2	10	151	0
	ITA AM2	23	2685	0
Mortaria	CSA WS	16	3229	1.42
	F102	2	212	0
	F602	2	182	0
	F609	8	268	0.14
	F610	1	32	0.18
	F611	10	433	0.32
	COR WH	1	124	0
	HOL OX	1	91	0
	LNV WH	1	66	0
	LTC WH	2	33	0
	MAH WH	3	67	0.03
	OXF RS	1	4	0
	WRX RS	1	20	0
	NOG WH4	13	830	0.45
	RHL WH	2	41	0
Total		**4184**	**111276**	**114.24**

Table 5.5 Quantification by sherd count of fabric groups/types in phased features

Phase	Total	Samian ware	Imported fine ware	Romano-British fine ware	CO RE	CO OX	DOR BB1	CO WH	CO OX WS	Other coarse ware	Amphorae	Carlisle-area mortaria	Other mortaria
1	288	37	0	4	45	91	89	6	5	0	9	1	1
2	150	15	0	0	50	29	5	5	22	1	22	0	1
3	1664	101	20	15	629	368	198	39	28	3	243	15	5
4	313	35	2	1	126	68	45	4	1	0	30	1	0
5	391	63	4	8	150	78	42	5	4	2	21	10	4
6	15	0	1	0	2	2	7	1	2	0	0	0	0
Total	**2821**	**251**	**27**	**28**	**1002**	**636**	**386**	**60**	**62**	**6**	**325**	**27**	**11**

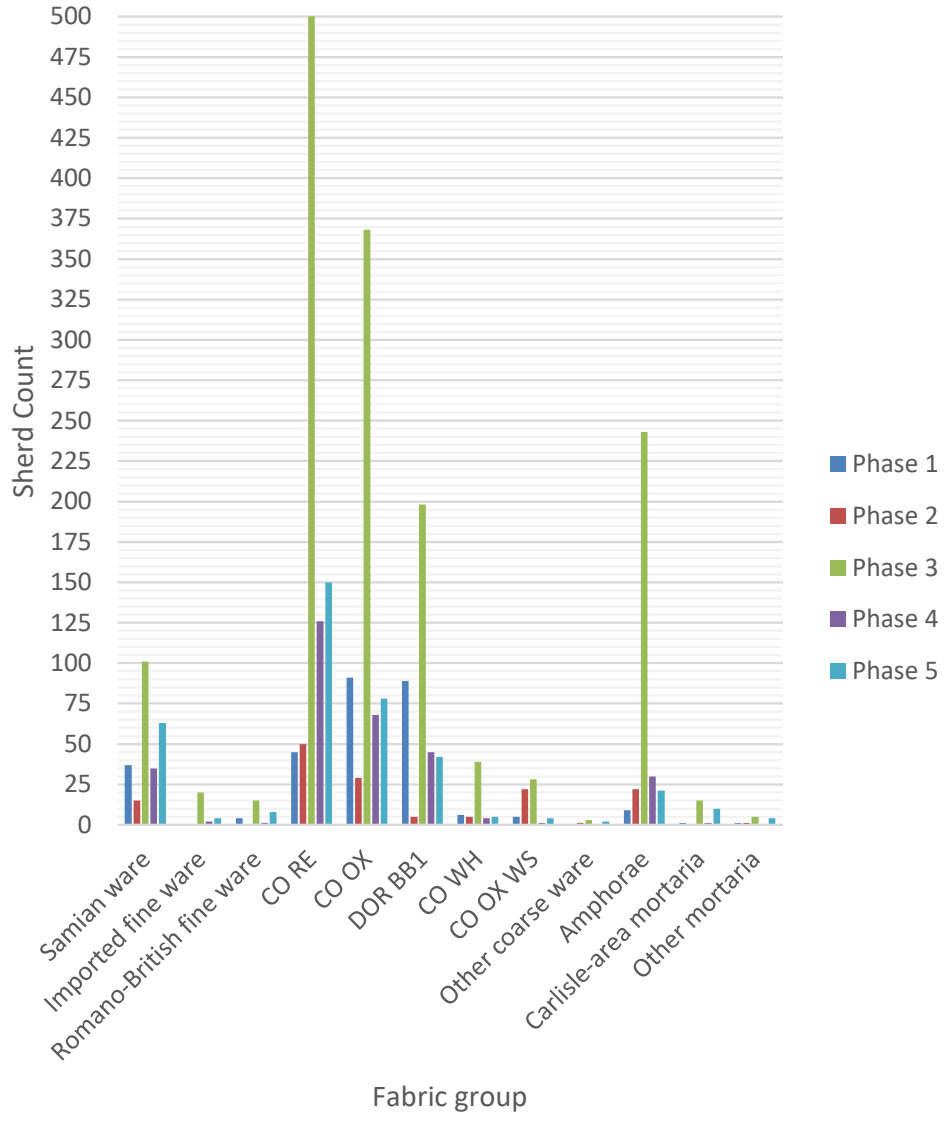

Figure 5.1 Fabric groups/types by sherd count in Phases 1-5

early/mid-Antonine periods, notable through potters such as Criciro, Cinnamus, Divixtus, Iullinus ii, Doeccus I and Mercator who are attested at the Millenium Project. It is also evident through a relative absence of plain ware forms produced after *c.* AD 160, such as Dr.31 dishes, with limited Dr.33 cups, both of which have a stronger presence in Antonine deposits at the Northern Lanes.[12] The very low quantities of samian ware from East Gaul, including Argonne, compare to the assemblage from the Millenium Project,[13] but contrast with the continued supply into the mid-to-late 2nd century AD evident at the Northern Lanes.[14] The samian ware deposition does not build up significantly before *c.* AD 85/90, if not *c.* AD 100. However, it does include scarce earlier pieces such as isolated Dr.29 bowls, and is dominated by Hadrianic to early/mid-Antonine potters from Lezoux, such as the Sacer i and Qunitilianus i groups, and Cinnamus, with lower than average proportions from East Gaul.[15] This pattern is more consistent with that observed at the Southern Lanes. It also corresponds with contemporary groups at the Northern Lanes[16] and appears more typical of sites in Carlisle, such as Castle Street and Blackfriars Street.[17]

[12] Wadeson 2019, 261–2.
[13] Ward 2009, 548–548.
[14] Wadeson 2019, 268.
[15] Dickinson, B. M. 2000, 136.
[16] Wadeson 2019, 267.
[17] Dickinson, B. M. 1990, 213.

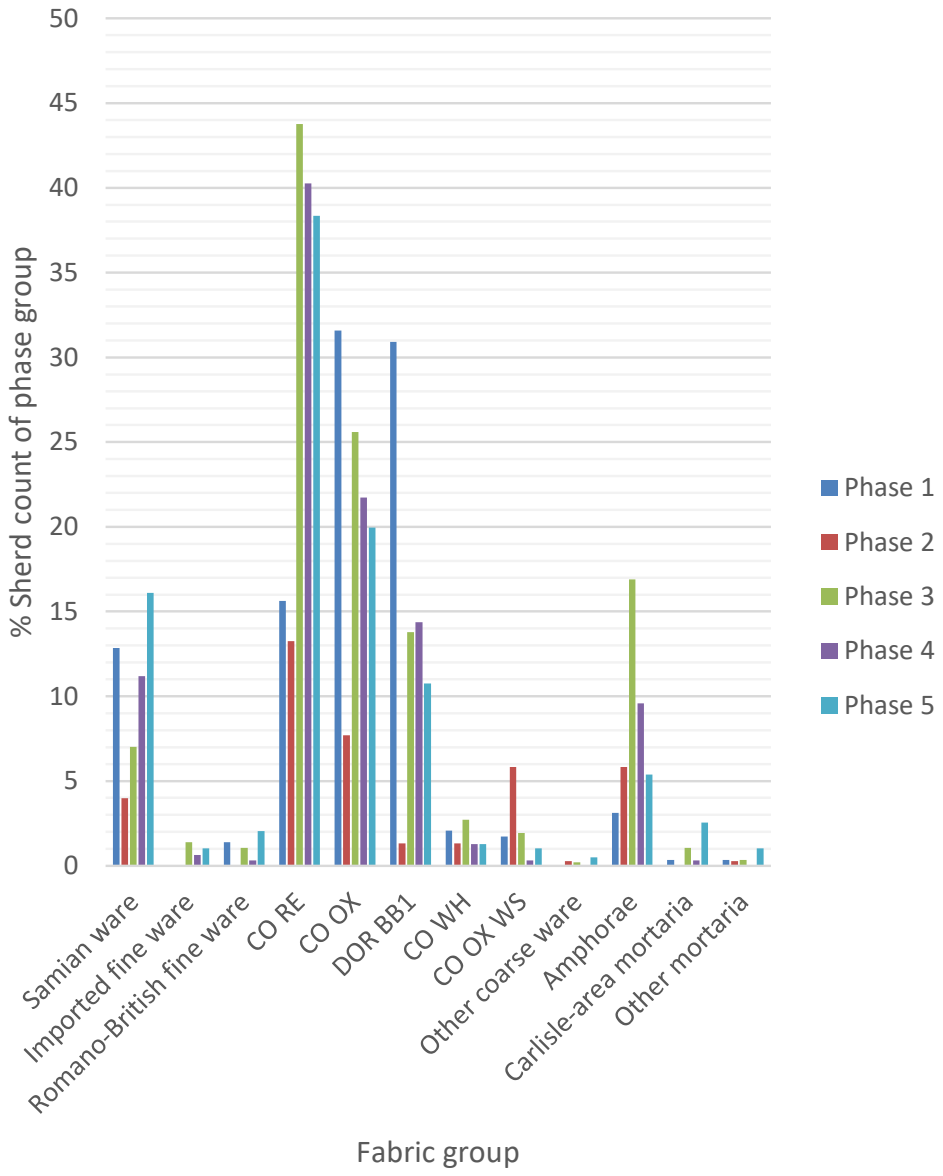

Figure *5.2* Fabric groups/types by %sherd count within each phase in Phases 1-5

Samian ware from south Gaul only occurs as products of the major industry at La Graufesenque (LGF SA), representing a minimum number of 50 vessels (R.EVE: 0.91) (Table 5.6). The LGF SA includes 13 mould-decorated bowls, generally limited to small body sherds with a limited extent of decorative detail/ovolo. Dr.29 and Dr.30 decorated bowls are rare (Table 5.6), possibly reflecting a chronology focussed more on the 2nd century AD, but the former includes a partial stamp of die 5a of Iucundus iii (*c.* AD 70-90) from silty spread (611), while the latter includes a body sherd with an abraded saltire from surface (424), both likely to be residual. The more common LGF SA Dr.37 bowls exhibit limited decorative details that suggest production spanning *c.* AD 70/80-100/110, notably parts of trident-tongue ovolos in levelling deposit DG003: (440), and body sherds with parts of a basal wreath and the edge of a panelled design including a saltire in gully FG002 and Cremation Burial 9 which may be in the style of Mercator (*c.* AD 80-110).

The LGF SA plain ware has an expected focus on Dr.15/17 or Dr.18 platters, Dr.18 platters and Dr.27 cups, including variants of each (Table 5.6), although even the potential presence of Dr.15/17 platters is based on basal sherds only, which when balanced with an absence of rim/wall sherds in comparison to those for Dr.18, makes their presence appear tenuous. At least 11 Dr.18 or Dr.18R platters were present in Phase 1, declining to six in Phase 2, and rare thereafter; while the Dr.27

cups include two in Phase 1 and four in Phase 2, notably including a burnt base stamped with die 1b of Quintio I (*c.* AD 60-85) in Cremation Burial 9. A further stamp: die 8c' of Sabinus iii (*c.* AD 50-80) of indeterminate form in Phase 1 boundary ditch FG001 may be the earliest piece of LGF SA; while of intrinsic interest was part of the aperture of a Ritterling 13 inkwell in Phase 4 pit PG003: [545]. In Britain, ink wells such as this are far more common on military sites, such as mid-1st century AD examples recorded in the early Roman Colonia at Colchester, Cirencester, Wall and Metchley, but a late 1st/early 2nd century AD example was also recorded at Blackfriars, Carlisle.[18] S. Willis has noted that ink wells are "very functionally specific and rare, and almost invariably associated with military sites and major civil centres, where they occur at or near fora and other sites of business. They have a highly structured distribution and imply the documentation of information for keeping over the long term (or long transit), and an investment of some wealth, owing to the relative expense of ink and the receiving medium, either vellum or papyrus."[19]

The varying consumption of LGF SA plain ware, including Dr.15/17 or 18 platters, Dr.18 platters and Dr.27 cups, and also a single Dr.37 decorated bowl is also highlighted in Cremation Burial 9 [307] where small sherds from these form types occur partially or wholly burnt, suggesting they may have been part of a funeral pyre. Cool and Leary found that samian was rarely present as a pyre good, but where it was present, it was noted in cremation deposits on sites with military associations, including at Brougham, *c.* 38km to the south of Carlisle.[20] However, the plain ware from south Gaul may pre-date the cremation slightly. There is an absence of samian ware amongst the votive vessels that were deliberately deposited in Cremation Burial 9. The non-samian broken vessels from this cremation pit do not display evidence of having been burnt, and perhaps most tellingly there are similarly burnt fragments of LGF SA in the preceding Phase 1 enclosure ditch FG001. It is perhaps more likely, therefore, that it was activity associated with deposition into this feature that produced the burnt sherds, although the possibility that samian was deliberately burnt on the pyre cannot be entirely discounted.

Samian ware from the early 2nd century AD production centre at Les Martres-de-Veyre (LMV SA) in central Gaul is relatively rare given the chronological focus of the assemblage accounting for only a minimum of 16 vessels (Table 5.6). LMV SA mould-decorated bowls are poorly represented but include, in Phase 4 pit PG003: [571], a Dr.37 rim sherd with a poorly impressed ovolo, probably *R.*B38, associated with Potter X-8 (*c.* AD 100-130). The bulk of the LMV SA is comprised of body and basal sherds of Dr.18/31 dishes, of which a only single dish is in Phase 1 boundary ditch FG001 appears in situ, although four further Dr.18/31 dishes in Phase 3 may have maintained a currency, while spread (686) associated with Well 1 contained a base stamped with die 2a of Reginus ii (*c.* AD 120-150), supporting a currency for the LMV SA dishes into the second quarter of the 2nd century AD alongside those common in LEZ SA2. The LMV SA plain ware also includes possible multiple examples of Dr.27 cups in ditch FG015. Although non-cross-joining, the possibility cannot be discounted that they derive from only one or two cups. Notable amongst these fragments in FG015 is a basal and lower body sherd stamped with die 1a of Ioenalis (*c.* AD 100-125), which exhibits a coarsely incised grafitto on the lower lobe of the double-curved wall (Figure 5.3).

The graffito reads LVCI . CVRAT[.], and was examined by Roger Tomlin:

> *Luci Curat[i] – '(Property) of Lucius Curatus'*
>
> *The L is made with a vertical stroke to which is attached, two-thirds down, a short diagonal downstroke. A is made with the usual two diagonals, the second of which is joined by a short diagonal, an incomplete cross-stroke, regarded as an 'early' form of the letter. Lucius is often a praenomen, but it would precede two names, a nomen and cognomen, and be abbreviated to L; here it is a nomen. This is quite frequent, a British example being Lucius Ursei(us) at Burgh-by-Sands nearby (RIB 2043). The cognomen Curatus ('cared-for') is also well attested; in Britain it occurs as the owner's name (CVRATI) on a pewter vessel in Suffolk (RIB II.2, 2417.3).*

Figure 5.3 Dr. 27 cup stamped with die 1a of Ioenalis and bearing an incised graffito.

[18] Willis 2005: 8.22-6 & database.
[19] Willis 2015.
[20] Cool and Leary 2012, 306.

Table 5.6 Quantification of samian ware form types by minimum number of vessels and R.EVE per fabric.

Vessel type	Form type	LGF SA		LMV SA		LEZ SA2		ARG SA/EG		Total	
		MNV	R.EVE	MNV	R.EVE	MNV	R.EVE	MNV	R.EVE	MNV	R.EVE
Mould decorated bowl	Dr.29	2	0	0	0	0	0	0	0	*2*	*0*
	Dr.30	1	0	0	0	2	0	0	0	*3*	*0*
	Dr.37	10	0.09	2	0.05	57	1.11	1	0	*70*	*1.25*
Platter	Dr.15/17 or 18	4	0	0	0	0	0	0	0	*4*	*0*
	Dr.15/17R or 18R	3	0	0	0	0	0	0	0	*3*	*0*
	Dr.18	13	0.48	0	0	0	0	0	0	*13*	*0.48*
	Dr.18 or 18R	3	0	0	0	0	0	0	0	*3*	*0*
	Dr.18R	1	0.04	0	0	0	0	0	0	*1*	*0.04*
Dish	Dr.18/31	1	0.05	9	0.16	11	0.11	0	0	*21*	*0.32*
	Dr.18/31 or 31	0	0	0	0	1	0	0	0	*1*	*0*
	Dr.18/31R	0	0	0	0	3	0.19	0	0	*3*	*0.19*
	Dr.18/31R or 31R	0	0	0	0	5	0.07	0	0	*5*	*0.07*
	Dr.31	0	0	0	0	3	0.08	0	0	*3*	*0.08*
	Dr.31R	0	0	0	0	1	0	0	0	*1*	*0*
	Curle 15	0	0	1	0	0	0	0	0	*1*	*0*
	Curle 23	0	0	0	0	1	0	0	0	*1*	*0*
Bowl	?Dr.36/Ritterling 12	1	0	0	0	0	0	0	0	*1*	*0*
	Dr.44	0	0	0	0	1	0.11	0	0	*1*	*0.11*
	Curle 11	0	0	0	0	5	0.57	0	0	*5*	*0.57*
Cup	Dr.27	5	0.2	3	0	13	0.84	0	0	*21*	*1.04*
	Dr.27g	2	0	0	0	0	0	0	0	*2*	*0*
	Dr.33	0	0	0	0	9	0.49	0	0	*9*	*0.49*
	Dr.33e	0	0	1	0	0	0	0	0	*1*	*0*
	Dr.35	1	0.05	0	0	0	0	0	0	*1*	*0.05*
	?Dr.35/36	0	0	0	0	1	0	0	0	*1*	*0*
Inkwell	Ritterling 13	1	0	0	0	0	0	0	0	*1*	*0*
Flagon	Unknown	0	0	0	0	1	0	0	0	*1*	*0*
Mortaria	Dr.45	0	0	0	0	0	0	1	0	*1*	*0*
Unknown	Indeterminate	2	0	0	0	4	0	0	0	*6*	*0*
Total		**50**	**0.91**	**16**	**0.21**	**118**	**3.57**	**2**	**0**	**186**	**4.69**

The dominant samian ware fabric is expectedly that from the super-industry at Lezoux (LEZ SA2), whose output throughout the 2nd century AD was prodigious, and after *c.* AD 120 saturated the British market. LEZ SA2 accounts for a minimum of 118 vessels in the assemblage, of which 57 were mould decorated bowls, albeit many represented by relatively small body sherds with limited decorative detail. The mould-decorated bowls include six Dr.37 bowls in Phase 1, entirely in boundary ditch FG001, only two examples in Phase 2,

Figure 5.4 Rubbings of decorated and stamped samian ware.

with the bulk (21 examples of Dr.37 and two of Dr.30) in Phase 3. Six and eight examples of Dr.37 were present in Phases 4 and 5 respectively, proportionate to the reduced quantity of pottery in those phases. Broadly considered, the LEZ SA2 decorated bowls appear focussed on a chronology spanning *c.* AD 120/125-165/170, with only three examples more typical of *c.* AD 160-190/200, although due to fragmentation and abrasion relatively few can be conclusively attributed to a potter. The Dr.30 bowls, both contained in Phase 3 Well 1 can be firmly attributed, and together appear to coincide on a date in the mid-2nd century AD, with one stamped with die 4a of Cetus (*c.* AD 125-140), and the other exhibiting a facing pair of seahorses (O.33 & O.48) with a bird below, and an intra-decoration mould stamp of die 1a of Butrio (*c.* AD 120-145) (Figure 5.4 no. 2)

The Dr.37 bowls In LEZ SA2 include multiple sherds quantified as separate vessels in different contexts, that nonetheless could represent single bowls by a particular potter or workshop; notably various bowls associated with Potter X-9, Drusus ii, Cinnamus and Divixtus. A single bowl assigned to Potter X-9 (formerly Medetus-Ranto-style) is represented by cross-joining sherds distributed in levelling deposit DG003: (440), clay deposit (658) and Well 1; collectively depicting a partial ovolo, wavy line border and opposing seahorses over an urn. These are from the same mould as a bowl illustrated by Stanfield & Simpson, assigned to the Hadrianic period (*c.* AD 115-135).[21] One extremity of the preserved extent of this decorative scheme is slightly burnt and the context is slightly removed from the Phase 2 cremations, further suggesting that the burning of any samian ware (see LGF SA, above) may be related to activity distinct from the funerary/pyre activity on the site. Also of Hadrianic date is the potter Drusus ii, whose bowls include, in boundary ditch FG001, the lower part of a decorative scheme incorporating a lion (*O.*1421) and vertical beaded borders with five-petalled rosettes (*R.*C278), separated by a plain line from mould signature MS1b of Drusus ii (Figure 5.4 no. 3), dated to *c.* AD 125-140 and paralleled at the kiln site in Lezoux (RGZM database: serial no.0013078).[22] A further Dr.37 bowl by Drusus ii was represented by cross-joining rim sherds from ditch FG011, which exhibit ovolo *R.*B15, a wavy line border, panther *O.*1520 and a large festoon (Figure 5.4 no. 6); while body sherds in ditch FG008 with maenad *O.*368, and in Phase 6 spread (187) with a repeating festoon *R.*F78 containing an indeterminate figure, alternating with trifid *R.*G89 in a panelled design, may also be attributable to Drusus ii though the relationship between sherds/vessels remains unclear.

Potentially contemporary or slightly later Dr.37 bowls, of Hadrianic to mid-Antonine date, are represented by bowls attributed to Cinnamus and Divixtus. Bowls of Cinnamus (*c.* AD 135-170) may be represented by

[21] Stanfield and Simpson 1958: pl.32.375.
[22] Dannell et al. 2023.

abraded ovolos (*R*.B144 & B223?) in pit PG006: [195] and Phase 3 cobbled surface DG0016: (685) respectively, although more conclusive is an ovolo used by Cinnamus associated with the figure of Perseus *O*.234 in post-Roman soil build-up (645). Soil build-up (645) also contained cross-joining body sherds with cobbled surface (424) in a fabric variant that is paler, browner and chalkier than those typical of Lezoux but exhibits a tree (variant of *R*.N4) that is associated with Cinnamus. The definition of bowls by Divixtus (*c*. AD 140-160) is slightly less clear, with several of the figure types identified also used by Criciro and Sacer, although the sherds in pit [545] from Pit Group 3 that exhibit a panelled design with a beaded border, small rosette termini and small medallions as filler around figures including a hare (*O*.2027), satyr (*O*.622) and indeterminate bird in a festoon appear to favour Divixtus. Small body sherds in soil build-up (645) with a hare (*O*.2057), and in boundary ditch FG001 with the edge of a bird in a winding scroll also appear typical of Divixtus' style.

Of the remaining LEZ SA2 Dr.37 bowls, only one further example can be conclusively attributable to a potter, while several others may be more tentatively assigned. Phase 6 silty sand spread (187) contained part of a panelled design, below which was the retrograde stamp of die 4a of Attianus ii (*c*. AD 120-145) (Figure 5.4 no. 1). The panelled design of beaded borders with rosette termini incorporated Diana with a deer (*O*.106) in one panel and a hound in an adjacent panel (*O*.1979). It is unclear if an abraded ovolo (*R*.B185) in boundary ditch FG015 may also be attributed to Attianus ii or Criciro, or this bowl. Further limited elements of contemporary Hadrianic to early Antonine panelled designs in the assemblage include a body sherd with hare (*R*.4041) of the Quintilianus-style in cobbled surface (310), and the rear of a lion from Hercules (*O*.796) possibly associated in levelling deposit (688). Partial abraded ovolos (*R*.B2/32?) in silty clay deposit (443) and Building 2's posthole [844] respectively may also be associated with Potter X-6. Ovolo *R*.B14 with a beaded border was found in pit/post-hole PG003: [515], possibly part of Building 4 and is most likely associated with Sacer.

In contrast to the bowls above, there is relatively limited evidence for mid-to-late Antonine (*c*. AD 160-190/200) LEZ SA2 Dr.37 bowls, potentially reflecting decline in consumption by, or during, the mid-2nd century AD. Pit [668] contained part of a crisp panelled design with beaded borders, plain round boss termini, stylized leaf (*R*.J127), dolphin (*O*.2393) and a caryatid (*O*.1199?) that may indicate the work of Iullinus ii or Doeccus; while an ovolo (*R*.B156) in boundary ditch FG015 was also used by Iullinus ii or Mercator, and the figure of a horse and rider (*O*.241) in pit PG003: [545] was used by numerous Antonine potters, but the presence of very small rosettes used to fill the corners of panels favors Advocisus.

The LEZ SA plain ware dishes are overwhelmingly dominated by Dr.18/31 or Dr.18/31R vessels over rare Dr.31 dishes, (Table 5.6), notably in Phase 3 with both being less common thereafter. Dr.31 dishes are also slightly less common than Curle 11 bowls, supporting a chronology in the early-to-mid 2nd century, with little consumption thereafter. Despite their relative popularity, maker's stamps on these dishes and bowls are rare, with the only legible stamp in Well 1 on a Dr.18/31 dish comprising die 1a of Vertecissa (*c*. AD 150-160), representing an earlier die used by this potter.[23] Further supporting a chronology in the early-to-mid/late 2nd century AD are similar proportions of Dr.27 and Dr.33 cups (Table 5.6). The bulk of the Dr.27 cups occur in Phase 3, while the bulk of the Dr.33 cups occur in Phase 4-5 deposits, though this does except a Dr.33 base in Phase 2 burnt material (854) stamped with die 2a of Caratillus/die 1a/b of Caratillus ii (*c*. AD 140-165/200). Furthermore, body sherds of a Dr.27 cup in cobbled surface (423) and Dr.33 cups in boundary ditch FG015 were burnt. It remains unclear if these were associated with funerary activity, or, as is more likely, with the many other coarse cooking vessels that exhibit sooting and are common in subsequent settlement deposits.

Although the LEZ SA2 plain ware does include occasional other form types of dish, bowl and cup (Table 5.6), these have a negligible presence. However, degrees of modification are notable amongst the LEZ SA2 vessels. In particular, the flanges of Curle 11 bowls, which include examples in Well 1 and cross-joining sherds in ditch FG011 and silty sand spread (482), appear to have been deliberately removed. The former was neatly filed down and the latter more roughly chipped away, possibly representing trimming following damage to the original flange to allow continued use. In contrast, two bases appear to have been trimmed to form circular objects that may have functioned as counters or weights, each *c*. 60mm in diameter. The first, from clay surface (396) was likely derived from a cup and has been roughly chipped to an even height around the circumference of the floor of the vessel. The second base, in pit PG003: [545] has been chipped down in the same manner but is an anomaly in terms of form type and may represent a rare type of closed vessel, with strong throwing marks on the unslipped interior, suggesting this may have formed part of a disc-necked flagon.[24] Without any diagnostic rim/body sherds, however, this remains conjecture. Such flagons were made at Lezoux in the second half of the 2nd century AD. They are not common and may have been used in public and domestic rituals, also occurring in burial contexts.[25]

[23] Hartley and Dickinson 2012, 210.
[24] i.e. Stanfield 1929, 68-69; Bet et al. 1989: fig.6.105.
[25] Bird 2013, 332 & 338.

Samian ware from east Gaul has a negligible presence (Table 5.4), reflecting the constraints of the chronology of activity on the site, which declines in the mid-2nd century AD, prior to the major period of importation from factories in that region. Nonetheless, products from Argonne are typically well-attested at Carlisle.[26] One body sherd from a Dr.37 bowl (Figure 5.4 no. 4), in boundary ditch FG001 was manufactured at Argonne (ARG SA) and is characteristic of bowls produced in the period *c.* AD 150-180. It exhibits a basal wreath of reverse C-shape leaves, above which are widely spaced festoons with long astragalus stops containing a small cockerel.[27] Between the festoons is a small crouching figure who is possibly playing a pipe, but remains unparalleled. Further sherds from an uncertain factory in east Gaul (EG), but likely also Argonne, were recovered in the form of a lion-headed mortarium spout present as un-stratified material. The pinkish fabric is highly calcareous with no visible mica and a good-quality orange-red slip, which Joanna Bird (pers.comm) has suggested as within the range but not typical of fabrics produced at Argonne. The lion-head spout (Figure 5.5) has a broad face, well-defined oval eyes and brows, and small ears with five tufts of the mane between. Such details have more in common with examples from Rheinzabern[28] and Argonne.[29] Although this spout is not exactly paralleled, a date of production in the late 2nd to early 3rd century AD appears appropriate. The earlier part of this range is more likely, if it is contemporary with the main period of pottery consumption on the site.

Other continental fine ware

Non-samian fine wares account for 2.5% of the assemblage by sherd count (<1% by weight), with two-thirds of this fine ware imported from the Continent. This accounts for a tightly focused range of beakers (Table 5.7), a rare bowl, and lamps from northern Italy. The earliest imported beaker appears to be in Lyon ware (LYO CC), with sherds from a single beaker with a cornice rim and roughcast body contained in Phase 2 Cremation Burial 9 [307] (308 & 309), although it is highly likely that this mid-1st century AD beaker,[30] often associated with military sites, pre-dates the cremation and has been incorporated in the backfill, potentially alongside small sherds from numerous vessels including samian ware from south Gaul (LGF SA). Isolated sherds of Lyon ware were recorded at the Millenium Project, potentially current into the mid-AD 80s.[31] Their presence in deposits at the Northern and Southern Lanes sites was interpreted as redeposition from the mid-to-late 1st-century AD fort, where the fabric was also recorded.[32]

Figure 5.5 Lion-headed mortarium spout.

The most common of the Continental fine wares were produced in central Gaul (CNG CC1 & CNG CC2) (Table 5.4), likely mirroring the major sources of samian ware (i.e. LEZ SA2) and travelling along, if not sharing, the same trade routes/merchants. These fine wares appear in sparse quantities in Phase 2, reach their floruit in Phase 3 and are rare thereafter. The only vessel that may not be contemporary with the common 2nd century AD samian ware is a CNG CC2 hemispherical cup with a small bead rim in Phase 5 ditch [113], typically pre-Flavian (mid-1st century AD) in date and often associated with military sites comparable to LYO CC, but in this context clearly re-deposited. The remaining CNG CC1 and CNG CC2 vessels comprise bag-shape beakers with a cornice rim and roughcast decoration over the body (Table 5.7). This is a type that appears no earlier than *c.* AD 110 and is most common through the mid-2nd century, but continues into the late 2nd/early 3rd centuries AD. The CNG CC1 includes a complete beaker of this type, placed as an accessory vessel in Cremation Burial 2 [824] (900), and thus represents the only vessel in that cremation that is definitively no earlier than the early 2nd century AD. Further rim sherds were present in Well 1 and ditch FG017, with a sparse scatter of roughcast body sherds in other Phase 2-4 features. The CNG CC2 beakers are of exactly the same form and include rim sherds in ditch [113], clay deposit (658) and Phase 6 silty sand spread (187), with sparse further roughcast body sherds in

[26] Ward 2009, 548.
[27] Ricken 1934, taf. XIII, 48, 51 & 52.
[28] e.g. Ward 2008, fig.9.9, 10 and 10a.
[29] Bird 1986, 2.211.
[30] cf. Greene 1979, 17–8.
[31] Swan et al. 2009, 597.
[32] Hird et al. 2019, 310.

Table 5.7 Quantification of form types in continental and Romano-British fine ware by minimum number of vessels (MNV) and R.EVE, excluding lamps (LAMP).

Vessel type	Form type	LYO CC		CNG CC1		CNG CC2		WH EGG		F OX		LNV CC		Total	
		MNV	R.EVE	MNV	R.EVE	MNV	R.EVE	MNV	R.EVE	MNV	R.EVE	MNV	R.EVE	MNV	R.EVE
Beaker	Cornice rim; roughcast body	2	0.05	7	1.25	8	0.27							17	1.57
	Cornice rim; rouletted body									7	0.30			7	0.30
	Other											4	0	4	0
Bowl	All types							1	1	3	0.10			4	1.10
Jar	All types									1	0.15			1	0.15
Lid	All types											1	0.1	1	0.1
Total		**2**	**0.05**	**7**	**1.25**	**8**	**0.27**	**1**	**1**	**11**	**0.55**	**5**	**0.1**	**34**	**3.22**

Phase 2 features. Intriguingly at the Northern Lanes, comparable and contemporary beakers are present, but principally sourced from north Gaul;[33] while beakers from central Gaul were more common at the Millenium Project, with bag-shape types generally Hadrianic in date and declining in the mid-2nd century AD.[34]

A single bowl in white eggshell ware (WH EGG) imported from northern Italy was approximately three-quarters complete and had been deposited in Phase 2 pit [654], possibly associated with Cremation Burial 6 (Figure 3.15). Cross-joining sherds from the remainder of the vessel were contained in Phase 3 beam slot or gully [642], which belonged to Building 4 and truncated both pit [654] and the cremation. The bowl has a distinctive profile with a slightly everted plain rim, shallow sinuous neck, parallel incised grooves demarcating the top and bottom of the mid-body, before it tapers to a narrow base; a profile that with slight variations in vessel diameter is characteristic of vessels imported from northern Italy.[35]

Amongst the cremation accessory vessels are two factory lamps (*Firmalampen*) imported from northern Italy, with a third lamp being a local copy. Both the imported lamps were manufactured in a comparable fabric (LAMP) that is consistent with manufacture near Modena (*Mutina*; Viale Reiter). One exhibits traits that suggest it was a primary product of a principal workshop. The other appears to be a copy made by surmoulage or over-moulding, a practice that was widespread in 'illegitimate' workshops in central and northern Italy. This would have happened even before originals or copies were themselves copied by legionary potters as they traversed the Roman Empire, as the example in CO OX, see below).

The lamp in Cremation Burial 9 [307] (309) is well-fired to a pale orange colour and exhibits a crisp stamp of FORTIS in a simple base ring (Figure 3.21),[36] one of the 'inventor group' of factory lamps in northern Italy, and the second-most attested workshop for factory lamps. This lamp is of Loeschcke type X with no handle, two unpierced lugs on the shoulder, an aperture slightly forward on the discus, and a narrow airhole pierced through the nozzle channel; traits associated with late 1st to early 2nd century AD examples of the type.[37] In slight contrast, the lamp in Cremation Burial 2 [824] (900) is equally well-fired but has a slightly mottled pale orange/grey finish. Although the general moulding is crisp, the maker's mark is a degenerate form of FORTIS, with poorly defined letters. This is indicative of it having been moulded from an impression of a lamp, not the original factory mould (Figure 3.7 & 3.8 no. 15), most probably in north Italy, although similar imitation production is also attested at Cologne. This lamp is of Loeschcke type iXa with a single ring handle, two unpierced lugs on the shoulder, and a closed discus with a central aperture. Although clearly functional, and retaining sufficient value to have been carried/traded to the northern frontier of Britain, it is intriguing that neither lamp exhibits any evidence of use (burning) around the nozzle or aperture. Their

[33] Hird et al. 2019, 340.
[34] Swan et al. 2009, 597.
[35] i.e. Symonds and Wade 1999, 242: fig.5.16.3.
[36] Bailey 1980, fig.106: Q1163.
[37] Bailey 1980, 283 & plate 52: Q1167 (type N).

value may therefore have been as symbolic objects rather than rare lighting devices. Such a role has been postulated in other areas of legionary activity, including along the frontiers of the Rhine and Danube where an unlit factory lamp and coin frequently formed part of a burial offering.[38]

Romano-British fine ware

Romano-British fine wares have a slightly uneven presence in the assemblage (Figure 5.1 & Figure 5.2), with locally produced fine oxidized ware (F OX) present in Phases 1-3. Low quantities of Lower Nene Valley colour-coated ware (LNV CC) were present from Phase 3, but mainly limited to Phase 5 deposits in the mid-to-late 2nd century AD, as Roman activity on the site appears to have been reaching its conclusion.

The F OX vessels are dominated by beakers (Table 5.7), likely as an imitation of those imported from central Gaul. These include at least two examples with cornice rims and bag-shaped bodies in soil build-up (107), consistent with production in the late 1st to early 2nd centuries AD. It remains uncertain if a slightly dished rim in boundary ditch FG001 is from a similar large beaker or small jar. The former seems likely, as all are united by the presence of rouletted decoration, which is also common on body sherds sparsely scattered in boundary ditches FG001, FG005, FG011 and Phase 6 soil build-up (804). The only exception to this pattern in F OX is in the Phase 3 clay foundation of Building 3 (369) and comprises a semi-hemispherical dish with a horizontal rim and upward-pointing bead. This is an imitation of samian ware form Dr.42, whose production may have continued into the mid-2nd century AD, coinciding with the chronological limits of Phase 3.

Rare sherds of Lower Nene Valley colour-coated ware (LNV CC) appear to have reached the site from the major production centre of *Durobrivae* in the fenland near Peterborough. However, despite the base of an LNV CC beaker occurring in Phase 3 linear FG018 belonging to Structural Area 1, it is doubtful the fabric was present prior to Phase 5. Even the mid-to-late 2nd century AD decline of activity on this site is before LNV CC achieves the substantial regional to national presence that emerges in the later Roman period. This presence is supported by the limited diagnostic sherds of LNV CC, which include body sherds of a folded beaker in Phase 5 ditch [113], of beakers with barbotine and rouletted decoration in both boundary ditch FG015 and silty sand deposit (893), all of which are consistent with a late 2nd to 3rd century AD date. A single LNV CC lid with an angular wall and rouletted exterior in Phase 5 pit PG007: [788] also concurs with this currency.[39]

Coarse wares

Dorset black-burnished ware 1

The most influential coarse ware in the assemblage is the regionally traded Dorset-black-burnished ware 1 (DOR BB1), which accounts for only 13.6% of the assemblage by sherd count (8.3% by weight) (Table 5.4), but was a significant component of the supply of good quality culinary vessels, and possibly also salt-containing vessels to the army stationed on the northern frontier from the reign of Hadrian and throughout the 2nd century AD. DOR BB1 has a general distribution that is not typically 'rational', with hotspots focused on specific functional consumers. The military was notably one such consumer and was very likely supplied by contract.[40] An epiphenomenon of this mechanism was that the more numerous locally produced coarse wares (CO RE and CO OX) sought to emulate the form types that arrived in DOR BB1 fabric. They were thus able to claim a market share of the valuable economy derived from the military occupants, their dependents and associates, or simply aspired to copy the mannerisms of their lifestyles, including cooking methods.

DOR BB1 has a substantive proportional presence in Phase 1 (Table 5.5), almost entirely in large enclosure ditch FG001, consistent with that feature remaining open into at least the early 2nd century AD (post *c.* AD 120). This is potentially highly significant in the chronological framework of the site, as DOR BB1 does not have a real impact in assemblages from the Southern and Northern Lanes until the early/mid-2nd century AD.[41] However, in terms of raw quantity DOR BB1 increases to a floruit in Phase 3, reflecting the transformations of supply to the northern frontier in the Hadrianic to early Antonine periods (mid-2nd century AD) and maintaining a consistent proportional presence in Phases 4 and 5, prior to the decline of activity on the site (Table 5.5).

The form types in DOR BB1 have a strong focus on one variant of dish with a flat rim and one variant of jar/cooking pot with flaring plain rim (Table 5.8). The nuances of examples of both types support a floruit of DOR BB1 consumption on the site in the early-to-mid 2nd century AD, and compare closely with Period 7-8A of this date at the Northern Lanes.[42] The DOR BB1 dishes with a flat rim correspond to *GAJ40/57*, with the most common variants exhibiting burnished lattice decoration. Examples were found in boundary ditch FG001 (x2), a beamslot of Building 4, pit PG005: [668], Well 1 (x2) and associated spread (746). Variants decorated with burnished intersecting wavy lines are

[38] Chrzanovski 2020, 247.
[39] Perrin 1999, 99: vessels 208-9.
[40] Gerrard 2008, 117.
[41] Hird 2000, 134.
[42] Hird et al. 2019, 308–9.

also common, including in boundary ditches FG001, FG015, Well 1 (x2] and ditch FG012. Variants decorated with burnished intersecting arcs, or a simple wavy line, remain rare. These are limited to examples in a spread associated with Well 1: (686) and pit PG005: [668] respectively. Perhaps, intriguingly, of the 20 examples of this type of dish, only four exhibited any sooting on their exterior, consistent with use over a range or hearth as a cooking vessel. This suggests the function of these dishes on this site was more typically as an eating vessel. In the mid-2nd century AD the dishes with flat rims were supplemented by low quantities of dishes with grooved rims and burnished lattice decoration that conform to *GAJ52*, including examples in boundary ditch FG001, ditches FG004, FG011 and soil build-up (107). These cannot be differentiated by phase and exhibit a similar scarcity of soot. Conversely, from Phase 5, two different types of dish appear in low numbers, which were not manufactured prior to the late 2nd century AD. The former is shallow with a slightly incurving plain rim, and typically decorated with burnished intersecting arcs, conforming with *G329*, including examples in boundary ditches FG015 & [113], post-abandonment soil build-up layers (107) and (611). While rare, dishes or bowls with a small bead level with the flange, conforming to *GAJ42* were present in pit PG007: [202]=[230] and soil build-up (107).

A total of 36 DOR BB1 jars were identified through the presence of rim sherds, and in contrast to the DOR BB1 dishes approximately half exhibited sooting or burning on their exteriors consistent with being used as cooking vessels, although further body sherds suggest the presence of both DOR BB1 jars and the incidence of sooting may be underestimated. The DOR BB1 jars exhibit a relatively consistent profile, with 33 of the 36 having flaring plain rims that are slightly narrower than the ovoid body. The remaining three examples exhibit a stubbly plain rim (Table 5.8). The most common variant within these jars, particularly consistent with manufacture in the early-to-mid 2nd century AD, has a burnished wavy line on the exterior of the rim with burnished lattice on the body, consistent with *GAJ1*.

One of these vessels was used as an urn in Cremation Burial 10 (Figure 3.25 & 3.26 no. 1), with other examples in boundary ditches FG015, FG004, FG011 (x2), Building 4 beam slot [642] (x2) and spread (640) which it cut through, Well 1, pit PG005: [905], cobbled surfaces (423) and (424) to the west of Buildings 2 and 3, and post-Roman soil build-up (804) (x2). Less common are DOR BB1 jars with the same flaring plain rim but with decoration (burnished lattice) only on the body (Table 5.8), consistent with *GAJ5*, notably examples in boundary ditches FG001, FG011, Well 1, Phase 3 clay deposit (658) associated with Building 3 and post-Roman soil build-up (107); while numerous further examples are too fragmented to ascertain what decoration if any was present, and although these could conceivably have a currency throughout the 2nd century AD, they are more likely to have been contemporary with those well-defined as early-to-mid 2nd century in date. The latter also include DOR BB1 jars with a stubby plain everted rim and plain burnished exterior, comparable to *GAJ16*, with examples in funerary enclosure ditch FG009, Well 1 and associated spread (746). It is conceivable that these rare jars may have had handles, although the example of a DOR BB1 short-curved handle in boundary ditch FG001 appears more likely to have formed part of a mug or tankard with burnished lattice decoration on the exterior.

Locally produced coarse reduced wares

The most common of the coarse wares were the locally produced coarse reduced wares (CO RE). Three kilns sites are known to have been operating in the Carlisle area in the mid-1st and 2nd centuries AD: Fisher Street, Carlisle, Scalesceugh in the Petteril Valley, and Brampton to the east.[43] However, the products of these (both reduced and oxidized) have not been subject to detailed petrological investigation. Further kilns sites associated with both the military-works depot and urban centre are suspected. The CO RE fabric generally exhibits a remarkable lack of variation in coarseness or inclusions, in line with ubiquitous local resources and kiln firing technology. Possible exceptions are a ring-and-dot beaker from Cremation Burial 9 and a micaceous jar in pit PG007: [202]=[230]/post-Roman soil build-up (107), which may have more diverse origins. CO RE accounts for 33.4% of the assemblage by sherd count (20.4% by weight) (Table 5.4). It is the dominant fabric type in Phases 2-5, with a notable spike in raw quantity in Phase 3 (Table 5.5). The bulk of the CO RE vessels are jars, principally those imitating the common variants (cooking pots) in DOR BB1. These are supplemented by sparse local rusticated types and generic Roman utilitarian types with everted bead rims. Bowls slightly outcompete dishes. Other utilitarian types include lids and cheese presses (Table 5.8).

Of the 89 CO RE jars classified by rim sherd, at least 53 are of the same type that is common in DOR BB1, with a flaring plain rim that is slightly narrower than the ovoid body. The production of such jars or cooking pots was particularly notable in the Brampton kilns up to the Hadrianic period,[44] but by no means exclusive to them. In contrast to the DOR BB1, the bulk of these CO RE jars appear undecorated. Examples were found in boundary ditch FG011 and a Phase 2 pit [654] that was possibly associated with Cremation Burial 6. One was used as a cremation urn in Cremation Burial 1

[43] Swan et al. 2009, 590.
[44] Swan et al. 2009, 591.

(Figure 3.4), decorated with burnished lattice on the body. These common CO RE jars also exhibit a reduced incidence of sooting, with only approximately 20% having soot on their rim or body. This may be due to higher levels of fragmentation, especially of rims. Nonetheless, the dominance of these jars is consistent with local production in the late 1st to 2nd centuries AD, probably not exceeding the early/mid-2nd century AD and reflecting their paucity in deposits later than Phase 3 where they are likely to be residual. Such a chronological focus within the CO RE jars is supported by the presence of distinctive jars with a short plain or small bead rim above a plain shoulder, two shoulder grooves and a mid-body zone decorated with vertical/linear rusticated lines. These attributes correspond to *G94*, which had a limited currency in the late 1st to early 2nd centuries AD, and at the Northern Lanes was observed to be residual after *c*. AD 130.[45] This type of jar included examples in boundary ditches FG005, FG011, pit PG005: [646], Well 1, levelling deposit DG003: (440) (x2), post-Roman soil build-up (107)/(804), and Phase 3 burnt-spread sealing FG005. However, the extensive scatter of body sherds with comparable rusticated decoration in Phase 2-3 deposits suggests they may be under-represented, and may also have had a higher incidence of external sooting than their CO RE counterparts that were imitating DOR BB1 types.

The remaining CO RE jars that are not imitations of DOR BB1 types or 'rustic' jars are fairly generic across Roman assemblages in this region and beyond. They demonstrate relatively little consistency beyond offering no indication of consumption exceeding the early/mid-2nd century AD. Of those with an everted plain rim, only one has a plain shoulder cordon. This was found in [745], the circular foundation trench of Building 2. Examples from Phase 3 from surface (279), spread (686) associated with Well 1, and post-Roman soil build-up (804) have distinctive short necks, while those found in boundary ditches FG001, FG011 and sandy silt spread (397) have sinuous profiles. The bulk of the jars with everted bead rims are represented by small rim fragments only, though examples in boundary ditch FG001, burnt material (854), soil build-up (107) and (804) have offset necks typical of early Roman types. So does a single jar represented by fragments distributed in pit PG007: [202]=[230] and soil build-up (107), which is distinctive for having a micaceous fabric indicative of an alternative or non-local clay source. The final type of jar present on CO RE has an everted lid-seated rim with a groove on top and is contemporary in the late 1st/early 2nd century AD, however it remains uncertain if non-cross-joining rim fragments in ditch FG004, pit PG007: [788] and silty spread (746) associated with Well 1 are actually from a single vessel. Nonetheless, the form type appears to be a rare outlier.

Open vessels in CO RE are dominated by bowls, which are approximately twice as common as dishes, but neither can be considered common compared to the incidence of dishes in DOR BB1 (Table 5.8), suggesting there was not the same demand for them as vessels for food consumption. The CO RE bowls include examples that imitate mould decorated types in samian ware, including copies of Dr.37 bowls in Building 2's circular foundation cut [841] and soil build-up (843). These are decorated with incised, narrow vertical comb strokes. Copies of Dr.29 in the same foundation cut [841], levelling deposit DG003: (440) and soil build-up (645) exhibit a decorated zone filled with rouletting. Also relatively common amongst the CO RE bowls, are examples with a reeded rim on a vertical wall above a mid-body carination (Table 5.8). This is typical of types manufactured in the late 1st to early/mid-2nd centuries AD and consistent with their presence in Phase 2 and 3 deposits. Examples were found in Well 1 (x2), pit [654] and ditch FG011. It is likely that flat rims found in ditch FG018 and pit PG007: [788] were derived from comparable profile bowls. A further bowl appears distinctive to CO RE and has a tall shallow neck with a slightly flaring plain rim, with examples in Well 1 (x2) and pit PG007: [788], although as with other non-cross-joining sherds it remains conceivable that these could be derived from a single vessel. The sparse CO RE dishes appear dominated by copies of the flat rim types common in DOR BB1 (Table 5.8), albeit without any decoration, found in boundary ditch FG011, Building 3's circular foundation trench [683], burnt material (854), levelling deposit (913) and soil build-up (804). Rare CO RE dishes with rounded bead rims in ditch [113] and soil build-up (107) perhaps have more in common with 2nd century AD types copied from black-burnished ware 2, which has a rare presence in the assemblage.

Further utilitarian form types in CO RE comprise cheese presses and lids, whose rim diameter corresponds more closely to the bowls and dishes than the jars (typically *c*. 18-20cm), suggesting a complimentary function that is also mirrored by the miniature bowls and lids recorded (in fabric CO OX) within the cremation groups (see below). Only one cheese press, in Well 1, was recorded with an extant plain rim. Sparse other basal fragments were present, notably in pit PG005: [659], where at least three concentric ridges were preserved on the interior, with narrow perforations in the troughs in between. Examples of cheese presses (i.e. G350) have been dated from the mid-2nd century AD onwards, and are present here in Phases 3 and 4, where a date in the second quarter of the 2nd century AD would be appropriate. The lids appear functional and utilitarian, with little consistency to profile or finish, and are often relatively crudely finished with slightly uneven knobs on top that exhibit string marks from where they were cut from the potter's wheel. The lids vary from examples with

[45] Hird et al. 2019, 339.

a shallow splayed profile in ditches FG004, FG006 and Building 3's foundation trench [683], to domed profiles that range from a high arch in levelling deposit DG003: (440) to a shallow arch in soil build-up (843), with a more even arc in levelling deposit DG003: (440) and soil build-up (804), while a single example in spread (686) associated with Well 1 had an upward pointing triangular bead rim.

With the exception of the CO RE bowls that imitate samian ware Dr.29/37, the impression of the CO RE vessels is generally one of very utilitarian nature potentially focused on kitchen and storage processes, although the presence of sparse beakers and rare flagons (Table 5.8) suggests a degree of use as utilitarian table ware, which may also have been shared by some dishes. CO RE beakers intended as drinking vessels (i.e. not placed in a cremation group) appear limited to types with a poorly defined or devolved cornice rim and plain globular body typical of the late 1st/early 2nd centuries AD, including in ditch FG004 and cobbled surface (685), with a small example also deposited in Cremation Burial 18 [470], although CO RE body sherds with circular indentations suggest folded bodies may also have been associated with this type.

Two beakers in cremations no.8 and no.9 were clearly selected as votive goods and appear to have more investment in their aesthetics. That in Cremation Burial 9 [307] (Figure 3.21) has a similar devolved cornice rim, and is of comparable size to those intended as drinking vessels, but is enhanced with judder-rouletted decoration on the body. Nonetheless, it appears to have been a local product and is comparable to early/mid-2nd century AD beakers recorded at the Millenium Project, Carlisle[46] and at Old Penrith.[47] By contrast, a large beaker in Cremation Burial 8 [624] (Figure 3.18) has a slightly finer and more micaceous fabric than is typical of CO RE. This, combined with its decorative style, may suggest it was brought to Carlisle from an un-provenanced origin, although similar to votive vessels in CO OX it may represent a specialist batch of a local potter, with a comparable fabric recorded in the Northern Lanes, Carlisle assemblage.[48] The beaker is typical of 'ring-and-dot' types that proliferate across early Roman Britain in the mid-to-late 1st century AD before declining sharply in the early 2nd century AD,[49] and has a short everted plain rim with an ovoid body decorated with alternating vertical zones of barbotine rings and panels of dots.

The presence of CO RE flagons that may complement the beakers in the repertoire of table ware or kitchen vessels is very limited compared to those clearly favored in CO OX. A contrast in form of the CO RE example in ditch FG012 may suggest an alternative function from the more common wine/water container, perhaps more akin to a handled flask for oil or vinegar. The CO RE flagon has a small triangular bead rim on a pear-shaped body, with a 3-rib strap handle that rises from the neck to be level with the rim before curving down to the shoulder, consistent with the late 1st/early 2nd century AD *G23*, and pointedly different from the ring-necks and globular bodies that dominate in the CO OX form types.

Locally produced coarse oxidized wares

There is no doubt that both the common coarse oxidized and reduced coarse ware fabrics were produced in local kilns, with closely comparable oxidized fabric variants particularly notable in the Fisher Street kilns (Kiln Fabrics 1 & 4).[50] However, the contrast in function between CO OX and CO RE is highlighted by two factors. Firstly, the deliberate production and selection of specific and niche CO OX vessels for placement in cremation groups, likely done to order by a military affiliated potter to provide 'legionary-type' vessels. Secondly, the lack of general correlation with vessel types in CO RE that suggests CO OX was principally produced for flagons (Table 5.8). CO OX has a significant presence in the assemblage, accounting for 26.5% of the assemblage by sherd count (19.3% by weight), slightly over-represented due to its prevalence in cremation groups, where the presence of so many complete vessels results in a highly skewed R.EVE value (Table 5.4). Nonetheless, excluding the vessels in cremation groups, CO OX accounts for approximately 20% of the pottery in Phases 1-5 (Table 5.5), principally as flagons, suggesting these vessels associated with serving and drinking were a vital component of pottery consumption in the late 1st to mid-2nd century AD occupation of the site. Within the cremation groups, CO OX is the most common fabric used to manufacture a suite of votive, miniature vessels that would have been specifically commissioned for the purpose. In this fabric are flagons and notably, in the complex, richly furnished cremations no.2 and no.10, a distinctive repertoire of cups and dishes that are commensurate with 'legionary-type' ware, as well as jugs, patera and handled bowls that imitate types made in bronze, and a lamp copied locally from factory lamps imported from Italy. The range of CO OX vessels appears more commensurate with the products of the Fisher Street kilns, a significant part of the output from which was flagons, mortaria, table wares and special items for use in the fort, with little emphasis on cooking wares and including miniature vessels.[51]

[46] Swan et al. 2009, 634: fig.313.254/5.
[47] Austen 1991, 141: fig.60.249.
[48] Hird et al. 2019, 343: fabric 47.
[49] Davies et al. 1994, 143: fig.120.779.
[50] Johnson et al. 2012, 114.
[51] Swan et al. 2009, 594; Johnson et al. 2012, 122: fig. 16.40.

Table 5.8 Quantification of vessel types in coarse ware by minimum number of vessels (MNV) and R.EVE.

Vessel type	Form type	CO RE		CO OX		DOR BB1		CO WH		CO OX WS		Other (non-local)		Total	
		MNV	R.EVE	MNV	R.EVE	MNV	R.EVE	MNV	R.EVE	MNV	R.EVE	MNV	R.EVE	MNV	R.EVE
Beaker	\	8	3.5	4	2.3									12	5.8
Cup	\			16	16									16	16
Tankard/ Mug	\					1	0							1	0
Bowl	Dr.29/37 imitation	5	0.42	4	0.55									9	0.97
	Flat/flanged rim	2	0.2	1	0.6	2	0.1	2	0.07			1	0.07	8	1.04
	Reeded rim	5	0.9	3	2.15			3	0.3					11	3.35
	Tall-necked	3	0.5	1	0.1									4	0.6
	Campanulate			2	0.6									2	0.6
	Handled			2	2									2	2
Dish	Flat rim	5	0.7	3	0.3	20	1.79							28	2.79
	Bead rim	3	0.25									4	0.13	7	0.38
	Grooved rim					4	0.35							4	0.35
	Plain rim					5	0.42							5	0.42
	Horizontal rim, upward bead			10	10									10	10
Lid	\	8	0.95	3	2.1					1	0			12	3.05
Cheese press	\	2	0.16											2	0.16
Flagon	\	2	0.25	28	16			5	2	8	4.3	1	0.1	44	22.65
Jug	\			2	2									2	2
Ungent Jar	\			1	0									1	0
Lamp	\			1	1									1	1
Patera	\			2	2									2	2
Tazza	\			2	0					1	0.25			3	0.25
Honey jar (handled)	\			1	1									1	1
Jar	Short everted rim; rusticated	9	0.97	1	0.3									10	1.27
	Flaring plain rim, ovoid body (BB1; decorated rim & body)					14	3.02							14	3.02
	Flaring plain rim, ovoid body (BB1; decorated body)					5	0.25							5	0.25

Vessel type	Form type	CO RE		CO OX		DOR BB1		CO WH		CO OX WS		Other (non-local)		Total	
		MNV	R.EVE	MNV	R.EVE	MNV	R.EVE	MNV	R.EVE	MNV	R.EVE	MNV	R.EVE	MNV	R.EVE
	Flaring plain rim, ovoid body (BB1; decoration uncertain)					8	1.15							8	1.15
	Flaring plain rim, ovoid body rim; imitation of BB1	35	6.79	8	1.35							1	0	44	8.14
	Flaring plain rim (only)	18	1.32	3	0.3	6	0.4							27	2.02
	Everted plain rim (non-BB1 type)	11	1.85											11	1.85
	Everted bead rim, offset at base of neck	15	1.45	1	0.05									16	1.5
	Lid-seated rim	3	1.25											3	1.25
	Stubby plain rim					3	0.9							3	0.9
	Other			2	1.1									2	1.1
Total		**134**	**21.46**	**101**	**61.8**	**68**	**8.38**	**10**	**2.37**	**10**	**4.55**	**7**	**0.3**	**330**	**98.86**

The earliest group of CO OX flagons includes three examples with a pulley rim, comparable to *G16*, in boundary ditches FG001 (x2) and FG006. These are commensurate with types common in the Neronian period (mid-1st century AD) that declined in use rapidly in the late 1st century AD. Their paucity in comparison to the common ring-necked types is likely to reflect the fact that pottery consumption only commenced in earnest on the site in the late 1st century AD. The CO OX flagons are dominated by ring-necked types with strap handles (typically 3-rib, although smaller vessels may have 2-rib handles). These are likely to have been contemporary with one another, but minor variations in their form may relate to slight chronological progression. Variants with a tall-neck and slightly flaring rim corresponding to *G2* in boundary ditch FG005 and from Cremation Burial 9 (x2, not complete, placed vessels) appear to have declined rapidly in the first quarter of the 2nd century AD, commensurate with types produced in the Fisher Street kilns.[52] The most common type, accounting for at least 12 vessels, has a slightly everted rim corresponding to G4 and would have maintained a currency into the second quarter of the 2nd century AD, corresponding to flagons in Period 7-8A at the Northern Lanes.[53] One complete example of this type in CO OX was placed in Cremation Burial 10 [614] (as well as a second of this type in CO OX WS), with further distinct examples in boundary ditches FG001 (x2), FG011, Well 1 and associated spread (746), ditch FG011, clay deposit (658), levelling deposit DG003: (440), soil build-up (107) and (804) (x2). Further basal and handle sherds were widely distributed in Phases 2 and 3 and are likely to have been associated with this type. The related variant of this type, with a distinctively cupped mouth that corresponds to *G9* and is common in the mid/late 2nd century AD, is rare at the Cumbria House site. It appears in Phase 3 levelling deposit DG003: (440) and soil build-up (804), which is consistent with the postulated decline in consumption on the site in the mid/late 2nd century AD.

The CO OX flagons contain two anomalies relative to these related types. The first, found in a dark brown sandy silt spread (308) which sealed Cremation Burial 9, comprises part of an 'indeterminate' vessel with a small triangular rim and a 4-rib handle that rises to peak above the rim. It potentially represents a two-handled flagon, a pinch-mouth flagon, or a jug, with the

[52] Johnson et al. 2012, 116: fig. 11.

[53] Hird et al. 2019, 309.

4-rib handle perhaps more typical of the slightly more complex finish of jugs influenced by bronze vessels. The second anomalous CO OX flagon was certainly an imitation of a progenitor in bronze and comprised a miniature vessel placed as part of the votive 'set' in Cremation Burial 10 [614] (Figure 3.25 & 3.26 no. 15). The small flagon has an everted rim with an upward pointing tip, complementing the rims of the cups and dishes also in the 'set', as well as belying the stylistic intentions of the locally operating (military?) potter who made the set and their influences from bronze and samian ware vessels. This type of flagon was manufactured across Britain between the late 1st/early 2nd centuries and the early 3rd century AD, notably including in kilns associated with legionary fortresses at Caerleon, Chester and York,[54] while at Holt it was noted that the legionary pottery included flagons that imitated glass and metal forms.[55] It is also pertinent that a comparable suite of 'bronze-influenced' flagons and jugs, patera and bowls, as below, also with cups and dishes that copy samian ware form types are the core components of funerary groups in north Gaul, notably in the territory of the *Nervii*.[56] This theme will be returned to in the subsequent discussion of the composition of the richly furnished cremation groups.

A specifically commissioned flagon based on a bronze progenitor highlights the presence of isolated CO OX vessels of similar function that were also placed within some of the cremation groups. Specifically, these include two jugs, a honey jar and an anomalous roulette-decorated jar that may be included under the slightly antiquated term of 'legionary-type ware', along with the dishes and cups in the cremation groups explored below. However, in this specific instance the miniature size of many of these vessels may suggest the commissioning of votive objects (pots) from locally operated kilns. The artisan potters using these kilns were either associated with, or heavily influenced by, legionary-style vessels and distinct from the utilitarian vessel types that are more common in this assemblage. The miniature (or small) CO OX jugs include complete vessels in Cremation Burial 10 [614] with a pinched spout and a high looping handle (Figure 3.25 & 3.26 no 16), while that in Cremation Burial 2 [824] has a slightly everted plain rim (no spout) with a less pronounced neck (Figure 3.7 & 3.8 no. 17); the former closely paralleled in bronze vessels.[57] Also in Cremation Burial 2 [824] is an anomalous jar with an upright plain rim and broad upper and lower body cordons filled with rouletting (Figure 3.7 & 3.8 no. 1), which is unique in the assemblage and superficially similar to elements of large beakers and Castor boxes, but again has more convincing antecedents in bronze vessels.[58] Similar to the CO OX jugs, Cremation Burial 11 [590] contained a miniature 'honey pot' (Figure 3.29) that is based upon full-size vessels recorded in Claudio-Neronian (mid-1st century AD) groups with military associations, at Cirencester and Sheepen, Colchester, for example.[59] It should be noted that closely comparable '2-handled flagons' were produced into at least the mid-2nd century at the Brampton kilns, as evidenced at the Millenium Project.[60] Nonetheless, it is most likely that this vessel was influenced by bronze vessels that were copied in legionary groups in the Lower Rhineland, and subsequently imported with such consumer migrants to sites such as Usk.[61]

The direct influence of bronze vessels on the CO OX vessels, deliberately manufactured as votive tokens, is perhaps most clear in the presence of two paterae and two handled bowls. A single example of each is present in Cremation Burial 2 [824] (Figure 3.7 & 3.8 nos. 18-19) and Cremation Burial 10 [614] (Figure 3.25 & 3.26 nos. 17 & 20) respectively. Both types highlight an interesting trait of the votive vessels in that there is little investment, even a casual- or careless-ness, in their finish, with poorly applied or unevenly shaped components that contrasts with 'hard precise modelling' of classical 'legionary-type ware'.[62] This provides a clear contrast between those destined for consumption and the token vessels to be placed as votive offerings. The patera are ostensibly of the same type, with a shallow semi-hemispherical body, a small bead rim and a (poorly smoothed-on) rod handle that is thickened in the middle and at the terminus. The form is comparable to progenitors in bronze,[63] although slightly more detail has been added to the example in Cremation Burial 2 [824] through the addition of a shallow kick to the base. This is more pronounced on the underside, which more accurately mimics examples in bronze. The two-handled bowls appear complementary to the paterae (and cups/dishes) but exhibit the same deficiencies of finish. This is notable around the uneven application of the central 'blobs' on the handles, redundant on these ceramic vessels but likely functional on the hanging handles of the original bronze equivalents.[64] Comparable full-size bowls were recorded associated with legionary occupation at Usk.[65] Here it was noted that they were manufactured close to the site in a relatively fine orange fabric. The forms were not closely comparable to those in the 'native' tradition, but were based on types from the Lower Rhineland or

[54] Symonds and Wade 1999, 484.
[55] Greene 1973, 113.
[56] Willems et al. 2023, 299–304.
[57] i.e. Eggers 1955, Abb.2:19.
[58] i.e. Eggers 1955, Abb.2: 21a/b; Abb.3: 36a.
[59] Symonds and Wade 1999, 476: Cam.175/7.
[60] Swan et al. 2009, 634: fig.313.252.
[61] Greene 1973, 34: fig.1.7.
[62] Boon 1966, 46.
[63] Eggers 1955, Abb.1: 9b; Abb.2: 20.
[64] Eggers 1955, Abb.1: 6; Abb.2: 23a.
[65] Greene 1973, 34: fig.1.11.

northern France. Such two-handled bowls originated in the Mediterranean in at least the 1st century BC, but progressed through legionary sites on the Rhine and Danube frontiers before emerging farther west and in Britain, typically dating to the Claudio-Neronian period (mid-1st century AD), but continuing into at least the subsequent Flavian period.

Outside of the certain cremation group vessels, the CO OX presents limited numbers of further vessels with idiosyncratic functions in other deposits that may nonetheless be associated with funerary, ritual or military activity. Collectively these probably reflect the range of standardized types particular to early Roman military sites, as noted at York.[66] In this assemblage, these include the base and body of a small unguent jar or oil flask in silty spread (614), which corresponds with *G36.* Such items were certainly products of the kilns in Fisher Street,[67] potentially representing an imitation of flasks commonly made at Verulamium from the late 1st to 3rd century AD, which were highly portable and achieved a wide distribution. Also present in CO OX, were fragments of the frilled flanges of tazza (*G347*) in soil build-up (107) and the backfill of a modern geotechnical pit, although neither were as substantive as an example in CO OX WS (see below). The most striking of these local CO OX vessels was a factory lamp in possible Burial A/pit [990], which contained no human remains. The lamp (Figure 3.39) is of Loeschcke type IXa and has a closed discus with an air hole towards the spout, behind which is a 'blob' of a poorly impressed slave mask.[68] It has a single (broken) ring handle, two unpierced lugs on the shoulder, a faint footring and an illegible maker's mark, possibly of CASSI but the reading remains uncertain. The degenerate nature of the mask and maker's stamp, as well as the fabric, betray this lamp as a local copy of a north Italian import (such as those in LAMP fabric described above). Or, even more likely, this may have been a surmoulage copy-of-a-copy, hence the lack of definition to the detail. The phenomenon of 'local' reproduction of imported lamps associated with legionary activity has previously been attested at Caerleon, where the upper half of a mould for an early 2nd century AD Loeschcke type X lamp was recorded.[69] Intriguingly, this CO OX lamp is not a copy of either of the Italian lamps recorded in other cremation groups on the site. However, in a notable contrast to those imports, the CO OX lamp has a burnt nozzle indicating that it was used prior to deposition, or as part of the rite that deposited it, whereas the Italian lamps placed as tokens were pristine and new. The use of tazza and lighting equipment such as lamps is culturally significant and indicates a desire for artificial light above and beyond the typical hearths and torches of domestic life. This may also signify elevated modes of dining or reading and writing, the presence of which shows a strong bias to military and urban settings.[70]

Prior to the consideration of CO OX vessels that are more typically utilitarian, it must be emphasised that the common cups and dishes in this fabric (Table 5.8) were limited to just two types that were miniature. These conform with 'legionary-type ware' styles, and were placed as 'sets' of vessels in two complex, richly furnished cremation groups. The cups are relatively shallow with a horizontal rim that has an upward pointing tip; an imitation of samian ware form Curle 46. They include eight complete examples in each of Cremation Burial 2 [824] (Figure 3.7 & 3.8 nos. 2-9) and Cremation Burial 10 [614] (Figure 3.25 & 3.26 nos. 2-9). The dishes are also shallow with a horizontal rim that has an upward pointing tip; an imitation of samian ware form Curle 15. They include 5 complete examples in each of Cremation Burial 2 [824] (Figure 3.7 & 3.8 nos. 10-14) and Cremation Burial 10 [614] (Figure 3.25 & 3.26 nos. 10-14). Neither type occurs elsewhere in the assemblage, and the two may be regarded as complementary vessels within the 'votive set' of vessels, specifically commissioned and manufactured locally in CO OX for deposition in the cremation groups, potentially also including jugs, a jar, handled bowls, patera and a honey pot (as above).

The creation of such sets has strong echoes of the 'core-range' or 'kit issue' of food preparation, cooking, storage, eating and drinking vessels manufactured for official military use and daily use in barracks,[71] albeit with less emphasis of cooking and storage, but may also be linked to civilian consumption patterns originating in Gallia-Belgica. The closest comparisons for small variants of the cups and dishes are at the legionary 'works-depot' at Holt, Denbighshire,[72] where parallels for the specific cups and dishes present here are drawn with legionary production at Caerwent, Holdeurn (Netherlands), and Vindonissa (Switzerland). Comparable miniature dishes are also attested in the south Nervian territory, notably at Cambrai.[73] Comparable cups and dishes were also present in the 'legionary ware' from York, recorded in a fine fabric at York Minster, although it remains unclear how common a component of the repertoire they were.[74] It is postulated that the innovation of such vessels could have been the work of a single potter brought with the legions, either as a free craftsman employed specifically at their depot to cater for tastes not satisfied by local production, or as a skilled slave. This may have been to

[66] Perrin 1977, 101.
[67] Johnson et al. 2012, 118: fig.12.14-15.
[68] Close to Bailey 1980, 283 & plate 55: Q1194 (type N).
[69] Boon 1966, 53-4 & plate III.3.
[70] Eckardt 2000, 9 & 12.
[71] Swan et al. 2009, 570–1.
[72] Greene 1977, 118: fig.8.2.2 & 120: fig.8.3.6.
[73] Willems et al. 2023, 292: fig.165.var.C4.2.
[74] Perrin 1977, 108: fig.7.1.17-18.

make up for shortages of glass, metal or samian ware vessels, or to provide cheaper equivalents. Whatever the reason, it is acknowledged that these specialist vessels stand out because they contrast with the norm and likely did not represent the bulk of production, which in military depots may actually have constituted tile-works.[75] Thus, the production of such vessels may have been an ad hoc episode or very specific deviation by request. Intriguingly, sparse, standard-size variants of these cups and dishes are present amongst the suite of vessels in orange fabrics produced in the Carlisle-Eden Valley area, found for example in Flavian-Trajanic (late 1st-early 2nd century AD) groups at Old Penrith[76] and at the Northern Lanes, Carlisle.[77] This suggests similar samian ware imitations had permeated to other potters. At Caerleon, the suite of similar vessels in the mid-to-late 2nd century AD included a similar association of imitations of Dr.33 cups and Dr.36 dishes, suggesting there was at least a niche demand for such complementary sets within this context.[78]

The copying of metallic or samian ware forms such as these cups and dishes would be entirely consistent with 'Legionary-type ware'. Such crisply finished vessels were recorded in fortress deposits at Caerleon in a smooth dark-orange fabric, with production beginning towards the end of the reign of Trajan, but with a floruit in the reign of Hadrian and with a terminal date no later than AD 150, if not earlier.[79] Comparable high quality fine wares, often red-slipped, were also produced at Holt,[80] although a coarser fabric manufactured at York may have more in common with that produced in Carlisle.[81] Legionary-type ware was named because it can reasonably be expected to have been the product of kilns operated by potters deployed with (or as part of) the legions, but the term has lost favor since in many cases this military association remains unproven. At Caerleon, for example, it has been renamed 'Caerleon ware' to avoid the un-proven military connotations. The nomenclature of 'Legionary-type ware' does not belie the fact that at settlements with a significant military occupation there is often a phase of specialized local production not balanced by a corresponding volume of locally produced utilitarian vessels, and often with a shift towards cooking vessels in black-burnished ware 1.[82]

Thus, it is logical to associate the suite of specialized vessels selected, commissioned and manufactured for deposition in these two cremation groups as having a foundation in what was known as 'Legionary-type ware' but there are some key points of differentiation; firstly that the commissioned vessels appear quite small, possibly miniature, with the cups ranging in rim diameter from 6-12cm (mean 9.4cm) and the dishes from 12-16cm (mean 14cm); and secondly that, as with the patera and handled bowls, there appears to be a degree of relative carelessness or lack of investment in the finish of these vessels, contra to the classic high standards of finish on this style of vessel. The rims and bases are often slightly uneven. The surfaces have not been burnished or smoothed. and there is sufficient variation in rim diameter that the definition between cups and dishes may be blurred. This suggests these were thrown rapidly and were not intended to be any more aesthetically presentable but used as 'disposable' tokens (whether or not they were used for organic offerings also). A broad parallel for this cultural behaviour may be drawn with the deposition of miniature ceramic vessels to occupy liminal places or in religious/ritual practice (including burials) at Insula VI.1 at Pompeii, where single types of *calici* (cups), *brocche* (jugs) and *coperchii* (lids, or possibly dishes) formed complementary vessels or sets, some clearly made for votive activities.[83]

A further minor component of the 'votive set' in Cremation Burial 10 [614] is two CO OX bowls with reed rims and a mid-body carination, each with a complementary lid with a splayed profile and upward pointing bead (Figure 3.25 & 3.26 nos. 18-19). This type of bowl is more common in the domestic repertoire of late 1st to early 2nd century AD vessels in the region (G216 & G339). Comparable bowls and lids are attested at Old Penrith, Scalesceugh,[84] and at the Fisher Street kilns,[85] although it is rare to find the lids carefully placed and seemingly custom-fitted to the bowls. However, with a rim diameter of just 12 cm the examples in Cremation Burial 10 [614] are either very small or miniature in the same manner as the 'legionary-type ware' jugs, cups and dishes in the same group, and comparable vessels appear in the range of 'legionary wares' at York[86] and Caerleon.[87] The miniature size of these examples is supported by a CO OX reed rim bowl in Well 1, which has a more typical rim diameter of 20cm.

The final CO OX component of the 'votive set' in Cremation Burial 10 [614] is the presence of two beakers of the same type (Figure 3.25 & 3.26 nos. 21-22), which are functionally drinking vessels, perhaps more so than the common cups, which may equally have been small serving/eating vessels. Each beaker has a short, pointed rim (possibly a devolved cornice rim) and a waisted

[75] Greene 1977, 124–5.
[76] Austen 1991, 151: fig.70.449-452.
[77] Hird et al. 2019, 313: fig.119.20.
[78] Boon 1966, 64 & fig.3.
[79] Boon 1966, 46.
[80] Greene 1977, 114.
[81] Perrin 1977, 101: fabric 2.
[82] Zienkiewicz 1992, 94.
[83] Cool 2016, 245–7.
[84] Austen 1991, 148: fig.67.382 & 153: fig.72.498.
[85] Johnson et al. 2012, 120–1: figs. 16-17.
[86] Perrin 1977, 108: fig.7.1.8-9.
[87] Zienkiewicz 1992, 100: fig.6.36-39 & 6.29-30.

body. These are comparable to beakers recorded at the Millenium Project, Carlisle[88] and at Housesteads,[89] which span the late 1st to early/mid-2nd centuries AD. The parallels in these assemblages suggest these are not miniature versions of vessels but simply small beakers. A further beaker of this type is present in Phase 3 clay deposit (658). This suggests that, unlike the miniature cups and dishes, such beakers may have had a wider presence as part of pottery consumption on the site. The rarity of these beakers in this assemblage may highlight their association with the 'votive set' and act as a further signpost to continental influences, specifically those from the Nervian territory. Nervian cultural influence appears strong in the composition of the two richly furnished cremation burials, and these types of beakers are well-attested in fine oxidized fabrics comparable to those of the votive vessels from that region.[90]

That CO OX vessels had a wider place in pottery consumption is undeniable. A range of utilitarian vessels that do not contrast in fabric with those in the cremation groups is present. Quite a distinct range of forms relate to DOR BB1 and CO RE, including bowls, dishes and cooking pots paralleled in those coarse wares, but only in minute quantities in CO OX (Table 5.8). The CO OX utilitarian bowls can be broadly split into two types: imitations of samian ware form type Dr.29 and campanulate bowls, all of which appear to occur in Phase 3 (mid-2nd century AD) or thereafter. The latter may also have been supplemented by reed rim types (as above). CO OX bowls imitating Dr.29 consistent with *G193* were present in ditch FG004 and levelling deposit DG003: (440), and were decorated with coarse rouletting. Dishes imitating Dr.37 consistent with *G195* were present in pit PG007: [184] and Well 1 and appear to have been plain. The campanulate (or bell-shape) bowls of type *G211* are limited to two examples in ditch FG011 and appear to have had a relatively narrow currency in the mid-2nd century AD. Lids and utilitarian dishes in CO OX are rare, but include a lid with a splayed rim in soil build-up (804) and dishes with flat rims in Well 1 and ditch FG012, both of which mirror those more common in CO RE. Those in CO OX are slightly more common (Table 5.8) but equally are mirrored by types either in CO RE, such as a neckless jar with rusticated decoration in the fill of Cremation Burial 9, or in DOR BB1 (and thus also CO RE) in the form of cooking pots with flaring plain rims, slightly narrower than their ovoid bodies. These CO OX cooking pots do not appear to have been decorated and the bulk exhibited sooted exteriors. This suggests there was no differentiation in their function from DOR BB1/CO RE, and that their oxidization may have been a quirk of coarse ware firing in a local kiln, possibly in tandem with the production of CO RE. Examples of CO OX cooking pots were present in boundary ditches FG015, FG011, [113], FG017, FG011, Well 1, pit PG004: [295], soil build-up (107) and (645). The only exception to this pattern of jars is an everted bifid frilled rim, also in boundary ditch FG015, which may be derived from a plain jar, a narrow-neck jar or face pot, but is of insufficient profile to be conclusive.

Locally produced coarse white wares and white-slipped wares.

Fulfilling a similar aesthetic function to many of the form produced in CO OX were locally produced coarse white wares (CO WH) and white-slipped wares (CO OX WS), whose composition and manufacture/firing suggest they were closely related to the more common CO OX. Collectively the CO WH and CO OX WS account for 5.3% by sherd count (4.5% by weight) (Table 5.4). They occur principally in Phases 2-3 but do not amount to more than a minority presence (Table 5.5). Functionally, these fabrics exhibit a focus on flagons and bowls that appears derivative of the pattern evident in CO OX (Table 5.8), although the CO OX WS also includes tazza.

The CO WH includes two complete standard-size ring-necked flagons (*G4*) placed as votive items in Cremation Burial 2 [824] (Figure 3.7 & 3.8 nos. 20-21), characteristic of a late 1st to early/mid-2nd century AD date and seemingly of the same type as the truncated lower body and base of a further flagon placed in Cremation Burial 17 [269], while the presence of strap handles in Well 1 and soil build-up (107) suggests that CO WH flagons were not solely intended as cremation goods but had a wider consumption pattern. The CO WH bowls appear limited to reed rim types with a mid-body carination (*G214/5*), including vessels in boundary ditch FG011 and Building 2's circular foundation cut [745], with further examples in clay surface (396) and silty spread (611) exhibiting poorly defined rims that are near flat; nonetheless these bowls appear slightly more common in COR WH than CO OX and are typical of the late 1st to early 2nd centuries AD.

The CO OX WS is dominated by flagons, and the application of a white slip may be viewed as a simple modification of CO OX, perhaps rather than a distinct fabric. These include complete standard-size ring-necked flagons (*G4*) placed as votive items in Cremation Burial 2 [824] (Figure 3.7 & 3.8 no. 22), Cremation Burial 10 [614] (Figure 3.25 & 3.26 no. 24), and in Possible Burial C. [634], which may have been an inhumation burial (Figure 3.42). Truncated basal and body sherds in Cremation Burial 6 [656] are likely to have been from a further flagon of this type, seemingly confirming that there was no obvious preference between CO OX, CO WH or CO OX WS flagons as votive offerings. Similarly, this type of flagon was also part of the domestic

[88] Swan et al. 2009, 614: fig.302.42.
[89] Dore 2009, 522: fig.16.15-JA96.
[90] Willems et al. 2023, 195: fig. 98 G6-G7.

consumption pattern on the site with rim sherds in ditch FG018, silt (483) and soil build-up (804), with a further strap handle in boundary ditch FG011.

The CO OX WS was particularly notable for including an approximately 60% complete tazza, 'disposed' of in Well 1. The tazza has the characteristic bifid frilled rim and frilled carination of *G347*, with an inscribed wavy line on the upper body and a footed base, comparable to a Flavian-Trajanic tazza at Old Penrith[91] and examples in a comparable local coarse oxidized white-slipped fabric in late 2nd/early 3rd century AD deposits at Northern Lanes, Carlisle, which may include residual earlier 2nd century AD material.[92] Intriguingly, a sufficient extent of the tazza is present to confirm that there is no clear evidence it was used for any function that involved burning. The elevation of the value of artificial light associated with modes of dining and literacy, often associated with military and urban settings has been recognized,[93] but other cultural behaviours involving tazze may come into play relative to Well 1, either simply as an offering placed/dropped into the well or as a more ornamental or functional item that formed part of the presentation or libations made at the well.

Regionally traded coarse ware

Other coarse wares imported to Carlisle and the northern frontier are very rare. It is probable that these were out-competed by Dorset black-burnished ware 1. Negligible quantities of black-burnished ware 2, probably from sources in the Essex/Thameside region (BB2), are present, with one vessel from Kent (COO BB2) and isolated other fabrics from the Severn Valley (SVW OX2) and Verulamium (VER WH) (Table 5.4).

The black-burnished ware 2 appears limited to 'pie' dishes with rounded bead rims (*G313*). These may have arrived from the mid/late 2nd century AD, and include one dish in pit PG007: [202]=[230] with an ill-sorted, coarse fabric indicative of production by the Cooling industry of north Kent (COO BB2). The fabric (BB2) of further examples in boundary ditch FG015, Well 1 and soil build-up (107) is more consistent with kilns in Essex, likely around Colchester, but other Thameside sources on the opposite bank to Cooling cannot be discounted. The paucity of this type of dish may reflect a lack of demand, possibly because the common flat-rim dishes in DOB BB1 and local coarse ware fabrics (Table 5.8) fulfilled the same function. It is notable, however, that they began to appear in the mid/late 2nd century AD at the Northern Lanes,[94] coinciding with the apparent decline in consumption in this assemblage. Rare body sherds of indeterminate form in Severn Valley ware (SVW OX2) occur in soil build-up (107) and could equally be of residual 2nd century AD origin, or part of a scatter of late Roman material on the site. The Verulamium white ware (VER WH) is limited to a rim sherd from a single ring-necked flagon in ditch FG018, with a slightly cupped rim (*G9*), consistent with the 'latest' examples in CO OX that emerge in mid/late 2nd century AD, potentially coinciding with the decline in consumption on the site and possibly representing a personally transported possession or commodity. The same function is amply fulfilled by CO OX flagons and there are not any associated ceramic wares in this assemblage, such as mortaria that may have been imported as a batch.

Amphorae

Amphorae account for 9.6% of the assemblage by sherd count (38.2% by weight) (Table 5.4), with a floruit in Phase 3, but still accounting for just over 8% by sherd count in Phases 2 and 4 (Table 5.5), a presence perhaps elevated by the robust and bulky nature of the vessels, but also by numerous cross-joining fragments, notably including approximately half of an olive oil amphora spread (691). Expectedly, the bulk of the amphorae are accounted for by the products of kilns in Baetica, southern Spain (BAT AM1 & BAT AM2) associated with the importation of olive oil and a myriad of secondary functions. However, the amphorae also include sparse sherds from Gaulish wine containers (GAL AM1 & GAL AM2), in particular from Gallia Narbonensis, southern France, close to the mouth of the Rhone, while rare body sherds of further wine amphorae suggest import from central-western Italy (ITA AM2), likely the area of Campania, Latium and Etruria. The presence of both Baetican and Gaulish amphorae was likely the result of institutional supply organized or via the army and is consistent with the most common types throughout the mid-1st to 3rd centuries AD in the assemblage from the Millenium Project, including in early and mid-2nd century AD groups.[95]

The dominant variant of Baetican amphorae fabric is the 'early' type BAT AM1, but there is no evidence in this assemblage to suggest it did not occupy the same contemporary consumption space as the 'late' variant BAT AM2, rather that they may represent different workshops along the extensive length of the Guadalquivir river, between Seville and Cordoba. The BAT AM1, in levelling deposit DG003: (440) included a rounded rim with an internal concavity which may either be of Dressel 25 type (P&W Class 24), or an early variant of the common Dressel 20 (P&W Class 25), for which it is otherwise an antecedent, but nonetheless is consistent with the import of olive oil to the site or

[91] Austen 1991, 147: fig.66.369.
[92] Hird et al. 2019, 317: fig.123.38-9.
[93] Eckardt 2000, 9 & 12.
[94] Hird et al. 2019, 313.
[95] Swan et al. 2009, 572 & 626.

surrounds in the 1st century AD. However, the bulk of the BAT AM1 appears derived from the more common Dressel 20 olive oil amphorae, with examples from ditch FG011, levelling deposit (688) and soil build-up (107/108), all exhibiting a triangular thickened rim with an internal bead that is characteristic of Flavian-Trajanic (mid/late 1st to early 2nd century AD) variants in the evolution of the form type.[96] This is paralleled at the Millenium Project.[97] Furthermore, spread (691) included approximately half of a BAT AM1 Dressel 20 amphora (weighing 14,220g), including handle scars and the basal knob (but not the rim). Further BAT AM1 Dressel 20 basal knobs were present in boundary ditch FG015 and ditch terminus [513] of FG006. Handles of Dressel 20 were rare, but boundary ditch FG015 also included a handle fragment that exhibited a partial abbreviated name stamp, possibly that of an individual or estate owner. The stamp reads ...CC (with ansae between each letter), and would have read QCC for Q.Caesii Caesinii; a stamp with an extensive distribution in Britain including at Chesters, Heronbridge, Ilkley and St Albans, as well as across the western Empire at Rome, Geneva, Nimes, Salsburg, Windisch and Vechten; dated to *c.* AD 80-130,[98] which is consistent with the chronology suggested by the BAT AM1 Dressel 20 rim profiles.

The amphora types in BAT AM2 do not deviate from those common in BAT AM1, with rim sherds of Dressel 20 olive oil amphorae in ditches FG011 and in Building 4 beam slot [642], exhibiting closely comparable triangular thickened rims with an internal bead that are consistent with the Flavian-Trajanic period (mid/late 1st to early 2nd century AD). Indeed, the lack of rim profiles associated with the subsequent evolution of Dressel 20 amphorae lends support to the postulated decline in consumption on the site after the mid-2nd century AD. The BAT AM 2 also includes the handle of a Dressel 20 amphora in boundary ditch FG001, and a handle scar in pit PG005: [905] but no further evidence for name stamps.

The wine amphorae are slightly less well-defined than those used to import olive oil, with the GAL AM1 including diagnostic sherds, but the GAL AM2 and ITA AM2 limited to plain body sherds, potentially of the same or similar type. The GAL AM1 appears to occur only as Gauloise 4 (P&W Class 27) amphorae with a thick rounded bead rim on a slightly cupped neck, notably evident in clay spread (239). The substantive remains of the neck, handles, body, and flat base of a Gauloise 4 amphora were recovered from Well 1, with a further handle fragment in sandy silt and cobbles (774) and a distinctive narrow flat base with a footring in levelling deposit (688). GAL AM1 Gauloise 4 wine amphorae have a fairly broad chronology spanning the mid/late 1st to 3rd century AD, although in this assemblage they appear focused within Phases 2 and 3 (late 1st to mid-2nd century AD), with only small sherds in Phase 4 presumed residual. This is consistent with the Millenium Project where these did not occur prior to *c.* AD 83-4 and decline in prominence after *c.* AD 105.[99] The GAL AM2 appears limited to small body sherds throughout, while the ITA AM2 body sherds are more substantive though un-diagnostic, but notably associated with GAL AM1 sherds in Well 1, and with BAT AM2 sherds in pit PG005: [675] and [905], potentially indicating a degree of consistency in where or why amphorae sherds were deposited.

Mortaria

These specialist food-preparation vessels are relatively rare in the assemblage, accounting for just 1.5% of the assemblage by sherd count (5.1% by weight) (Table 5.4). The bulk is accounted for by 'local' products of the Carlisle area, with mortaria deposition seeming to be focused on Phases 3 and 5 in the mid-to-late 2nd century AD (Table 5.5). The form types appear biased towards production in the late 1st to early/mid-2nd centuries AD, with the pattern of supply paralleled in Phase 4A and 4B-4D at the Millenium Project, spanning *c.* AD 105-140/150.[100]

Potentially the earliest mortaria to reach the site were imported from the Oise-Somme region of north Gaul (NOG WH4). They occur as a distinctive singular and large form type, with a consistent rim diameter of *c.*34cm. The NOG WH4 mortaria have a small bead level with a broad horizontal flange that has a hooked tip, consistent with *G238*. They are also notable for sparse trituration grits that extend over the flange. This form type is typically dated to the final quarter of the 1st century AD, and includes examples in Phase 2 ditch FG006, as well as Phase 3 levelling deposit DG003: (440) and Building 2's foundation cut [841], while soil build-up (107) contained the breadth of a spout pushed through the horizontal flange. However, production of this type continued into the early 2nd century AD and their continued import to Carlisle is attested at the Northern Lanes[101] and the Millenium Project.[102] This chronology is perhaps supported by the absence of products from Verulamium.

The presence of other regionally traded mortaria of late 1st/early 2nd century AD date is ephemeral but includes two fragments from Lincoln (LTC WH) in

[96] Keay and Williams 2005, after Berni Millet 1998.
[97] Swan et al. 2009, 574: fig.295.5.
[98] Callender 1965, 221; stamp 1428a & 306-7: fig.14.19.
[99] Swan et al. 2009, 575–6.
[100] Swan et al. 2009, 582–3.
[101] Hartley 2019, 358.
[102] Swan et al. 2009, 619: fig.305.84.

Phase 3 levelling deposit DG003: (440). Single sherds from centres associated with military (or related) production include body sherds of 'Raetican' mortaria from Wroxeter (WRX RS), and other mortaria from Holt (HOL OX) and Corbridge (COR WH) (Table 5.4). With the exception of the vessel from Lincoln all are in un-phased deposits and potentially re-deposited, or of later date. The LTC WH mortaria in deposit DG003 (440) is a partial flange fragment that exhibits a partial maker's stamp, reading [DIIC... with a shallow zig-zag above and below (Figure 5.6), which has been identified with the products of Decanius, dated *c.* AD 110-160,[103] with the use of two vertical strokes instead of an E (or as a cursice E) a not uncommon practice in mortaria stamps also attested in capital inscriptions. Stamps of Decanius are not attested at Carlisle and have previously been recorded in the east Midlands, closer to the kiln site at Lincoln and Winterton. However, the presence of low quantities of mortaria from industries around Lincoln has been noted in assemblages from Blackfriars Street and Southern Lanes, Carlisle.[104] At the Northern Lanes the Technical College workshop at Lincoln was noted as the most important supplier in the early 2nd century AD.[105] Its presence is, therefore, a logical extension of that supply/trade pattern.

The remaining non-local mortaria are only present from Phase 5 (mid-to-late 2nd century AD) onwards, and include rare sherds imported from the Rhineland (RHL WH), and regionally traded wares with a wide distribution across Roman Britain from major industries at Mancetter-Hartshill (MAH WH), the Lower Nene Valley (LNV WH) and Oxford (OXF RS) (Table 5.4). The MAH WH in soil build-up (107) has a hammerhead rim with a grooved (ribbed) exterior, typical of types produced in the late 2nd to mid-3rd centuries AD,[106] although a date later in this range may be more typical of when the products of that industry began to arrive in Carlisle in any quantity.[107] Similarly, plain body sherds including RHL WH in Phase 5 pit PG007: [788], OXF RS in Phase 5 boundary ditch FG015, and LNV WH, re-deposited in a medieval (Phase 7) deposit, are perhaps more typical of rare arrivals at Carlisle in the late Roman period.[108]

The dominance of mortaria produced in the Carlisle area (Table 5.4) is to be expected given the limited chronological focus of consumption on the site, which coincides with production of mortaria at Carlisle flourishing in the 2nd century AD.[109] The local mortaria in this assemblage are principally represented by a white-slipped fabric variant (CSA WA) associated with kilns in Carlisle and Scalesceugh. A sparse smoother variant (F611) (Table 5.4) may have been produced at Carlisle or Old Penrith, while rare other fabric variants tend to be coarser/rougher (F102, F602, F609 & F610) and may represent kilns at Carlisle or in the Scalesceugh and Eden Valley areas. A shared maker's stamp in CSW WS and F602 may, however, indicate a shared source in Carlisle (or a locally mobile potter), while an un-stratified red-slipped sherd of F609 is consistent with the identification of 'Raetian' mortaria production at Carlisle, based on the presence of wasters at English Damside.[110]

Figure 5.6 Mortarium stamp from Deposit Group 3/(440).

The CSA WS mortaria appear to occur as a single form type that has a small bead slightly lower than a drooping flange with a groove on the exterior of the tip.[111] This is datable to *c.* AD 100-140 and is consistent with a presence in Phase 3 ditch FG011 and Well 1, and as un-stratified material. This form type was also produced in Raetian fabrics at Carlisle,[112] suggesting a clear link between the production of varying fabrics at Carlisle. The CSA WS fragments in Well 1 cross-join with fragments in subsequent soil build-up (107) to form almost the entirety of a mortar with a spout pushed through the upper flange, with an identical maker's stamp on either side of the spout (Figure 5.7). The stamp is retrograde and of two lines, reading [ATTIUS] above [FEC]; representing a potter or workshop who was previously represented by at least three examples of this stamp at Carlisle, with other examples recorded

[103] Darling and Precious 2014, fig.162.1656.
[104] Hartley 1990, 238; Hird 2000, 127.
[105] Hartley 2019, 358.
[106] Darling and Precious 2014, fig.162.1656.
[107] Hird 2000, 127.
[108] Cf. Hartley 1990.
[109] Hird 2000, 127.
[110] Hartley 2012, 79.
[111] Hartley 2009, 588 & fig.298.5.
[112] Hartley 2012, 89: fig.9.1 (type B).

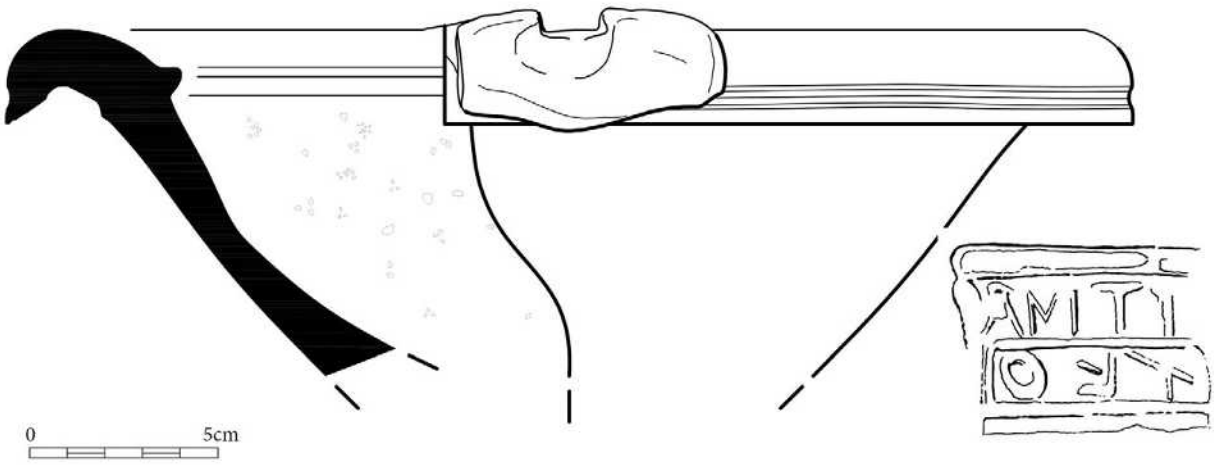

Figure 5.7 Stamped mortarium from post-Roman soil build up (107).

at the Millenium Project and the Northern Lanes, with a fourth example recorded at Milecastle 79.[113] It was noted that his products appear no later than the Hadrianic period, and fit better with a Trajanic date (early 2nd century AD). This does not contradict the context of this example, and whose local presence is bolstered by two further un-stratified and less-well-preserved examples of the stamp in this assemblage. The first of the un-stratified examples is in CSA WS and of the same form type, with a poorly impressed retrograde two-line stamp. Part of the upper line reads [...TTIU..., with the remainder illegible. The second unstratified example is in fabric F602, with only the beginning of the upper line legible, reading [ATT..., which is nonetheless sufficient to confirm that the three mortaria appear to have been produced by the same potter/workshop.

The remaining Carlisle-area mortaria exhibit minor variations in form type. The only diagnostic rim sherds in F609 were present in pit [780] – associated with Building 4 – and have a small bead that is slightly higher than a short drooping flange. These are comparable to late 1st/early 2nd century AD examples at Old Penrith,[114] but do not exhibit any red-slip as the 'Raetian' sherds of F609 in pit PG007: [788]. An un-stratified mortaria in F610 has a small bead level with a broad, slightly drooping flange, consistent with early- to mid-2nd century AD examples in the region (*G246*). The most informative of these variants may be in F611, which includes in Phase 5 boundary ditch FG015 abraded fragments from the rim, spout, flange and body of a mortar stamped with Die E of Docilis 3, which is associated with production at Carlisle in *c.* AD 120-65 and has been recorded at the Northern Lanes.[115] Although based on an extensive scatter of stamps of Docilis (or Doceilis or Docelis) along Hadrian's Wall, the Cumbrian coast forts and at Carlisle,[116] this potter may have started work at Wilderspool before moving to a northwestern workshop, if the stamps do not represent more than one potter or workshop. The only Carlisle-area mortaria that deviated from the late 1st to mid-2nd century AD focus of this assemblage is a F611 vessel in Phase 5 pit [202]=[230], of which the upper part of a reeded hammer head rim is present, and although the rim profile is incomplete, this appears typical of 3rd century AD vessels, possibly an imitation of commonly traded types produced by the Mancetter-Hartshill industry.

Commentary on feature groups

The pattern of supply and consumption at the site on Botchergate has been well-defined, and based on this a brief commentary can be drawn on selected feature groups that reflect concentrations of pottery in Phases 1-5 (Table 5.9).

Phase 1: Large Enclosure Ditch (FG001)

Ditch FG001 contained a consistent sparse distribution of sherds that suggest it remained open into the early/mid-2nd century AD, including multiple LGF SA Dr.18 platters and Dr.27 cups in (246), (256), (266) and (850), including a stamp of Sabinus iii (*c.* AD 50-80) and exhibiting numerous sherds with various degrees of burning, which may be associated with funeral pyre material but is perhaps more reflective of the scattering of detritus from 1st century AD activity in the vicinity, and may be from the same source as burnt sherds in subsequent phases. The potentially residual nature of the samian ware from south Gaul is further suggested

[113] Hartley 2009, 588 & fig.298.5.
[114] Hartley 1991, 157 & fig.76.518.
[115] Johnson et al. 2012, 106 & 113; Hartley 2019, 380 & fig.154.54.
[116] i.e. Hird 2000, 138; Hartley 2009, 588 & fig.298.11.

Table 5.9 Quantification of pottery in phased feature groups.

Phase	Feature Group	Date	Sherd Count	Weight (g)	R.EVE
1	Large enclosure ditch (FG001)	Late 1st-Early/Mid 2nd c. AD	272	5006	5.29
	Other features (FG002)		16	78	0
	Cremations		68	463	0.25
2	Burial plot 3 (FG006)	Late 1st-Mid 2nd c. AD	40	1119	1.45
	Funerary enclosure 1 (FG008)		59	722	0.25
	Funerary enclosure 2 (FG007)		5	84	0.2
	Building 1/Burial plot 4 (FG010 & PHG001)		4	43	0
	Other features		42	1158	1
	Cremations		519	17924	57.08
3	Parallel plot boundaries (FG004, FG005, FG011, FG012 & FG013)	Mid 2nd c. AD	612	14330	14.59
	Levelling deposits (DG003 & DG004)		248	6170	3.46
	Building 2		90	4644	1.24
	Building 3		43	550	0.62
	External yard surfaces (DG010, DG016 & DG020)		223	18060	0.34
	Well 1		235	7772	5.72
	Building 4		52	908	1.29
	Structural area 1		18	291	0.5
	Structural area 2		2	3	0
	Structural area 3		14	106	0
	Pit group 2		10	58	0
	Other features		117	1839	1.44
	Cremations		47	1126	1
4	Redefined ditches	Mid 2nd c. AD	15	325	0.2
	Pit group 3		64	1157	0.32
	Pit group 4		61	539	0.55
	Pit group 5		94	3655	0.6
	Pit group 6		21	245	0.13
	Other features		58	881	0.35
5	Boundary ditch		161	2353	1.43
	Pit group 7		90	1527	0.77
	Other features		140	2402	1.8
6	All features	Late 2nd c. AD	15	100	0
7	All features	Medieval	34	561	0.2
8	All features	Post-medieval	6	28	0
\	Un-phased	n\a	689	15049	12.17
Total			**4184**	**111276**	**114.24**

by the presence of LEZ SA2 Dr.37 bowls, including in (850) a body sherd indicative of Divixtus (*c.* AD 140-160), as well as Dr.18/31 dishes, and approximately equal proportions of COR RE and DOR BB1 jars/cooking pots, and COR OX flagons, with the DOR BB1 likely only arriving in any significant quantity from *c.* AD 120. The handle of a BAT AM2 Dressel 20 amphora was also present in (736).

Phase 2: Burial Plot 3 (FG006)

The boundary ditch of Burial Plot 3 contained a limited distribution of sherds, most notably including a small group of amphorae in ditch terminus [513] of FG006, which included BAT AM1 Dressel 20 and GAL AM1 Gauloise 4 types for olive oil and wine respectively, as well as a NOG WH4 mortaria and a LGF SA Dr.17/17 or Dr.18 platter. These vessels suggest a date in the late 1st century AD, or possibly into the initial decades of the 2nd century AD, a chronology not contradicted by the CO RE jars/cooking pots and CO OX flagon with a pulley rim also in the group.

Phase 3: Parallel Plot Boundaries (FG004, FG011, FG012 & FG013)

The pottery in these parallel plot boundaries was principally comprised of sherds from FG011, with a modest scatter in FG004 and negligible sherds elsewhere. In FG011, the samian ware included rare LGF SA and LMV SA but was dominated by LEZ SA2, including a Dr.37 bowl of Drusus ii (*c.* AD 125-140), as well as a Dr.18/31 dish and a Curle 11 bowl. The coarse wares included slightly greater quantities of CO RE over CO OX, with relatively sparse DOR BB1. The CO RE was almost exclusively comprised of jars or cooking pots imitating black-burnished ware 1, but body sherds indicate the presence of other jars with rusticated decoration, while an isolated beaker, bowl and flagon were also present. The CO OX included common flagons, but also campanulate bowls, a bowl imitating Dr.29 and a lid; while the DOR BB1 was dominated by jars/cooking pots, notably with a burnished wavy line on the rim, with sparse flat rim dishes also present. FG011 also contained rim sherds of Dressel 20 amphorae in BAT AM1 and BAT AM2, typical of the Flavian to Trajanic period, as well as locally produced (CSA WS) mortaria, collectively consistent with a chronology for FG011 in the early-to-mid 2nd century AD.

The pottery in FG011 includes a concentration of sherds in [669], and is in general dominated by CO RE, with sparse CO OX and negligible other coarse wares. Vessel types are dominated by jars or cooking pots that imitate black-burnished ware 1, although the CO OX and CO OX WS include isolated ring-necked flagons. The fine wares include roughcast beakers in both CNG CC1 and CNG CC2, while the samian ware includes a single LGF SA Dr.37 bowl, as well as a LEZ SA2 Dr.18/31 or Dr.31 and dish Dr.33 cup, the latter stamped by Caratillus i or ii (*c.* AD 140-165/200). These sherds are collectively consistent with a chronology for ditch FG011 in the early-to-mid 2nd century AD.

Phase 3: Levelling Deposits (DG003 & DG004)

The bulk of the pottery contained in the Levelling Deposits was recovered from DG003: DG003: (440), with sparse sherds in DG004: (688), and negligible quantities elsewhere. The samian ware includes isolated Dr.18 or Dr.18/31 platters/dishes in LGF SA and LMV SA, but is dominated by LEZ SA2, including multiple Dr.37 bowls, notably one attributed to Potter X-9 (*c.* AD 115-130) with other body sherds exhibiting decorative schemes typical of the Trajanic-Antonine period, as well as plain ware in the form of Dr.27 cups and Dr.18/31 dishes. The coarse wares are dominated by CO RE, notably jars and cooking pots imitating black-burnished ware 1 but also including bowls and lids, while the CO OX principally occurs as ring-neck flagons and the scarce DOR BB1 is limited to jars/cooking pots. A single flanged bowl in BB2 may represent one of the latest vessels in the group, emerging in the mid-2nd century AD; however, the mortaria in DG003: (440) include a NOG WH4 import and an LTC WH mortar stamped by Decanius, which with the samian ware are collectively consistent with a chronology commencing in the early 2nd century AD that declines in the mid-2nd century AD. Also present in DG003: (440) and DG004: (688) are BAT AM1 Dressel 20 amphorae, with basal sherds of GAL AM1 wine amphorae also in DG004: (688).

Phase 3: Buildings 2 & 3

Building 2 contained only a sparse scatter of sherds. A LEZ SA2 Dr.37 bowl in posthole [844] that does not post-date the mid-2nd century AD. Foundation cut [841] contained an LMV SA Dr.18/31 dish associated with a NOG WH4 mortaria and two CO RE bowls that imitate samian ware Dr.29/Dr.37 but with rouletted or incised decoration that suggest construction in the early 2nd century AD. Spread (397) and surface (398) contained CO RE and DOR BB1 jars or cooking pots.

Similarly, Building 3 contained only a very sparse scatter of sherds, but in postholes [258] and [261], foundation cut [289] and clay surface (396) it contained LEZ SA2, including a Dr.37 bowl, Dr.18 31 dish, and Dr.27 cups. These are not imported prior to *c.* AD 120. The bulk of the pottery in the group was CO RE, including jars/cooking pots, dishes and lids, supplemented by a DOR BB1 jar, and hemispherical bowls in F OX and CO WH. These sherds collectively indicate an early-to-mid 2nd century AD date.

Phase 3: External Yard Surfaces

The external yard surfaces contained an abundance of pottery. Spread (691) appears to constitute approximately half of a BAT AM1 Dressel 20 amphora, including a handle scar and basal blob, likely to have been deliberately broken down to act as hardcore. However, the sparse sherds in cobbled surfaces DG008: (310) & (423) and DG016: (685) were also notable for containing fragmentary body sherds from multiple LEZ SA2 Dr.37 bowls, including bowls decorated in the Quntilianus-style and Cinnamus/Pugnus-style, indicative of a date in the second quarter of the 2nd century AD.

Phase 3: Well 1

The substantive group from the Phase 3 Well 1, notably concentrated in one of the upper fills (662) demonstrated a slight shift in the pattern of consumption that appears to signify a chronology limited to the mid-2nd century AD. Samian ware is limited to LEZ SA2, and the coarse wares include approximately equal proportions of CO RE, CO OX and DOR BB1. The LEZ SA2 includes small body sherds of Dr.37 bowls that cross-join with bowls in Phase 3 levelling deposit DG003: (440) and clay deposit (658), suggesting a wider pattern of dispersed deposition, but the LEZ SA2 is more notable for Dr.30 bowls in (662) stamped by Cetus (*c.* AD 125-140) and with an intra-decoration mould stamp of Butrio (*c.* AD 140-160), while the plain ware includes a Dr.18/31 dish stamped by Vertecissa (*c.* AD 150-160), seemingly confirming a chronology in the mid-2nd century AD. The CO RE is principally comprised of jars of cooking pots imitating those in black-burnished ware 1, but also includes jars with rusticated decoration that generally decline in the early/mid-2nd century AD, a reed rim bowl and a cheese press, supporting the presence of domestic food processing/production as well as cooking. The CO OX includes a range of dishes and bowls, as well as a ring-neck flagon; but the related CO OX WS is more notable for the presence of a substantial part of a tazza with a frilled rim and carination, which may have been associated with occupation nearby, specifically relating to the well or been an ornamental/functional part of the well. Unlike other groups, the DOR BB1 from the well includes jars or cooking pots, but is primarily comprised of flat rim dishes with either wavy line or lattice decoration. The well, in (662) also included a substantive part of a GAL AM1 Gauloise 4 wine amphora including the neck, body and flat base, suggesting the vessel may have had a secondary function relating to the well, or at least water storage and transport. Mortaria also have a limited presence in (662), restricted to locally produced CSA WS, but including a stamp of Attius, whose workshop was active *c.* AD 100-140, and whose products appear to have a strong local concentration.

Phase 4: Pit Group 3

Pit Group 3 contained a relatively limited distribution of sherds, principally in pit [545], with sparse sherds in pit [571]. The samian ware is almost entirely LEZ SA2, with a likely residual sherd of an LGF SA Ritterling 13 inkwell also present. The LEZ SA2 includes fragments of Dr.37 bowls decorated by Advocisus (*c.* AD 160-200?) and in the style of Criciro/Divixtus (*c.* AD 140-165), associated with Dr.33 and Dr.35 cups, as well as coarse ware jars and dishes in CO RE and DOR BB, consistent with a date in the mid-2nd century AD.

Phase 4: Pit Group 5

The bulk of the pottery in this group was contained in [905] in the form of amphora sherds (BAT AM1 and GAL AM1), potentially used as post-packing material, although pits [646], [659] and [668] contained several fragments of samian ware vessels from central Gaul. These were principally LEZ SA2 and included a Dr.37 body sherd decorated by Iullinus ii (*c.* AD 160-190), although the presence of plain ware vessels including a Dr.27 cup, Dr.18/31R dish and Curle 11 bowl suggests a chronology perhaps limited to the mid-2nd century AD. In addition to jars or cooking pots, the CO RE also included the base of a cheese press in [659].

Phase 5: Boundary Ditch (FG015)

Ditch FG015 contained a sparse scatter of sherds, a large proportion of which were re-deposited from the fills of earlier enclosure ditches that it cut, or other features it truncated. This includes sherds of samian ware from the earlier factories of LGF SA and LMV SA, with the latter including a Dr.27 cup exhibiting a graffito. Much of the dominant LEZ SA2, including Dr.37 bowls, Dr.33 cups and a Curle 23 bowl can only be broadly dated in the 2nd century AD, except for a body sherd of Dr.37 with an ovolo of Mercator or Iullinus ii (*c.* AD 160-200). The other fine wares include a body sherd of LNV CC beaker with barbotine and rouletted decoration, likely manufactured in the late 2nd to 3rd centuries AD and a rare occurrence in the assemblage. The local coarse wares (CO RE & CO OX) are limited to basic jars or cooking pots, while the DOR BB1 includes a plain rim dish with burnished lattice decoration, a form that is likely to have emerged in the late 2nd century AD. Of a similar date is a BB2 'pie' dish with a rounded bead rim. Amphorae continue to be present as BAT AM1 Dressel 20, including a basal blob, although a handle with a partial maker's or workshop stamp of Q.Caesii.Caesinii which is likely to date to *c.* AD 80-130, suggesting it was re-deposited or remained in circulation for a long duration. Mortaria have an equally limited presence. The locally produced vessels (F611) include a partial stamp of Docilis 3, whose workshop was active in Carlisle in *c.* AD 120-165. The products of this potter

could therefore conceivably have been present into the latter half of the 2nd century AD.

Phase 5: Pit Group 7

The bulk of the pottery in Pit Group 7 was contained in pit [202]=[230], with sparse sherds also in pits [184], [213] and [216]. Several vessels in the group do not develop until the late 2nd century AD, including a DOR BB1 dish with a flanged rim, a COO BB2 dish with a rounded bead rim, and a locally produced mortaria (F611) with a reeded hammerhead rim that is likely an imitation of types produced by the Mancetter-Hartshill industry in the 3rd century AD. Several CO RE and DOR BB1 jars had currencies that extended to at least the end of the 2nd century AD. Pit [213] contained late Flavian to early Antonine samian, including an LGF SA Dr.18 platter stamped by Fuscus ii (*c.* AD 85-120) and LEZ SA2 Dr.37 bowls, which are likely to have been re-deposited from deposits truncated by the pit.

Comparison with other sites in Carlisle

The ceramic assemblage from 107-117 Botchergate has several interesting similarities and contrasts to those from other excavated sites in Carlisle. The chronology at 107-117 Botchergate coincides with the early development of the Roman town at the Northern Lanes, where a considerable increase in the deposition of pottery in this period was noted. There may be overlap with the preceding Periods 4B/C and 5 in the late 1st/early 2nd centuries AD. The predominance of flat-rim dishes and cooking pots in black-burnished ware 1 (and local coarse wares) with sparse rusticated jars, associated with ring-necked flagons, imported roughcast beakers, locally produced mortaria and limited amphorae from Baetica and Gaul, appear closely consistent with the early/mid-2nd century AD groups at the Northern Lanes[117] and Southern Lanes.[118]

The pattern of supply also correlates with our understanding of institutional supply related to the presence and changing occupation of the fort at Carlisle, where the legionary demand was dependent on local products associated with a nearby works depot and the supply of black-burnished ware 1 to the northern frontier, which appears to have commenced *c.* AD 120.[119] However, the presence of coarse ware rusticated jars, samian ware from south Gaul and other fine wares suggests 107-117 Botchergate was receiving material from at least *c.* AD 100, if not the late 1st century AD, although some of the earliest material may have been scattered and redeposited from the core of occupation at Carlisle. Indeed, the pattern of supply of fabrics is closely comparable to Period 4A at the Millenium Project, as is the range of form types, including ring-neck flagons, rough cast beakers, mortaria from north Gaul and local kilns, coarse ware lids, bowls and tazze (*c.* AD 105-125),[120] interpreted as a change in consumption habits associated with the arrival of a new garrison from, or previously been stationed in, *Gallia Belgica*.[121] However, this pattern continues with the addition of black-burnished ware 1 cooking pots and dishes comparable to those common in this assemblage in Periods 4B-4D (*c.* AD 125-140/150), with a period of decline at the end of this chronological span, possibly being the result of troop movements[122] and coinciding with a wider economic downturn that saw the decline of consumption at 107-117 Botchergate. This is in contrast to continued mid-to-late Roman activity on other sites in Carlisle, including elsewhere on Botchergate.[123]

The composition of the cremation burial groups

The most striking component of the assemblage is the deliberate placement of a total of 61 vessels in 12 cremation burials, including two that may be considered richly furnished with votive sets of vessels (Table 5.10). A single cremation (no.1) is assigned to Phase 1, nine cremations to Phase 2 (nos. 2, 5, 6, 8, 9, 10, 11, 15 & ?A), and two to Phase 3 (nos. 17 & 18), although it is highly likely that all date to the first quarter of the 2nd century AD, possibly extending to *c.* AD 130.

The richly furnished cremations are nos. 2 and 10, the latter being a chest burial. There are strong similarities between the assemblages from these two burials in terms of the range of form types present and in their dimensions. Both burials contain the same ratio of eight miniature cups and five dishes. These copy the well-attested late 1st century AD complementary samian ware vessels Dr.46 and Curle 15 and are accompanied in both burials by handled bowls, patera and jugs (vessels imitating bronze types), as well as other vessels (Table 5.10). The remaining urned cremations contained just one or two vessels each, with ring-neck flagons, beakers and cooking pots the most common types selected, but a honey jar and lamp are also present (Table 5.10). The disparity between the number of vessels in cremations nos. 2 and 10, and the remaining cremations may echo the hierarchy among burials suggested by J. Pearce,[124] although this manifests more commonly in southern Britain and only rarely in the north, e.g. at Brougham. At the top of this hierarchy were large grave good assemblages, such as cremations nos. 2 and 10, whose status may also be indicated by the presence of lamps and fine ware beakers. In southeastern Britain such

[117] Hird et al. 2019, 308-11: Periods 7-9.
[118] Hird 2000, 135: Phases 7-8, possibly to 10.
[119] Swan et al. 2009, 569–70.
[120] Swan et al. 2009, 618.
[121] Swan et al. 2009, 582–3 & 618.
[122] Swan et al. 2009, 625.
[123] Giecco, F. O. et al. 2001, 27–8.
[124] Pearce 2015, 228.

Table *5.10:* Quantification of form types in cremations by minimum number of vessels (MNV) (all would have been deposited complete)

Vessel type	Form type	Cremation Burial No.											Total
		1	2	5	6	8	9	10	11	15	?A	17	18	
Cup	(Miniature) shallow; horizontal rim with upward bead (imitation of samian Curle 46)		8					8						16
Beaker	Cornice rim, roughcast decoration		1				1							2
	Other				1	1		2					1	5
Dish	(Miniature) shallow; horizontal rim with upward bead (imitation of samian Curle 15)		5					5						10
Bowl	Handled, semi-hemispherical		1					1						2
	Reeded rim, carinated body							2						2
Lid	(associated with reeded rim bowl)							2						2
Patera	(Miniature) shallow, rod handle		1					1						2
Jug	All types		1					1						2
Lamp	Firmalampen/factory lamp		1				1				1			3
Flagon	Ring-necked		3	1	1			2				1		8
	Other (miniature)							1						1
Honey jar	Two-handled								1					1
Cooking Pot/ Jar	Flaring plain rim (narrower than body); burnished lattice on body.	1						1		1			1	4
Jar	Upright plain rim; shouldered body, rouletted decoration		1											1
Total		**1**	**22**	**1**	**2**	**1**	**2**	**26**	**1**	**1**	**1**	**1**	**2**	**61**

large grave good assemblages typically have origins and continuity with Late Iron Age traditions. They do not post-date the late 1st century AD and exhibit a wider array of non-pottery equipment (i.e. fire dogs, mirrors), while solely ceramic-comprised grave good assemblages continue into the 2nd century AD. In contrast, in eastern Belgium and the southern Netherlands such grave-good traditions rarely pre-date the later 1st century AD. Here the tradition continued into the 3rd century AD and may provide an insight into the import of a cultural behaviour to Carlisle.[125]

The occurrence of such a suite of vessels in cremations of early 2nd century AD date is an enigmatic phenomenon. There are no close contemporary parallels recorded within the UK, although as Pearce has observed,[126] 'high status' cremation groups at sites including Baldock and King Harry Lane, Verulamium in southeastern England exhibited associations of Gallo-Belgic fine wares produced in northern France and samian wares and samian copy vessels continue to form part of such groups into the 2nd century AD. In the same graves were grog-tempered vessels produced in local kilns, but the relationship between those vessels is perhaps more of high contrast and conspicuous consumption rather than of the signification of an integrated cultural norm. At Colchester, another urban centre with military and official administrative associations, one does find the association of ring-neck flagons and coarse ware jars/ cooking pots with more idiosyncratic vessel types. These include lamps, honey pots and patera in late 1st to mid-2nd century grave groups.[127] However, the grave assemblages from Colchester do not exhibit the frequency of vessels in cremations no.2 and no.10, nor do they have a specific focus on 'legionary-type' vessels. A unique aspect of the burials from Botchergate is that they appear to represent a deliberate 'votive set' of vessels that may have been specifically commissioned.

The closest parallels to the grave groups from Botchergate cremation nos. 2 and 10 have been found

[125] Pearce 2015, 230.
[126] Pearce 2015, 225.
[127] May 1930, plates LXXX-LXXXVI.

in the Nord & Pas de Calais departments of France and adjacent areas in Belgium (Hainaut and western Flanders). At the site of Bavay in northern France, for example, the Civitas capital of the Nervii, grave groups within a wider necropolis contained closely comparable suites of vessels. Most strikingly these were also principally produced in oxidized fabrics, in particular 'ceramique dorée' in a fine yellowish fabric with a very similar aesthetic.[128] Notably, the vessels selected to accompany ring-neck flagons and jars/cooking pots into the grave groups at this site include cups and dishes imitating samian ware forms (in this instance Dr.27 and Dr.35/36) with shallow dishes or platters (likely to have been loosely based on terra nigra or samian ware prototypes).[129] Another significant parallel is that multiple examples were often present in each group, associated with limited or isolated examples of factory lamps, jugs, patera and handled bowls that compare closely to those present in this assemblage. The ratio of cups to dishes in many of the Bavay graves is often remarkably similar to that found in Botchergate cremations 2 and 10, as is the ratio of these vessel types to patera, handled bowls, jugs and flagons.

At the Bavay necropolis, it is notable that although funerary activity commenced in the early 1st century AD, the suite of form types that appears commensurate with the pattern of deposition in cremations no.2 and no.10 was introduced in Phase 6, notably present in tombs 6/41, 6/22, 6/50 and 6/128. The similarities became widespread in Phase 7, for example in tombs 7/2, 7/9, 7/26-7, 7/33, 7/36, 7/40, 7/119-20, 7/124, 7, 126-7 and 7/129-30.[130] Other closely comparable associations of 'céramique dorée' vessels have been recorded in funerary groups within the Bavay (Nervian) region, such as at Saultain, Onnaing and Blicquy, including closely comparable handled bowls, paterae, jugs and imitations of samian ware cups and dishes at the sites of Cambrai-route de Crèvecoeur, Fontaine-Notre-Dame and Marquion-Secteur 21.[131]

These parallels may offer a further source of influence on cultural practice or consumption patterns that may have derived from the movement of military personnel, as opposed to the stylistic influence on the manufacture of the vessels at Botchergate that may have drawn on the Lower Rhineland region, via the Netherlands (see the coarse oxidized wares). Equally, the imported cultural behaviours that include the use of 'services' derived from samian ware cup and dish form types, may be extended to include the use of vessels copying bronze forms, including jugs, patera and handled bowls, that may in a non-funerary context (or miniature size) have been used for hand washing at a meal or sacrifice (Pearce 2015, 231),[132] or related 'event' behaviours introduced by military personnel, in this instance incorporating such cultural signifiers as tokens in the burial rite.

Links between auxiliaries or soldiers with graves significantly removed from their geographic region of origin have previously been argued for at Colchester through the examination of 'objectscapes' or the intra-cultural connectivity of objects,[133] including the presence of 'services' with a high presence of ceramic vessels copying samian ware form types. However, as with other British burial groups these do not post-date the late 1st century AD. Pitts identifies competing forms of cultural practice that decline in the last decades of the 1st century AD. He sees a reinvigoration and increase in circulation of objects that had less to do with local communities and elites emulating imperial styles of culture, and was more the result of consumption enabled by Roman infrastructure, including military-colonial 'objectscapes' based on urban centres, military bases and roads.[134] Therefore, the furnished groups at Botchergate including 'services' of miniature cups and dishes, vessels imitating bronze jugs, patera and handled bowls, flagons and lamps are telling us something important about identity. They provide convincing evidence in Britain in the early 2nd century AD of the burial rite symbolizing links between Roman military personnel and their 'homeland'. This represents not the flamboyance of the elite but a new style of consumption and funerary practice that preferred suites of objects focused on the needs of individual commemoration that became common amongst the Nervii and other neighbouring peoples in the 2nd century AD.[135]

[128] Loridant and Deru 2009, 80: fig.18.18 & fig.19.4-11.
[129] Loridant and Deru 2009, 80: fig.18.4-11 & fig.20.1-8.
[130] Loridant and Deru 2009, 172-232: figs.72-4, 78, 82-5, 88-94, 97-110.
[131] Willems et al. 2017, fig. 64; 2023, 301 & 303 figs. 174 & 175.
[132] Pearce 2015, 231.
[133] Pitts 2019, 119–20.
[134] Pitts 2019, 208.
[135] Loridant and Deru 2009, 97–120; Pitts 2019, 209.

Chapter 6
Interpreting the Roman Cremation Cemetery

Matthew S. Hobson

with a contribution from John Summers

Introduction

In order to assess the significance of the findings from the excavations at the Cumbria House site at 107-117 Botchergate it is necessary to set the site within its broader context. This final chapter begins with exploring what this site adds to our existing knowledge of Roman Carlisle. It then gradually expands the frame of reference geographically, examining how the cemetery evidence recorded from the site compares to other funerary sites in northern Britain with regard to cemetery layout, the form of graves, grave goods deposited with the deceased, and so on. One of the key conclusions from this is the unique nature of Cremation Burials 2 and 10 when compared to other excavated cremation burials from the northern frontier region. The remainder of the chapter then discusses the funerary archaeology of southeast Britain and the near-continent to reach an adequate interpretation of these two burials as well as examining the implications for the broader Cumbria House site.

The Cumbria House site in the context of Roman Carlisle

The other funerary evidence from Carlisle, particularly that from the close proximity of Botchergate, was discussed in some detail in Chapter 1. The information from the Cumbria House site adds significantly to the existing corpus of data and to its interpretation, being the largest group of published Roman-period burials from Carlisle excavated under modern conditions. Cremation burials excavated post-PPG16 at St Nicholas' Yard, 53-55 Bothergate and Collier Lane have been low in number and often not very well preserved. While the quality of preservation of burials differed across the Cumbria House site, several presented extremely good preservation conditions. The excavations at the Cumbria House site have recovered some exceptionally well-preserved urns, and both urned and unurned burials have yielded significant quantities of human bone that are in excess of those previously published from other Carlisle sites. The full analysis of the pottery and of the human remains published here is intended to allow comparison with evidence recovered from future excavations. An obvious conclusion to draw from the osteological analysis is that this was a cemetery for the garrison community, containing possible soldiers and veterans, but also women, children and perhaps traders and artisans. While many of the burials at the Cumbria House site fit into the existing corpus of data, as far as one can tell from the details available for other Roman burials encountered within the city, nothing similar to the richly furnished Cremation Burials 2 and 10 has previously been found. This gives an indication that further excavation in the Botchergate area, especially of high-status graves, will reveal an eclectic set of burial rites that changed over time. A key influence in this will have been the multicultural make-up of the settlement's population, which shifted as troops from different regions arrived and departed and as the indigenous Britons were increasingly integrated.

The nearby Tait Street excavations, which took place in the late 1990s and remain unpublished, provide the most important set of comparative evidence.[1] While the interpretation and phasing put forward in the interim report need to be treated with caution until further post-excavation work on the site and its finds can be completed, it appears that the Tait Street site has some similarities and differences with that of Cumbria House. The fact that several 2nd-century burials preceded a phase of mid-2nd century building is strongly similar, as one would expect from the proximity of the two excavation areas. Also similar is the character and sequence of roadside enclosures encountered. The Tait Street site, however, appears to boast a longer chronology of use. It had evidence of a probable late 1st-century building and of a return to funerary activity in the late 2nd and early 3rd century, and perhaps beyond, both of which are absent at the Cumbria House site. The late 1st century building at Tait Street had an alignment indicating that it was erected before the road was built. The funerary activity, by contrast, appears to have begun in this area only after the Roman road underneath modern Botchergate was in place. In the absence of analysis of the stratigraphy and the finds it is difficult to fully understand the similarities and differences in funerary practice. One of the early cremation burials at Tait Street highlighted in

[1] Giecco, F. O. et al. 2001.

the interim report appears to have been similar in type to those at the Cumbria House site, having contained a 'legionary ware' pottery urn. The probable *bustum* burial [3728]/[3966] at Tait Street, with a quantity of cremated bone and ashes collected in a glass vessel, presents important similarities and also differences to the burial practices noted at the Cumbria House site. It is likely to have commemorated an individual of similar status to those in Cremation burials 2 and 10 from the Cumbria House site and perhaps also has something important to tell us about the identity of both the deceased individuals and those who buried them.

Comparison with cemeteries in northern Britain

While inhumation coexisted with cremation in many burial grounds across the Roman Empire, at the time of the Roman conquest the predominant form of burial rite in the southeast of Britain, as well as in Italy and the western provinces, was cremation.[2] This category encompasses a wide variety of ancient practices, which include preparations prior to the burning of the body, variations in the location of the pyre, the treatment of the remains after burning, such as the internment of burnt and non-burnt artefacts, and the treatment of the grave or burial monument in the years thereafter.[3] While there were some general directives on cremation and funerary practice, the variety of funerary practice observed in the archaeological remains naturally reflects the different origins and status of the myriad of communities governed within the Roman empire. Archaeological remains demonstrate that in many regions there was a pre-existing rite of cremation that was strongly rooted, often with its own local peculiarities.

There is written evidence also for some of the funerary rites practised in the western provinces. Julius Caesar, for example, wrote of the magnificent and expensive funerals of Gallic elites, in which belongings and even living creatures who had been dear to the deceased were thrown onto the pyre and burnt.[4] This anecdote finds confirmation in the so-called Testament of the Lingon, which survives thanks to a manuscript copy dating to the 10th-century. The testament demonstrates that the distinguished gentlemen wished for his hunting and fishing gear be burnt with him on the pyre, and includes many additional details about the nature of his rural funerary monument, the enclosure within which it was to stand, and how it should be maintained.[5] With regard to burial at urban centres, Cicero tells us that the Twelve Tables of the 5th century BC forbade the cremation or interment of the dead within the boundaries of a city and this is confirmed by portions of the municipal charter from the *colonia* of Urso which survive on bronze.[6] There is little doubt that municipal charters relating to Roman and Latin municipia in the 1st and 2nd centuries AD would have included the same, or similar, regulations. Peregrine *civitates*, however, were allowed to continue governing to an extent under their own pre-existing traditions.[7] The situation in unofficial settlements which grew up around Roman forts along the frontier is likely to have been heavily influenced by the administrative and judicial structures of the Roman military. Although far from a homogeneous group, Rome's army and administrators for the most part also practised cremation and, while the dataset is still rather meagre, there is an observable pattern at newly established forts and settlements in Britain of the 1st and 2nd centuries AD: one or more cemeteries dominated by the cremation rite, often strung out along axial routes several hundred metres from the ramparts of the fort but often a good deal closer to the fringes of the accompanying extramural settlement. The known Roman-period cemeteries from Carlisle fit this pattern well, with most funerary evidence being recovered from the periphery of the town along the main axial routes.

Burials in the frontier zone are sometimes also found within the town or fort, but these are often deaths of a clearly suspicious or illegal nature. A body with multiple head injuries found at the bottom of a 3rd century AD well from the excavations at the Northern Lanes in Carlisle provides a good example, as do two skeletons found beneath the floor of a house at Housesteads fort, one with the murderer's blade still embedded in it, and a child found beneath a barrack block at Vindolanda.[8] A body seemingly dumped within the hypocaust of the bathhouse at Papcastle dates to the 2nd or 3rd century AD.[9] The tendency for the size of settlements to fluctuate, expanding and contracting over the decades, also means that one finds early burials beneath the suburbs of an expanding town, or later burials cut into abandoned settlement fringe activity. Indeed, such interleaving strata relating to settlement and funerary functions are known from many urban centres and sedentary settlements across the Roman world. Again, the archaeology of Roman Carlisle, this time along Botchergate, is a good example of such a pattern of changing activity, where the late 1st and early 2nd century funerary landscape was overlain by 2nd century buildings and other settlement features. The excavations at Tait Street have demonstrated that when the settlement contracted, or was replanned in

[2] Philpott 2016: 8; Schrumpf 2006.
[3] Roymans 1990: 219–220.
[4] Caesar, *De Bello Gallico* VI.19.
[5] Sage 1991.
[6] Cicero *Leg.* II.23.58 & II.24.61. *Lex Col. Gen.* LXXIII. Crawford 1996 no. 25. Robinson 1975: 182.
[7] Jacques 1990.
[8] Zant, J. and Howard-Davis, C. 2019: 212; Crow 1995: 69–70; Mountain and Alberti 2022: 29.
[9] Apperley 2016: 22.

the late 2nd or early 3rd century AD, these structures went out of use and the area was used for a combination of cremation and inhumation burial again.[10]

In the north of Britain cremation burials had a tendency to be less ostentatious than in some of the more urbanised regions of the empire. Ashes, including cremated bone and other material gathered from the pyre, could be placed in a grave within a vessel. Normally an everyday domestic ceramic vessel was used, but glass, wood, lead, stone and textile were also used. Frequently a token amount of the burnt remains was collected and placed in the grave without any obvious form of container, although in cases where substantial quantities of bone are recovered the existence of some sort of perishable container, such as a bag or a box, cannot be ruled out. A common feature of the late-1st and early-2nd-century cremation burials at the Cumbria House site, and in the region of Botchergate generally, is the large quantities of pyre debris deposited in the graves (for the most part charcoal-rich black soil, rather than large pieces of burnt timber seen at some sites e.g. Skeleton Green, Puckeridge, Hertfordshire).

It has been noted that, in contrast to southeastern *Britannia*, cremation remained the predominant form of burial in the north of the province into the 3rd and perhaps even the 4th century AD.[11] The pattern in the southeast reflects a shift away from cremation toward inhumation which took effect across Italy and the western provinces from the middle of the 2nd century. In Britain inhumation and cremation always appear to have existed alongside one another, with crouched inhumations persisting in some areas into the 3rd century. In the first two centuries AD, however, cremation appears to have been the dominant burial rite, albeit with significant local variation. Mirroring the broader changes within the western empire, several excavated cemeteries in Britain demonstrate that this balance shifted, with inhumation vastly outnumbering cremation at several urban cemeteries in the 3rd and 4th centuries (Winchester, Cirencester, Dorchester). The archaeological evidence from the north has been used to argue that the longevity of the cremation rite here may have been part of a conservative military tradition, but the cremation rite also remained farther south as a widespread but minority tradition.[12] The recent evidence from the excavations associated with the widening of the A1 around *Cataractonium* in North Yorkshire, also indicates that the cremation rite may have been in the minority there during late Roman times and perhaps earlier also.[13]

Outside of Carlisle, in Cumbria, Northumberland and County Durham the author has found publications of excavations at 17 sites where part of the Roman-period cremation cemetery associated with a Roman fort and its extra-mural settlement has been subjected to excavation. With the inclusion of Lancaster, which has certain important similarities with Carlisle, this makes 18. Of these, only the excavations of the cemeteries at Petty Knowes, High Rochester in 1978-79, at Birdoswald in 1999 and 2009, at Vindolanda in 2001 were undertaken in a research context. The other investigations of cemeteries in this part of northern England have either been undertaken in a commercial context, or, in the case of Beckfoot, as rescue excavations by local interested parties. The commercial sites were excavated or evaluated because of threats to the survival of the archaeological remains from development projects, comprising roads, gas pipelines and residential housing in most cases cited here. While the threat of destruction usually comes from development projects, in two cases erosion has been a major factor. The cemetery south of the fort at Beckfoot, for example, is gradually being destroyed by coastal erosion. This has led to both amateur and professional attempts to record samples of the cemetery following storm damage. Even at Birdoswald, the research excavations have taken place in the context of an eroding and collapsing scarp edge north of the river Irthing, which is threatening the preservation of the cremations positioned close to it.

It is unfortunate that most of the excavations which have encountered the largest numbers of burials took place in rescue conditions and when the provision for the recording of archaeological remains encountered during construction work was far less adequate than it is today. Just five sites provide a sample of more than 40 cremation burials: Birdoswald, Brough-under-Stainmore, Brougham, Lanchester and Low Borrowbridge (Figure 6.1). Four of these were excavated in a rescue context and three prior to the passing of PPG 16. The cemeteries associated with the forts at Brougham and Brough, for example, were excavated in difficult conditions during piecemeal improvements to the A66 in the late 1960s and early 1970s. Significant numbers of burials were also encountered at cemeteries located along the routes of two gas pipelines, one at Lanchester in 1981 and the other at Low Borrowbridge in the early 1990s. In these four cases the efforts to avoid the scheduled and protected fort ramparts, and the area within, resulted in the destruction of parts of the associated extra-mural settlements and cemeteries. At Brougham the location of the cemetery was known prior to the construction work, which helped to some degree. At Brough and Low Borrowbridge, however, the discovery of the cemeteries was made during the groundworks. This had a negative impact on the level of response which it was possible to mount and, as a result,

[10] McCarthy 2002: 85–86.
[11] Philpott 2016: 50–52.
[12] Caruana, I. D. 2004: 154; Toynbee 1971: 40; Booth et al. 2010: 411.
[13] Speed and Holst 2018: 333.

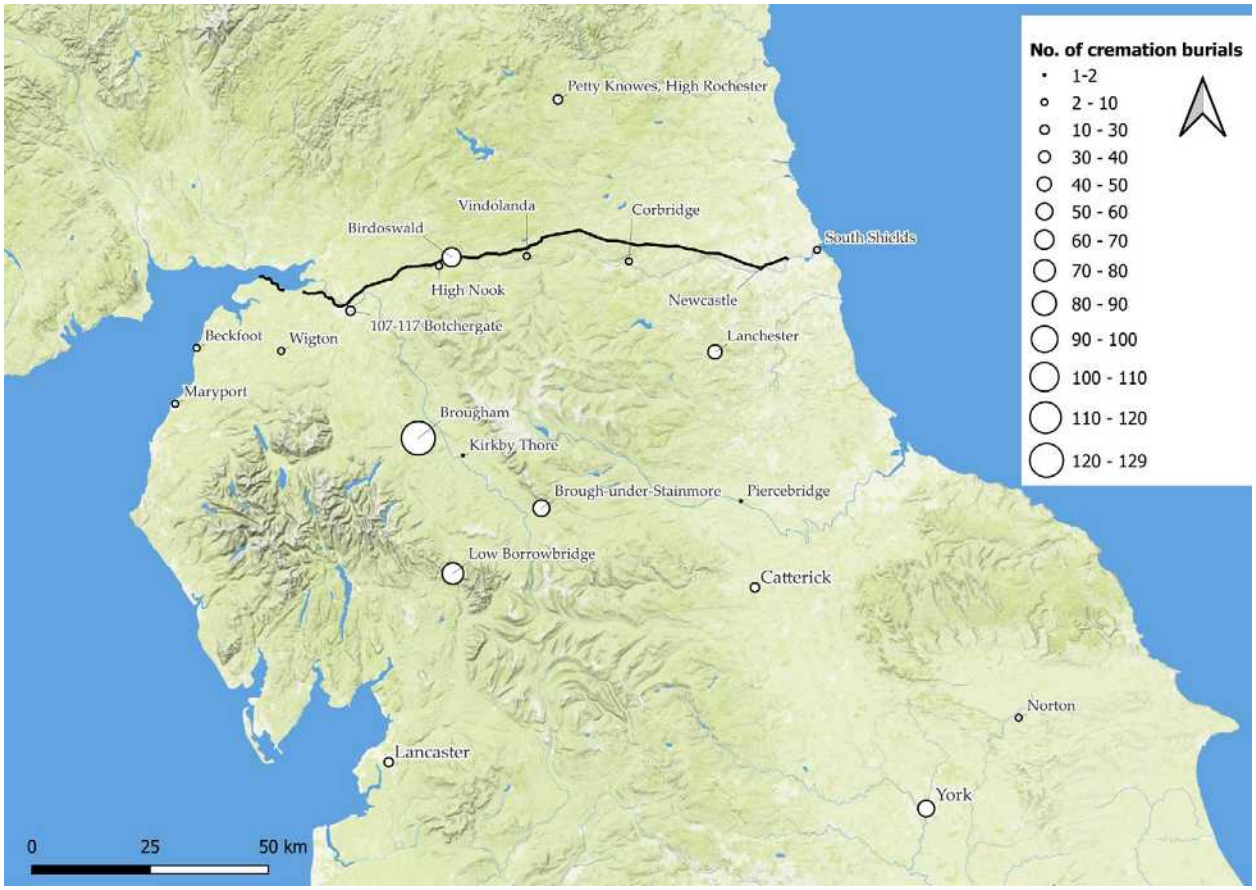

Figure *6.1* Excavated cremation cemeteries close to Roman forts in northern Britain

the level of detail published about each burial context is less detailed than it might otherwise have been. With 61 cremation burials of Hadrianic and Antonine date, and two possible inhumations, all excavated in research context, the dataset from Birdoswald provides the most comparable dataset for the Cumbria House material. Needless to say, when the publication appears it will constitute the most comprehensively examined assemblage from the region.

At most of the other sites the number of excavated cremation burials encountered has been far lower. One of the sites encountered during the construction of the Corbridge bypass (A69) in 1974, for example, found only a handful of cremation burials, but is notable for having recorded the site of a funeral pyre. In the cases of Maryport, Wigton and South Shields the small-scale evaluations, excavations and watching briefs have taken place in relation to residential development projects. In terms of commercial evaluation work, English Heritage (now Historic England) commissioned trial trenching at Beckfoot to characterise the area being gradually lost to coastal erosion in 2006. Finally, discoveries in Lancaster are of a similar nature to those in Carlisle. The fort, extra-mural settlement and cemetery have been overbuilt by the modern city, with a string of antiquarian finds of tombstones and burials being poorly recorded by modern standards. The recent discovery of an almost-complete memorial stone erected in honour of a Treveran cavalryman in the context of a commercial excavation prompted the bringing together of the antiquarian discoveries with other piecemeal commercial excavations.

A summary of the finds at each of these northern military cemetery sites follows, concluded by a brief discussion before moving on to a consideration of the burial tradition of southeast Britain and the continent.

High Nook, Nether Denton, Cumbria

At High Nook four pottery vessels, all chance discoveries spanning the mid-19th century to 1965, are very likely to represent a cremation cemetery associated with the fort and in use during the 2nd century. The most recent find was made by the farmer whilst burying a pig. H. Welfare identified one as a rustic ware vessel and another as a Nene Valley ware wide-mouthed jar.[14]

[14] Welfare, H. G. 1974, fig. 2.

Brougham, Cumbria

The Roman cemetery at Brougham had long been known from discoveries of fragments of tombstones when a significant part of it was excavated under rescue conditions in 1966-67. It remains the largest area of cremation cemetery ever to have been dug in the Roman north, and since its belated analysis and publication in 2004, has been renowned in the literature on Roman Britain as an example of how the soldiery expressed ethnic identities through burial practice.[15] The cemetery was established around AD 200 and was in use for about a century. About 200 cremation burials were excavated, 69 of which were cists. Of seven excavated long-cists, assumed to be of 4th century date or later, only one contained a tiny amount of unburnt bone. Although the presence of soldiers at Brougham is not specifically mentioned in the texts from the 25 fragmentary inscribed tombstones, fragments of weapons and other distinctively military objects were recovered from the cremation deposits. Iron bucket pendants of a type that had hitherto not been found in Britain indicate that the possible origins of some of the soldiery lay in the trans-Danubian region. The inclusion of whole horses in some of the burials also has parallels with burial customs in parts of *Germania*.

Cremation burials were both urned and unurned. In the urned cremations it was most common for a single vessel to be used as the urn, accompanied in most cases by one or two accessory vessels. There were around 40 graves in which three or four vessels were deposited. Only a handful contained six, seven or eight vessels, and most of these represented the burial of two individuals within the same cremation pit.[16] The cemetery appears to be unusual in the north, with the frequent use of samian vessels as grave goods and in the selection of Rhenish ware beakers. The higher proportion of tablewares used as grave goods also makes it unusual in the context of other northern military cemeteries. The use of terra sigillata makes the burial assemblages dissimilar to those from the Cumbria House site and, despite boasting graves with the highest number of accessory vessels from the region, none of the graves come close to the twenty or so pottery vessels recorded for Cremation Burials 2 and 10.

Brough-under-Stainmore, Cumbria

At Brough, the location of the Roman cemetery was discovered during the realignment of the A685 in 1971. Efforts to recover finds and contextual information were made by teachers and students of Kirkby Stephen Grammar School. The works were associated with the re-routing of the A66 and the discoveries prompted the Department of the Environment to fund rescue excavations as groundworks continued in 1972. In 1971 the position of over 50 burials was recorded, but many more were probably destroyed without record.[17] Two burials were contained in lead caskets. The publication appears to interpret these as cremation burials, although the statement that both lead caskets entered private possession leaves to what extent they were analysed unclear. Otherwise, there was little evidence observed for the presence of urns or grave markers, although some of the most well-preserved pottery vessels are noted as having contained burnt human bone. A further seven cremation burials were recorded in a long, thin trench (dimensions 1m x 100m) in 1972 and given letter codes. None, however, received detailed description in the publication. Some of the seven cremation pits contained nails. One contained the remains of a circular wooden box, made of oak. In the same year, trial trenching of the extra-mural settlement found timber buildings and a bathhouse associated with pottery from the Trajanic period to the 3rd century. The excavators concluded that the pottery from the cremation cemetery indicates that it was used during the late 1st and early 2nd century, and a few of the urns described were of 4th century date.

Low Borrowbridge, Cumbria

At Low Borrowbridge a series of excavations took place between 1990 and 1992.[18] Fieldwalking in 1990 failed to identify a previously unknown cemetery which came to light during a watching brief in 1991 on the northwest bank of the river Lune beside Salterwath Bridge. The excavations recorded 71, mainly small, pits interpreted as cremation burials. These appeared to post-date 16 oval pits, thought to be possible inhumations. One of the possible inhumation burials contained 67 beads belonging to a necklace. The cremation cemetery was associated with a series of seventeen small (mostly square) ditched enclosures. The enclosures measured between 1.5 and 4.5m externally. One was penannular. Small quantities of hobnails were found in many graves. One or two graves yielded large numbers of hobnails. Three burials contained brooches. Twenty-five vessels were lifted *en bloc*. Just two of the cremation pits contained the urn plus one accessory vessel: one with an urn and a fineware beaker, the other an urn plus a miniature cooking pot. Three black-burnished ware bowls were used, either to contain cremated remains or as accessory vessels to unurned cremation burials. It is unlikely that the cemetery provides contemporary comparative evidence for the material from the Cumbria House site. The pottery recovered suggests that the cemetery possibly began use in the late 2nd century AD and was used for about a century.

[15] Cool, H.E.M. 2004; Mattingly, D. J. 2006: 224; Pearce 2010: 90–91.
[16] Cool, H.E.M. 2004: 444–454.
[17] Jones, M. J. 1977.
[18] Hair and Howard-Davis 1996: 87–125.

An inscribed tombstone for a 35-year-old is probably 3rd-century in date.

Syke Road, Wigton (near Old Carlisle), Cumbria

An evaluation[19] in late 1999 followed by a watching brief in the year 2000[20] took place prior to the construction of a residential estate south of Syke Road, Wigton, about 900m north of the fort ramparts. The work recorded evidence of five late Roman cremation burials. The cremation cemetery is thought to have been associated with a small rural settlement, rather than with the fort itself. Two of the cremations were placed in Huntcliff-type calcite-gritted jars dating to the second half of the 4th century and another in a black-burnished ware jar of 4th century type.[21] A grave-shaped cut containing an iron nail but no human bone was interpreted as a possible inhumation.

Beckfoot, Cumbria

The site of Beckfoot is known for the discovery of a rare couch burial accompanied by weapons in 1948 (Hogg 1949), with a second likely couch-burial found in 1954 (Bellhouse 1954).[22] As stated above, the site is being destroyed gradually by coastal erosion. Local archaeologists have been visiting the site to recover finds and conduct ad hoc rescue excavations since the late 1940s.[23] In 2006 trial trench evaluation commissioned by English Heritage took place to recover better quality information from the parts of the site most at risk of destruction.[24] Seven cremation burials were partially excavated with others being left in situ. Most appear to have been simple urned or unurned cremation pits. One burial excavated in 2006 was surrounded by a ring ditch, indicating it may have been similar in form to those excavated at High Rochester, though somewhat smaller.

Birdoswald, Cumbria

The cemetery evidence from Birdoswald provides contemporary comparative material for the Cumbria House site, being Hadrianic and Antonine in date. In 1999 excavation by Time Team found three cremation burials next to the road on the southwest side of the fort. The limited size of the excavation meant that it was not possible to discern if this part of the cemetery had been enclosed. Ten years later, in 2009, the collapse of the escarpment edge caused significant damage to the edge of the cemetery, prompting a research excavation to gather information about the extent of this cemetery on the other side of the road before more information was lost to erosion.[25] This work identified a funerary enclosure next to the road which contained all of the funerary deposits that were excavated. Of the 61 cremation related deposits, the majority were contained within unlined pits. Some pits had a stone lining, with slabs forming roughly built cists. Occasionally evidence for containers for the cremated bone was found. In two cases this had probably been a fabric or leather bag. In another, the presence of iron nails indicated a wooden box had been used. Most of the contained burials (n=12), however, used pottery vessels. These were recovered for X-radiography which in one case revealed the preservation of decorative chainmail. Four probable *busta* were also recorded. Those at Birdoswald were of a type very similar to one recorded at High Rochester, north of Hadrian's Wall. Finally, two inhumation burials in which no bone survived are thought possibly to date to the 5th century.

Maryport, Cumbria

The cremation cemetery associated with the fort was located during trial trenching ahead of a proposed housing development in 2010.[26] Expansion of one of the trenches revealed ten cremation burials. Only one of these was excavated, with preservation in situ being decided upon for the other nine. The excavated cremation burial contained two black-burnished ware (BB1) vessels from southeast Dorset, dated by the obtuse angle of the lattice work to the mid-3rd century AD or later date. In 2011 the Senhouse Museum Trust initiated a five-year programme of fieldwork to investigate the origin of a group of 2nd-century altars found in 1870. The project was undertaken in partnership with, and jointly resourced by, the University of Newcastle. Investigation of the altar pits demonstrated that the altars had been used as post-packing for one or more large timber buildings. The post pits cut through a large curvilinear enclosure which contained late-4th-century AD Crambeck Parchment Ware. Just to the north, seven long-cist graves were excavated on two alignments, some of which were intercut. Vessel fragments from two of the graves demonstrated that, like the large timber building, they also could not have predated AD 370. The preservation of human remains within the cist graves was poor due to the extreme acidity of the soil, but there was sufficient survival to indicate that the heads were positioned to the southeast for one alignment and to the northwest for the other.[27] Approximately 100m to the south-southwest of the first excavation area, a second excavation investigated a circular building erected within a rectilinear enclosure during the 2nd century AD. It is thought to have been a cult building

[19] Grahame 1999.
[20] Giecco 2000.
[21] Giecco 2000: 3.
[22] Hogg 1949; Bellhouse 1954.
[23] Results summarised in Caruana, I. D. 2004.
[24] Howard-Davis, C., Leary, R., and Ward, M. 2017.
[25] Wilmott, T. 2014.
[26] Kirby, M. 2011.
[27] Haynes and Wilmott 2020: 79.

possibly associated with a victory monument. Within the same excavation area, a rectangular temple was found to have been constructed sometime after the mid-3rd century AD, straddling the backfilled enclosure ditch. The excavators concluded that the original 2nd-century location of the altars cannot be located within either excavation area, but is probably to be found somewhere close by.

Kirkby Thore, Cumbria

Archaeological features of Roman date and the top of a probable grave cut were discovered during a watching brief which took place ahead of resurfacing work on the A66 in the autumn of 2018. The probable grave was aligned northwest-southeast and measured approximately 2m by 1m. The feature was not excavated, although disarticulated human bone, pottery and iron nails were observed on the surface. The watching brief report is vague about whether the human remains observed were burnt, but does refer to 'carbonised remains' and appears to suggest that the feature might be interpreted as a boxed cremation burial.[28] The presence of Roman pottery within the fill and the location, close to the remains of the roadside fort and extramural settlement, indicates a probable Roman date. The exact nature of the burial, and whether it belonged to a broader cemetery, remains unconfirmed for now.

Corbridge, Northumberland

In 1974 three excavations took place ahead of the construction of the A69 bypass. One of these encountered an area of funerary activity associated with the Roman fort.[29] An extensive area of burning associated with postholes was interpreted as evidence for *ustrina*, the location of pyres where bodies would have been burnt as part of the burial ritual. Away from this, within an enclosed area, up to five possible cremation burials were found. The human bone from the site was sadly lost during post-excavation analysis, but several of the cremations were confirmed. Most appear to have lacked a pottery urn, although one may have been interred within an amphora. One burial was richer than the others, containing a pottery lamp, an enamelled copper alloy vase, beads, nails and two copper alloy rings. Dating from the features indicated that the burials encountered related to the Trajanic phase of the fort and were therefore contemporary with the evidence from 107-117 Botchergate.

Petty Knowes, High Rochester, Northumberland

The cemetery consists of a field of low burial mounds containing cremation burials associated with the auxiliary fort dating from the early 2nd to late 3rd century AD. Excavation of 17 burial mounds, estimated at approximately one fifth of the cemetery, took place in 1978/1979. Four monumental tombs investigated in 1850 are also known, three with a rectangular base and one with a circular form. These appear to have been in a minority and are likely to be the tombs of officers or other important individuals. In most cases excavation revealed circular earthen barrows, with a cremation pit sealed below their mound [30]. Four pottery urns were found, three of black-burnished ware and one of Old Penrith ware.

Vindolanda, Northumberland

Excavations in 2001 revealed a Romano-Celtic tomb which appears to have been reused as a tomb in the 2nd century AD, with eight cremation burials being found beneath the *cella* floor. One burial had been placed in an amphora and the other in a tubulus box-flue tile. Small nails provided evidence of wooden caskets in the other six burials. No human bone was recovered, but coins present in two of the casket burials and a disk brooch in another, make it unlikely that these were animal sacrifices. Two of the coins were of Trajan and another an unreadable 2nd-century issue.[31]

South Shields, Tyne and Wear

The construction of terraced housing during the 1870s and 1880s led to the discovery of human remains within the fort and its cemetery. There are references to approximately four cremation burials and 14 inhumations.[32] Excavations in 1993 and a subsequent watching brief took place ahead of the construction of a playground.[33] The excavations uncovered two cremation burials and five inhumation burials a couple of hundred metres south of the fort. None of the inhumation burials contained human bone, but one contained a diverse and abundant range of objects (beads, bracelets, rings, a chain, an iron knife, etc.). Another inhumation burial took the form of a small cist, similar to those excavated at Lanchester. The watching brief found an additional cremation burial with a truncated black-burnished ware urn dating to the second half of the 2nd century AD and containing a small quantity of human bone.

[28] Atkinson 2018: 13–14.
[29] Casey and Hoffmann 1995.
[30] Charlton, B. D. and Mitcheson, M. M. 1984.
[31] Blake 2003: 11–13.
[32] Croom and Caffell 2005: 101.
[33] Snape 1994; Snape 1995.

Clavering Place, Newcastle Upon Tyne, Tyne and Wear

Antiquarian discoveries of human skeletons and two stone sarcophagi just west of the fort were added to during redevelopment at the BEMCO site in 2008, with the discovery of several urned cremation burials and two further stone sarcophagi.[34] The results are yet to be published.

Piercebridge, County Durham

Legacy data of fairly poor quality have been published for an inhumation burial and a cremation burial excavated between 1969 and 1981.[35] The author has not been able to see more recently published results.[36]

Lanchester, County Durham

Remains of the cemetery were discovered about 250m southwest of the Roman fort in 1981 during the construction of a gas pipeline. Fifty-seven funerary features were excavated in rescue conditions, of which 12 were stone-lined cists, 29 cremation pits, and some simply patches of cremated deposit.[37] The cists were small and contained no human bone. They were interpreted as inhumation burials of children or infants, in which the bone did not survive. Finds were few, pottery and iron nails or hobnails, and indicate that the cemetery was in use during the mid-2nd to late 3rd centuries. Only seven cremation pits certainly contained an urn.

Binchester, County Durham

Three stone structures interpreted as mausolea were excavated as part of excavations for Time Team's television programme in 2007. The southeastern structure contained an inhumation burial associated with a complete grooved rim bowl and an everted rim jar of 2nd century date.[38]

Lancaster, Lancashire

Fairly meagre evidence of a roadside cremation cemetery from four small sites was excavated between 1995 and 2005, south of the extra-mural settlement. A possible late 1st-century funerary enclosure and twenty-three burials or related features of 2nd to 4th century date have been recorded. As at Carlisle, some of the later cremation burials were cut into the infilled enclosure ditches. The discovery of the tombstone bearing a funerary portrait and inscription referring to the Treveran cavalryman Insus in 2005, has further demonstrated the presence of a series of enclosures aligned to the Roman road.[39] One ditch, aligned with the road, was found to have been set at a distance of 30 Roman feet from it (approximately 9m). Seven putative inhumation burials from the same area contained no bone and are dated to the late 3rd or 4th century AD.[40] Other inhumation burials discovered southwest of the fort in 1934-5 may have been of Romano-British date.[41]

Discussion

Cremation and inhumation

In a forthcoming survey of this body of evidence Tony Wilmott points out that the slightly more than 500 investigated cremation and inhumation burials in the northern frontier region represents a very tiny proportion of the population that lived and died in this area during the Roman period.[42] The difficult rescue conditions in which many of the burials were excavated has resulted in only very brief summary records being available for the majority. When one breaks this dataset down to look solely at the recorded burials available for our period, the early 2nd century AD, the sample size is even smaller. Nonetheless, it is possible to draw out some similarities and differences between the burials excavated at the Cumbria House site and the previously excavated remains.

The brief overview of the available evidence above also demonstrates, however, a heterogeneity to burial practices in northern Britain. Burial practices in Romano-British cemeteries associated with forts and their extra-mural settlements reflected the make-up of their populations. This has been highlighted most clearly in the publication of the cemetery at Brougham, where the burial rites are seen as reflecting links with possible homelands in Pannonia and Germania. With the high numbers of auxiliary soldiers serving in the region from various parts of the empire, it should be expected that the earlier burial traditions of the late 1st and early 2nd century were even more diverse. The absence of well documented assemblages of grave goods at other sites limits the amount that can be said about identity at this time, but future excavations have the strong potential to reveal important information about variations in burial practice and belief.

Cemetery layout and grave form

The predominant burial rite at the Cumbria House site in the late 1st and early 2nd century AD was cremation, with *c.* 20 confirmed or possible cremations,

[34] Graves and Heslop 2013: 60–62.
[35] Cool and Mason 2008.
[36] Brogan 2014.
[37] Turner 1990.
[38] Birbeck 2014.
[39] Iles and Shotter 2009.
[40] Iles and Shotter 2009: 33–35 & 46–48.
[41] Iles and Shotter 2009: 17–19.
[42] Wilmott Forthcoming.

one possible cenotaph and one possible inhumation. The fragment of tombstone from ditch FG001 and the possible building within Funerary Enclosure 2, echo some of the other evidence for the monumentality of graves recovered from along Botchergate and elsewhere in Carlisle (see Chapter 1). In Phases 1 and 2 the cemetery developed within a series of rectilinear roadside enclosures, within which appear to have been smaller rectangular or square burial plots. The multiple cremation burials found within Burial Plots 1 and 3 indicate that these may have been used for family groups. At least two of the cremation burials in Phase 2 appear to have been of high status. In Phase 3, however, it is evident that the expanding settlement was encroaching on this area. The Phase 3 cremation burials appear to have been placed on the boundaries of the former funerary enclosures rather than within dedicated burial plots, and this is a possible indication that lower status burial was now taking place.

In terms of layout, when compared to the other excavated cemeteries from northern Britain, the cemetery at the Cumbria House site seems to share closest similarities with the exiguous evidence from Roman Lancaster, with the presence of funerary enclosures aligned to a major road running towards the fort and its associated settlement. Farther afield there are similarities with Gloucester, where the origin of such roadside plots has been linked to the Roman army.[43] Elsewhere in the north a significant level of variation is apparent in the layout of cemeteries and the form of graves. There appear to be potential similarities concerning the construction of small barrows surrounded by ditches at High Rochester and what may have been a similar practice at Low Borrowbridge. Similar unexcavated low mounds have been identified at Chesters, Great Chesters and Bewcastle. A mound was also recorded over one of the excavated cremation burials at South Shields, where the overbuilt nature of the site makes further characterisation impossible.[44] Funerary enclosures were also present at Birdoswald and Corbridge, although there is less evidence at these sites of the existence of internal divisions and the presence of burial plots. At Brougham none of the burials, either individually or in groups, were recorded to have been enclosed by ditches.[45] Brough and Lanchester may present further examples of cemeteries lacking in burial plots and funerary enclosures. The nature of recovery and recording in these rescue excavations, however, leaves the apparent lack of enclosure or internal division unconfirmed. Given the small size of the excavated samples, it seems safest to assume that a broad range of practice existed at most sites, and indeed this is hinted at by the dataset currently available.

At most cemeteries in northern *Britannia* for which we have evidence, the indications are that most graves would have been simple pits in a range of shapes, but there was also a wide variation in grave form. A high degree of variation has been recorded at other excavated cemeteries in locations that have not been overbuilt. To take Brougham as an example, there were two masonry monuments, 69 cists or partial cists, seven long cists, and over a hundred pits. Stone-lined cists were also noted at Lanchester and South-Shields. In Chapter 1 the evidence available from antiquarian discoveries from Carlisle was reviewed, revealing similar levels of variation in the funerary evidence. Lead, stone and wooden coffins have been discovered as well as stone-lined cists. At the Cumbria House site, only circular, rectangular and ovoid pits of different depths have been recorded, but the covering of the remains with stones was observed in Cremation Burial 11. This practice appears to have been mirrored in a number of other cases, for instance at Low Borrowbridge.[46] Monumental tombs were in the minority in most cemeteries, but there is evidence of them at a number of sites. In addition to the two masonry tombs at Brougham, for example, four are known from High Rochester, three have been excavated at Binchester, and stone fragments indicate their presence at Vindolanda and Watercrook. A more substantial masonry tomb surrounded by a precinct wall is known at Shorden Brae, close to Corbridge.[47] There are indications that more substantial monuments existed at Carlisle. Although it is unclear what their original form may have been, it is apparent that the range of burial practices present in the archaeological remains from *Luguvalium* reflects differences in the dates of the remains, as well as the status and beliefs held by those conducting the burial ritual.

Aside from the survival of low mounds and masonry monuments at some cemeteries, nothing much is known about how the grave would have appeared above ground.[48] Archaeological discoveries demonstrate that a minority of graves in the north of Britain would have been given tombstones, although very few of the surviving examples have been discovered in situ. Carved and inscribed tombstones have been found previously in Carlisle, mainly in a group located between West Walls and Gallows Hill, but also in other probable cemeteries on the east and west sides of the Roman town and in building rubble on the north side of the river Eden. The fragment of inscribed tombstone found within ditch FG001 within our excavations now joins this group and demonstrates that tombstones would have been a feature of the late 1st and early 2nd century cemetery. Other evidence of grave markers at

[43] Brindle, Holdbrook, and Sausins 2018.
[44] Petts 2009.
[45] Cool, H.E.M. 2004: 26.
[46] Hair and Howard-Davis 1996: 123.
[47] Gillam and Daniels 1961.
[48] Cool, H.E.M. 2004: 33–34.

the Cumbria House site included clusters of postholes and stakeholes. Although observation of these was far from universal, the lack of intercutting seems to indicate that graves were generally marked.

The funerary process

It has been suggested that the act of cremation on the Roman frontier in Britain may have been a prescriptive process, with pyres being constructed and burned in similar ways and using similar species of wood as fuel.[49] There was clearly, however, a heterogeneity to burial practice within the communities of the northern frontier region that makes it difficult to support such generalised statements. While the collection of remains from the pyre for later burial elsewhere seems to have been a more common practice than the burning of a pyre directly above the burial pit, several *busta* in which in situ burning has been observed are also known from cemeteries in the north. A number of these were present at High Rochester and Beckfoot. Another has been found at Norton in North Yorkshire[50] and an example which shares the same late 1st to early 2nd century date range was recorded in the late 1990s at Tait Street just a short distance from the Cumbria House site.[51] The best example of a probable pyre site (*ustrinum*) in the region remains that excavated in advance of the construction of the A69 at Corbridge in 1974.

The graves recorded at the Cumbria House site presented no evidence of burning in situ which could be used to argue for the presence of either *busta* or *ustrina*. The charcoal-rich fills of the cremation pits indicate that ashes were collected from pyres located nearby. Only in Cremation Burial 1 were significant sections of wooden pyre debris recorded, although no evidence of burning in situ was found.

Nails are a frequent find in the cremation burials of the north and Ian Caruana has commented that these would not be expected in funerary furniture, where dowels and joints would have been more usual. Nails may, however, have been part of hastily constructed funeral biers, made using reused nailed timbers. This seems to be confirmed by the remains of a possible bier recorded by Richard Bellhouse at Beckfoot.[52] Bodies may also sometimes have been burnt in wooden coffins, although the use of scrap wood containing old nails for fuel for the pyre is probably the most likely explanation for the presence of nails in many cases.[53] The iron work recovered from the Cumbria House cremations adds little to the small amount that is known about bier furniture and fittings. The Cumbria House burials yielded no evidence of decorated bone veneer of the kind that came from one cremation at Birdoswald and many more at Brougham. At the latter site the fragments of burnt veneer were interpreted as the remains of funeral biers, or of boxes and caskets placed on the funeral pyre.[54]

Although a possibility, the burnt samian recovered from above Cremation Burial 9 is not thought to have necessarily derived from a funeral pyre. It is thought more likely to have been settlement refuse, becoming burnt unintentionally from a fire unrelated to the funerary ritual. The one artefact that was clearly burnt upon the funeral pyre is the glass phial found within the pottery urn of Cremation Burial 10, notably having been melted and deformed from the heat. Resolidified glass from this cremation burial and small quantities from within the cremated bone from seven other confirmed or possible cremation burials (See Chapter 4), indicate the possibility that complete glass vessels were placed on the pyre. This is a similarity with the contents of the glass urn used for Cremation Burial [3728]/[3966] at the Tait Street site.

Charcoal and charred plant macrofossils

At the Cumbria House site oak was almost universally the primary wood fuel for the pyre. This was associated with a range of other woods, with ash and hazel being most common, and Rosaceae, plum/cherry and willow/poplar being more minor components. Oak was often a favoured wood for cremation, in a large part due to its high calorific value, which makes it a dense, long-lasting fuel.[55] The Roman cremations at Waterdale, Doncaster, for example, were also fuelled primarily by oak.[56] Hazel, ash and fruit woods (Rosaceae and *Prunus* sp.) are also dense, calorific fuel woods commonly used in cremations.[57] There is evidence, however, that local woodland availability could have a significant impact on fuel wood selection. For example, at Brougham, Cumbria, cremations were mostly carried out with far less desirable fuels in the form of birch and alder.[58] This suggests that there was a sufficient local supply of oak timber around *Luguvalium* for it to be routinely used for cremation pyres.

As well as fuel, a range of other wooden objects could have been placed on the pyre, including coffins/biers or smaller objects, such as bowls, knife handles etc.[59] At Brougham, it was hypothesised that ash and perhaps oak were used to construct biers for the body, which appeared to have been decorated with bone veneers.

[49] Thompson et al. 2016.
[50] Phillips and Wilson 2021.
[51] Giecco, F. O. et al. 2001: 18; Petts 2009: 163.
[52] Bellhouse 1954.
[53] Caruana, I. D. 2004: 156–157.
[54] Cool, H.E.M. 2004: 273–274.
[55] e.g. Gale and Cutler 2000: 205.
[56] Miller 2013.
[57] e.g. Campbell 2004: 270.
[58] Campbell 2004.
[59] e.g. Campbell 2004.

Although conjectural, it is possible that ash in the present samples could have a similar origin, or that perhaps bodies were supported on other platforms, such as wicker hurdles. Hazel or willow roundwood could be well suited to such a purpose and were quite widely identified. However, it is not possible to correlate fragmented and redeposited charcoal with specific objects or locations within the pyre.

Heather charcoal was identified in Cremation Burials 2, 3 and 6 in the western part of the site. Heather can have a range of uses, which includes basketry[60] and one possibility is that heather baskets containing offerings or other items were included in these cremations. In Cremation Burial 6, heather occurred in the same deposits as lentil and stone pine, which appear to have been deliberate inclusions in the pyre and would have required some form of container. Heather is also noted as excellent bedding and, although rather tangential, some parallels between biers and beds can be drawn.[61] It is possible therefore that heather may have been used as packing or dressing around the body. Cereal grains, which were found in numerous cremation deposits, may have originated from straw used in a similar role. However, much more mundane explanations are also possible, including the use of heather and straw as kindling or its incidental burning as part of the natural surrounding vegetation.

Numerous lentils (*Lens culinaris*) and probable lentils were recorded in three closely associated cremation burials (6, 7 and 9), with a further single probable lentil from Cremation Burial 11. In addition, a single probable pine kernel (cf. *Pinus pinea*) was recovered from Cremation Burial 6, in which peas were also present along with the lentils. Lentils were a Roman introduction most common in urban and military centres.[62] They may have been cultivated farther south, but have only been recovered from funerary sites in northern England.[63] Stone pine is another likely imported food often found in funerary settings and which has a strong association to ritualised activities, including offerings and cremation burials.[64] These plants, accompanied by date, fig, grapes and walnut were part of cremation deposits at Waterdale, Doncaster. It was suggested that they were part of funerary offerings, burnt but separate to the pyre itself.[65] It is feasible that the same is true at the present site, although none of the remains were found as discrete deposits. It is also possible that small dense seeds fell quickly to the base of the pyre where they were protected and exposed to reducing conditions in a layer of ash.

It is also possible that some of the cereal remains were part of similar offerings, either on the pyre or as separate funerary offerings. The use of cereals in funerary offerings is recorded at the site of Fenny Road, Stoke Hammond, Buckinghamshire, where a deposit of carbonised spelt wheat was recovered from a mid 2nd-4th century AD shell-tempered jar, along with the partially cremated remains of a hare and charred bread. These may have accompanied the remains of a neonate.[66] Some of the deposits of cereal grain from the present site were very sparse however, and are more likely to represent incidental inclusions rather than funerary offerings.

The cereal remains from the cremation deposits were not associated with chaff and very few arable weeds were identified. This indicates that cereals were present as clean grain, although chaff and straw are much more vulnerable to carbonisation than grains.[67] The range of crops included hulled six-row barley (*Hordeum* sp.), oats (*Avena* sp.) and wheat (*Triticum* sp.). Although based only on grain morphology, the most commonly identified wheat species was spelt (*T. spelta* type), which was the dominant wheat variety in Roman Britain. Emmer wheat (*T. dicoccum* type) and free-threshing wheat (*T. aestivum/turgidum* type) were also present. These are generally less common throughout Roman Britain and although there may be regional factors in their cultivation,[68] the relatively small number of specimens from the present site and the potential inaccuracies of identification without diagnostic chaff elements means that these taxa should not be given too much emphasis in the assemblage.

With regard to the oats present, there were no oat floret bases to help determine whether these were domestic cultivated oats or wild oats growing as arable weeds. However, the large number of oats in fill (867) in Cremation Burial 2, and their frequent recovery across the site, may indicate a locally cultivated crop. Oat cultivation in Britain is not clearly defined until the post-Roman period.[69] However, it is possible that cultivation in some areas may have begun on a smaller scale during earlier periods.[70] It is possible that oats were used as fodder, which is likely to contribute to their lower visibility in carbonised plant macrofossil assemblages.

Containers

There are strong indications from the excavated corpus that graves in which pyre debris and ashes were deposited without recourse to any sort of container

[60] e.g. Dickson and Dickson 2000: 261.
[61] Dickson and Dickson 2000: 261; cf. Campbell 2004.
[62] Van der Veen, Livarda, and Hill 2008: 21.
[63] Lodwick and Brindle 2017: 78.
[64] Lodwick 2015.
[65] Miller 2013.
[66] Lloyd-Smith et al. 2021: 139–142.
[67] Boardman and Jones 1990.
[68] e.g. Lodwick and Brindle 2017.
[69] Bond 2003; e.g. Lodwick and Brindle 2017: 31–33.
[70] Carruthers 2008; Summers and Bond 2015: 267–269.

may have been the most common form of burial in most northern cemeteries. Where a container was used, it is most common to find a pottery vessel, although evidence for the use of glass vessels and wooden caskets and boxes has been recorded. In the sample of excavated northern cemeteries there seems to have been a strong preference for using black-burnished ware 1 jars as urns. At the Cumbria House site about 50% of the excavated cremation burials contained pottery vessels used as urns. This is a high percentage when compared to other excavated cremation cemeteries. Two of the urns in cremation burials 10 and 15 were black-burnished ware 1, with the urn from Cremation Burial 1 being an imitation. Notably, the urn and rich assemblage of grave goods from Cremation Burial 10 were deposited in a wooden chest, discussed further below.

The one clear example of a possible inhumation burial at the Cumbria House site, Possible Burial C, contained no traces of human remains and no artefacts or traces of container for the body. The lack of surviving bone in probable grave features is a problem noted at many other sites in the region. There is evidence for a minority of inhumations being interred in wooden, stone, and lead coffins at Carlisle and elsewhere (e.g. Brough), although much of the evidence was recovered during antiquarian excavations. The excavation of long-cist graves at Maryport demonstrates that cists contained inhumation burials and that these dated to the late 4th century or later. The one example from the Cumbria House site is difficult to interpret, but the presence of later inhumations nearby on the site at Tait Street shows that a similar burial rite eventually became more common, and a large number of inhumations have been recorded in the environs of *Cataractonium* in North Yorkshire.[71]

Human remains

The majority of the burnt human bone in the urned burials from the Cumbria House site was recovered from within the pottery vessels, although bone was also recovered from the cremation pit fill. The largest quantities of cremated bone, however, were recovered from unurned cremation burials 3 and 7. The lack of preservation and the high level of disturbance of some of the burials makes it impossible to know if the use of perishable containers for the ashes had an influence on the level of bone survival in these two cases. Comparison with other assemblages of human remains is hindered by the limited level of osteological recording of other excavated northern sites.

The osteological analysis indicates that in most cases these were single burials, with representation from all regions of the skeleton. A mixture of adults and juveniles, males and females are present. An obvious conclusion to draw from the osteological analysis is that this was a cemetery for the garrison community as a whole, containing women and children as well as possible soldiers or veterans. The indications of degenerative joint disease on the two richly furnished burials suggests that these were individuals with a labouring lifestyle, perhaps soldiers (if one interprets the individual from Cremation Burial 2 as a gracile male rather than a female). While funds for isotopic analysis were not available as part of this project, this remains a potentially fruitful line of future research.

Grave goods

Aside from the two richly furnished Cremation Burials 2 and 10, the grave goods from the Carlisle cremation burials match the regional pattern fairly well, although the locally produced coarse wares are also a feature of several of the other cremation burials. The date ranges of the finds from Lanchester, Brougham, Low Borrowbridge, Beckfoot, Old Carlisle and Maryport put the excavated cremations from these cemeteries later than those excavated at the Cumbria House site. They demonstrate the continued use of cremation into the 3rd century and 4th centuries, often not contained within a pottery urn and with no, or few, associated grave goods. The small samples of the cemeteries at Birdoswald and High Rochester also give an indication that few objects were placed within the graves, but the possibility of far richer burials being present within these cemeteries cannot be ruled out. The 4th-century inhumation from South Shields demonstrates that the population of the fort and its extramural settlement were likely to have had access to a wealth of material culture. The tiny sample of 2nd-century cremation burials from South Shields makes it impossible to generalise the absence of large numbers of grave goods.

The suites of pottery vessels found in Cremation Burials 2 and 10 are unlike any other burial assemblages that have been excavated locally. It is possible of course that similar burials were uncovered in the past, but that the recording of the findings makes this impossible to identify. The above survey of the evidence from northern Britain underlines also the lack of regional parallels for these two burials. Variations in the quantity and quality of objects deposited with the deceased within a single cemetery may reflect differences in wealth, status, and beliefs. Differences can also reflect changes over time. In our excavated sample the burials are thought to belong to a relatively short time span, a few decades at the beginning of the 2nd century AD and so it seems most likely that the differences observed between the burials reflect differences in status and means, and perhaps

[71] Speed and Holst 2018.

also ideas about how to appropriately commemorate the dead rather than changes over time.

The differences Cremation Burials 2 and 10 present to the regional pattern, however, suggests the possibility of specific aspects of behaviour which related to ethnic identity. The next sections, therefore, look farther afield in the search for parallels and the possible origins of the individuals buried in *Luguvalium*, first to southeast Britain and then to the region of *Gallia Belgica*.

Comparison with cemeteries in southeast Britain

From the 1st century BC graves in southeast Britain shared a number of parallel developments with *Gallia Belgica,* mirroring other shared developments in the decades following Julius Caesar's incursions of 55/54 BC.[72] These changes included the emergence of territorial oppida, shifts in the images on locally minted coinage, and the growing popularity of styles of funerary practice and grave goods that were common in northern Gaul. In the Late Iron Age the regions of Rhineland-Pfalz, Saarland, Luxembourg and southeast Belgium have a comparative wealth of excavated cremation cemeteries, which makes them a good point for discussion of the origins of certain forms of burial rite which became widespread in a modified form during the Roman period. One sees already in this period the inclusion of several examples of the same form of dish, for example, representing communal feasting. The remains of animal bones in many of the graves also makes this aspect clear. In the 1st century BC links between the burial culture of Hertfordshire/ Kent/Essex and Normandy/Picardy/Champagne have been observed. There was a significant increase in the availability of wheel-thrown pottery and similar vessel forms were used within burials on both sides of the English Channel. Elite graves in Britain saw the use of Dressel 1 amphorae, bronze buckets, cauldrons and fire dogs, representing the drinking of wine and the roasting and boiling of meat for communal feasting.

The dating of many of these Late Pre-Roman Iron Age graves is difficult to establish precisely. The archaeological chronology of the Late Iron Age gains firmer footing in the Augustan period, which saw the import of Arretine, Campanian and thin-walled wares from Italy. Unfortunately, such early imports into Gaul were primarily distributed to military sites and early colonies and were extremely rare in pre-conquest Britain. Indeed, they were heavily outnumbered by Gallo-Belgic wares that were produced in multiple production centres in northern Gaul from *c.* 25 BC to AD 70-80. These, produced in three main fabrics, in terra nigra, terra rubra and white/creamy wares, had a much broader distribution than the imported Italian finewares, reaching civilian sites in Gaul and becoming widespread in pre-conquest southern Britain from around 15 BC.[73] Significant changes in dining practice and in the representation of communal dining through the funerary rite are apparent in the introduction of three new vessel forms from the late 1st century BC: the platter or dish, the flagon and the butt-beaker.[74]

From the Claudian-Neronian period the parallel development of burial rites between the continent and southeast Britain continued with south-Gaulish *terra sigillata* and Lyon ware becoming more important in northwest Europe, replacing Italian terra sigillata and thin-walled wares.[75] The central-Gaulish sigillata workshops began production in the Augustan/Tiberian period, reaching sites in Britain from AD 50 but with the height of the industry being in the 2nd century AD. The east-Gaulish workshops began production in the mid-1st century AD, only being exported to a wider market from the 2nd century AD. As we have seen, however, the use of samian in funerary rites in northern *Britannia* appears to have remained rare.

In the southeast the situation was different. The presence of Gaulish terra sigillata in graves in northwest Europe and southeast Britain has been surveyed by Willis and by Pitts.[76] The general pattern appears to be that while samian is much more prominent among settlement deposits at major civil centres, it is more common to find it in graves associated with smaller centres and rural sites. The types of samian deposited in graves appear to have been carefully selected, with a very strong representation of shallow open forms, especially dishes or platters, supplemented by cups. Willis notes that the dataset indicates that small forms were normally selected for inclusion in graves, with larger forms intended for sharing food being absent.[77] When communal consumption is clearly indicated, it is through the inclusion of multiple examples of these smaller forms. With a few exceptions, there is a general absence of decorated bowl forms, which contrasts with the frequency in which they occur within settlement deposits. It is also evident that the inclusion of samian in burial contexts, although widespread, was not a given. Its frequency varied from site to site, sometimes being absent entirely. One of the most striking developments in burial rites in southeast Britain during the Flavian period is seen at the cemetery of Alton in Hampshire. Here the handful of excavated graves contained an average of 24 pottery vessels per grave. This site is all the more notable for the general absence of imported ceramics within the graves. This includes the absence of samian ware, whose forms are nonetheless present

[72] Pitts 2019: 64–66; Creighton 2006.

[73] Sealey 2009: 7; Fitzpatrick and Timby 2002: 163–165.
[74] Pitts 2019: 83.
[75] Pitts 2019: 115.
[76] Willis 2005, Chapter 9; Willis 2011: 221–227; Pitts 2019.
[77] Willis 2005, Section 9.10.

as copies made using the local fabric. Samian ware is, however, present in contemporary graves in the same region.[78] In the Flavian period Gaulish *terra sigillata* became common in the graves of southeast Britain, at the same time as the presence of Gallo-Belgic wares decreased dramatically.[79] By this time it seems most communities in southeast Britain were able to access locally produced fine wares. The demand for higher quality *terra sigillata*, however, remained and the industry within Gaul grew in size dramatically. Another site which presents the phenomenon of imitation samian being placed in the grave is Grange Road in Winchester. Of two similar graves excavated, one contained multiple examples of samian cup and dish forms, while the other contained copies of samian forms in a local oxidised fabric.[80] The question has been posed whether this practice indicates insufficient access to samian cups or the mediation of cultural change and tension through the employment of local clays.[81]

Other parallels with the Cumbria House cemetery are presented by chest burials. Philpott has classified wooden boxes in Roman burials into three groups.[82] The first are small boxes (caskets) which usually contain the cremated remains and occasionally small items of grave furniture. Examples of these have been found in the region of the northern frontier. The second group are box burials, which are larger boxes containing the cremated remains in a vessel along with all other grave furniture. The final group are wooden cists, where the grave or burial chamber is lined with wood in a similar way to stone cists. The example in the Botchergate cemetery is a box burial. While not known from the northern frontier region, several examples of box burials are recorded in southeast Britain.

The chests used in box burials are functional objects with simple iron straps, handles and fittings and are not usually decorated. The fittings on caskets are more usually decorated and made of copper-alloy, for example, a casket burial in grave 515 at Victoria Road, Winchester was decorated with copper-alloy debased lion head studs and rings.[83] Casket burials are commonly associated with this type of fitting.[84] Indeed, Lion head forms account for the vast majority of decorated studs on such boxes. It is generally accepted that caskets are specifically constructed for the burial rite because of their more decorative nature. The poor preservation of boxes within burials and a lack of comparative domestic examples means that it is difficult to gauge whether these were made specifically for burial. Burials in Chichester, with patterns of nails and an iron strap above the grave furniture and no corresponding iron objects underneath, led the excavator to suggest that baseless boxes were placed in the grave and filled in the same way as a cist might be used.[85] Excavation of burial G622 in the cemetery at Victoria Road East in Winchester revealed eight iron nails and an iron plate in the upper fill suggesting a lid or possibly an upturned box, similar to that in Chichester.[86] The Cumbria House example clearly presented the remains of iron strap fittings under the vessels, while the example found at Tait Street (burial [3728]/[3966]) left a soil stain and iron fittings indicative of the presence of a lid (see Chapter 1).

Geographically the box burials of southeast Britain are on the fringe of a wider distribution within the western provinces that had its roots in an Iron Age, Gallic tradition.[87] The known examples from the north of Britain are outliers. Whilst there are examples from Staffordshire, York, Derbyshire and possibly Stirlingshire, the majority are in Essex and Hertfordshire with smaller numbers in London, Cambridgeshire and Kent and a major group in Chichester. This distribution strongly follows the pattern of late Iron Age La Tène III cremations.[88] At St. Pancras cemetery, Chichester, 21 burials had more than five pots and seven had more than nine. The wide range and quantity of vessels is replicated across the southeast where these burial types are found, for example at North Lancing and South Brighton, Sussex.[89] Those box burials outside of the southeast of Britain are much less well furnished. Two at Wall, Staffordshire, may have been associated with four flagons and part of a glass bottle but this is not certain. At Melandra in Derbyshire a burial in a vessel was contained in a box.[90] The early-to-mid 2nd-century date assigned to the pottery assemblage from this burial would sit comfortably with the dating of other box burials excavated in the southeast of Britain. Box burials are also a common feature of the archaeological record in certain regions on the continent, and it is to *Gallia Belgica* that we will now turn.

Comparison with cemeteries in *Gallia Belgica*

Notwithstanding the existence of Flavian-period graves containing imitation samian ware vessels in southeast Britain and the existence of box burials, by far the best parallels for the burial rites exhibited in Cumbria House Cremation Burials 2 and 10 are found within the territory of the *Nervii* during the 2nd century AD, in the province of Hainaut in Belgium and the departments

[78] Pitts 2019: 174.
[79] Pitts 2019: 173–174.
[80] Biddle 1967.
[81] Willis 2011: 225.
[82] Philpott 2016.
[83] Rees et al. 2008: 101.
[84] Philpott 2016: 13.
[85] Down and Margaret 1971: 71.
[86] Ottaway et al. 2012: 86.
[87] Koster 2013: 230, 237–240 & 255.
[88] Whimster 1981: 150.
[89] Philpott 2016: 18.
[90] Philpott 2016: 19.

Figure *6.2* Northern cremation cemeteries in context with some key excavated cemeteries in southeast Britannia and Gallia Belgica.

of Nord and Pas-de Calais in northern France. The examples of grave assemblages which match most closely those from Botchergate come from largescale excavations of cemeteries associated with the civitas capital of the Nervians at *Bagacum,* modern Bavay and the nearby secondary settlement of Blicquy.[91] The evidence from these two cemetery excavations is supplemented by several excavations which have taken place in the context of development projects in recent years. In particular, the discovery and excavation of richly furnished and exceptionally well-preserved late-1st/early 2nd century tombs at Fontaine-Notre-Dame and Marquion near Cambrai (a later urban centre of the *Nervii*) provide relevant examples, as do roadside graves and tombs of the same date at Saultain on the outskirts of Valenciennes (Figure 6.2).[92] The excavations of cemeteries within Nervian territory underline the existence of subregional variation in burial traditions, which warn against simplistic diffusionist interpretative models. Nonetheless, some of the similarities present in the Cumbria House burials give a strong indication of a real cultural connection with this region.

Let us begin with the two large cemeteries presenting clear similarities with the Cumbria House examples. A total of 407 graves was excavated at Blicquy in the 1960s, in addition to around one hundred which were excavated by a local amateur following the discovery of the cemetery in 1959. At Bavay's La Fache des Près Aulnoys cemetery 169 cremation burials were excavated ahead of roadworks in the mid-1990s. The richly furnished graves at these sites display several key similarities with Cumbria House Cremation Burials 2 and 10: the high quantities of pottery vessels deposited per grave, the range of forms present (including some close parallels) and the relative quantities of the different types of pottery deposited, the inclusion of high numbers of miniature vessels with the clear implication that funerary sets were being purpose-made, and a date range spanning the late 1st to early-mid 2nd century AD and beyond.

It is important to note that samian vessels were rarely included in the graves of these cemeteries. While some of the ceramic vessels were imported from Champagne and other regions to the south of Bavay in the 1st century AD, the pottery included within the graves was increasingly made at local kilns. Production began

[91] Loridant and Deru 2009; De Laet, Van Doorselaer, and Spitaels 1972.
[92] Marcy et al. 2008.

at many of these before the middle of the 1st century AD, with local wares replacing those from Champagne from around AD 30. The form most often used for the urn was globular with an everted rim. At Blicquy and Bavay the more richly furnished graves contained multiple examples of ceramic cups and dishes imitating well-known Gallo-Belgic or samian ware forms, and representing communal dining. The richer funerary assemblages also often contained ceramic trefoil-mouthed jugs, paterae and handled bowls that imitated bronze vessels found in elite graves, alongside beakers, flagons and lamps. In a similar fashion to Cumbria House Cremation Burials 2 and 10, quantity prevailed over quality in these richly furnished burials. One finds suites of vessels made specifically for the funerary ritual, with no great concern shown for the production of a high-quality finish.

A conspicuous similarity between the grave assemblages from Bavay, Blicquy and other cemetery sites within the territory of the *Nervii* on the one hand, and those from the Cumbria House site in Carlisle on the other, is the appearance of the finished pottery vessels that were made as bespoke sets to be deposited in the graves. The pale oxidised course fabric of the presumably Nervian-influenced pottery produced in Carlisle is of a colour so close to the wares being imitated that it could be mistaken at first sight as being Nervian.[93] This fact, along with the imitation of Nervian forms being produced at sites around Famars and in the region of Cambrai, would appear to indicate the presence of a potter, or potters, with knowledge of the range of products from this region, able to seek out and find a clay source that was capable of producing a similar appearance to the continental calcareous clays.

The most striking similarity of all, however, is the fact that from the Flavian period onwards the suites of vessels were made in miniature, with a funerary purpose specifically in mind.[94] Such miniaturised vessels are a demonstration of the fact that the funerary ritual, with its references to feasting and drinking dating back to the Late Iron Age, had gradually become purely symbolic. This went hand in hand with a reduction in the amount of animal bone desposited with the dead over time. There are examples of miniature jugs (*oenochoe*), for example, which do not even have an opening at their spout.[95] The presence of post-Flavian bespoke miniaturised sets of ceramic funerary offerings at the Cumbria House site makes influences from this region a strong possibility.

Similarities with the funerary assemblages from Cumbria House can be observed in those from ceramic 'Phase 6' of the Fache des Près Aulnoys cemetery, when Dragendorff 35 and especially Dragendorff 33 cups were being imitated, alongside Dragendorff 36 dishes. While the sigillata forms being imitated do not match those used in the two Cumbria House cremation burials precisely, the function in terms of the burial ritual was clearly the same. The funerary assemblages which match the Cumbria House Cremation Burials 2 and 10 most closely are from 'Phase 7' (Figures 6.3a & 6.3b). Similar numbers of deposited vessels are reached in this phase, with equally similar ratios between the number of cups to dishes. The most common ratio is 8:4 with six examples.[96] Several of the graves placed within this phase at Bavay contained coins that provide a *terminus post quem* for the burial event. The majority falls in Flavian and Trajanic times. While the expectation is that the actual date of the of interment may well be slightly later, it seems clear that those undertaking the Cumbria House burials in the first quarter of the 2nd century AD were making cultural reference to a contemporary practice in their homeland.

Another important dated example, this time at Blicquy, is Grave DLVIII. The burial assemblage is thought to indicate a date to the second quarter of the 2nd century AD, contemporaneous with the suggested date for Cremation Burials 2 and 10 from the Cumbria House site. The grave was one of those excavated and recorded by a local amateur. It displays several strong similarities with the pair of burials from the Cumbria House site. The grave included eight miniature cups (imitating Dr. 27) to five miniature dishes, a ratio which matches Cremation Burials 2 and 10 exactly.[97] In the same grave was a normal size Dragendorff 37 decorated bowl, a trefoil-mouthed jug, a jug and patera set, a miniature ceramic cauldron, and miniature andiron with a bovine head, fibulae, a bronze ring, a glass phial, seven coins and other items. The human remains in this grave were contained in a wooden box.

It must be stressed that at Bavay and Blicquy, as well as richly furnished graves, so-called simple deposits, without urn or accessories, were the most common type of burial, accounting for 97 of 167 graves at Bavay. The urned burials made up just 28% percent of the graves at both cemeteries. This supports the idea of the individuals buried in the most richly furnished burials being of higher status. Certainly, when Blicquy was excavated these differences were interpreted in terms of wealth and ostentation. The authors of excavations at the Fache des Près Aulnoys cemetery at Bavay, however, believed that the phenomenon of high

[93] Sonja Willems pers. comm. based on observation of photographs of the pottery.
[94] Willems, Morel, and Durin 2017: 123–125 & Fig. 71.
[95] The authors are grateful to Sonja Willems for this observation.
[96] The ratio of eight cups to four dishes present in Bavay graves 7/11, 7/122, 7/119, 7/127, 7/129 and 7/130.
[97] De Laet, Van Doorselaer, and Spitaels 1972: 137 pl.129 & 142.

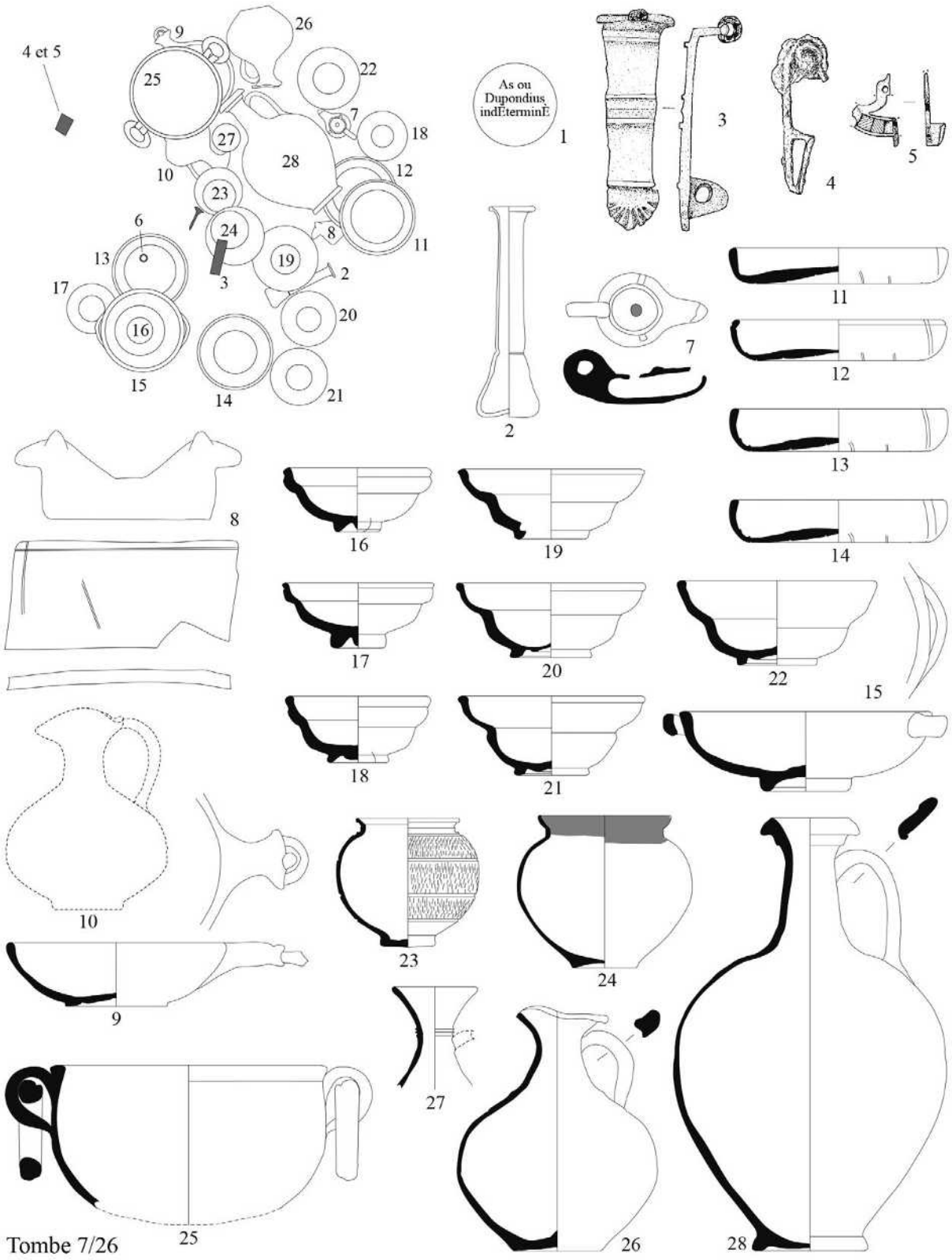

Figure *6.3a* Assemblages of grave goods from La Fache des Près Aulnoys cemetery, Bavay – Graves 7/26 and 7/127 (after Loridant and Deru 2009 Figs 89 & 108).

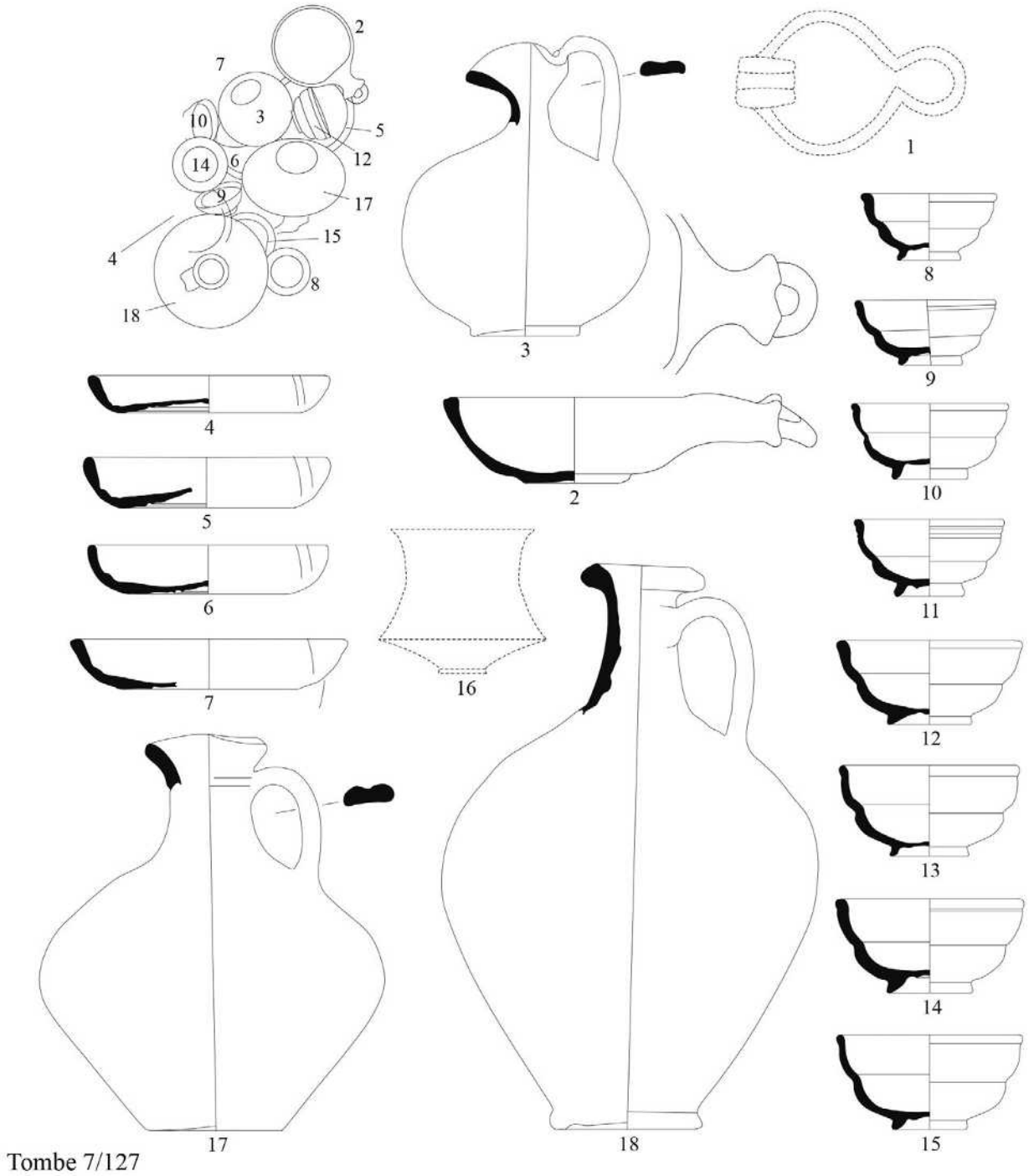

Figure *6.3b* Assemblages of grave goods from La Fache des Près Aulnoys cemetery, Bavay – Graves 7/26 and 7/127 (after Loridant and Deru 2009 Figs 89 & 108).

numbers of pottery vessels being deposited per grave in the well-to-do burials was a feature of the 2nd century in this region, and was connected with an increasingly voluntary display of Roman values, with numbers being lower in the Flavian period and also tailing off again in the 3rd century.[98] Several aspects of this Nervian burial tradition are seen as rites introduced through Roman cultural influence.[99] The combination of *patera* and jug is thought to have symbolised the washing of the hands in association with the ritual funeral meal and perhaps the process of purification through ablution.[100] The presence of multiple examples, or services, of cups and plates represented the funerary feast or meal, that of flagons and jugs the offering of liquids and libation. Coins facilitated the passage of the deceased across the Styx. The presence of a lamp was intended to illuminate the route that the deceased had to take and chased away evil spirits. Cauldrons and hearth equipment, by contrast, have been interpreted as survivals of a Celtic tradition that was strongest amongst the *Atrebates*, but present also among the *Nervii*.

This latter element of the Nervian burial tradition, however, appears to be missing within the burials from the Cumbria House site. At Bavay, the miniaturisation of grave goods included not only the cups, dishes, paterae, trefoil-mouthed jugs and bowls, but also items absent from the Botchergate graves. Finds that were well represented at Bavay, for example, but not found in the Cumbria House graves include bronze mirrors, coins and a range of objects related to cooking on the fire: andirons, small tripods and cauldrons. As well as glass phials, similar to the one found in Cumbria House Cremation Burial 10, there was a greater range of glassware present in the Bavay graves. Miniature ceramic cauldrons were often found within the assemblages of grave goods at Bavay. It is impossible to say why these sorts of items are absent in the Carlisle graves. It may be simply that the sample is so small. Alternatively, it could perhaps indicate the presence at *Luguvalium* of individuals from the southwestern part of Nervian territory, since the inclusion of such items is linked to a micro-regional area around Bavay thought to be linked with the conservatism of the city elites.[101] It is also likely that the Cumbria House burials represent a hybrid funerary tradition created within the specific social environment of early-2nd-century *Luguvalium*.

Recent excavations have demonstrated the propensity of the peoples of this region for depositing high numbers of artefacts with the dead as far back as the 1st century BC. Excavations of graves at Oisy-le-Verger, Raillencourt-Sainte-Olle, Marquion, all in the region of Cambrai, have demonstrated the continuation of this trend with the introduction of Gallo-Belgic wares in Augustan/Tiberian times, and with locally produced wares right through the Roman period.[102] The 150+ burials excavated east of Marquion are a good example of this, with high numbers of vessels being deposited in graves from the 1st century BC onwards. Locally produced pottery was present in the graves from the beginning and continued to be used in the funerary assemblages throughout the life of the cemetery.[103] While elements of the same burial tradition bled into the neighbouring territories of the *Morini*, *Menapii*, *Atrebates* and *Viromandui*, the current evidence from excavations indicates that fewer items were deposited per grave in these areas.[104] Very richly furnished graves belonging to the municipal elite have been excavated at *Noviomagus* in the territory of the *Batavi*. While the Batavian burial rites belonged to a similar tradition - characterised by the inclusion of predominantly unburnt grave goods, often imported dining and drinking sets and bronze vessels, deposited in wood-lined burial chambers – the assemblages do not present the same set of characteristics shared between with the Cumbria House burials and those from site in the territory of the *Nervii*. Samian ware sets, for instance, were commonly found within the excavated burials from *Noviomagus*.[105]

In summary, despite some differences in the grave assemblages, the similarities in some of the richly furnished graves of the *Nervii* are striking enough to conclude that the burial rites represented through Cumbria House Cremation Burials 2 and 10 may have originated in this region. This set of burial customs had become well established by the time the Cumbria House cemetery came into use in the late 1st or early 2nd century AD and the cultural references being made in cremations 2 and 10 are some of the clearest to have been noted in the archaeological record of this period. This being said, identity would have been fluid and continually renegotiated both in the heartlands of Nervian territory and in the provincial diasporas living farther afield.

The presence of the classic *patera*/*oenochoe* paring, imitating bronze forms included in the graves of the elite, is something which characterises Belgic Gaul and is present but rare farther afield in the graves in the neighbouring regions.[106] Tacitus famously stated of the *Nervii* that they went out of their way to emphasise their Germanic origins.[107] It is evident that a strong social identity was also expressed in this region

[98] Loridant and Deru 2009: 106–107.
[99] Marcy et al. 2008: 28.
[100] Nuber 1972: 179–182; Koster 2013: 246; Philpott 2016: 123–124.
[101] Willems, Morel, and Durin 2017: 123 & Sonja Willems pers. comm.
[102] Marcy 2011; Gaillard and Gustiaux 2017.
[103] Gaillard and Gustiaux 2017.
[104] Oudry-Braillon and Faupin 2017: 137; Marcy et al. 2008: 22.
[105] Koster 2013.
[106] Márton 2021: 136; Soupart, Le Goff, and Clotuche 2014: 78–80.
[107] *Tac. Germ.* XXVIII.4.

through the vocabulary of funerary practice. In the territory of the *Nervii* the process of miniaturisation began in the Flavian period, becoming common from the early 2nd century AD.[108] It may, therefore, be the case that the individuals interred in Cremation Burials 2 and 10 were Nervians. The most logical explanation for their presence on the northern frontier of *Britannia* must relate to the Roman conquest, which brought thousands of auxiliary troops enlisted from this region to the northern frontier. The next section will explore this possible interpretation.

Conclusions: a community of Nervians at Luguvalium?

The documented similarities between Cumbria House Cremation Burials 2 and 10 and those excavated within Nervian territory appear to indicate that the individuals buried in early 2nd century *Luguvalium* may have been Nervian and were most probably interred by fellow members of the *Nervii*. Indeed, it seems probable that elements of Nervian social structures were being replicated through the diversity of the burial ritual by a diaspora community present at *Luguvalium* in the early 2nd century AD. The current evidence makes it impossible to know how many individuals self-identifying as Nervian may have been present within the fort and its extra-mural settlement. Such individuals could have come to Carlisle via several different means, the most likely possibility being that the deceased individuals had been auxiliary soldiers, or family members of soldiers, recruited from within the territory of the *Nervii*. Alternatively, the deceased individuals and those who buried them may have been in *Luguvalium* as part of a smaller unit detached from their cohort; they may have been veterans settled in *Luguvalium* following their discharge, or even artisans or traders who followed the movement of troops from their homeland. We know, for example, of a Nervian *negotiator frumentarius* M. Liberius Victor, who was active in Nijmegen in the 2nd century, probably supplying troops there and elsewhere in Germania Inferior.[109] Similarly there is a Nervian miller or a baker (*negotiator pistoricius*) attested at Cologne and a textile trader at Saintes.[110]

In pursuit of the idea that a Nervian diaspora existed in *Luguvalium* in the early 2nd century AD due to the presence of a Nervian cohort, or military unit containing a proportion of Nervians, it is worthwhile briefly recalling what we know of the garrisoning of Carlisle's forts in the late-1st to mid-2nd century AD covered in Chapter 1. Written and epigraphic sources from Carlisle name one unit that was certainly stationed at Stanwix from the mid-2nd century AD onwards, and perhaps earlier. They also provide the name of another unit that may well have been stationed at the southern fort in the Flavian period. Firstly, the *Ala Gallorum Sebosiana* is named on a wooden writing tablet of Agricolan date (probably *c*. AD 80-85) found within the southern limits of Carlisle's first fort. It is highly likely that this unit came to Britain in the AD 70s, probably under Cerealis. Other ink writing tablets from the same fort at Carlisle refer to a cavalry regiment, probably also the *ala Gallorum Sebosiana*. These tables date no later than *c*. AD 103/105. They are thus earlier or contemporary with the tablets that have been found at Vindolanda and have some inter-textual links with them. Secondly, the inscription *RIB* 957, which dates before the end of the reign of Trajan, demonstrates that the *Ala Augusta Gallorum Petriana* was operating in Carlisle. Eventually the unit was billeted in the fort built as an integral part of Hadrian's Wall on the opposite side of the river on the hill at Stanwix. Both these units were raised in Gaul and served along the river Rhine before coming to Britain. It is not an impossibility that these units contained communities of Nervians, but there are other possibilities to consider.

While many pre-Hadrianic units operating in Britain remain unnamed,[111] it is evident that as many as six cohorts of Nervians may have come to Britain in the last third of the 1st century AD. The argument that these units were raised with the intention of coming to Britain in AD 71, however, has been disproved by the recent discovery of the Bloomberg tablets in London. One of the tablets mentions the existence of *cohors VI Nerviorum* by AD 61, which implies cohorts I-V were already in existence before troop movements to Britain under Cerialis in AD 71.[112] It is likely, therefore, that many of these units originally served on the Rhine frontier before coming to Britain in a more piecemeal fashion over the following decades. There is a mixture of epigraphic and literary evidence for the presence of these Nervian cohorts in Britain, although not as yet for *cohors V Nerviorum* (Figure 6.4). It is difficult to reconstruct the movements of each of these Nervian cohorts with any certainty. There is no concrete evidence for the presence of any of these auxiliary cohorts at Carlisle, although some were clearly active in the region of Hadrian's Wall and beyond. The *cohors VI Nerviorum*, for example, is attested at Rough Castle on the Antonine Wall in the period around AD 140.[113] It is possible, therefore, that it had been resident at *Luguvalium* under Trajan and Hadrian, being posted north when the fort there is thought to have been abandoned during the push north to the Antonine Wall.

[108] Loridant and Bura 1998: 241.
[109] *CIL* XIII 8725; Verboven 2007: 306.
[110] *CIL* XIII 8338 & 1056.
[111] Jarrett 1994: 76.
[112] Kreiner 2023: 15.
[113] Jarrett 1994: 64.

Figure *6.4* Attestations of cohorts of Nervii and Morini in Britain.

The ability to identify just two graves from *Luguvalium* as Nervian might at first sight make the possibility of the presence of a Nervian cohort at Carlisle seem unlikely. The existence of these two graves, however, legitimises the exploration of the possibility that they might be indicating something of greater significance. As we have seen, the local imitation of the form and appearance of Nervian pottery by potters in Carlisle, strongly indicates that the army had potters at their disposition who knew the Nervian repertoire and could easily imitate it. The results of the imitation demonstrate the potter in question managed to get a very similar surface colouring despite the local clays being different. As a new repertoire is not something easily mastered, it may well be that Nervian potters had arrived in *Luguvalium* along with a new auxiliary unit in the early 2nd century AD. A parallel for this phenomenon exists in so-called 'Housesteads ware', a coarse pottery thought to have been produced in the central sector of Hadrian's Wall in the 2nd and 3rd centuries AD. Housesteads ware has strong similarities with pottery that was produced in what is now the modern province of North Holland in the Netherlands, and is thought, with some significant support from epigraphic sources, to have been produced by units of auxiliaries from this region stationed in, or near to, Housesteads.[114] If it were the case that Nervian potters were operating at a kiln site in *Luguvalium*, it would underline a more significant Nervian presence.

One might well ask, therefore, whether there are other observable elements in the early 2nd century AD archaeological remains from Carlisle that could suggest the presence of a cohort of Nervians. Let us begin by addressing the issue of the low quantity of identifiably Nervian graves. The strong similarities between Cumbria House Cremation Burials 2 and 10 and some of the excavated graves at Blicquy and Bavay have been identified because of the richness of certain assemblages of grave goods. It is evident however that in Carlisle, just as much as in the larger and more thoroughly excavated Nervian cemeteries, there was a mixture of urned and unurned burials. Indeed, 72% of burials at Bavay and Blicquy contained no evidence for a pottery urn. The late-1st to early-2nd-century roadside cemetery excavated at Saultain also recorded graves containing only an urn alongside much more richly furnished tombs.[115] This demonstrates firstly that the *Nervii* also buried their dead in a less identifiable

[114] Jobey 1979; van Driel-Murray 2009.
[115] Henton 2014.

manner and secondly it presents the possibility that the less richly furnished burials excavated on Botchergate could also have been Nervians. The low number of identifiably Nervian graves in Carlisle's funerary record does not therefore in itself discount the possibility that there may have been a Nervian cohort stationed at the fort in the early 2nd century, especially given the small sample of the early-2nd-century cemetery that has been excavated to modern standards. One might also add that the form of the high-status Tait Street burial from Carlisle bears certain similarities in form to the square and rectangular tombs excavated at Saultain and elsewhere within the former Nervian territory.

While no written evidence of a Nervian cohort has been identified from excavations in Carlisle, it is possible to point to archaeological evidence from within Carlisle's southern fort which may support the argument that a northern Gallic cohort arrived during the reign of Trajan. In the publication of the Millenium Excavations, for example, it was noted that there was a significant presence of pottery types imported from northern *Gallia Belgica* in the late 1st and early 2nd century AD.[116] Indeed, after the fort was rebuilt *c.* AD 105 there was a significant increase in the range of finewares from northern Gaul (white, grey and mica-dusted fabrics). At the time, this was thought to be an indication of a transfer of troops from *Gallia Belgica* or the Lower Rhine.[117] Part of the argument in favour of this interpretation is that while the presence of these forms and fabrics is significant, they did not arrive in sufficient quantity to indicate trade to the frontier zone. Rather, these pottery vessels are likely to have travelled as personal items brought with new recruits. Greyware biconical beakers and other vessels in the same tradition were found in the early-2nd-century deposits from within the fort at Carlisle. These large beakers are thought to have been used for the consumption of beer and were made in northern *Gallia Belgica*. This is precisely the same region in which the similarities in burial rite have been observed between Cumbria House Cremation Burials 2 and 10 and burials within the tribal territories of the *Atrebates*, *Menapii*, *Morini* and *Nervii*, with the strongest similarities lying within the territory of the Nervians.[118] As already mentioned, the fact that auxiliary units may have spent considerable time serving on the Rhine frontier could also help to explain the origin of some of the imported ceramic material found at sites in Carlisle in the early 2nd century AD.

Further support for the idea of the arrival of a new unit previously stationed in, or originating from, northern *Gallia Belgica*, has previously been found in remains of mortaria from deposits within the fort during Period 4A (AD 105-125). This period saw a very significant influx of mortaria produced from kilns around Noyon, located on the river Oise in the territory of the *Viromandui*, neighbours of the *Nervii*. Other material produced in the southern part of former Nervian territory is also present at the fort,[119] although examples of the mortaria produced on the river Sambre, upstream from Bavay/*Bagacum* appear to be absent.

In the publication of the Millennium excavations Vivien Swan also noted that the arrival of a new unit from this region appeared to be confirmed by major changes in the pottery being made at the Fisher Street kilns in the early 2nd century AD.[120] This argument, which received little attention in the eventual publication of the Fisher Street kilns,[121] now appears to be reinforced by the presence of locally produced pottery that imitates forms produced in kilns around Famars and in the region of Cambrai within the assemblages recovered from Cumbria House Cremation Burials 2 and 10. The similarity in the colour and appearance of the pottery deposited in these graves to both the known fabrics of the Fisher Street kilns and to vessels produced in Nervian territory suggests the presence of Nervian potters moving with auxiliary cohorts. If it were not for the richness of the furnishing of Cremation Burials 2 and 10 it would be far less easy to note these parallels, which provide convincing evidence in Britain in the early 2nd century AD of the burial rite symbolizing links between Roman military communities and a foreign homeland. The quality of recording of antiquarian excavations makes it impossible to know if similar burials have been previously encountered during construction works within Carlisle. One worthwhile avenue of further research might, however, be to check museum and legacy collections of ceramic material for the type of miniature vessels characteristic of these burials.[122]

[116] Zant 2009: 440–441.
[117] Swan, McBride, R., and Hartley, K. 2009: 595–599, 609 & 612–616.
[118] Swan, McBride, R., and Hartley, K. 2009: 615; Swan 2009: 71–86; cf. Fulford 2010.
[119] Sonja Willems pers. comm.
[120] Swan, McBride, R., and Hartley, K. 2009: 596.
[121] Johnson et al. 2012.
[122] I am grateful to Elsa Price of Tullie House Museum & Art Gallery for bringing a miniature black-burnished ware jar from Beckfoot to my attention, in this regard.

Appendix 1: Osteological Methods

The micro-excavation of cremation urns and an initial assessment of all the bone finds from the Cumbria House site (WST-A) were carried out in-house, with the results being reported in the 2015 Archaeological Excavation Assessment Report.[1] A further osteological assessment of the burnt bone was carried out by Sophie Beckett in 2023, with the results presented and discussed within this publication. This was achieved with reference to UK standard guidelines.[2] It is assumed that during the micro-excavation, spits were of consistent depth (except for the lowest spit which is invariably of shorter depth to upper spits), although the specific depth is unknown.

The further osteological assessment involved examination of the contents of four standard size archive boxes full of bone, previous reports, relevant data from the initial assessment and relevant recent work. The publication team assigned a reference number to each pit feature that was deemed to be a cremation related deposit (cremation related pits 1-19, A and B, see chapter 3). As part of the further osteological assessment, burnt bone finds from within the fills of other features were also examined. These included various ditches, a Roman well (Well 1) and numerous pits.

Labelled bags of bone were grouped by feature (1-19, A and B, other features). This ensured that the osteology assessment of each feature included all bone finds from all relevant contexts (such as the different fills of a pit and urns) and all relevant recovery routes (bulk finds, micro-excavation, environmental sampling). The integrity of context and sample numbering within the data collection process was maintained, as bones from the same feature but different contexts were not physically pooled. The same applied to bone associated with specific spits from micro-excavation of small find vessels (urns).

Contents of each bag of burnt bone from cremated burial contexts were dry sieved through a stack of sieves (10 mm, 5 mm, 2 mm, receiver). Any bone that was clearly identifiable as faunal bone and any non-bone finds retrieved from amongst the sieved material were noted and bagged separately to the cremated bone. Some bone that had been identified as faunal bone during the initial osteological assessment had been bagged separately to other burnt bone from a context (or urn) but grouped together within the main bag for that context (or urn). However, it is not known whether this was the case in all instances. Therefore, the results for mass of faunal bone provided in the osteological results tables (Appendix 2) might under-represent the total mass of burnt faunal bone recovered from the cremation burials. The mass of burnt faunal bone was excluded from the results for total mass of burnt bone, presented in the burial catalogue (Chapter 3) and the osteological results tables (Appendix 2). Bone identified as faunal bone from cremation burial contexts during the further osteological assessment (both that already separated out and that recovered from sieving) was briefly examined by Zooarchaeologist Sean Doherty to provide, where possible, animal type and species classification information.

Bone fragments that could be identified as human were categorised as being identifiable by specific element (such as maxilla, 1st rib, femur) or by anatomical type (such as cranial, rib, long bone), otherwise they were categorised as unidentifiable (UnID). Although efforts were made, it was not feasible to remove all stones or pyre debris from within the sieve receiver (<2 mm) and the 2 mm sieve fractions. The <2mm sieve fraction included soil, often with an approximate proportion of 50 % of the overall amount recovered for this fraction.

Where bone was identified by element and by type, a skeletal inventory was compiled. Where a fragment was tentatively identified by element, this is indicated within the comments section of the results tables in Appendix 2. Similarly, where side was uncertain this is shown as either L?, R? or U (unsided). Where relevant, the zone portion of bone that was present is recorded for fragments identified by element.[3]

Where fragments could be identified by element and also features used in sex and/or age-at-death estimation were present, such estimations were attempted. This was achieved with reference to Chamberlain (1994), Buikstra and Ubelaker (1994) and Scheuer and Black (2000).[4] However, most features (such as auricular surface) were only partially present and therefore the age and sex estimations proposed are all tentative.

[1] Jackson, D. 2016.
[2] Brickley, M. and McKinley, J. I. 2004; Mitchell and Brickley 2017.
[3] Knüsel and Outram 2004.
[4] Chamberlain 1994; Buikstra and Ubelaker 1994; Scheuer and Black 2000.

For each sieve fraction, mass (to the nearest 1g) was recorded for each bone fragment that could be identified by element, for groups of fragments that could be categorized by type (such as long bone, cranial, hand/foot) and groups of unidentified bone. Fragments less than 1g were recorded as 0.5g or, if less than this, as negligible (N). Where fragments could be identified by element and also features used in sex and/or age-at-death estimation were present, such estimations were attempted.

Colour was noted for each identifiable bone fragment and as a general observation for groups of unidentifiable fragments or fragments identified by type. Only dry sieving was undertaken during the further osteological analysis and soil not removed during the initial wet sieving process limited the colour assessment.

Age-at-death and sex estimations were generally carried out using standard guidelines.[5] Additional references were utilised in certain instances such as age-at-death estimation of juvenile remains or femoral head diameter measurement for sex estimation.[6] However, most features (such as auricular surface) were only partially present and therefore the age and sex estimations proposed are all tentative.

General 'adult' categorisations were assigned to identifiable fragments on the basis of size, fusion of epiphyses (if observable) and morphology (when whole or near whole bones were present) when there was a lack of characteristics normally used in standard methods of age-at-death estimation. Presence of degenerative joint pathology was used to tentatively corroborate existing age-at-death estimation categories assigned by other means.

Observations and interpretations of pathological lesions were made in reference to a range of relevant references.[7]

[5] Buikstra and Ubelaker 1994; Brickley, M. and McKinley, J. I. 2004; Mitchell and Brickley 2017.

[6] Scheuer and Black 2000; Chamberlain 1994; Hillson 1996a.

[7] Waldron 2020; Ortner 2003; Aufderheide, Rodriguez-Martin, and Langsjoen 2011.

Appendix 2: Osteological Results Tables

The following tables present data obtained from the 2023 osteological assessment of the burnt bone. They supplement the summaries presented and discussed within Chapters 3 and 4. Within the inventory tables, entries for bone identified by element represent one fragment, unless otherwise stated, but entries for bone listed by type represent groups of more than one fragment. Bone generally refers to burnt bone excluding any faunal bone unless otherwise stated, 'App' refers to the appendicular skeletal region, UnID refers to unidentifiable bone fragments. Mass values < 0.5 g and percentages of ≤ 0.2 % are shown as negligible (N). Mass values shown to 0.5 g with decimal places for whole numbers omitted for clarity. Percentages rounded to whole numbers, except those < 2 %. The %[1] values show percentage of the total mass of burnt bone that was identifiable by element. The %[2] values indicate the percentage of the total bone recovered from the 2, 5 and 10mm sieve fractions. Tables 1 and 2 present mass values whilst tables 3 to 27 present human skeletal inventories. Table 28 presents details of faunal bone found within cremation burial contexts

Table 1 Mass values for burnt bone from cremation burials with intact or near intact urns.

M = Mass (g)	All Bone* ≥2mm	ID by Element (Regions)								ID by Type		UnID		Burnt Faunal Bone
		Skull		Axial		App.		Total						
		All >2mm								All >2mm		All >2mm		
	M	M	%[1]	M	%[1]	M	%[1]	M	%[2]	M	%[2]	M	%[2]	M
Cremation Burial 2														
(900) Urn Spit 1														
(900) Urn Spit 2	110	5	13	15	39	18	47	38	35	26.5	24	45	41	
(900) Urn Spit 3	475	5.5	4	51	33	96	63	152.5	32	166.5	35	156	33	0.5
(900) Urn Spit 4	527	14	12	48.5	41	55	47	117.5	40	293.5	56	116	40	5
(900) Urn Spit 5	230			7	47	8	53	15	12	126	55	89	39	
Urn Total	1342	24.5	8	121.5	38	177	55	323	24	612.5	46	406	30	5.5
(823) <307>	30									13	44	16.5	56	
(867) <306>	125	11.5	59	3.5	18	4.5	23	19.5	16	48	38	57.5	46	1
(889) <310>	22									12	55	10	45	
(900) <311>	33									7	22	25.5	78	
CB2 Total	1551	36	11	125	36	181.5	53	342.5	22	692.5	45	515.5	33	6.5
Cremation Burial 8														
(625) Urn Spit 1	1											0.5	100	
(625) Urn Spit 2	17			6	100			6	35			11	65	
(625) Urn Spit 3	176	2	4	12.5	23	39	73	53.5	30	66.5	38	56	32	12
(625) Urn Spit 4	465	6	9	11	16	51.5	75	68.5	15	169.5	36	227	49	42
(625) Urn Spit 5	263	5	13	5.5	14	29	73	39.5	15	87.5	33	136	52	3.5
(625) Urn Spit 6	231	1.5	100					1.5	0.6	57.5	25	172	74	6.5
Urn Total	1153	15	9	35	21	120	71	169	15	381	33	603	52	64
(625) <202>	33											33	100	1
(625) <203>	7											7	100	
(627) <204>	13											13	100	
CB8 Total	1206	15	9	35	21	120	71	169	14	381	32	656	54	65
Cremation Burial 10														
(615) Urn Spit 1	8.5									2.5	29	6	71	1
(615) Urn Spit 2	115.5	3.5	9	35	90	0.5	1	39	34	48.5	42	28	24	1
(615) Urn Spit 3	251.5	5.5	5	44	40	60	55	109.5	44	80	32	62	25	
(615) Urn Spit 4	286	6.5	5	64	54	48	41	118.5	41	61.5	22	106	37	1
Urn Total	661.5	16	6	143	54	109	41	267	40	193	29	202	31	3
(615) SF65	0.5											0.5	100	
613 <220>	2											2	100	
CB10 Total	664	16	6	143	54	109	41	267	40	193	29	205	31	3
Cremation Burial 11														
(591) Urn Spit 2														
(591) Urn Spit 3	45					9.5	100	9.5	21	17	38	18	40	16.5
(591) Urn Spit 4	73	4	40	2	20	4	40	10	14	26	36	37	51	
Urn Total	117.5	4	21	2	10	13.5	69	19.5	17	43	37	55	47	16.5
(591) <196>	5.5									1	18	4.5	82	
CB11 Total	123	4	21	2	10	13.5	69	19.5	16	44	36	59.5	48	16.5

Table 2 Mass values for burnt bone from urned (damaged), unurned, possible urned and possible unurned cremation burial deposits.

M = Mass (g)	All Bone ≥2mm	ID by Element (Regions)								ID by Type		UnID		Burnt Faunal Bone
		Skull		Axial		App.		Total						
		All >2mm							All >2mm		All >2mm			
	M	M	%[1]	M	%[1]	M	%[1]	M	%[2]	M	%[2]	M	%[2]	M
CB1 (816) Urn	290	1	13			7	88	8	3	47	16	235	81	20
CB1 (816) <291>	113	1	100					1	0.9	29	26	83	73	0.5
CB1 (816) <294>	477	3.5	26	6	44	4	30	13.5	3	62.5	13	401	84	24
CB1 (858) <295>	142					0.5	100	0.5	N	14	10	127	90	36
CB1 Total	1022	5.5	24	6	26	11.5	50	23	2	152.5	15	846	83	80.5
CB3 (927) <322> (Total)	1833	19.5	19	3	38	78.5	981	101	6	428.5	23	1303	71	78
CB4 (899) <309> (Total)	166	8	22	7	19	22	59	37	22	53.5	32	75	45	37
CB5 (872) Urn	75									26.5	36	48	64	0.5
CB5 (882) <303>	316									86	27	230	73	3.5
CB5 Total	391									112.5	29	278	71	4
CB6 (657) <225>	189	2	80	0.5	20			2.5	1.3	64	34	122	65	20.5
CB6 (657) <226>	63									18	29	45	71	
CB6 (666) <227>	244	4	24	4	24	9	53	17	7	87	36	140	57	2.5
CB6 Total	496	6	31	4.5	23	9	46	19.5	4	169	34	307	62	23
CB7 (601) <198>	1533	0.5	8	1	15	5	77	6.5	0.5	251.5	16	1275	83	95
CB7 (602) <199>	83									35	42	48	58	5
CB7 Total	1616	0.5	8	1	15	5	77	6.5	0.5	286.5	18	1323	82	100
CB9 (309) Urn	5			3	100			3	67	1	22	0.5	11	
CB9 (309) <97>	74	7	100					7	10	16	22	50.5	69	
CB9 (308) <96>	38									15	40	22.5	60	3
CB9 Total	116	7	70	3	30			10	9	32	28	73.5	64	3
CB12 (246) <63>	439	5	6	10	12	70.5	82	85.5	19	86.5	20	267	61	
CB13 (315) <102>	5									3	67	1.5	33	
CB13 (324) <103>	259	3.5	47	0.5	7	3.5	47	7.5	3	72.5	28	179	69	
CB13 Total	264	3.5	47	0.5	7	3.5	47	7.5	3	75.5	29	180.5	69	
CB14 (911) <315>	73	3.5	100					3.5	5	37	51	32.5	45	
CB15 (255) <69>	141									49	35	92	65	
CB15 (268) <70>	16									4	25	12	75	2
CB15 Total	157									53	34	104	66	2
CB16 (504) <181>	96	1.5	100					1.5	2	32.5	34	62	65	
CB17 Urn	4											4	1.4	3
CB17 (270) <74>	715	1.5	5	26	88	2	7	29.5	4	107.5	15	578	81	26
CB17 (274) <75>	6									1	17	5	83	
CB17 Total	725	1.5	5	26	88			29.5	4	108.5	15	587	81	29
CB18 Vessel no. 2	3											3	1	0.5
CB18 (468) <160>	385	2.5	33	5	67			7.5	2	90	23	287	75	13
CB18 (469) <161>	44									17	39	26.5	61	
CB18 Total	431	2.5	33	5	67			7.5	2	107	25	316.5	73	13.5
CB19 (801) <283>	244	5	42			7	58	12	5	65	27	167	68	
CB19 (801) <289>	335			6	35	11	65	17	5	133	40	185	55	
CB19 Total	**579**	**5**	**17**	**6**	**21**	**18**	**62**	29	5	**198**	34	**352**	61	
CB: B (275) <76>	129									35.5	28	93	72	1

Table 3 Burnt bone from Cremation Burial 1, fill contexts (816) and (858) and within the urn, identified by element or type of bone.

Cremation Burial 1				
Bone	**Fraction**	**Side**	**Mass (g)**	**Comments**
(816) Urn				
Maxilla	>5	U	0.5	Tentative ID as this could be mandible. Two root sockets present. Not able to ID which sockets.
Premolar	>5	U	0.5	
Cranial	>10	-	4	
Cranial	>5	-	0.5	
Tooth	>5	-	N	Root fragment. Possibly an upper premolar?
Tooth	>2	-	N	Root fragment. Narrow morphology, possibly incisor?
Ulna	>10	R?	4	Head and part of proximal shaft portion. Fused epiphysis. Radial notch, olecranon and coronoid processes and trochlear notch present. Poor preservation on medial side. Zones C, A, B, D, E
Femur	>10	U	3	Zones 9, 10?
Long Bone	>10	-	40	
Long Bone	>5	-	2	
Hand/Foot	>5	-	0.5	Phalange fragment.
816 <291>				
Zygomatic	>10	L	0.5	Frontal process portion. Zone 12.
Mandible	>10	U	0.5	Tentative ID as this could be maxilla. Three root sockets present. Not able to ID which sockets.
Cranial	>10	-	23	
Cranial	>5	-	3	
Tooth	>2	-	0.5	Tooth fragments: three root, one crown.
Hand/Foot	>10	-	0.5	Proximal portion of foot phalange? Possibly first proximal phalange?
Hand/Foot	>5	-	2	Phalange fragments.
(816) <294>				
Temporal	>10	R?	2	Part of petrous portion with internal acoustic meatus present. Zone 7.
Zygomatic	>5	R?	0.5	Portion of frontal process with suture and small fragment of right frontal bone also present. Zones 11, 1.
Mandible	>5	R?	0.5	Condyle portion present. Zone 5.
Premolar	>5	U	0.5	Two fragments of tooth which are a physical fit across a break.
Cranial	>10	-	13	
Tooth	>2	-	N	Root fragment.
Pelvis	>10	R?	6	Pubis portion with a very slim inferior ramus and possible warping within the region of the pectineal line. Most of pubic symphysis present, although surface damage apparent. Tentative age estimation of 20-30 (Todd phase 3 (22-24), Suchey-Brooks phase 2 (26, 20-40)). Tenative sex estimation of possible female. Zones 9, 8.
Patella	>10	U	4	
Long Bone	>10	-	47	Includes possible tibial fragment.
Hand/Foot	>5	-	2	All phalange fragments except portion of possible metacarpal/metatarsal head.
Hand/Foot	>2	-	0.5	Distal phalange, foot?
(858) <295>				
Navicular	>10	U	0.5	Poor preservation but distal surface features and general arch shape observable.
Cranial	>10	-	4	Vault fragment with suture but unable to ID beyond this.
Long Bone	>10	-	10	
All identifiable fragments were from context (816), except for the navicular fragment from (858) <295>, and all were consistent with adult size and maturity. Sex was not able to be estimated, except tentatively for a fragment of pelvis. A tentative age category was also estimated for this fragment. Most fragments (identified and unidentifiable) were white in colour, some were grey and some had a mixture of colours, including black. Within sample <295>, the unidentifiable bone from sieve fraction >10 mm included three trabecular fragments with areas of articular surface but unable to identify beyond this due to poor preservation. Burnt faunal bone was also recovered from all contexts. Small amounts of pyre debris/stones were retrieved from amongst the burnt bone from all contexts as well as iron and iron corrosion product fragments from the urn and <294>.				

Table 4 Burnt human bone identified by element from Cremation Burial 2, spits 2 and 3 from within urn. See also Table 5 for spits 4 and 5.

Cremation Burial 2				
Bone	**Side**	**Zones**	**Mass (g)**	**Comments**
SPIT 2				
Temporal	L	7	5	Temporo-mandibular joint (TMJ) portion. General size consistent with those of mandibular rami found in contexts (900) <311> and (867).
Pelvis	L	7, 5, 10	11	Auricular surface portion with only apex and superior demiface present. Part of pre-auricular surface present (score 2). Age on basis of slight apical activity and lack of billowing and straie (Tentative phase 5, M&L). Tentative age estimation of 40+, sex estimation of possible female.
Pelvis	U	1	4	Tentative ID.
Ulna	L	C, A, B, D, E	6	Epiphysis fully fused.
Radius	L	J, 4, 3, 9	2	Epiphysis fully fused.
Femur	U	6	2	Linea aspera present.
Femur	U	9, 10,11	2	Tentative ID. Femoral condyle.
Talus	R	3,4	3	
Metatarsal (1st)	R	2, 3	3	Tentative siding. Appears to be opposite to 1st metatarsal found in spit 5 which was more easily identifiable.
SPIT 3				
Mandible	L	1	2	From anterior view: sockets for a molar tooth, molar tooth in-situ with crown damaged, socket either in crypt or resorption taking place. Tenative ID of third molar crypt due to socket size. Socket and molar in-situ appear consistent with ID of permanent teeth. Age estimation of at least 15 years.
Maxilla	R	13	3	Tooth socket region with sockets for permanent teeth I1, I2, C, PM1, PM2 and sockets consistent with appearance expected for teeth that would have been in occlusion. PM1 has two roots with part of posterior root still in-situ. Otherwise no teeth present, post-mortem tooth loss.
Tooth	U	?	0.5	Molar tooth. Unable to establish definitive fit for any of the sockets of fragments but this remains a possibility.
Cervical Vertebra	NA	2	0.5	Superior and inferior facet present.
Cervical Vertebra	NA	1	1	Very slight portion of processes/neural arches.
Cervical Vertebra	NA	1	1	Very slight portion of processes/neural arches.
Thoracic Vertebra	NA	1, 3, 2	8	Left superior facet present and both rib facets.
Thoracic Vertebra	NA	4	0.5	Right inferior facet present plus spinus process. Tenative further ID to upper thoracic region.
Lumbar Vertebra	NA	1, 3, 2	8	No facets present.
Lumbar Vertebra	NA	1, 3, 2	6	Right superior facet present. Schmorl's node on inferior surface.
Lumbar Vertebra	NA	4	2	Right inferior facet portion.
Lumbar Vertebra	NA	4	2	Right inferior facet portion.
Lumbar Vertebra	NA	2	3	Superior facet present.
Lumbar Vertebra	NA	2, 1	5	Osteophytic lipping towards where inferior facet would be.
Pelvis	R	2, 6	5	
Pelvis	U	1?	7	
Sacrum	NA	1, 2	2	5th segment portion. Size consistent with adult.
Humerus	R	5, 6	5	Epiphysis portion. No epiphyseal surface observed. Size consistent with adult.
Humerus	U	9?	14	
Ulna	R	C, D, E	10	Good size match for left ulna fragment from spit 2.
Femur	U	7,8	7	
Femur	U	9 or 10	7	Distal condyle of femur. Osteophytic growth superior to condyle.
Patella	R?	PAT	4	Anterior surface mostly intact, posterior surface damaged. This is a very likely fit with the less complete patella fragment from spit 4 (same bone) and looks like opposite side to the more complete patella from spit 4. If siding correct - medial portion present.
Tibia	R?	10	25	Evidence of remodelled periostosis.
Fibula	L	2	3	
Calcaneus	L	3	2	Good size match for right side from spit 3
Calcaneus	R	1, 2	10	
Talus	L	1, 3, 4	7	Tentative ID.
Navicular	L?	NAV	2	

Table 5 Burnt human bone identified by element from Cremation Burial 2, spits 4 and 5 from within urn. See also Table 4 for spits 2 and 3.

Cremation Burial 2				
SPIT 4				
Zygomatic	R	11	14	Zygomaticofacial foramen present.
Hyoid	U	NA	0.5	Body portion. Fragment from >5 mm sieve fraction.
Manubrium	NA	1	2	Superior portion present with jugular and both clavicular notches.
Cervical Vertebra	NA	1	0.5	Very slight portion of processes/neural arches. Slight osteophytic lipping.
Cervical Vertebra	NA	1	2	Part of right superior facet and part of right transverse foramen present.
Cervical Vertebra	NA	1	0.5	C1 with facet for odontoid peg present.
Thoracic Vertebra	NA	1	0.5	Right superior facet and right rib facet present.
Thoracic Vertebra	NA	1	7	Left and right rib facets present.
Thoracic Vertebra	NA	1	2	Right rib facet present.
Thoracic Vertebra	NA	1	2	Right superior facet and right rib facet present. Slight osteophytic lipping.
Thoracic Vertebra	NA	4	0.5	Left inferior facet present. Lower thoracic (possibly upper lumbar?).
Lumbar Vertebra	NA	4	0.5	Posterior portion of spinous process.
Lumbar Vertebra	NA	1	2	Two fragments (body and right superior facet) fit across a break. Osteophytic lipping on both cortical rims but more accentuated on superior rim.
Pelvis	L	6	8	This may have been listed as distal femur in initial assessment (2015)? The width and where the bone splays towards where acetabulum and ischial spine makes ischial tuberosity portion of pelvis a better fit for this fragment.
Sacrum	NA	2	6	Anterior portion of right ala present with just over 50 % of auricular surface.
Sacrum	NA	1	0.5	Fragment from towards base.
Radius	L?	5	4	Radial tuberosity present.
Femur	U	9/10, 11	3	Distal condyle of femur with some ostephytic lipping.
Patella	L	PAT	9	Approximately 75 % complete.
Patella	R?	PAT	1	Anterior surface and some of posterior surface present. This is a very likely fit with the less complete patella fragment from spit 3 (same bone) and looks like opposite side to the more complete patella from spit 4. If siding correct - lateral portion present.
Tibia	L?	9	16	
Tibia	L?	2	10	
Tibia	L?	5,6	7	Epiphysis fused to metaphysis.
Navicular	R?	NAV	2	
Cuneiform 1 (Medial)	L	CU1	3	Dorsal surface and part of both facets present.
SPIT 5				
Sternum	NA	2	3	Base portion of sternal body with right costal notch.
Lumbar Vertebra	NA	2, 1	4	Very small portion of body and right superior facet present.
Humerus	L	5, 6	5	Epiphysis portion. No epiphyseal surface observed. Size consistent with adult.
Metatarsal (1st)	L	2, 3	3	Dorsal surface of head present but plantar surface damaged.
All bone identifiable by element was recovered from the >10 mm sieve fraction with the exception of the molar tooth and the hyoid fragments, recovered from the >5 mm fraction. All were consistent with adult size and maturity. Sex was not able to be estimated, except tentatively for a fragment of pelvis. A tentative age category was also estimated for this fragment. Most fragments (identified and unidentifiable) were white or white-grey in colour, some were grey and some had a mixture of colours, including black. Bone was very friable, with trabecular bone in particular fragmenting easily. Burnt faunal bone was also recovered spit 4. Small amounts of pyre debris/stones were retrieved from amongst the burnt bone from spits 3 and 4.				

Table 6 Burnt bone identified by type from Cremation Burial 2, spits 2 – 5 from within urn. See also tables 4 and 5.

Cremation Burial 2			
Bone	**Fraction (mm)**	**Mass (g)**	**Comments**
Spit 2			
Cranial	>10	21	
Rib	>10	1	Left rib head and part of shaft
Rib	>5	0.5	Left rib head
Vertebra	>5	0.5	Facet fragments
Hand/Foot	>10	3	Some possibly metacarpal fragments.
Hand/Foot	>5	0.5	Phalange fragments
Spit 3			
Cranial	>10	52	Possibly one fragment is parietal (at bregma) but unsure which side.
Cranial	>5	2	
Rib	>10	11	
Vertebra	>10	0.5	Two fragments, each with a facet.
Long Bone	>10	92	Includes some possible femur fragments.
Long Bone	>5	6	
Hand/Foot	>10	2	One fragment of metatarsal, distal end partially present with some shaft. Others phalange fragments, two with distal end plus som of shaft.
Hand/Foot	>5	1	Phalange fragments. Proximal portion.
Spit 4			
Cranial	>10	32	
Rib	>10	11	
Vertebra	>10	7	Fragments unable to assign beyond vertebra. Includes mixture of fragment type including facets and nerual arch or process portions.
Long Bone	>10	116	Includes two fragments of bone that fit across a post-excavation break.
Hand/Foot	>10	1.5	Inlcudes a fragment of metatarsal/metacarpal and phalange fragments.
Spit 5			
Cranial	>10	49	One fragment with small area (<5 mm) of turquoise colour on external surface
Long Bone	>10	77	

Table 7 Burnt bone from Cremation Burial 2, contexts (823), (867), (889), (900) sample <311>, identified as human by element and categorized by type.

Bone	Fraction (mm)	Side	Mass (g)	Comments
(823)				
Cranial	>10	-	7	
Cranial	>5	-	0.5	
Rib	>5	-	5	Possibly faunal?
Hand/Foot	>5	-	0.5	Phalange.
(867)				
Temporal	>10	L	6	Part of the petrous portion of left temporal bone present including internal auditory meatus. This was checked with TMJ portion from within the urn, spit 2. There were no duplication of portions but also no joins possible. Zone 6.
Zygomatic	>10	L	0.5	Frontal process and orbital margin portions present. Zone 10.
Mandible	>10	L	5	Approximately half of mandibular ramus present. Zones 4, 3, 5.
Cranial	>10	-	15.5	
Cranial	>5	-	0.5	
Tooth	>2	-	0.5	Root fragment. Possibly molar?
Cervical Vertebra (C1)	>5	NA	0.5	Tentative ID. Odontoid peg portion. Zone 1.
Sacrum	>10	U	3	Tentative ID. Zone 1.
Vertebra	>10	-	0.5	Facet portion.
Vertebra	>5	-	0.5	
Humerus	>10	U	4	Zones 2, 11.
Trapezoid	>5	R	0.5	
Long Bone	>10	-	17	
Long Bone	>5	-	8	
Hand/Foot	>5	-	0.5	Phalanx
(889)				
Cranial	>10	-	2	
Cranial	>5	-	1	
Vertebra	>5	-	0.5	Superior facet portion
Long Bone	>10	-	8	
Hand/Foot	>5	-	0.5	Phalanx
(900) <311>				
Mandible	>10	R	2	Two fragments that fit across a post-mortem break. One portion is just inferior to mandibular ramus, other is mandibular ramus portion. These fragments are generally consistent in size with left mandible fragment from context (867).
Tooth	>5	-	0.5	Tentative ID. Fragment of tooth root. Possibly a lower left 1st molar tooth.
Vertebra	>5	-	2	Facet and spinous process portions.
Hand/Foot	>2	-	0.5	Phalanx
Long Bone	>10	-	4	
Most fragments (identified and unidentifiable) were white colour. Bone was very friable, with trabecular bone in particular fragmenting easily. Burnt faunal bone was also recovered from contexts (867) <306> and (889) <310>. Small amounts of pyre debris/stones were retrieved from amongst the burnt bone from contexts (867) <306> and (900) <311>.				

Table 8 Burnt bone from Cremation Burial 3, fill context (927) sample <322>

Cremation Burial 3				
Element	**Side**	**Zones**	**Mass (g)**	**Comments**
Temporal	L	6	6	Part of petrous portion with internal auditory meatus present.
Temporal	R	7	4	Part of petrous portion with internal auditory meatus present.
Occipital	-	5	0.5	Portion with left occipital condyle and part of magnum foramen rim. White coloured bone with red staining/adhesion.
Maxilla	L	12	0.5	Portion with part of nasal aperture rim present, sockets for 1st and 2nd incisor and mesial wall of canine socket.No teeth insitu. Tooth sockets for permanent teeth with no in crypt evidence.
Maxilla	L	12	1	Portion with tooth sockets for premolars, distal wall of canine tooth socket? and mesial wall of 1st molar tooth socket? present. This piece doesn't join across a break with other piece of left maxilla from this context but this is likely due to damage rather than an additional individual. No teeth insitu. Tooth sockets for permanent teeth with no in crypt evidence.
Maxilla	R	12	0.5	Portion with part of nasal aperture rim, sockets for 1st and 2nd incisor and mesial wall of canine socket present. No teeth insitu. Tooth sockets for permanent teeth with no in crypt evidence.
Maxilla	R?	12	2	Portion with sockets for 2nd premolar and first molar? Difficult to position. No teeth insitu. Tooth sockets for permanent teeth with no in crypt evidence.
Mandible	L	5	1	Portion of ramus condyle present and mostly complete. Good size match for the right side found in this context.
Mandible	R	5	1	Part of ramus condyle present. Good size match for the left side found in this context.
Mandible	-	7, 2	2	Anterior portion of mandible with mental spines. Anterior surface damaged. Part sockets for all incisors and left canine. No teeth insitu. Tooth sockets for permanent teeth with no in crypt evidence.
Mandible	U	4	0.5	Part of coronoid process.
Mandible	U	4	0.5	Tentative ID. Part of coronoid process?
Cranial	-	-	63	
Tooth	-	-	5	From >2mm sieve fraction.
Cervical Vertebra (C2)	-	1	2	Portion with part of centrum, odontoid peg parts of both left and right superior facets present.
Cervical Vertebra (C2)	-	3	0.5	Portion with part of left neural arch present. This does not duplicate the other C2 fragment from this context but very tentatively joins.
Cervical Vertebra	-	1	0.5	
Pelvis	L	6, 2, 11	12	Part of ischial tuberosity, very small portion of acetabulum articular surface present and also start of curve towards lesser sciatic notch. Insufficient present for sex estimation.
Pelvis	U	2/3	9	Portion with part of acetabulum articular surface.
Rib	-	-	0.5	
Vertebra	-	-	39	
Humerus	U	5,6	4	Distal portion with small part of olecranon fossa present.
Humerus	U	5/6?	2	Small portion of trochlea present.
Humerus	U	2	4	Part of humeral head with part of anatomical neck present.
Ulna	L	D, E, C	4	Portion of proximal part.
Capitate	U	CAP	0.5	
Femur	U	4	4	Portion of femoral head with articular surface and fovea capitus present.
Patella	L?	PAT	6	
Patella	R	PAT	9	Two fragments present appear to have fractured during heating.
Tibia	L?	?	8	Tentative ID. Distal portion with part of articular surface present. Epiphysis fused.
Tibia	U	2, 3/1	0.5	Part of tibia epiphysis with part of plateau and one tubercle. Unfused epiphysis. Possibly faunal?
Fibula	R	2	2	Tentative ID. Part of distal epiphysis present. Unable to observer whether fused to diaphysis as this is not present.
Talus	L	2, 1, 3, 4	11	
Navicular	R?	NAV	2	Part of dorsal articular surface present.
Cuneiform (2nd)	L?	CU2	0.5	Tentative ID.
Long bone	-	-	315	
Hand/Foot	-	-	3	Including 3g from >5mm sieve fraction.

All bone identifiable by element or type, was recovered from the 10 mm sieve fraction, unless otherwise noted. Size of all fragments consistent in size with adult individual with exception of possible human fragments of tibial epiphysis and juvenile phalange. Bone (including unidentifiable) from the 5mm and 10mm sieve fractions appeared mostly white in colour with some grey fragments. Unidentifiable bone from the >2mm and <2mm was a mixture of colours. Burnt faunal bone was also recovered as well as small amounts of pyre debris/stones and iron and iron corrosion products.

Table 9 Burnt bone from Cremation Burial 4, fill context (899) sample <309>.

Cremation Burial 4					
Bone	**Fraction**	**Side**	**Zones**	**Mass (g)**	**Comments**
Mandible	>10	L	1, 2	0.5	Anterior surface of fragment was damaged revealing 1st premolar tooth crown in crypt. Development of crown almost complete and no root development. No other teeth insitu but root sockets of deciduous 1st molar, deciduous canine, permanent 2nd incisor present. Crypt for permanent canine present also. Curvature of posterior surface also consistent with this ID. Juvenile. Approximate age of 7 years within age category of 5 - 9 years (Hillson).
Maxilla	>10	L	12	0.5	Anterior section of inter-maxillary suture present. Tooth root sockets and tooth crypts present (possibly crypts for 2nd permanent incisor and permanent canine) but uncertain assignment to specific teeth. No observable teeth insitu. Juvenile. Approximate age of 5 years within age category 3 - 6 years (Hillson).
Maxilla	>10	U	12/13?	0.5	Portion of maxilla with tooth crypt, possibly one of the permanent molars? Tentative ID. No teeth insitu. Juvenile. Age > 4 years.
Temporal	>10	L	7	3	Part of petrous portion including internal auditory meatus plus part of the jugular foramen. Juvenile (based on size).
Tooth	>5	U	-	0.5	Partially formed (permanent lower second molar?) tooth crown with no root development. Crown development 50-75% complete. Juvenile. Approximate age of 5 years within age category 3 - 6 years (Hillson).
Tooth	>5	U	-	0.5	Partially formed (permanent upper second molar?) tooth crown with no root development. Tentative tooth assignment. Crown development 25-50% complete. Juvenile. Approximate age of 5 years within age category 3 - 6 years (Hillson). Appearance of occlusal surface suggests enamel hypoplasia at the time of formation of the tooth cusps.
Tooth	>5	L	-	0.5	Partially formed (permanent upper left first premolar?) tooth crown with no root development. Early stage of development compared to right side from this context. Juvenile. Approximate age of 5 years within age category 3 - 6 years (Hillson).
Tooth	>5	R	-	0.5	Partially formed (permanent upper right first premolar?) tooth crown with no root development. Crown development nearly complete. Juvenile. Approximate age of 5 years within age category 3 - 6 years (Hillson).
Tooth	>5	R	-	0.5	Partially formed (permanent lower right first premolar?) tooth crown with no root development. Crown development 50-75% complete. Juvenile. Approximate age of 5 years within age category 3 - 6 years (Hillson).
Tooth	>2	U	-	0.5	Partially formed but broken (molar?) tooth crown with no root development. Juvenile.
Tooth	>2	U	-	0.5	Partially formed but broken (permanent premolar?) tooth crown with no root development. Juvenile.
Cranial	>10	-	-	24.5	Mostly relatively thin fragments. Some fragments with potential for possible ID (zygomatic?, sphenoid? temporal?). Thinness and size consistent with juvenile age.
Cranial	>5	-	-	0.5	
Pelvis	>10	U	7, 10	2	Portion of auricular surface and ilium. Small fragment. Unable to estimate age or sex. Size consistent with juvenile.
Pelvis	>10	U	-	4	Tentative ID. Portion of acetabulum articular surface? Size consistent with juvenile.
Sacrum	>5	-	-	0.5	Inferior portion of S5? Juvenile.
Cervical Vertebra (C1)	>5	-	-	0.5	Fragment with left superior and inferior facets present. Small size consistent with juvenile but no evidence of unfused bone apparent.
Femur	>10	U	-	1	Unfused epiphysis of femoral head, almost complete. Unable to assign side. Articular surface damaged in parts making observation of fovea capitus difficult but overall shape consistent with femur rather than humerus. Size consistent with proximal portions of juvenile femur recovered from this context. Juvenile. Size and development consistent with age 3 - 7 years.
Femur	>10	L	5,3	5	Unfused proximal femur including epiphyseal surface for head present. Posterior aspect damaged exposing trabecular bone and no cortical surface remaining. Good match for size and appearance of juvenile right femoral fragment also recovered from this context. Juvenile. Size and development consistent with age 3 - 7 years.
Femur	>10	R	5,3	10	Unfused proximal femur including epiphyseal surface for head present. Posterior aspect damaged exposing trabecular bone and no cortical surface remaining. Good match for size and appearance of juvenile left femoral fragment also recovered from this context. Juvenile. Size and development consistent with age 3 - 7 years. Metal/corrosion product (iron) adhered to posterior aspect, covering part of the epiphyseal surface. Similar proportion present to the left femur fragment suggesting mass of bone approximately 5g and 1 g of metal/corrosion product.
Talus	>10	U	1,2,3,4	6	Tentative ID. Trochlea, neck and head present. Articular surface damage and metal/corrosion product adhered to bone. Unable to assign side. Juvenile. Consistent in size with age 3 - 7 years.
Long bone	>10	-	-	7	
Long bone	>5	-	-	20	Generally thin slithers of bone. One fragment possibly metacarpal but could possibly be a juvenile long bone with porosity within metaphysis region, ends damaged and only small portion of shaft present.
Hand/Foot	>5	-	-	0.5	Metacarpal/Metatarsal? Size consistent with juvenile age.
Hand/Foot	>2	-	-	1	Fragment of phalange with unfused proximal epiphysis. Phalanx fragments with distal epiphyseal surfaces present.
All were consistent with adult size and maturity. Sex was not able to be estimated, except tentatively for a fragment of pelvis. A tentative age category was also estimated for this fragment. Most fragments (identified and unidentifiable) were white in colour. Burnt faunal bone was also recovered as well as small amounts of pyre debris/stones and iron and iron corrosion products. Two bone fragments that were identifiable by element also had metal/corrosion product adhered (juvenile right femur and juvenile unsided talus). These are listed in the table.					

Table 10 Burnt bone from Cremation Burial 5, fill context (872) inside flagon base and fill context (882) sample <303>.

Cremation Burial 5				
Bone/ Find	**Fraction (mm)**	**Fragments**	**Mass (g)**	**Comments**
(872) Cremation Pit Fill				
Cranial	>10	6	5.5	
Long bone	>10	4	13	Includes possible humerus shaft fragment and a fragment that is long bone head or condyle but unable to ID beyond this.
Long bone	>5	7	8	
(882) <303> Flagon base				
Cranial	>10	5	4	
	>5	8	4	
Long bone	>10	21	59	
	>5	21	19	
Burnt bone recovered from the flagon base was from spit 3 only (2015 Excavation Assessment Report). Bone (identified and unidentified) was mostly white in colour, with some grey. Burnt faunal bone was also recovered from both contexts as well as a small fragment of possible pot sherd from context (882) <303>.				

Table 11 Burnt human bone from Cremation Burial 6, fill context (657) <225>, (657) <226> and context (666) <227>.

Cremation Burial 6			
Bone	**Fraction**	**Mass (g)**	**Comments**
(657) <225>			
Frontal	>10	1	Right side. Zone 1 portion, pro for articulation with zygomatic bone is present.
Temporal	>10	1	Tentative ID. Unsided. Poor preservation. Part of mastoid process? (zone 6/7)
Cranial	>10	17	
Cranial	>5	0.5	
Sacrum	>10	0.5	Portion of body. Consistent in size and morphology with other sacral fragment from sample <227>, with this fragment being from a superior region. Possibly same individual?
Rib	>5	0.5	
Vertebra	>5	1	One superior? facet portion. One cevical? Centrum portion.
Long bone	>10	40	Includes 8 fragments of epiphyseal/possible epiphyseal portions (some may be portions of irregular bones with parts of articular surfaces present). Poor preservation makes fusion stages unobservable.
Long bone	>5	4	
Hand-Foot	>10	0.5	Tentative ID. Metacarpal/metatarsal? Proximal end and shaft. Poor preservation. Chalky appearance.
Hand-Foot	>5	0.5	Tentative ID. One fragment metacarpal? Poor preservation.
(657) <226>			
Cranial	>10	1	
Tooth	>5	0.5	Root and part of crown, premolar?
Rib	>5	0.5	
Rib	>2	0.5	Thin fragments, juvenile if human, faunal?
Vertebra	>10	0.5	Faunal? Part of centrum and neural arch.
Long bone	>10	3	
Long bone	>5	7	
Epiphyseal portions	>5	5	Various fragments, some human, some faunal?
Hand/Foot	>5	0.5	Distal phalanx
(666) <227>			
Temporal	>10	3	Left side. Zone 6. Petrous portion present, including internal auditory meatus and temporal part of jugular foramen.
Zygomatic	>10	0.5	Right side. Zone 11. Portion including part of orbital rim, one zygomatiofacial foramen at least 3 zygomaticoorbital foramen, frontal process and suture with frontal bone.
Mandible	>10	0.5	Zones 7, 2. Anterior portion of mandible with damage to anterior surfaces, exposing root sockets. Sockets of left and right 1st and 2nd incisors present and mesial border of canine sockets both sides. Mental spine region present. No teeth insitu. No resorption apparent, post-mortem loss. No evidence of crypts observable and appearance of sockets is consistent with with fully formed teeth in occlusion. Overall size consistent with adult age category. Age estimation >12 years (Hillson).
Cranial	>10	23	
Cranial	>5	0.5	
Clavicle	>10	1	Left side. Portion of shaft at posterior curve before lateral end.
Sacrum	>10	0.5	Tentative ID. Unsided. Zone 1. Lower sacral segment fragment?
Cervical vertebra (C1)	>10	0.5	Zones 1, 2. Portion of right superior condyle and small part of transverse process.
Cervical vertebra (C2)	>10	3	Zone 1. Portion of centrum, odontoid peg and part of both superior facets present. Adult size. Dens fully fused.
Rib	>10	3	Small size. Juvenile? Faunal?
Rib	>5	4	Small size. Juvenile? Faunal?
Vertebra	>10	3	Various fragments including, portions of centrum, facets, nerual arches and processes. Consistent with adult size.
Humerus	>10	0.5	Unsided. Portion of distal epiphysis with trochlea surface. Poor preservation. Adult size.
Femur	>10	6	Unsided. Zone 4. Femoral head epiphysis. Unfused. Two fragments fit based on anterior and inferior surface consistencies. Fovea capitis present. Approx. diameter 4 cm.
Metacarpal	>5	0.5	Tentative ID. Unsided. Metacarpal epiphysis? 2nd or 3rd? Poor preservation. Unfused surface on inferior aspect? Juvenile? Age <14 years (Scheur and Black).
Navicular	>10	2	Tenetative ID. Left side? Poor preservation.
Hand-Foot	>5	0.5	Phalange fragments.
Long bone	>10	41	Includes portion with distal metaphyseal/epiphyseal region with small part of epiphyseal surface present on distal aspect. Possibly Tibia? Also includes portion with part of articular surface. Possible upper limb bone?
Long bone	>5	12	Mostly thin pieces, generally approx. 3 cm long.
Identifiable and unidentifiable bone mostly white in colour with some grey or grey-brown fragments. Burnt faunal bone was also recovered from contexts (657) <225> and (666) <227>. Small amounts of iron and iron corrosion products were also recovered from context (666) <227> as well as small amounts of pyre debris/ stones from all contexts. A possible bead or small fragment of metal? was recovered from (666) <227>.			

Table 12 Burnt human bone from Cremation Burial 7, fill context (601) sample <198> and fill context (602) sample <199>.

Cremation Burial 7				
Bone/Find	**Fraction (mm)**	**Fragments**	**Mass (g)**	**Comments**
(601) <198>				
Mandible	>10	1	0.5	Part of left anterior portion of mandible. Poor preservation. Anterior surface damaged, exposing root sockets of left 1st, 2nd incisors and left canine. Slight curve of left mental eminence observable. No teeth insitu.
Cranial	>10	6	6	
Cranial	>5	10	19	
Cervical Vertebra	>10	1	0.5	Part of centrum present.
Radius	>10	1	0.5	Unsided. Portion of proximal head, part of superior and side aspects of articular surface of epiphysis. Adult size.
Lunate	>10	1	0.5	Left side.
Lunate	>10	1	0.5	Right side.
Pisiform	>5	1	0.5	Tenetative ID. Unsided.
Scaphoid	>10	1	1	Left side. Consistent with adult size.
Patella	>10	1	2	Tentative ID. Unsided. Poor preservation.
Cuneiform	>10	1	0.5	Unsided.
Long bone	>10	>20	180	
Long bone	>5	>20	42	
Hand/Foot	>10	4	2	Phalange fragments
Hand/Foot	>5	9	2	Phalange and metacarpal/metatarsal fragments
Hand/Foot	>2	1	0.5	Phalange fragment
Faunal	>10	>20	67	
	>5	>20	26	Includes tooth fragments.
	>2	>20	2	Includes tooth and phalange fragments.
Metal/Corrosion product	>10	1	2	Adhered to small bone fragment
	>2	1	0.5	Thin rod piece? No bone adhered.
Other non-bone finds	-	-	249	Includes fuel ash, iron, glass, charred plant remains.
(602) <199>				
Cranial	>10	2	2	
Long bone	>10	13	33	
Faunal	>10	3	4	
	>5	2	1	
Other non-bone finds	-	-	14	Includes fuel ash, iron, charred plant remains.
Bone fragments were mostly white in colour with some grey or grey-brown fragments. Burnt faunal bone was also recovered from both contexts and small amounts of iron and iron corrosion products were recovered from context (601) <198>.				

Table 13 Burnt bone identified by element from Cremation Burial 8, fill context (625), spits 1 – 4 from within urn.

Cremation Burial 8				
Bone/Find	**Fraction (mm)**	**Side**	**Mass (g)**	**Comments**
(625) Urn Spit 2				
Pelvis	>5	L?	6	Portion with part of acetabulum.
(625) Urn Spit 3				
Temporal	>10	R	1	Portion in the region of the temporomandibular joint, with articular eminence present but mandibular fossa absent. Part of sutures with sphenoid and zygomatic arch present.
Temporal	>10	L	1	Part of petrous portion present with jugular foramen, portion posterior and inferior to internal auditory meatus, which is not present.
Cranial	>10	-	36	Porosity on surface of some cranial vault fragments.
Cranial	>5	-	0.5	
Cervical Vertebra	>10	-	0.5	Portion of centrum.
Pelvis	>10	U	1	Portion with part of acetabulum articular surface. Unable to identify side.
Pelvis	>10	L	3	Portion with part of auricular surface including apex and part of ilium in region of greater sciatic notch, although this is not present.
Pelvis	>10	L	7	
Sacrum	>10	-	0.5	Anterior part of body portion. Unable to identify segment.
Scapula	>10	R	0.5	Portion with part of glenoid fossa and small part of bone in region of corocoid process.
Vertebra	>10	-	1	Fragment of trabecular bone with some external surfaces present. Poor preservation. Possibly cervical?
Humerus	>10	U	23	Portion of diaphysis.
Ulna	>10	L	9	Portion of diaphysis.
Femur	>10	U	7	Portion of femoral head with fovea capitis is present. Consistent with adult size
Metatarsal (1st)	>10	U	N	Portion of 1st metatarsal head. No evidence of unfused epiphysis but poor preservation.
Long bone	>10	-	27	Includes some trabecular fragments with articular surfaces but no apparent unfused epiphyseal surfaces.
Long bone	>5	-	2	
(625) Urn Spit 4				
Frontal	>10	-	3	Portion with groove for superior saggital sinus. External surface damaged exposing diploe but no apparent evidence of metopic suture.
Temporal	>10	L	3	Portion with anterior ridge of temporomandibular joint and approximately 50 % of madibular fossa.
Cranial	>10	-	61	
Cranial	>5	-	1	
Cervical Vertebra (C1)	>10	-	0.5	Portion includes right superior facet. Poor preservation with chalky appearance similar to some of the faunal bone from this urn.
Cervical Vertebra	>10	-	1	Centrum and both articular surfaces mostly complete. Part of left neural arch present.
Cervical Vertebra	>10	-	1	Centrum and both articular surfaces present but <50 % complete. Part of left neural arch present.
1st Rib	>10	U	0.5	Tentative ID.
Pelvis	>10	L	4	Portion of auricular surface and small part of greater sciatic notch (GSN). When aligning arcuate line and auricular surface, the GSN border appears to have an acute angle. Tentative sex estimation as possible male.
Scapula	>10	U	4	Part of lateral border.
Vertebra	>10	-	23	Various fragments including parts of centrum, facets, transverse processes. Some joining pieces? Some thoracic, some lumbar?
Humerus	>10	R?	2	Portion including part of trochlea, captitulum and the coronoid fossa. Consistent in size with distal metaphyseal humerus fragment from spit 4. Could not fit across a break but no duplication apparent.
Humerus	>10	U	6	Distal metaphysis portion including edges of coronoid fossa but posterior aspect not present.
Femur	>10	U	12	Portion of femoral head and inferior aspect of neck, with fovea capitis present. Very slight osteohytic lipping around rim of articular surface. Diameter of head > 40mm. Age estimation old adult due to fusion of head to neck and osteophytic lipping. Sex estimation of probable male (Chamberlain 1994).
Femur	>10	U	4	Distal portion of femur including patella region of the articular surface.
Patella	>10	R?	4	Portion with part of lateral articular facet present. Poor preservation of anterior surface.
Tibia	>10	U	19	Three fragments of tibial shaft with anterior crest. None of the fragments fit together across a break but could be from same individual.
Navicular	>10	R	0.5	
Talus	>10	L?	4	Portion with parts of superior and medial articular surfaces present.
Long bone	>10	-	82	
Long bone	>5	-	0.5	
Hand/Foot	>10	-	1	2 fragments, one part of possible 2nd or 3rd metacarpal, other possibly one of cuneiforms, poor preservation.
Hand/Foot	>5	-	2	Phalange fragments, hand?

Table 14 Burnt bone identified by element from Cremation Burial 8, fill context (625) spits 5-6 from within urn.

Cremation Burial 8				
Bone	**Fraction (mm)**	**Side**	**Mass (g)**	**Comments**
(625) Urn Spit 5				
Frontal	>10	-	2	Part of right orbit portion. Lacrimal fossa and start of the zygomatic process present. Poor preservation of supra-orbital margin. Lesion of porotic hyperostosis observable (score of 2, porosity only, location score of 1, orbits, activity score of 1, active at time of death).
Frontal	>10	-	1	Portion of left side with lateral part of supraorbital margin present. Although this did not fit across a break, it is consistent in size with the other frontal fragment from this spit. No supraorbital ridge observable but not particularly sharp margin. Possible female or possible adolescent male?
Zygomatic	>10	R	2	Frontal process present
Cranial	>10		22	
Cervical Vertebra (C1)	>10	-	0.5	Part of centrum with facet for odontoid peg of C2. This portion does not duplicate the C1 fragment from spit 4.
Cervical Vertebra	>10	-	1	Portion of centrum and part of left superior facet.
Scapula	>10	L	4	Portion with part of glenoid fossa, small part of bone in region of corocoid process and part of scapula notch border present.
Rib	>10		5	
Rib	>5		3	
Humerus	>10	L	3	Portion including anterior aspect of trochlea but capitulum not present. Larger size compared to the humeral epiphysis from spit 4 (possible right side). Colour differences so potentially different shrinkage if from same individual.
Pisiform	>5	U	0.5	Two fragments. Each unsided but appear to be opposite side from each other. One is more complete than the other. Consistent in size.
Femur	>10	U	21	Portion of diaphysis with linea aspera present. Warping apparent. Length of fragment, 11 cm.
Patella	>10	U	0.5	Tenetative ID. Small portion present and poor preservation.
Tibia	>10	U	0.5	Portion with part of proximal epiphysis and intercondyle eminences.
Navicular	>10	L	3	Approximately 50 % of distal surface present and also part of proximal surface. Consistent in size with right side navicular from spit 4.
Metatarsal (1st)	>10	U	0.5	Tentative ID.
Long bone	>10	-	53	
Long bone	>5	-	4	
Hand/Foot	>5	-	0.5	Tentative human ID. Portion of shaft present but no ends.
(625) Urn Spit 6				
Zygomatic	>5	L	0.5	Part of frontal process with suture. Good size match with right side fragment from spit 5.
Mandible	>10	U	0.5	Left ramus condyle.
Mandible	>10	U	0.5	Right coronoid process.
Cranial	>10	-	26	
Long bone	>10	-	26	
Long bone	>5	-	5	
Hand/Foot	>5	-	0.5	Portion of intermediate phalange and, a distal foot phalange with appearance consistent with a malaligned healed fracture.
No bone fragments were recovered from spit 1. Bone fragments from spits 2 - 6 were mostly white in colour, some grey and some, with orange staining/adhesion. All fragments consistent with adult size. Context samples (625) <202>, (625) <203> and (625) <204> contained only unidentifiable bone fragments. Urn spits 3 - 6 and context (625) <202> all contained some burnt faunal bone. Urn spit 5 also contained a small amount of pyre debris/stones.				

Table 15 Burnt human bone from Cremation Burial 9, fill context (309), deposit within the urn, sample <97> and fill context (308) sample <96>.

Cremation Burial 9				
Bone Type/Element	**Fraction (mm)**	**Fragments**	**Mass (g)**	**Comments**
(309) Urn				
Vertebra (Thoracic)	>10	1	3	Rib facets observable. Adult (rims fused)
Rib	>5	1	1	
(309) <97>				
Frontal	>10	1	2	Portion with glabella and medial part of left supraorbital margin present. Slight ridge at glabella. Possible male.
Temporal	>10	1	4	Right side portion posterior to mastoid with part of parietal notch suture present. Where bone has been damaged, some mastoid air cells visible. Groove on internal surface posterior and parallel to petrous portion but petrous portion not present.
Temporal	>10	1	0.5	Unsided portion of mastoid process. Damaged, with some air cells visible.
Temporal	>10	1	0.5	Possible right side portion with part of mandibular fossa present.
Cranial	>10	3	2	
Long bone	>10	4	8	
Long bone	>5	9	7	
(308) <96>				
Cranial	>10	1	0.5	
Rib	>5	1	0.5	Small faunal? Juvenile?
Long bone	>10	6	19	
Long bone	>5	7	6	
Burnt bone was mostly white in colour. Burnt faunal bone was recovered from context (308) <96> and small amounts of pyre debris/stones were recovered from both fill contexts. Some fragments of iron and iron corrosion products were recovered from (309) <97>.				

Table 16 Burnt human bone from Cremation Burial 10, context (615), spits 1 – 4 from within the urn.

Cremation Burial 10				
Bone	**Fraction**	**Side**	**Mass (g)**	**Comments**
(615) Urn Spit 1				
Vertebra	>10	-	2	3 fragments no apparent joining. One neural arch piece? One piece with a bit of centrum and a bit of neural arch and one piece a bit of centrum.
Vertebra	>5	-	0.5	Two facet fragments of vertebra.
(615) Urn Spit 2				
Parietal	>10	L	3	Tentative ID. Portion with junction of saggital and frontal suture. Zone 4.
Mandible	>10	R	0.5	Portion with part of mandibular ramus present.
Cervical Vertebra (C1)	>10	-	0.5	Tentative ID. Portion with part of neural arch present.
Cervical Vertebra	>10	-	2	Portion with part of centrum, part of left neural arch and start of inferior part of superior facet present. Thin spit of bone suggests possible bifurcation of transverse foramen on left side. Zones 1, 3.
Cervical vertebra	>10	-	0.5	Portion with part of centrum with superior and inferior surfaces present. Zone 1.
Thoracic Vertebra	>10	-	7	Portion with part of centrum, right superior facet, right and left rib facets present. Schmorl's node indentations on both articular surfaces. No osteophytic lipping and no OA on facet apparent. Zones 1, 2.
Thoracic Vertebra	>10	-	0.5	Portion with part of centrum and right rib facet present. Zone 1.
Pelvis	>10	L	12	Portion of ilium with part of auricular surface, retroauricular surface and part of preauricular sulcus region. No sulcus present. Age estimation adult 35-39 years (Phase 4, Meindl and Lovejoy). Slight retroauricular activity but no transverse structures, densification of edge of auricular surface or porosity apparent. Zones 7, 10, 12, 5.
Sacrum	>10	-	4	Portion of body with fused anterior surface and articular surface of one segment present. Size of this would suggest inferior surface of S4? Two and a bit segments represented based on appearance of exposed posterior trabecular bone. Zone 1.
Sacrum	>10	-	4	Portion of body with part of centrum of segment 1, right superior facet and small part of right ala. This fragment does not join across a break with other sacral fragments from any spit but no apparent duplication. Small in size. Zones 2, 1.
Sacrum	>10	-	4	Portion with part of ala and part of auricular surface present. Unable to side. This fragment does not join across a break with any other sacral fragments from any spit. Zone 2/3.
Vertebra	>10	-	0.5	Fragment with superior facet present and fragment with part of centrum present.
Vertebra	>5	-	0.5	Portion with superior facet present.

Cremation Burial 10				
Bone	**Fraction**	**Side**	**Mass (g)**	**Comments**
(615) Urn Spit 2 *cont.*				
Vertebra	>10	-	2	Fragments of parts of centrum.
Tibia	>10	U	0.5	Tentative ID due to small portion present. Part of tibial plateau and eminence.
Long bone	>10	-	45	
Long bone	>5	-	0.5	
(615) Urn Spit 3				
Sphenoid	>10	-	3	
Temporal	>10	L	2	Portion with part of left petrous pyramid including internal auditory meatus (enlarged?). Anterior part broken off approximately half way along petrous pyramid.
Mandible	>10	-	0.5	Right part of posterior aspect of anterior portion of mandible. Anterior surface missing, with root sockets exposed. Mental spine region visible on posterior surface. Sockets for right incisors and right canine and mesial border of right premolar present. Teeth not present. No evidence of crypts. Zone 7, 2.
Cranial	>5		1	
Clavicle	>10	U	4	Tenative ID. Part of shaft portion.
Scapula	>10	R	7	Portion with part of scapula spine (as it heads towards the acromion process), foramen within supraspinous fossa, and part of scapula neck present. Glenoid fossa not present. Zones 4, 5, 6.
Cervical vertebra (C1)	>10	-	0.5	Portion with right superior facet present.
Cervical vertebra	>10	-	2	Mostly complete portion of centrum, slight damage to superior articular surface. Zone 1.
Thoracic vertebra	>10	-	0.5	Right rib facet and small part of right neural arch present. Zone 1.
Thoracic vertebra	>10	-	5	Portion with part of centrum, right rib facet and right superior facet present. Superior articular surface damaged. Schmorl's node on inferior surface, slight indentation. Zone 1, 2.
Thoracic vertebra	>10	-	2	Portion with part of centrum with right rib facet present. Possibly from upper thoracic region. Zone 1.
Lumbar vertebra	>10	-	3	Portion with part of centrum and right superior facet present. Zone 2, 1.
Pelvis	>10	R	5	Part of ilium and iliac crest (fully fused crest).
Pelvis	>10	U	4	Portion of ilium and illiac crest (fully fused crest). Part of retroauricular area also present. This fragment does not join across a break with other iliac fragment from spit 3 but there is no apparent duplication.
Pelvis	>10	L	8	Portion with part of acetabulum (region heading towards anterior inferior iliac spine) and posterior aspect with acurate line present. Acurate line region exhibits warping and is partly delaminated.
Pelvis	>10	U	2	Tentative ID. Part of inferior portion of pubic symphysis? Insufficient present for sex or age estimation.
Rib	>5		2	
Humerus	>10	R?	2	Part of distal epiphysis with trochlea and capitulum and part of coronoid fossa.
Humerus	>10	U	8	Portion with part of distal shaft and metaphysis present.
Femur	>10	L	31	Two joining fragments. One fragment, portion with femoral head, neck and small part of shaft (19g) present. Other fragment, part of shaft portion(12g) including part of eminence of lesser trochanter. Epiphysis fully fused. Approximate head diameter is at least 41 mm.
Tibia	>10	U	4	Part of shaft portion with anterior crest present.
Tibia	>10	U	5	Part of proximal epiphysis?
Tibia	>10	U	4	Tentative ID. Two fragments, possibly opposite sides to each other.
Ulna	>10	U	5	Part of shaft portion.
Ulna	>10	U	0.5	Portion with part of the olecranon fossa and trochlea notch present.
Ulna	>10	U	0.5	Portion with part of olecranon process. Does not join across a break with other ulna fragments.
Long bone	>10		71	
Long bone	>5		5	
Hand/Foot	>10		0.5	Phalange fragments (hand?).
Hand/Foot	>5		0.5	Phalange fragments.

Table 17 Burnt human bone from Cremation Burial 10, context (615) spit 5 from within the urn.

Cremation Burial 10				
Bone	**Fraction**	**Side**	**Mass (g)**	**Comments**
(615) Urn Spit 4				
Maxilla	>10	L	0.5	Small portion with 2nd permanent premolar socket and mesial border of 1st molar tooth socket? No teeth insitu.
Mandible	>10	R	3	Portion with coronoid process, part of mandible foramen and socket for molar tooth (3rd?). Unable to observe presence of any crypts due to damage. Fragments of two roots insitu within base of socket. A fragment of tooth recovered from >5 mm fraction from spit 4 fits across break (not listed separately to here). Zone 4, 3, 6, 1.
Mandible	>10	R?	2	Portion with two premolar sockets and part of a molar socket, with fragment of tooth root insitu. Zones 1, 2.
Mandible	>10	R?	1	Portion with mandibular condyle and part of neck. This fragment does not join across a break with the right ramus fragment from spit 2 but there is possibly a missing linking piece and this fragment might be left side. Marked lines on posterior surface - muscle attachments? Depressed lesion (approx. 4mm in diameter) on superior surface (articular surface) of condyle.
Cranial	>10		20	
Tooth	>5		0.5	Two fragments. One fragment tooth root and part of crown (premolar?). Other fragment of tooth root, possibly broken at cemento-enamel junction (premolar or canine?). Neither fragment fits within any sockets present from any spit.
Clavicle	>10	L	2	Part of shaft and sternal end. Sternal end fused.
Scapula	>10	U	6	Portion with part of lateral border.
Cervical vertebra (C2)	>10	-	3	Portion with parts of centrum, odontoid peg and parts of left and right superior facets present.
Lumbar vertebra	>10	-	7	Portion with part of centrum present.
Lumbar vertebra	>10	-	1	Portion with part of centrum and left superior facet present.
Lumbar vertebra	>10	-	2	Portion with part of centrum start of neural arch present.
Lumbar vertebra	>10	-	3	Portion with part of left superior facet.
Lumbar vertebra	>10	-	2	Portion of part of centrum.
Pelvis	>10	R	8	Portion of ischium with tuberosity and very small part of edge of acetabulum rim present.
Pelvis	>10	L	15	Two fragments that join across a break. One fragment is portion of ilium with acuate line present. Other fragment is portion of ilium with superior demiface of auricular surface, including apex. No features available for sex estimation. Tentative age estimation due to partial auricular surface, 35-39 years (Phase 4, Meindl and Lovejoy). These fragments do not join across a break with auricular surface from spit 2, but no apparent duplication.
Pelvis	>10	L	8	
Pelvis	>10	L	2	Portion of ilium with anterior inferior iliac spine and part of rim of acetabulum present. Zone 1.
Sacrum	>10	-	2	Left side portion of body with segment 1 rim and part of ala present. Zone 2.
Sacrum	>10	-	3	Left superior facet. This piece joins across sheer break with other sacral fragment from this spit.
Vertebra	>10		1	Various fragments. One fragment with possible schmorl's node, depressed lesion present.
Vertebra	>5		1	Fragment with facet present and fragment with transverse process present.
Vertebra	>5		0.5	Tentative ID? Process?
Rib	>10		2	
Femur	>10	U	7	Part of head with fovea capitis present.
Femur	>10	U	41	Part of shaft portion, with linear aspera present. Zone 6.
Long bone	>10		31	
Long bone	>5		5	
Hand/Foot	>5		0.5	Fragment of metacarpal/metatarsal shaft.

Bone identified by element was mostly white, with some white-grey and grey fragments and some with orange staining/adhesion. Bone identified by type was mostly white. Unidentified bone was mostly white in colour with some grey and included several trabecular bone pieces. The >2mm sieve fraction from spit 1 contained a high proportion of small stones. Burnt faunal bone was recovered from all contexts. A small fragment of glass was recovered from spit 3.

Table 18 Burnt human bone Cremation Burial 11, fill context (591) sample <196> and spits 3 and 4 from within the urn.

Cremation Burial 11					
Bone/Find	**Fraction (mm)**	**No. Fragments**	**Mass**	**Colour**	**Inventory Comments**
(591) Urn Spit 3					
Femur	>10	2	9	Grey-brown	Unsided portion of head with fovea capitis present. Size consistent with adult. No unfused epiphyseal surface evident but also no shaft present. Two fragments possibly join but tentative association due to edge of fragment damage.
Tibia	>10	1	0.5	Grey	Unsided portion of tibia with part of tibial plateau surface and some trabecular bone present. Includes part of tibial eminence.
Long bone	>10	3	15	White, grey	
Long bone	>5	1	2	White	
(591) Urn Spit 4					
Mandible	>10	3	4	White	3 fragments that join across breaks so all from same individual. 1) Portion of left ascending ramus with part of condylar neck, mandibular notch, mandibular foramen and most posterior tooth socket (3rd molar?). No teeth insitu. No teeth in crypt apparent. 2) Coronoid process. 3) Mandibular condyle. Small in size but no evidence that this represents a sub-adult. Possibly female based on size.
Pelvis	>10	1	2	White-grey	Unsided portion of pubic symphysis with inferior part of symphyseal face and part of ischiopubic ramus ridge. Possible female (Phenice, ridge and narrowing, flat and smooth). Age estimation 35 - 40 years (Todd phase 7, Suchey-Brooks phase 3/4).
Tibia	>10	1	4	White	Unsided portion with part of tibial tuberosity present.
Long bone	>10	6	26	White, grey	Includes 3 fragments of trabecular bone with parts of articular surfaces present. Possible long bone head fragments but unable to identify beyond this.
Long bone	>5	3	4	White, grey	
(591) <196>					
Tooth	>2	4	1	Blue-grey-white	Root fragments. One possible molar?
Urn: No bone was recovered from spit 1. A negligble amount was recovered from spit 2 (<2mm dark grey fragments). Unidentifiable bone was mostly white in colour with some grey fragments in the 5mm and 2mm sieve fractions. The 2mm fraction for spit 4, was mostly bone and for spit 3, was mostly soil. Burnt faunal bone was recovered from spits 3 and 4. Only unidentifiable bone was recovered from context (591) <196> and this was mostly white in colour.					

Table 19 Burnt human bone from Cremation Burial 12, fill context (246) sample <63>.

Cremation Burial 12				
Bone/Find	**Fraction (mm)**	**Zone**	**Mass (g)**	**Inventory Comments**
Frontal	>10	2, 14	3	Left portion of frontal bone with glabella (and retention of part of metopic suture), medial portion of left superaorbital margin and part of left nasal bone. Supraorbital notch appears to be > 50% occluded, possibly a foramen but bone broken at this point. Lack of supraorbital ridge and sharpness of supraorbital margin suggests adult female or juvenile represented.
Temporal	>10	7	2	Part of petrous portion of right temporal bone, including internal auditory meatus.
Cranial	>10	-	7	
Cranial	>5	-	0.5	
Tooth	>5	-	0.5	Four fragments 1) Tooth crown fragment. Unable to ID beyond this. 2) Three root fragments. Joins across break not apparent for crown and any root fragments from this context.
Tooth	>2	-	0.5	Root fragment.
Cervical Vertebra (C2)	>10	1	3	Odontoid peg (damaged), parts of both superior facets and part of centrum inferior surface present.
Cervical Vertebra	>10	1	2	Portion of centrum.
		1	1	Portion of centrum, slight osteophytic lipping apparent.
		1, 3	0.5	Portion of centrum with part of neural arch present.
		1	0.5	Portion of centrum.
Vertebra	>10	-	0.5	Portion of transverse process.
Vertebra	>5	-	0.5	Neural arch fragments.
Pelvis	>10	10	3	Tentative ID. Portion of ilium. Unsided.
Humerus	>10	5, 3	1	Left side, distal end with parts of capitulum and trochlea present. Size consistent with adult.
	>10	4	1	Tentative ID. Possible right side fragment with part of medial malleolus present.
Femur	>10	4, 5	29	Femoral head and part of neck, possible left side. Fovea capitis present and most of head articular surface. Approximate head diameter of 44mm. Adult male. No apparent ostephytic lipping.
	>10	4	10	Two fragments of femoral head which join across a break across articular surface and fovea capitis. One of these fragments also fits across a break with long bone fragment adhered to metal/corrosion product. Unsided. Consistent in size with left femoral head from this context.
Patella	>10	-	9	Left side.
Talus	>10	1-4	15	Right side. Large size.
Metatarsal (1st)	>10	2,3	5	Left 1st metatarsal. Adult. Large size. Almost complete distal end and part of shaft present.
Foot phalange	>10	2, 3	0.5	Unsided. 1st distal foot phalange. Part of proximal end present.
Long bone	>10	-	51	
Long bone	>5	-	25	
Hand/Foot	>5	-	1	Five fragments of hand/foot bones. 1) Metacarpal/metatarsal? Small fragment of part of distal head. Unsided. 2) Tentative ID. Distal end and part of shaft of distal? phalange present. Unsided. 3) Three mostly complete two hand? and one foot? distal phalanges. Unsided.
Identifiable bone was mostly white or grey in colour. Unidentifiable bone was mostly white, with some white-grey or grey. Some iron and iron corrosion products were recovered as well as a small amount of pyre debris/stones.				

Table 20 Burnt human bone from Cremation Burial 13, fill context (315) sample <102> and (324) <103>.

Cremation Burial 13				
Bone/Find	**Fraction (mm)**	**Fragments**	**Mass**	**Inventory Comments**
(315) <102>				
Cranial	>10	2	2	
Cranial	>5	2	0.5	
Long bone	>5	1	0.5	
(324) <103>				
Temporal	>10	1	3	Part of right petrous portion with internal auditory meatus.
Maxilla	>10	1	0.5	Posterior aspect of anterior tooth sockets region with anterior surface damaged, exposing root sockets. Tooth sockets for 1st and 2nd upper permanent incisors present. No teeth insitu with appearance consistent with post-mortem loss.
Cranial	>10	28	22	
Tooth	>5	1	0.5	Tooth root with part of crown.
Tooth	>2	1	0.5	Root fragment.
Tooth	<2	1	N	Root fragment.
Pelvis	>10	1	0.5	Tentative ID. Portion of greater sciatic notch region. Unsided. Insufficient remains for sex estimation.
Rib	>10	1	0.5	
Vertebra	>10	1	1	Fragment with facet and neural arch present.
Humerus	>10	1	0.5	Anterior aspect of distal end of left humerus, zone 5/6. Parts of capitulum, trochlea and coronoid fossa present. Consistent with adult size but insufficient remains to observe whether epiphysis is fused.
Metatarsal (1st)	>10	1	0.5	Tentative ID. Head portion of 1st metatarsal. Unsided.
Foot phalange (1st Distal)	>10	1	0.5	Distal portion, part of shaft and part of proximal portion. Healed fracture? Bone growth on distal end.
Talus	>10	1	2	Tentative ID. Part of superior articular surface? Unsided
Cuneiform (2nd)	>10	1	0.5	Tentative ID. Unsided. Poor preservation but block of trabecular bone with two parts of articular surfaces consistent with 2nd (intermediate) cuneiform morphology. One surface has shiny red glazed-like appearance.This is not eburnation, as shininess extends beyond articular surface.
Long bone	>10	18	33.5	
Long bone	>5	16	14	
Hand/Foot	>5	6	0.5	Six fragments 1) part of distal end of metacarpal/metatarsal 2) part of distal portion and shaft of intermediate phalange? 3) part of shaft and proximal end 4) part of shaft and proximal end 5) part of proximal end 6) part of proximal end.
Hand/Foot	>2	1	N	Part of intermediate phalange.
Identifiable bone was mostly white in colour with some grey and some white-orange. Unidentifiable bone was mosly white in colour, with a higher proportion of a mixture of colours for bone from sample <103>. The 10mm sieve fraction contained a small fragment of bone with shiny red glaze-like appearance one surface and a red substance adhering to other surface. Fragments of glass were recovered from both contexts and some fragments of iron and iron corrosion products and a small amount of pyre debris/stones were recovered from context (324) <103>.				

Table 21 Burnt human bone from Cremation Burial 14, fill context (915) sample <311>.

Cremation Burial 14				
Find	**Fraction (mm)**	**Fragments**	**Mass (g)**	**Comments**
Temporal	>10	1	2	Portion of right temporomandibular joint. Articular eminence and start of mandibular fossa as well as sutures present.
Mandible	>5	1	0.5	Tentative ID. Portion of condylar neck? Unable to side.
Cranial	>10	1	0.5	
Cranial	>5	6	4	
Tooth	>2	3	0.5	Root fragments.
Vertebra	>5	1	0.5	Portion of neural arch.
Radius	>10	1	1	Tentative ID. Portion of head with part of articular surface present. Unable to side.
Long bone	>10	4	9	
Long bone	>5	22	19	
Identifiable bone was white in colour. Unidentifiable bone from the 10mm and 2 mm sieve fractions were all white, as were most of the fragments from the 5mm sieve fractions but with some black or white-grey. Some fragments of iron and iron corrosion products and pyre debris/stones were also recovered.				

Table 22 Burnt human bone from Cremation Burial 15, fill context (255) sample <69> and (268) <70>.

Cremation Burial 15			
Bone/Find	**Fraction (mm)**	**Mass (g)**	**Inventory Comments**
(255) <69>			
Cranial	>10	7	
	>5	0.5	
Tooth	>2	0.5	Apical portion of root.
Long bone	>10	37	
	>5	4	
(268) <70>			
Tooth	>5	1	3 fragments of tooth root. 1) mandibular molar? 2) canine or premolar? 3) maxillary molar? All consistent in appearance with permanent teeth.
Long bone	>5	3	
Hand/Foot	>5	N	2 phalanx fragments. 1) Proximal end present and osteophytes around articular facet rim. 2) Distal end present. Not able to join fragments so possibly different bones.
Identified bone was mostly white in colour. Unidentifiable bone was mostly white in colour but mixture of colours were observed. Burnt faunal bone was recovered from context (268) <70> as well as some fragments of iron and iron corrosion products from both contexts.			

Table 23 Burnt human bone from Cremation Burial 16, fill context (584) sample <181>.

Cremation Burial 16			
Bone	**Fraction (mm)**	**Mass (g)**	**Comments**
Frontal	>10	0.5	Portion of left side of supraorbital margin with part of temporal line and lacrimal fossa.
Mandible	>5	1	Tentative ID. Portion of inferior margin region? Unable to side. This could possibly be faunal bone?
Cranial	>10	12	
	>5	2.5	
Rib	>5	0.5	Tenetative ID.
Vertebra	>5	0.5	Tentative ID. Fragments with facet portion.
Long bone	>10	10	
Long bone	>5	6.5	
Hand/Foot	>5	0.5	Tentative ID. Metatarsal/metacarpal?
No faunal (see note above) nor non-bone finds recovered. Unidentifiable bone fragments were variety of coloures, including white, grey and black. Identifiable bone was mostly white-grey in colour.			

Table 24 Burnt human bone from Cremation Burial 17, fill context (270) around flagon base, sample <74>, and (274) sample <75>.

Cremation Burial 17				
Bone/Find	**Fraction (mm)**	**No. Fragments**	**Mass**	**Comments**
(270) <74>				
Zygomatic	>10	1	0.5	Right side portion with frontal process present and part of lateral orbital margin with one zygomaticoorbital foramen. Anterior surface damaged.
Mandible	>10	1	0.5	Small portion with tooth socket. Unsided and unable to identify which tooth.
Mandible	>5	1	0.5	Left mandibular condyle. Small fragment but also small size. Possible female or sub-adult.
Cranial	>10	15	21	
Cranial	>5	11	4	
Tooth	>5	2	0.5	Two fragments 1) Permanent tooth root, crown broken off under CEJ. 2) Permanent tooth root. Premolar or canine?
Tooth	>2	9	1	Various tooth fragments; roots, crowns, one possible deciduous tooth root, or faunal.
Cervical vertebra (C1)	>10	1	1	Right side superior and inferior facets present.
Lumbar vertebra	>10	1	5	Left portion of centrum and start of neural arch. No lipping apparent.
Pelvis	>10	1	5	Unsided portion with part of auricular surface and region of preauricular sulcus. No sulcus apparent. Very tentative age estimation due to only partial auricular surface and damage to surface. General appearance: densification with lack of coarse granularity (Phase 5/6 Meindl and Lovejoy, 40-50 years).
Pelvis	>10	1	4	Unsided portion of ischial tuberosity.
Pelvis	>10	1	6	Left side portion with part of greater sciatic notch present. Curvature/angle suggests possible female.
Pelvis	>10	1	5	Tentative ID. Unsided. Block of trabecular bone with undulating cortical surface. Portion with retroauricular area?
Rib	>10	7	10	Mostly shaft fragments. One portion of head fragment with vertebral facet, one with red colouration.
Rib	>5	4	3	One possible faunal.
Vertebra	>10	16	22	Various vertebral fragments. Various portions; facets, centra. No lipping apparent.
Vertebra	>5	4	1	Facet portions.
Humerus	>10	1	0.5	Tentative ID. Unsided. Portion of distal epiphysis articular surface? Insufficient remains to observe whether epiphysis is fused.
Pisiform	>5	1	0.5	Unsided. Complete with very slight weathering to surface.
Triquetral	>10	1	0.5	Possible right side. Complete with slight weathering to surface.
Lunate	>10	1	0.5	Left side. Mostly complete.
Long bone	>10	6	11	
Long bone	>5	167	29	
Epiphyseal surfaces	>5	4	1	Fragments of poorly preserved epiphyseal surfaces. Possibly faunal.
Hand/Foot	>5	11	4	Various fragments. One possible metacarpal/metatarsal portion of head and small part of shaft. One mostly complete distal hand? phalange. One possible intermediate phalange, part of head and small portion of shaft. Six phalange fragments with varying completeness. One poorly preserved fragment with epiphyseal surface. Possibly faunal?
(274) <75>				
Vertebra	>5	1	0.5	Small fragment of centrum.
Long bone	>5	2	0.5	Shaft fragments.
Only unidentifiable burnt bone or faunal bone was recovered from within the flagon base from context (270). Context (270) <74>: Identifiable bone was mostly white, with some grey. Unidentifiable bone from the 10 mm fraction was mostly white in colour with some grey fragments. The other fractions were a mixture of colours. (274) <75>: Identifiable bone by type was white or grey-brown. Unidentifiable bone from the 5 mm fraction was mostly white or grey-brown in colour. Some fragments of faunal bone and iron and iron corrosion products were recovered from context (270) <74> as well as a small amount of pyre debris/stones from both fill contexts.				

Table 25 Burnt human bone from Cremation Burial 18, fill context (468) sample <160>, beaker (Vessel no. 2), and (469) sample <161>.

Cremation Burial 18				
Bone/Find	**Fraction (mm)**	**Fragments**	**Mass**	**Inventory Comments**
(468) <160>				
Maxilla	>10	1	2	Tenative human ID. Part of molar root in socket?
Cervical vertebra (C2)	>5	1	0.5	Tenative ID.
Cranial	>10	1	3	
Cranial	>5	1	0.5	
Pelvis	>10	1	2	Tentative ID. Portion of ilium?
Pelvis	>10	1	3	Tenative ID. Portion of acetabulum?
Vertebra	>10	7	6	Various fragments of parts of centra, some with facets, some with parts of neural arches.
Long bone	>10	59	105	
Long bone	>5	20	19	
Hand/Foot	>5	2	0.5	1) Shaft and proximal end portions of a phalange. 2) Tentative ID of carpal bone? Poor preservation.
(469) <161>				
Long bone	>10	4	7	
Long bone	>5	12	10	
Identifiable bone was mostly white in colour with some grey fragments. Only unidentifiable bone and faunal bone were recovered from the complete beaker. Unidentified bone mostly white in colour. Unidentifiable fragment from 10mm sieve fraction is possibly part of acetabulum articular surface? <160> and <161>: Unidentified bone from 10mm sieve fraction mostly white in colour, unidentifiable bone from other sieve fractions was a mixture of colours. Some fragments of burnt faunal bone and iron and iron corrosion products were recovered from context (468) <160> and a small amount of pyre debris/stones were recovered from both fill contexts.				

Table 26 Burnt human bone from Cremation Burial 19.

Cremation Burial 19				
Bone/Find	**Fraction**	**Side**	**Mass (g)**	**Comments**
(801) <283>				
Temporal	>10	L	5	Partial centrum and neural arch.
Humerus	>10	U	6	
Radius	>10	U	0.5	
Trapezium	>10	R	0.5	
Long bone	>10	-	42	One phalange fragment (distal end and part of shaft) and one metacarpal/metatarsal fragment (head).
Long bone	>5	-	23	
(801) <289>				
C1	>10	-	3	Left inferior facet and part of main body. Ostephytic growth has extended facet and suggests old adult.
C1	>10	-	1	Right superior facet. This does not directly join across a break due to weathering but no duplication so could be from same individual as other C1 fragment from this sample.
Pelvis	>10	-	1	Superior part of pubic symphysis. Only small part of symphyseal face present. Insufficient for age estimation but flat profile of part of surface present suggests mature adult.
Sacrum	>10	-	1	Tentative ID. Portion of base segment of sacrum?
Femur	>10	U	4	Portion of femoral condyle with part of intercondylar fossa.
Femur	>10	U	3	Portion of femoral condyle with osteophytic lipping evident.
Humerus	>10	U	3	Portion of distal end of humerus, trochlea.
Humerus	>5	U	0.5	Portion of distal end of humerus, trochlea. It was not possible to join this with other humerus fragment, but was consistent in size and it is possibly the opposite side. Recovered from 5 mm sieve fraction.
Metatarsal (1st)	>5	U	0.5	Head portion, unable to identify side. Recovered from 5 mm sieve fraction.
Vertebra	>10	-	1	
Long bone	>10	-	87	
	>5	-	8	
	>2	-	36	
Hand/Foot	>5	-	1	
Bone from <289> was mostly grey in colour, with some white fragments or parts of fragments and also some black parts of fragments. Bone from <283> was mostly white. Fragments of iron and iron corrosion products were recovered from context (801) <283> as well as a small pottery sherd. A small amount of pyre debris/stones were recovered from both fill contexts and small fragments of charcoal were recovered from context (801) <289>.				

Table 27 Burnt human bone from Possible Cremation Burial B, fill context (275) sample <76>.

Possible Cremation Burial B				
Bone/Find	**Fraction (mm)**	**Fragments**	**Mass (g)**	**Comments**
Cranial	>10	16	18	
Tooth	>2	5	0.5	Root fragments. Possibly includes some faunal.
Rib	>5	1	0.5	Tentative ID as human.
Long bone	>10	4	10	
Long bone	>5	5	6	
Phalange	>5	2	0.5	Intermediate phalange. Two joining fragments across a longitudinal break. Distal end and part of shaft present.
Faunal	>5	1	0.5	Tenative ID. Tooth root.
Faunal	>2	2	0.5	Long bone.
Stone	>2	1	1	
Non-bone finds	-	-	139	Including fuel ash, iron, pot, glass and charred plant remains.
No bone identified as human by element. Colour assessment difficult as bone generally covered with dark soil. Bone mostly white in colour with some grey and some fragments had additional black staining/adhesion. Burnt faunal bone and a small stone were also recovered from the fill context.				

Table 28 Burnt faunal bone from within the cremation burials.

Cremation Burial	Context	Details
CB1	(816) Urn	1 x MM scapula, 3 x MM UnID
	(816) <291>	1 x SM UnID
	(816) <294>	1 x MM rib, 1 x MM pelvis, 1 x MM maxilla, 1 x MM unfused meta?, 1 x UnID
	(858) <295>	3 x MM ribs, 2 x MM pelvis, 10 x S/M frags UnID
CB2	(900) Urn Spit 3	1 x shaft fragment (bird?)
	(900) Urn Spit 4	1 x calcaneus (likely sheep), 1 x SM astragalus, 1 x juvenile sheep tooth, ~10 very fragmentary bones (some look like bird bone)
	(867) <306>	1 x bird bone, 3 x SM long bone, 2 animal tooth frags
CB3	(927) <322>	Lots of fragmentary teeth, mostly consistent with pig, 15 x UnID animal, 6 x MM vertebrae frags, 2 x unfused MM (sheep?) tibia
CB4	(899) <309>	Sheep teeth fragments, MM fragments (look like mandible), 4 x Mandible fragments (likely sheep), 12 x Mammal teeth and bone frags (UnID beyond this), Pig? tooth fragments
CB5	(872) Urn	1 x UnID animal bone frag (cranium?)
	(882) <303>	2 x animal bone vertebrae fragments, 2 x S/M M long bone shaft fragments, 2 x pig tooth fragments, 1 x MM (humerus/ femur?)
CB6	(657) <225>	4 x MM ribs, 3 x SM ribs, 5 x SM long bone shaft fragments, 1 x juvenile pelvis (likely sheep), 1 x MM vertebrae frag, 7 x sheep phalanges, 6 x UnID animal fragments, 1 x MM shaft with metal corrosion, 1 x sheep humerus (distal, fused)
	(657) <226>	3 x SM shaft fragments, 3 x stones?
	(666) <227>	4 x SM rib fragments, 1 x sheep astragalus, 2 (sheep?) phalanges, 1 x UnID animal bone
CB7	(601) <198>	Fragmentary S/M M bones
	(602) <199>	5 x M/S M fragments
CB8	(625) Urn Spit 3	2 x sheep astragulus and femur frags, 1 x MM cranial frag, 1 x MM juvenile tibia and, juvenile/neo sheep phalanges
	(625) Urn Spit 4	1 x sheep pelvis, 1 x pelvis fragment (likely sheep), 8 x S/M M long bone shaft fragments, 2 x MM cranial fragments
	(625) Urn Spit 5	1 x unfused tibia fragment (proximal, UnID beyond), 1 x MM, 3 x sheep teeth, 1 x MM calcaneus, 4 x MM phalanges, 1 x MM mandible fragments
	(625) Urn Spit 6	MM long bone and mandible fragments, 1 x lamb tooth
	(625) <202>	Faunal phalanx and tooth fragments
CB9	(308) <96>	2 x S/M M long bone shaft fragments, 1 x S/M M long bone/phalanx? fragment (unfused), 1 x SM vert? fragment, 2 x UnID fragments (cranial?)
CB10	(615) Urn Spit 1	2 x SM long bone shaft fragments
	(615) Urn Spit 2	2 x SM long bone fragments, 1 x SM rib fragment
	(615) Urn Spit 4	LM vertebrae, fragmented
CB11	(591) Urn, All spits	FROM ALL SPITS: 1 x sheep astragalus, 1 x MM tibia (likely sheep, unfused), 1 x femoral head (unfused, sheep-size), 1 x MM long bone shaft fragment, 4 x UnID animal bones, 1 x LM vertebra epiphysis, 1 x MM maxillary fragment
CB15	(268) <70>	1 x SM shaft fragment
CB17	(270) Urn	1 x S/M M fragment (radius?, sheep-size)
	(270) <74>	1 x tibia fragment (unfused, proximal, sheep-size), 1 x femur epiphysis (unfused, distal, sheep-size), 1 x sheep astragalus, 3 x sheep radius (proximal), 5 x SM mid-shaft fragments, 7 x S/M M fragmentary bones
CB18	(468) Vessel no. 2	1 x SM maxillary fragment, 1 x very small mammal shaft fragment
	(468) <160>	1 x SM vertebra, 3 x pig tooth fragments, 6 x cranial/maxillary fragments from small (juvenile?) mammal, 1 x very small mammal radius, 5 x non-human teeth/enamel fragments (UnID beyond this), 6 x UnID fragmentary animal bones
CB:B	CB: B (275) <76>	2 x SM midshaft fragments (?), 1 x SM/M M (?) tooth fragment
SM = small mammal, MM = medium mammal, LM = large mammal, UnID = Unidentified bone		

Appendix 3: The Animal Bone

Julie Curl

Quantification, provenance and preservation

A total of 2089g of bone, consisting of 523 elements was recovered, with the totals quantified by feature type, phase, count and weight in Table 1 and by species and NISP in Table 2. The assemblage consists of hand-collected remains from a variety of features, including pit, ditch, well deposits (Table 1). A larger amount of the assemblage was recovered from deposits of a Roman date range, with other remains from Medieval and Post-medieval features.

The condition of the bone is mostly poor and with many remains heavily fragmented. A greater number of teeth are present, which survive better than bone, but even the teeth were in poor condition, fragile and fragmenting.

Several fragments of bone throughout the assemblage had been burnt, with most of these from unphased contexts. While most burnt remains were not identifiable beyond 'mammal', some burnt ?pig/boar and cattle remains were recorded.

Gnawing was only seen on one bone, a cattle phalange from Phase 8, showing light canid gnawing and likely to represent some skinning/processing waste available for domestic dogs or scavengers. However, given the poor preservation of much of the assemblage it is likely that evidence of gnawing has been lost.

Methodology

Recording was carried out following a modified version of guidelines by English Heritage[1] and Baker and Worley.[2] All of the bone was examined to determine the range of species and elements present. A record was also made of butchering and any indications of skinning, horn working and other modifications. When possible, ages were estimated along with any other relevant information, such as pathologies.

Measurements were considered where appropriate following Von Den Driesch,[3] and bones suitable for a tooth record following Hillson were recorded.[4] Sheep and goat were distinguished where possible using criteria by Albarella and Salvagno,[5] Halstead *et al.*[6] and Payne.[7] Counts and weights were noted for each context and counts made for each species. Where bone could not be identified to species, they were grouped as, for example, 'large mammal', 'bird' or 'small mammal'. Attempts were made, where possible, to refit possible fragments in the same bag and these were included in NISP counts. Information was recorded into an Excel database for quantification, analysis and production of tables.

Table 1 Quantification of the animal bone assemblage.

Phase	Count	Weight(g)
1	55	86
2	46	174
3	179	1040
4	17	28
5	11	36
6	-	-
7	51	45
8	5	32
Unphased	159	648
Total	**523**	**2089**

Summary by phase

Phase 1

Phase 1 produced 86g of bone, consisting of 55 fragments. Three fills of boundary ditch FG001 (266, 338, 738) produced cattle molar fragments. Fills (266) and (338) also produced very worn fragments of mammal bone.

[1] Davis 1992.
[2] Baker and Worley 2014; Baker and Worley 2019.
[3] Von Den Dreisch 1976.
[4] Hillson 1996b.
[5] Salvagno and Albarella 2017.
[6] Halstead, Collins, and Isaakidou 2002.
[7] Payne 1969.

Phase 2

The Phase 2 remains amounted to 174g and forty-six fragments. Fill (652) of ditch FG005, the boundary of Burial Plot 1, produced fragments of equid upper molar. In the same feature, fills (652), (773), and (854) produced cattle molar fragments. Unidentifiable fragments from this phase are very worn and one fragment from feature FG005, fill (854) was burnt to a grey colour. The pit [788], which cut into the fills of FG001 against the northern baulk, also produced fragments of cattle molar.

Deposit (774), which was thought to be cut by FG005, also yielded an unerupted pig/boar third molar.

Phase 3

A total of 1040g, consisting of 179 elements and this phase produced the most interesting remains with fragments of a whale in a ditch fill with remains of cattle and equid, and some fragments of burnt mammal bone, suggesting some butchering waste.

Three fragments of a whale scapula were found in the Phase 3 boundary ditch FG011, fill (354), where it cut through the fills of FG005. The fragments are too small to be certain of species, but Minkie is a regular visitor in the area and Sperm Whale, Fin, and Sei whales are possible and occasionally Orca and Pilot are seen around British coasts. Whales are sometimes found in Roman and occasionally later deposits. Meat is likely to be consumed and fat may be used. Bone from whales is particularly useful, with their vertebrae known to be used as butcher's blocks.

A cattle vertebra and molar were found in this same Phase 3 feature, fill (354). Distal metapodial condyle fragments were produced from fill (662) of Phase 3 Well 1 and a mandible fragment and molar were in fill (720) of the same feature. Cattle remains from fill (705) included a well-worn third molar that indicates an animal of around 6-8 years old. Heavy dental calculus was noted on cattle teeth from fill (720). This could indicate an older animal, or one kept largely on a dry diet and possibly used for traction.

Equid molar fragments were found in Phase fills (354) and (772) of boundary ditch FG011.

There were several fills from Phase 3 that produced bone that was too fragmented or worn and could not be fully identified to species. One burnt fragment from fill (212) of boundary ditch FG012 was recorded as mammal, but is possibly a piece of burnt pig/boar femur.

Phase 4

Phase 4 produced 28g, with seventeen fragments from two pits. Most of this was cattle molar fragments from fill (296) of pit [295]. A burnt vertebra fragment (?cattle) was seen in fill (678) of pit [646].

Phase 5

Bone from Phase 5 amounted to 10g and consists of eleven pieces. With cattle molar fragments from fill (680) of boundary ditch FG015.

Phase 7

Phase 7 yielded 45g of bone, consisting of fifty-one pieces from four Medieval deposits, most from well fills and from one pit fill. Cattle molar fragments were seen from Well 2 fill (361) and from fill (594) of pit [592]. Fill (386) of well 2 produced a chopped sheep/goat distal humerus shaft. Other fragments were identifiable only as 'mammal' and were very worn.

Phase 8

Phase 8 produced a total of 32g of bone, consisting of five pieces, all recovered from fill (276) of Well 5.

A cattle intermediate phalange was produced from (276), which had been gnawed and is likely to represent skinning waste that was available for scavengers.

Pig/boar were identified from (276), which produced a thoracic vertebra and ribs, with one rib showing a clear knife cut.

Post-Roman Layers

A total of 648g (159 pieces) was recovered from post-Roman layers.

A sawn cattle rib was found in post-Roman soil build up (105) which may have been sawn to include in soups, an adult cattle cuboid was recovered from the same fill that showed three heavy cuts on one side of the bone from the skinning process.

Undated material produced a pig/boar femur fragment from (108) and undated remains produced a sheep/goat radius shaft from (108) and a cut femur shaft from (107/108).

Other equid remains were molar fragments in (107), a thoracic vertebra from (107/108). A sawn equid proximal radius and intermediate phalange were found in deposit (108), with the sawn radius strongly suggesting the use of these animals for meat, although dismembering for burial in a restricted area is possible.

Table 2 Quantification of the animal bone assemblage by species and NISP.

Phase	Cattle	Cetacean - Whale	Equid	Fish - Ray	Mammal	Pig/boar	Sheep/ goat	Total
1	41				14			**55**
2	36		4		6			**46**
3	88	3	55		33			**179**
4	16				1			**17**
5	11							**11**
7	8				42		40	**136**
8	1					4		**5**
Post-Roman layers	46		68	1	40	2	2	**523**

Fish was identified from one unphased fill with a dermal denticle from a thornback ray identified from deposit (804). These large flat fish are common all around the British coast and regularly caught for food. The dermal denticles (one of many defensive spines on the back of the fish) survive well even in areas of poor bone preservation.

Species

Cattle remains were found in thirty deposits, including pit and ditch fills, well deposits and buildings. In terms of NISP, the cattle were the most frequent, but the vast majority of fills produced only remains of teeth, often heavily fragmented. Sheep/goat remains were recovered from three deposits. Pig/boar remains were identified from three fills. Equid remains were found in five deposits.

Whale remains were found in one deposit. Three fragments of a scapula were found, with a probable (but worn) chop mark, attesting to use for meat.

A total of 136 of the 523 pieces were fragments of mammal bone (and some tooth fragments) that lacked any diagnostic features that would provide a species identification and these were recorded only as mammal. Many of these mammal fragments were small, heavily fragmented and worn. Nine fragments of mammal bone (from fills 108. 212, 354, 440, 645, 678 and 845) were burnt, one of which was a possible pig/boar femur fragment from the Phase 3 Ditch fill (212).

Discussion

The bulk of this assemblage was derived from the primary and secondary butchering of meat from cattle, equid and sheep/goat. Small amounts of pig/boar also contributed to the diet, but it is not certain from the elements present if these were wild or domestic animals. Generally, the remains in this assemblage are in a quite poor state of preservation and heavily fragmented, which has limited the amount of information that could be obtained. Cattle and equid would have been traction animals in all periods and cattle providing most of the meat, although one unphased sawn equid bone strongly suggests consumption of these animals, perhaps by dogs or in times of shortage. Sheep were not seen in sufficient numbers for any firm conclusions, although these animals would have provided wool, milk and meat. Similarly pig/boar appear to have been absent from earlier deposits, but given that these animals are often culled young and juvenile animal bone does not preserve well, these animals may have been lost through poor preservation. The lack of bird and small mammals may also be due to poor preservation of bone.

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Abbreviations

RIB	Roman Inscriptions of Britain
Cicero *Leg.*	De Legibus
CIL	Corpus Inscriptionum Latinarum
Lex Col. Gen.	Lex coloniae Genetivae Iuliae
Tab. Vindol.	Tabulae Vindolandenses
Tac. Germ.	Tacitus, Germania

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