

The nature and significance of extramural settlement
at Vindolanda and other selected sites on the
Northern Frontier of Roman Britain

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by

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Abstract

The study of the nature and function of extramural settlement on the northern frontier of Roman Britain is often regarded as being binary; soldiers inside their forts and civilians confined to the adjacent “*vicus*” (Birley, Salway and Sommer), which is conceptualised here through the broader term ‘extramural settlement’. The research of Driel-Murray, Allason-Jones and Allison provided evidence for women inside Roman forts, making this interpretation of frontier occupation no longer tenable. The aim of this thesis is to examine and challenge the view that extramural settlements were largely ‘civil’ and to place the work of Driel-Murray *et al.* into context.

The thesis studies the nature and significance of the extramural settlement at Vindolanda and selected sites through the deposition of three domains of material culture selected to indicate the presence, location and activities of soldiers (combatants), non-combatants as exemplified by adult women, and shared activities that were common bonds across the whole community.

According to Cool and Baxter ‘finds have the greatest ability to illuminate the past when they are regarded as an integral part of the archaeological record’, an idea which underpins this thesis (Cool & Baxter 2002:365). This approach differs from previous investigations of extramural settlements. Scholars such as Eric Birley, Peter Salway and Sebastian Sommer have studied the role of extramural occupation through site morphology and the very fragmentary epigraphic record without close scrutiny of the associated material culture.

Spatial analysis of artefacts in this thesis will be used to show that the walls of a fort were no ‘great divide’ and were no absolute demarcation line between combatants and non-combatants. The thesis demonstrates that the nature and significance of extramural occupation is that the overall dynamics of military sites like Vindolanda were more complex, integrated and subtle than is commonly thought.

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Introduction

This thesis aims to advance the debate on the nature and significance of extramural settlement at auxiliary forts on the northern frontier of Roman Britain. The use of the term ‘extramural settlement’ is applied to occupation that is traditionally referred to as military *vici*, and it excludes military annexes, or a consideration of the wider hinterland of a fort’s *territorium*.

The question of ‘what was the nature and significance of extramural settlements at Vindolanda and other selected sites on the Northern Frontier of Roman Britain’ will be addressed by an examination of the deposition of material culture from those sites.

The methodologies pursued in previous scholarly studies examined evidence for extramural settlement in relative isolation from adjacent Roman forts, and almost completely excluded the evidence from material culture in their considerations (Birley & Keeney 1935, Salway 1965, Sommer 1984, 1988, 1999, 2006). The foundation of such studies was the basic preposition that the occupation was binary with civilians in ‘*vici*’ and soldiers in forts. In other words this research presumed that there was a divided community (Salway 1965, Sommer 1984, 1988, 2006). The real nature of settlement immediately adjacent to fort walls can only be determined by examining forts and extramural settlements together in search of similarities and differences through the deposition of selected and representative material culture. This approach will resolve whether or not the fort wall was a ‘great divide’ which separated the community or communities into constituent parts.

The material culture found in extramural and intramural contexts may have been deposited by a diverse group of people, especially after the end of the ban on marriage c AD 197 (Campbell 1996: 301-302). Soldiers, servants, slaves (of both sexes and all ages) as well as wives, children, relatives, veterans and traders are likely to have formed the basis of the extended military community. It is entirely possible that most non-combatants, who lived in forts and in

associated extramural settlements, were formally attached or dependant on the military and took their identity from soldiers. This would make them a distinct group and apart from the wider pool of provincial civilians.

The results of archaeological investigation cannot directly distinguish the material culture from all of these groups. However it may be feasible through an analysis of the deposition of selected categories of artefacts associated with combatants and various categories of non-combatants, here thought best exemplified by adult women, to indicate the presence of these groups (Allison 2006). A further category of material culture has been chosen to be representative of 'shared activities' or 'common bonds', which may highlight areas of integration.

Evidence for serving soldiers, combatants, traditionally associated with occupation inside fort walls, will be examined through the spatial deposition of weapons, armour and military equipment which were closely linked with the Roman army (Bishop & Coulston 1993). The second group, comprising of adult women, non-combatants, formally assumed to have been largely confined to the extramural settlements (Driel-Murray 1999), will be identified through artefacts associated with textile production and items of personal adornment. An important consideration for these categories of artefacts will be to examine not only how they were deposited, either by loss, purpose or other means, but also who may have been responsible for their deposition.

A further group of artefacts, which includes inscriptions, stylus pens, gaming counters and crucibles will be used to explore the potential for shared activities across the military community. This may reveal a level of common values and the degree of social cohesion within the defined location of the intramural occupation and extramural settlements at Vindolanda and the selected sites on the northern frontier of Roman Britain. The intramural and extramural areas of the selected sites were not equal in terms of excavated area, recording and recovery of artefacts or publication. Two further artefact groups, coins and whetstones/hones, have therefore

been chosen as data controls to provide a background against which the patterns in the deposition of other artefacts can more be objectively assessed.

Coins have been selected as they had no specific social or gender associations in this context, were highly portable, and were deposited in large numbers where settlement was intensive in both intramural and extramural contexts. Whetstone/hones were selected for their capacity to survive in the archaeological record and like coins, are portable artefacts that were deposited in a large number of contexts.

Due to the lack of archaeological evidence, it is not possible to examine material culture from the wider hinterland associated with the frontier forts, beyond the limits of the urban or suburban extramural settlements adjacent to fort walls. As a result this study will not attempt to address the question of whether those who lived further away from Roman auxiliary forts, but may have still dwelt within their wider sphere of influence, and may or may not have been socially distinct from the rest of the extended military community. This thesis has therefore drawn what may be an artificial boundary between the hinterland and the area which encompasses the settlement that was immediately adjacent to the auxiliary forts such as Vindolanda. However, once the nature and significance of these settlements is more thoroughly understood a better appreciation of how the military community interacted with a wider and probably native population may finally be within reach.

Despite the restrictions outlined above, an examination of the material culture datasets, from both extramural settlements and auxiliary forts, may offer significant new perspectives. Such an approach allows for a more open and detailed analysis of sites, such as Vindolanda, where large datasets of material culture permit an intensive and site specific study. Vindolanda is situated between 1 and 2 miles to the south of Hadrian's Wall and is the main study site of this thesis. This site was selected as it has the largest body of material culture, recovered using modern excavation techniques over a period of forty years, from an extramural settlement on the northern frontier of Roman Britain. Due to the historic lack of excavation in extramural areas on

the northern frontier, Vindolanda is currently the only site with a strong enough database to address the research question in sufficient depth. The comparator sites used in this study, Catterick, Housesteads, South Shields and Birdoswald have therefore provided varying quantities of published information where relevant comparisons to the Vindolanda datasets can be made (chapter 5).

As part of a wider critical review of the current state of research on extramural settlement (chapter 1), the thesis will consider the problematic and common use of the Latin term *vicus* to interpret and describe extramural settlement. It is important to question the use of this term, its origin and how it may have been applied by the people of the northern frontier of Roman Britain. Scholars have used it and its scholarly derivatives, *Kastellvicus*, ‘fort *vicus*’, or ‘military *vicus*’ (Sommer 1988), in their own interpretations about the role of extramural settlement and this must also be examined (Birley 1935, Salway 1965, Jones 1984, Sommer 1984, 1988, 2006, Osborn 2006). While the term ‘*vicus*’ is attested at some sites, including Vindolanda, its precise meaning is not always clear. The term that will be used here is ‘extramural settlement’, instead of the more usual ‘*vicus*’. It is hoped that this more objective terminology will avoid pre-judgements or assumptions about the role, legal status, and functions of this type of occupation.

Chapter two contains a detailed discussion of Vindolanda, the main study site. The archaeology of Vindolanda shows that it has been a complex but probably typical Roman installation on the northern frontier of the Roman Empire. Its archaeological investigation has provided some of the best evidence for extramural settlement in the 3rd century from Roman Britain and beyond. An in depth discussion of Vindolanda is therefore necessary to contextualise the nature of the archaeology at the site, explain site formation, depositional processes and the history of the excavations (Sections 2.2 & 2.3).

The third chapter examines the thesis methodology. It includes the justification for the selection of artefacts associated with combatants, non-combatants and shared activities as a means to

determine the nature and significance of extramural settlement at Vindolanda and selected sites on the northern frontier of Roman Britain.

The merits of GIS packages such as Arch GIS were considered for the technique of 'eyeballing' the spatial patterning of artefacts deposition at the site of Vindolanda. These packages were rejected in favour of Adobe illustrator for the plotting and mapping and Microsoft Excel for data management. As standard industry packages they are widely used by museum and archaeological archives for storing much of the data available for this study, making access and data processing a quick and efficient process. The results of the two combined software packages are effective, as demonstrated by the plots in chapter 4. This simple eyeballing of illustrator plots has proved adequate for the remit of this thesis and shows that an undertaking of this type is not and should not be limited to those who only have access to GIS systems and software.

The main focus of chapter 4 is the examination of the sixteen selected artefact categories that have been chosen from the Vindolanda material culture dataset. These artefacts were selected to support the combatant, non-combatant and shared activity categories. Each category is separated into 3rd & 4th century intramural and extramural contexts. A discussion and analysis is offered for each category of artefact, in terms of association, intramural/extramural location, and this pattern the deposition is assessed against the controls of coins and whetstone/hones. Chapter 4 illustrates better than any other the variation between the deposition of artefacts associated with combatants, non-combatants and shared activities at Vindolanda.

Each of the sixteen artefact categories that have been selected to represent combatants, non-combatants and shared activities offers the opportunity to explore the nature and significance of the occupation at the site by the military community with a new perspective.

The wide extent of military activity outside the walls of fort and the nature of the evidence for the presence of non-combatants inside fort walls becomes clear. The Vindolanda results demonstrate that there was considerable extramural activity by combatants in the 3rd century.

The datasets for the presence of adult women indicates that there were a far greater number of adult women in the extramural areas than in the fort at the same period of time.

A wider comparative study of the data from Vindolanda is offered in chapter five using published data from Housesteads, South Shields and Birdoswald from the northern frontier of Roman Britain, and this includes Catterick from the military frontier zone. The study of the comparator sites highlights the importance of the data from Vindolanda's extramural settlement when compared with the often very limited data available from other sites along this frontier. The study underlines the need for tight data collection with associated contextual information and profiles the problems associated with use of data collected from antiquarian excavations including, variable retrieval rates and recording practices, meaning that such data cannot always stand up to the rigorous demands of modern expectations. The results from the comparator sites have demonstrated the need for a programme of modern excavation in the extramural settlements on the northern frontier of Roman Britain so that a better comparison can be made with the datasets from a site such as Vindolanda. At present, the main difference in the deposition of artefacts across the three categories chosen is between the sites of Vindolanda and Catterick. Although both had a military presence, these were essentially two different types of site, with a larger and more developed extramural settlement/town at Catterick than existed at Vindolanda. However, whether or not those differences reflected a wider trend between extramural settlements of the frontier and of those behind the frontier remains unknown until a strong database from another frontier extramural settlement becomes available.

The concluding chapter, draws together the evidence and discussion that has been presented in the main body of this thesis. The evidence suggests that it is no-longer possible to exclusively confine the activities, or settlement, of members of the military community to one area or another at a military site on the northern frontier of Roman Britain. It is strongly recommended that further archaeological exploration of extramural settlement at sites on the northern frontier should combine evidence and research from both extramural and intramural areas. This would provide for a better platform on which to further the study and understanding of the nature and

significance of extramural settlements. Archaeologists should not be bound by the use of site typologies alone to describe extramural settlement, as this is of limited and questionable value when no consideration of material culture is offered as such typologies are not sophisticated enough to reflect the complex nature of extramural settlements on the northern frontier. This thesis has shown that a more holistic approach can be achieved by furthering the debate centred on the analysis and discussion of material culture datasets from sites, placing this at the core, rather than the periphery of the interpretation of extramural settlement. The importance of this approach to the further examination of the nature and significance of extramural settlements is highlighted in the new Research agenda and strategy for Hadrian's Wall, which states that 'Given their symbiotic relationship with the associated fort, there would be a considerable advantage to basing a project around either the examination of both elements, or targeting an extramural settlement attached to a fort that has already been subject to excavation to modern standards' (Symonds & Mason 2009: 43).

Chapter 1

A survey of research issues concerning extramural settlement

Tempora mutantur, nos et mutamur in illis

‘Times are changing, and we are changing with them’. Latin proverb.

1.1 Introduction

Until relatively recently, the study of extramural settlement on the northern frontier of Roman Britain has been more of a footnote rather than a linchpin of scholarly work on Roman frontiers. Extramural settlement was largely ignored by antiquarian excavators, previous generations of the Wall scholars and archaeologists. They tended to concentrate on Hadrian’s Wall and its forts as impressive remains and the important and substantial manifestation of the Roman army and its occupation.

The great Hadrian’s Wall scholars of the early twentieth century, Robert Bosanquet, Francis Haverfield and Gerald Simpson, conducted many large-scale excavations between them. Few of these were concerned with the extramural aspects of military sites. As a consequence there are relatively few excavated areas of extramural settlements at military bases on the northern frontier of Roman Britain. Housesteads and Vindolanda are the main exceptions (Section 1.6). These problems are compounded by the fact that much of the research on Hadrian’s Wall predates modern excavation techniques, which often incorporates more precise contextual and depositional information associated with the recovery of artefacts. Such problems have limited the value for continued research on the artefacts recovered from these early excavations and

formed one of many effective barriers to the use of artefact studies to enrich the discussion on the nature and significance of extramural settlements.

A change in emphasis from intramural work came with the excavation of part of the extramural settlement at Housesteads fort in Northumberland in the 1930's by Eric Birley *et al.* Rather than just attempting to produce an outline plan of the fort and its structures with limited trenches, as previously used by Bosanquet, Haverfield and Simpson, Birley set out to examine the sequencing and nature of the settlement with open area excavations, uncovering the entire plans of buildings rather than just sections.

These excavations were published in a series of reports in *Archaeologia Aeliana*, the last of which offered a comprehensive review of the state of studies on extramural settlement on the frontier at that time, and was entitled 'civil settlements' (Birley & Keeney 1935: 204-259). Birley and Keeney attempted to start a serious debate on the nature and significance of extramural frontier settlement, a notable change of emphasis but one that was without any substantial reference to the artefacts that came from those excavations, with the exception of coins and pottery, as was the normal practice at that time.

Birley drew comparisons between the plans of sites in Britain with those on the continent such as the Saalburg and Vetera I. He also introduced themes which would dominate the scholarship on the nature of civilian settlements such as trade, relative autonomy and the role of the civilian in the Roman army (Birley 1935: 208). It was during this period that a simple interpretative framework for the conceptualising of Roman frontier sites was first developed. This envisaged the occupation of Roman military sites as divided into two halves, with the soldiers living/sleeping and residing inside the fort, while the women, children and civilian non-combatants, recorded by many as camp followers, lived outside the gates.

Ancient sources remain frustratingly ambiguous on the subject of military extramural settlement and give little attention to the role of such development. Although a few ancient sources are relevant to the study of extramural settlement in military contexts, such as Festus, Isidorus and

Arrian (Section 1.2), their importance must be carefully placed into context. The main body of available epigraphy on stone relevant to the study of extramural settlement is small and has not changed significantly since the middle of the 20th century (Section 1.3). However, important newer readings can replace older interpretations. A good example is an interpretation of the *vicus* inscription on an altar from Old Carlisle in Cumbria (Collingwood & Wright 1965, RIB899, Hassall 1976: 111, cf. Tomlin 1995). It is of particular relevance to this study, as if accepted the interpretation effectively removes the evidence of *magistri* (magistrates) from the affairs of extramural settlement in the epigraphic record from Roman Britain. The interpretation of this altar is therefore critical to the argument for or against the independent legal rights and self-government of extramural settlements in Roman Britain (Section 1.3).

Continued excavations, principally at Vindolanda (Birley Andrew R. & Blake 2007), South Shields (Bidwell & Speak 1994), Carlisle (forthcoming in 2010), Newcastle (Bidwell & Snape 2002), Wallsend (Hodgson 2005), Birdoswald (Wilmott 1997) and Housesteads (Rushworth 2009) have provided new and detailed information about the daily lives of the people who lived on the northern frontier of Roman Britain, from both intramural and extramural contexts. These reports have allowed for new approaches in the way in which we may examine the nature and significance of extramural settlements, through the study of material culture.

1.2 Ancient Sources – Texts

Much of our understanding of extramural settlement has been based upon the interpretation of the literacy and epigraphy surrounding the term *vicus* (Birley & Keeney 1935, Salway 1965, Sommer 1984, 1988). It is important to understand how the term has come to be used to label extramural settlements in military contexts. An open debate about whether using the term *vicus* to describe extramural settlement contains prejudices and restricts avenues for future research is relevant here. The majority of evidence for the use of the term *vicus* has come from purely civil contexts, and civil associations may be misleading when trying to understand the nature and significance of extramural settlement outside the walls of auxiliary forts. Such direct comparisons between civil *vici* and extramural settlements is not without problems and therefore it may not be useful or appropriate to continue to use the term *vicus* as a generic term to refer to all extramural settlements.

Ancient literary and epigraphic evidence for the meaning and use of the term *vicus* have now been comprehensively collected and discussed by Tarpin in his monograph on *vici* and *pagi* in the Roman west (Tarpin 2002). This has effectively replaced all previous work on the subject. After a brief introduction with some useful comments (Tarpin 2002: 1-4), to be discussed below, Tarpin devotes his '*première partie*' to the original derivation and meaning of the words *vicus* and *pagus* (Tarpin 2002: 7-49). Some of his points must be mentioned here. He notes that the supposed deviation of the word *vicus*, from *via*, 'road' (Varro, *De lingua Latina* 5.145) is pure fiction. *Vicus* is related to the Greek οἶκος, meaning 'house' or 'household', and words derived from it refer to settlements. He also quotes other Indo-European languages with words derived from the same root. But he stresses that the Greeks did not translate *vicus* as οἶκος, but either transliterated the Latin or used a different word, depending on which sense of *vicus* was in question (Tarpin 2002: 7).

The standard ancient authors generally quoted on the meaning of *vicus* are Festus and Isidore of Seville. Sextus Pompeius Festus, a grammarian of the late 2nd century AD, wrote a lexicon of

Latin, which was an abbreviated version of a work by the earlier grammarian, Marcus Verrius Flaccus (c. 55 BC?-c. AD 20?), *De verborum significatione* (see OCD³ 1589). Festus' passage on *vicus* (Lindsay 1930: 460-1) is incomplete and textually corrupt, hence several words or parts of words have been supplied by the editor to fill gaps in the manuscript. Tarpin supplies a French translation and goes on to discuss the meaning. The Latin text with a literal English translation is as follows (Tarpin 2002: 53-4):

<Vici...appellari in>cipiunt ex agris, qui ibi villas non habent, ut Marsi et Peligni. Sed ex vic[t]is partim habent rempublicam et ius dicitur, partim nihil eorum et tamen ibi nundinae aguntur negoti gerendi causa, et magistri vici, item magistri pagi quotannis fiunt. Altero, cum id genus aedificio<rum defi>nitur, quae continentia sunt [h]is oppidis, quae <...> itineribus regionibusque distributa inter se distant, nominibusque dissimilibus discriminis causa sunt dispartita. Tertio, cum id genus aedificiorum definitur, quae in oppido privi suo quisque loco proprio ita aedifica<n>t, ut in eo aedificio pervium sit, quo itinere habitatores ad suam quisque habitationem habeant accessum. Qui non dicuntur vicani, sicut [h]i, qui aut in oppidi vicis, aut hi, qui in agris sunt, vicani appellantur..

'*Vici* begin to be so called from the rural territories (literally: fields), which do not have *villas* there, as for example (those of) the *Marsi* and *P(a)eligni*. But of the *vici* some have a commonwealth (*rempublicam*) and justice is delivered [i.e. they have a law court], some have none of these things and nonetheless regular markets [*nundinae*, lit. 9 day meetings] are held there for commercial purposes, and annual *magistri vici*, also *magistri pagi*, are elected. Secondly, when that type of buildings is defined, [those are called *vici*] which are in those towns [*oppido*], and which...are separated from one another by roads and grouped in regions; and they are distinguished by different names to avoid any confusion. Thirdly, when that type of buildings is defined, [those are called *vici*] which individuals construct in a town, each on his own plot of land, in such a way that there is a passage in that building, by which each inhabitant

has access to his own dwelling. These inhabitants are not called *vicani*, as are those of the *vici* in towns or those of the *vici* in the countryside, who are called *vicani*'.

Festus' first two categories, rural *vici*, meaning small settlements with limited local government and regular markets, and urban *vici*, meaning districts or wards in a town, are well-attested. An example of the latter being a subdivision of ancient Nimes in the south of France (CIL, XII, 5894), which records the *vicus Arceuoturum*. (The third category is mostly dismissed as largely being fantasy by Tarpin, but he does cite some texts to show that it did exist in some circumstances (Tarpin 2002: 283.)

The other main text comes in the lengthy work by the 7th century AD bishop of Seville, Isidore (Isidorus), *Etymologiae* (ed. Lindsay 1911), in his book 15, *De aedificiis et agris*, 'On buildings and the countryside [fields]'. This late source should be treated with caution as the meaning of the term *vicus* may have changed from 2nd-4th century contexts. Isidore begins by defining *civitates* as 'citizen-bodies', a word that came to mean 'towns'; discussing various names for settlements, he then explains that an *oppidum* differs from a *vicus*, *castellum* or *pagus* by its size and walls, and adds remarks on the distinction between *urbes*, *coloniae* and *municipia*, 15. 2. 7-10. Then, 11-12, he defines the smaller units:

Vici et castella et pagi hi sunt qui nulla dignitate civitatis ornantur, sed vulgari hominum conventu incoluntur, et propter parvitatem sui maioribus civitatibus adtribuuntur. 12. Vicus autem dictus ab ipsis tantum habitationibus, vel quod vias habeat tantum sine muris. est autem sine munitione murorum; licet et vici dicantur ipsae habitationes urbis. Dictus autem vicus eo quod sit vice civitatis, vel quod vias habeat tantum sine muris.

'*Vici* and *castella* and *pagi* are those, which not adorned with any rank of *civitas*, but are inhabited by a common gathering of people, and because of their small size are 'attributed' to larger *civitates*. Moreover, a *vicus* is so called just from the dwellings themselves, or because it just has streets (*vias*), without walls. It has, in fact, no fortification or walls. Of course, the

habitations of a city (*urbs*) are also called *vici*. Further, the word *vicus* comes from it being ‘instead of’ (*vice*) a *civitas*; because it only has streets (*vias*) without walls.’

Isidore of Seville reproduces, with a great deal less detail, the first two categories in Festus: *vici* (and *castella* and *pagi*) a) as small settlements and b) as parts of a city. He adds to his own version of the mistaken derivation of the word *vicus* from *via* another equally imaginary one from *vice*. In other words, the use of the term *vicus* was so broad, and encompassed so many different meanings, that its application, even with the prefix of military or fort, is at best extremely vague.

Disappointingly, neither of these authors refers to the use of the term *vicus* for settlements outside military bases. Apart from those which are subdivisions of towns and are clearly what one could call ‘villages’ or ‘small nucleated settlements’, with limited self-government, or those that were on the territory of ‘chartered towns’, to which they were ‘attributed’. Hence their value for interpreting the status of extramural settlement outside Roman military bases is restricted and it is possible that neither source knew of the use of the term *vicus* in a military frontier context.

The *Digest* of Justinian also makes several brief references to the status of a *vicus*. At 50.1.30, Ulpian states that ‘whoever is born in a village (*vicus*) is regarded as a member of the *patria* to which the village in question belongs’. A *vicus* then answered to an immediate higher authority; presumably a rural *vicus* would answer to the nearest larger town to which it was ‘attributed’. It would be strange to suggest that a military *vicus* would not answer to the nearest immediate ‘higher’ authority, i.e. the Roman army itself, in the physical form of the local commanding officer or perhaps a regional centurion. This could be the case regardless of whether or not a *vicus* was built on an adjacent fort’s *territorium*, as the local commanding officer would still be the highest-ranking imperial official in the immediate area. This rationale does not answer the question why the term *canabae* rather than *vicus* was used for settlement adjacent to legionary bases (Salway 1965: 9-13).

The *Digest* 30.1.73 also cites Gaius on the Praetor's Edict, Legacies book 3. 1: '*Vici* may receive legacies as may *civitates*, according to a rescript of our emperor.' So that as a collective, a *vicus* may be bequeathed inheritances of land or resources, underlining the legal importance of *vicus* status. *Digest* 9.3.1.6, from Paul on the Edict, book 19, makes it clear that not only do villagers have legal rights and bonuses, such as those described above (the right to inherit lands, and resources) but also that they have a collective responsibility as well: 'The occupier (of a house, dwelling) is bound to make good his own negligence and that of his family' and that 'if something is thrown down during the daytime, but not at night' then they have to answer for their actions, particularly if they block any roads or pathways where people commonly must pass. Clearly then, having a recognised status as a *vicus* or as a *pagus* had its benefits, but also a responsibility to look after the highways and byways that passed through its territories. Once again, like the grammarians, the legal writers clearly refer to civilian *vici*, villages or (mainly) smaller rural settlements, and not to those that existed outside military bases which were developed later.

The legal responsibility for maintaining the roads running through a settlement regarded as having *vicus* status seems fairly clear-cut (not least in *Digest* 30.1.73). Local councils in Britain are still responsible for the upkeep of all minor roads and the state, in the form of the Department of Transport, is responsible for all major highways. However, in the context of extramural settlement, the responsibility for roads may have not been in the hands of the local people or minor officials, as the roads invariably ran to the fort gates, and their upkeep would have been surely a matter of some concern to the garrisons within. It is possible then that in this way a civilian *magister* or *curator* outside Roman forts, would not exercise the same authority as in a purely civil settlement, if such a post existed at all (Section 1.3). The legal status of a military community could then be significantly different from that of a similar size community with no military requirements to consider.

Likewise, Tarpin's main discussion is devoted to *vici* and *pagi* in non-military areas, not least Italy. (This at any rate makes clear that the term *pagus* has no bearing on the subject of this

thesis.) But he also has an Appendix, ‘Annexe 1’ (247-260), ‘Les *vici* dans les provinces d’Occident: une carte des intérêts romains?’, and, particularly valuable, a catalogue of inscriptions, with all those mentioning *vici* and *vicani* quoted in full (Tarpin 2002: 307-380).

These inscriptions constitute the direct evidence that at least some areas of extramural settlement were referred to as *vici* and their inhabitants as *vicani*, such as ILS 7085 an inscription dedicated by the ‘*vicanis consistentes castel*’, from Mainz Castel (Tarpin 2002: 374). However, the term is not necessarily always the best one to use as it prejudices the issue to refer to extramural settlement as ‘civilian settlements’. The term *vicus* may not have been universally applied to extramural settlements at auxiliary forts, especially if there were legal status implications. Even where it was used at military settlements, it may have had a very distinctive and not considered in the same light as when applied to ‘civilian *vici*’.

Tarpin has some instructive remarks on the subject in his introduction. Noting that there is no agreement on the definition of the words *vici* and *pagi*, he comments as follows (Tarpin 2002: 1-2):

‘À tel point que certains ont préféré éviter les mots latins ou poser une clause de précaution. Les Anglo-Saxons parlent alors de “little towns”, les archéologues allemands de “Kastellvici” ou autres “Zivilsiedlungen”, et en France le fossé se creuse entre les archéologues, qui préfèrent aujourd’hui de parler des “agglomérations secondaires”, tandis que les historiens continuent à recourir au vocabulaire latin. L’attitude des archéologues repose en bonne partie sur l’idée que l’on ne peut rien tirer, ou pas grand chose, des textes antiques, et qu’il est préférable de poser une définition neutre à partir d’un constat matériel. Cette approche, qui a le mérite d’échapper à la trop simple dichotomie ville-villa, courante dans l’analyse sociologique, a cependant ses faiblesses. En effet, elle oblitère les concepts antiques et privilégie une lecture matérielle des modes d’organisation antiques, comme l’a relevé P. Garmy [Garmy 1994: 286].

L'évidence de sa remarque trahit bien l'ampleur du divorce entre une science historique, qui s'appuie fondamentalement sur les sources écrites, qu'elle maîtrise seulement, et une archéologie qui revendique son indépendance en souhaitant d'autant plus se passer des textes qu'elle a de moins en moins les moyens de les intégrer.'

Tarpin's remarks, even though his own work concentrates on non-military '*vici* and *pagi*', are certainly valid about the 'divorce' between historians and archaeologists. But since this is an archaeological thesis, the term used here is one that, it is hoped, is more neutral, clear and without prejudice: 'extramural settlement'.

Festus' statement that the "rural settlements" that he calls *vici* had limited self-government is confirmed by the numerous inscriptions listed by Tarpin. Likewise, Pliny, *Nat. Hist.* 3.65-67, refers to the 265 *vici*, or "wards" of Rome, pointing out that all of them had *magistri* who were responsible for aspects of their administration. This would imply that to be classified as a *vicus*, a district of Rome would require the authority to elect a *magister*, or some similar form of administrator. However, it can be speculated that in the early stages on the foundation of extramural settlement next to a fort, the higher authority (*magister*) could not have been a military official. It may be that such a task could have been entrusted to a centurion, or even an *optio*. A military official could well have regarded such duties in an extramural area as an important addition to his military rank, and it might even been financially remunerative, a point that shall be returned to when considering the Vindolanda writing tablet evidence in chapter 2, section 2.4. In the 3rd century some kind of self-government seems to have been in place, to judge from inscriptions from continental extramural settlements, the limited British inscriptions from military contexts are less explicit.

A direct literary reference to military matters can be found in Arrian, *Periplus Ponti Euxini*, 9 iv – 10 ii (Liddle 2003: 63) 'the voyage of Arrian around the Black Sea', in which he describes coming across the impressive Roman fort at Phasis on the eastern edge of the Black Sea, with

its mixed garrison of around 400 men. Arrian describes how he took the decision to fortify the area around the fort, which was 'settled by veterans of the army, various merchants and others' by extending the fort's double ditch system to encompass the 'houses outside the walls'. This raises several interesting points. The first of which is that even in a relatively active frontier zone, not all extramural areas were necessarily fortified, even though the 'threat' either perceived or real to the garrison next door was regarded as high. This argues against making assumptions about the level of threat to Roman stations merely upon the basis of fortified extramural areas or annexes, and also against the argument that the more exposed the garrison became, the less likely extramural areas would exist. It must be recognised that Arrian gives us an important insight into the make-up of the inhabitants of the extramural area around the fort at Phasis, with a mixture of veterans and merchants, their houses and other facilities such as the port. Although it is unclear as to the status of the port at Phasis, it might be assumed that it would have been regarded as a military asset, rather than merely a convenient point for 'civilian' commerce. This was illustrated by Salway, (Salway 1965: 157) who regarded Arrian's comments as 'bedevilling' due to Phasis being a special case. However, it may be that Phasis was not a special case, and that the fort and harbour facilities at South Shields may prove to have had a similar role and function.

It can be noted that Arrian does not refer to the settlement outside the fort at Phasis as a '*vicus*', nor to the inhabitants as '*vicani*', but as he is writing in Greek it would have been unlikely for him to be helpful in this matter. The extramural settlement at Phasis has been labelled by some scholars, such as Pelham (Pelham 1911: 225), as '*canabae*' in the past, but this was during a time when all extramural settlement was labelled as *canabae*, regardless of any auxiliary or legionary presence nearby. It is unclear at what point some extramural settlement was referred to as '*vici*'. The *vicani* inscription from Carriden (JRS 47, 1957, 229) is the earliest to come from an extramural settlement which was occupied in conjunction with its adjacent fort in Roman Britain (Section 1.3).

The ancient authors' observations about the term *vicus* need to be seen for what they are, a generality at best, referring to a house, a street, a village, a place. They do not refer to military contexts, and therefore make no statements about the nature and significance of extramural settlements at such sites. However, the term *vicus* may have been applied to extramural settlements when a specific legal status was in use, or to define a topographical area that was no-longer subject to all forms of direct military supervision for a period of time, which may have been the case when the people at Vindolanda set up an altar to the god Vulcan in the 3rd century (RIB 1700). Of course there may have been quite distinct zoning within extramural settlements and different restrictions may have applied to such areas. Zones within a settlement that may have had clear military associations, such as metal workshops and military bath houses, were likely to have been excluded from any form of civil authority or control. Other zones within an extramural settlement may have represented an area that was termed as a *vicus* and if this status was subsequently removed, perhaps by a change in use, garrison, or decree, then the term may no-longer have applied on either a practical or a symbolic level to any part of an extramural settlement. On this basis, most extramural settlements may not have been classified as 'vici' for much or even all of their existence. The term *vicus* in a military context therefore needs to be applied with great caution to ensure that it is not used by modern scholars to attach extra meanings or to insinuate that a type of occupation took place which may never have existed in military contexts.

1.3 Ancient Sources – Epigraphic

The Roman Inscriptions of Britain volumes I and II (Collingwood & Wright 1965, 1991 respectively) remain essential reference companions, together with a forthcoming RIB III, due to cover post 1954 stone inscriptions (Tomlin, forthcoming 2010), and RIB IV to include writing tablets and curse lead tablets. *CIL* or *Corpus Inscriptionum Latinarum* and *ILS*, *Inscriptiones Latinae Selectae* (edited by Dessau) are important sources of information on continental inscriptions that indicate the presence of *vici*. However, all of these afore-mentioned

volumes can be supplemented to an extent by Tarpin who covers all extramural inscriptions that mention the term *vicus* from the western Empire published up to 2002 (Tarpin 2002:306-416).

Like the ancient literary sources, epigraphic evidence for extramural settlement mainly comes in the form of inscriptions that mention the word *vici* or *vicus*. In Britain, this consists of just four undisputed texts recovered from outside the walls of military bases and a few examples from former military establishments which could have been regarded as having a mainly ‘civilian population’ by the time the inscriptions were carved. The dates of the inscriptions vary, and cover a period from the mid-second century to the end of the third century. The first and fourth centuries have yet to provide direct epigraphic evidence of the presence of *vici*.

1. The earliest inscription is from the eastern end of the Antonine Wall, which is unlikely to be later than c. AD 160, JRS 47, 1957, 229, Carriden:

I(ovi) O(ptimo) M(aximo)

vikani cons[is]

tentes castel[lo]

4 *Veluniate, c[ur(am)]*

agente Ael(io) Man

sueto, v(otum) s(olverunt) l(aeti) l(ibentes) m(erito)

‘To Jupiter, Best and Greatest, the *vikani* living at the fort Velunias (or Veluniate), gladly and willingly and deservedly fulfilled their vow, Aelius Mansuetus taking charge (of the dedication).’

2. RIB 1700, Vindolanda: Probably early 3rd century.

*pro domu divina
et nu
minibus Aug
4 ustorum Volc
ano sacrum,
vicani Vindol
andesses, curam agente [...]o[...]
v(otum) s(olverunt) l(ibentes) m(erito)*



figure 1.1 RIB 1700

‘Sacred to Vulcan, for the divine family and the spirits of the Augusti, the *vicani* of Vindolanda willingly and deservedly fulfilled their vow, ... taking charge (of the dedication).’

3. RIB 1616, Housesteads:

*[...] Iul(ius) S[...]
d(ecreto?) vica[norum]
‘... Julius S..., by decree(?) of the villagers.’*

The expansion of *d* as *d(ecreto)* is rather uncertain. It might just be e.g. *d(ono)*, ‘as a gift for the *vicani*’.



Figure 1.2 RIB 1616

4. RIB 899, Old Carlisle:

*I(ovi) O(ptimo) M(aximo) et
V(u)lk(ano), pro sa
lute d(omini) n(ostri) M(arci) Anton(ii)
4 Gordiani p(ii)
f(elicis) Aug(usti) vik.
mag. aram
a(ere) col(lato) AV d(edicaverunt).*

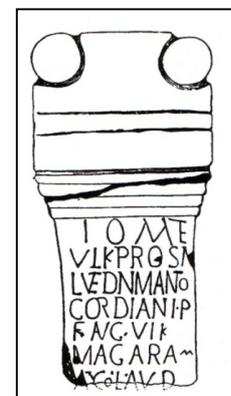


Figure 1.3 RIB899

The words in lines 5-6 are expanded in RIB as *vik(anorum) mag(istri)*, but Hassall (Hassall 1976: 111) convincingly proposes instead *vik(ani) Mag(lonenses)* or *Mag(enses)*, with *Mag.* representing an abbreviated form of the name for the fort of Old Carlisle. As he points out, ‘The dedicators are usually interpreted as being *Vik(anorum) Mag(istri)*; but against this interpretation and in favour of our own it can be argued, first, that, normally, *magistri* would precede *vicanorum*’ and ‘that secondly *magistri* of *vici* are rare in the western provinces’. He adds a third reason that ‘such semi-official dedications are normally made by the *vicani* themselves, and they usually qualify themselves by geographical epithet’. Hassall’s interpretation, is accepted by Rivet and Smith (Rivet & Smith 1979: 406-7), who favoured the name *Maglona* for Old Carlisle, as does Tomlin (Tomlin 1995: 775). Tarpin prints the RIB reading and has overlooked Hassall’s re-reading (Tarpin 2002: 379).

The altar is from the reign of Gordian III (AD 238-244). *a. col. avd* in line 7 is understood in RIB as *a(ere) col(lato) a v(ikanis) d(edicaverunt)*, i.e. ‘(the masters of the villagers) dedicated (the altar) from money contributed by the villagers’. In the light of Hassall’s re-interpretation, *vik(ani) Mag.*, this expansion of AV is perhaps a little uncertain. The translation would then be:

‘To Jupiter, Best and Greatest, and to Vulkanus for the welfare of our lord Marcus Antonius Gordianus, the pious and fortunate Augustus, the villagers of Mag(lona?) dedicated this altar from money contributed by ...’.

Whether *curam agente* in nos. 1-2 means that the person named held the post of *curator* of the *vicus* is perhaps not clear, but Hassall takes this to be the case (Hassall 1976: 111).

RIB 1749, from the fort at Great Chesters, is a very fragmentary inscription, taken in RIB to be a tombstone, read as:

Aug(usti) n (ostri) [...]

Caes[...]

vics[it...]

...of our Emperor...lived...

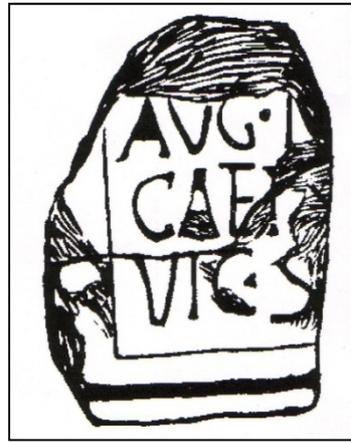


Figure 1.4 RIB1749

Although the last line is read in RIB as *vics[it]*, a slightly irregular spelling of *vixit*, 'lived', the drawing shows a stop between *vic* and *s* in line 3. It could have been e.g. an altar such as that from Vindolanda, dedicated e.g. to the Deity of the Emperor by the *vic(us)* or *vic(ani)*. Note also that the *n* in line 1 is uncertain: the drawing just shows an upright.

Two other stone inscriptions from Britain refer to a *vicus*.

1. RIB 707, Brough-on-Humber (Yorkshire), 100 m outside the east gate of the fort:

ob honor[em]

domus divin[ae]

imp(eratoris) Caes(arais) T(iti) Ael(i) H[adri]

- 4 *ani Antonini A[ug(usti) Pii]*

p(atris) p(atriciae) co(n)s(ulis) I[II]

et numinib(us) A[ug(ustorum)]

M(arcus) Ulp(ius) Ianuar[i]u[s]

- 8 *aedilis uici Petu[ariensis]*

proscen(ium) [...]

de suo [dedit].

‘For the honour of the divine house of the Emperor Caesar Titus Aelius Hadrianus Antoninus Augustus Pius, father of his country, thrice consul, and to the Deities of the Emperors, Marcus Ulpius Januarius, aedile of the village of Petuaria, presented this new stage at this own expense.’

Roger Tomlin rejects the interpretation of the side panels as *C(ivitas) [P(arisorum)]*: ‘The reading C(IVITAS) in the left-hand panel is better rejected, the ‘C’ being understood as decoration.’ (Tomlin 1995: 771). This inscription is hardly relevant to the majority of this thesis, since by the time of Antoninus Pius the fort at Brough-on-Humber was no longer occupied (Salway 1981: 187). This inscription can therefore be seen as coming from a purely ‘civil’ settlement.

2. RIB 270, Lincoln:

vic(us) HRAPO Mercuresium’

‘theward of the guild of Mercury’.

This ‘inscribed plinth, or architrave’ is now lost, and HRAPO, presumably a misreading, cannot be explained. But in any case it presumably refers only to a sub-district of the *colonia*, hence is not relevant here.

The same applies to RIB II.3, 2436.9, London:

vicus Iovius

This reference to a *vicus* on a sheet of rectangular lead possibly represents something from a *vicus* district inside the city of London (similar to that described for Rome by Pliny), although the editors of *RIB II* believe the inscription could be from another province.

For completeness one must also register a mortarium-stamp, examples of which have been found at Castor and South Shields:

Cunoarus vico Duro(brivae),

‘Cunoarus (made this) at the *vicus* of Durobrivae’.

Durobrivae can be identified with the Roman town at Chesterton, Water Newton (Rivet & Smith 1979: 348), in the Nene Valley, a well-known centre of pottery manufacture in Roman

times (Frere 1987: 204) that had a wide circulation for its wares around the province in the second and third centuries.

Inscriptions from the two German provinces are conveniently listed by Tarpin (Tarpin 2002: 369-379). But they mostly come either from sites where there was no longer forts or are too fragmentary to provide clear evidence on the administration. There is a group of nineteen inscriptions from Mainz and vicinity (Tarpin 2002: 372-5) which are very informative, with references to the *vicani Mogontiacenses*, the *vicus novus*, etc., but as Mainz was a legionary fortress they must be omitted from discussion here, as the inscriptions refer to the subdivision of the legionary *canabae*, rather than to extramural settlements outside the gates of an auxiliary forts. The evidence from the German provinces is no stronger than that from Roman Britain.

One inscription is evidently from extramural settlement, and it resembles the British examples (especially RIB 1700 from Vindolanda), ILS 3303= Tarpin 2002, no. XXVI.38.1, Benningen:

in h(onorem) d(omus) d(ivinae) Volkano sacrum vicani Murrenses v(otum) s(olverunt) l(ibentes) m(erito).

“In honour of the divine house, sacred to Volkanus, the Murrensian *vicani* willingly and deservedly fulfilled their vow.”

It is worth mentioning that most of the references to *vicani* in the form of altars or inscriptions have connections to particular deities: RIB 1700 from Vindolanda Northumberland, the ‘*vicani Vindolandesses*’ altar refers to the god Vulcan, the god of metalworking, while RIB 270 from Lincoln ‘*vic[us] hrapo Mercuresium*’ refers to ‘theward of the guild of Mercury’ (although as already discussed this could be a misreading of a now lost stone); the inscription on lead from London refers to the ‘*vicus* of Jupiter’ (Collingwood & Wright 1991: 92). The altar from Carriden in Scotland (just outside Edinburgh) was set up by ‘The *vicus* dwellers at the fort of Velunias’ as ‘*vikani con[sis]tentes castel[lo] Veluniate*’ to ‘*Jupiter Optimus Maximus*’ (JRS 47, 1957: 229, no 18).

All of the inscriptions mentioning the *vicani* from extramural settlement in Roman Britain are religious dedications. This would suggest that if there was a corporate identity or collective responsibility attached to the use of the term, one that was separate from that of the army, it may have been through religious expression, rather than self-government or self-determination.

1.4 The continuing debate on the role of extramural settlement

The theories on the nature and significance of extramural settlement (Birley & Keeney 1935: 204-226) were later followed by Salway who expanded on them in his 'Frontier People of Roman Britain' (Salway 1965) before being effectively supplanted by Sommer's 'Military *Vici* in Roman Britain' (Sommer 1985).

Birley, in Birley & Keeney, made the assumption that *vici* were largely occupied by civilians, based upon limited 'evidence from Housesteads, a number of other sites on Hadrian's Wall, elsewhere in Britain and abroad' (Birley & Keeney 1935: 206). They outline a purely military development where every fort was 'an outpost chosen for its military advantages alone'. This was then followed by the development of 'small spaces (outside the fort) in which the regimental bath-house was placed, and where a few traders and camp-followers might squat in safety'. Settlements proper then became the next phase as 'often covering a considerable area, and attaining economic and independent status' (Birley & Keeney 1935: 206). They used epigraphic and ancient sources, such as Tacitus, Histories IV 22, to substantiate this claim for the civil aspects of extramural settlement of the fort of Housesteads and, by assumption, those other forts on Hadrian's Wall. They noted how in some cases extramural settlement could survive the abandonment of an adjacent fort thereby implying its independence from military control. However, on Hadrian's Wall, a very different picture to that promoted by Birley & Keeney has now emerged, one where the extramural settlement is reduced or disappears at the end of the 3rd century while the adjacent forts continued to be occupied.

Salway and Sommer both concentrated on what they regarded as civil aspects of settlement. Salway, basing much on Birley's assumptions, was prone to extending a 'one approach fits all' model of civil towns at military bases to even include sites where no evidence from excavation was available, such as at the fort of Carvoran on Hadrian's Wall. However, he inadvertently drew attention to the lack of substance in the argument for 'all-civil' extramural settlement when he stated that 'It is not easy to think of places less comfortable to live in than Housesteads or Carvoran, yet civilians flocked to both settlements' (Salway 1965: 67).

Sommer followed and expanded Salway's argument by stating that 'Although the military *vicus* might have been set on land confiscated initially by the military, almost from the beginning, the actual planning, building and development was put in the hands of the settlers, the influence of the military was generally limited to a consultancy basis.' (Sommer 1984: 29). Sommer is ambiguous on whether or not the 'settlers' were civilians or were more directly attached to or were members of a wider military community.

In either case, both Salway and Sommer assigned the role of the Roman army to that of a largely detached neighbour, and like previous studies made no use of material culture from extramural settlement to support their arguments. This resulted in Salway, and to a greater extent Sommer, being partly responsible for reinforcing the concept of a separate corporate identity for what they regarded as the two sets of inhabitants of the northern frontier of Roman Britain. All of these models drew lines through the military occupation, and the effect of their conceptual models resulted in a further division of space and a theoretical separation of non-combatants from combatants. Associated themes, exploring further separation, such as the limited interaction or relative isolation of military communities from the surrounding native populations became a significant part of the ongoing debate (Birley R.E. 1961: 72, Salway 1965: 7, Sommer 1985: 13).

In recent years publications such as *Britons and Romans: advancing an archaeological agenda* (edited by James & Millett 2001) have suggested an alternative methodology when examining

the Roman army, moving away from the view of a military machine to a 'human organisation' (James 2001: 78): 'the military consisted of people, not cogs in a machine' (James 1999: 14). The appreciation of the individual, and their part in a wider (albeit normally specialised) community has been the theme of several publications, dealing with interrelated issues such as the study of material culture and identity (Allason-Jones 2001: 19) and gender and class (Hill 2001: 12). An important collection of papers is to be found under the title *The Roman army as a community* (edited by Goldsworthy & Haynes 1999); which includes an article by Sommer (Sommer 1999: 81-94) on 'The Roman army in SW Germany as an instrument of colonisation: the relationship of forts to military and civilian *vici*' (civilian *vici* being those that were formally military in origin). This updated scholars on current thinking on sites such as Zugmantel and Saalburg in Germany (Sommer 1999: 84-85) and Sommer's own views on 'the Roman administration as a deliberate instrument of colonisation and settlement' (Sommer 1999: 92), which is an echo of earlier thoughts, presented by Jones (Jones 1984: 75-92) and Millett (Millett 1984: 69). Lindsay Allason-Jones's 'Women and the Roman army in Britain' (Allason-Jones 1999: 41) is a long overdue and very welcome focus on the role of women in the military community. She covers some of the best known examples of women from the northern frontier, such as Julia Lucilla, the commanding officer's wife from High Rochester in Northumberland. The life of women associated with the Roman army has also been highlighted by several important references in Vindolanda writing tablets, including the now famous birthday party invitation from Claudia Severa to Sulpicia Lepidina (who was based at Vindolanda), Tab Vindol II 291 (Bowman & Thomas 1994: 256-259).. In a paper concerning mapping for gender, Allison clearly sets out her thoughts on how not only the presence but also the movement of women and children can be seen through the mapping of artefact distribution in Roman forts (Allison 2006). This is an important and progressive contribution to the study of gender through material culture which focuses on evidence from the German frontier. There is a compelling argument for this type of methodology to be embraced in the study of the military community of Roman Britain and its extramural settlement.

In 2006, Sommer published an article entitled 'Military *vici* in Roman Britain revisited' (Sommer 2006: 95-145). The purpose of this paper was not only a welcome attempt to reappraise his earlier publication on the *Military vici of Roman Britain* (Sommer S.1984) but also to apply the models and typologies used in his description of sites on the German *limes* (Sommer 1988, 1999). He set out his agenda very clearly, drawing the attention of his readers to the themes of his works on the German and Raetian frontiers, which were, 'to consider the general layout, typology, building regulations and the reconstructions of the houses of these settlements, as well as considering the relationship between the forts and the *vici* inhabitants, i.e. the soldiers on the one hand, and the military *vici* and their occupants (the camp-followers on the other)' (Sommer 2006: 95). Here we detect a movement by Sommer away from depicting the inhabitants of extramural settlements as being 'civilians' with more emphasis on the relationship between intramural and extramural space. However, he falls short of defining exactly what those relationships might have been.

Sommer applies the same hypothesis to Roman Britain. In his 'Typology of military *vici*' (Sommer 2006: 97), Sommer breaks military *vici* down into types consisting of, Street (Sommer 2006: 97), Tangent (Sommer 2006: 103) and Ring (Sommer 2006: 103). The internal structures of *vici* such as bath house placements and *mansiones* (Sommer 2006: 103-104), temples and shrines (Sommer 2006: 108), amphitheatres (Sommer 2006: 109) and cemeteries (Sommer 2006: 109) are covered, but not without problems. His *vicus* typologies are confusing when he states that both 'Vindolanda and Housesteads are representative of their type' (tangent-types) before having to concede that both had aspects in their layout which are unparalleled (Sommer 2006: 107). The obvious difficulties of such an approach, using *vicus* typologies alone, is highlighted once more when Sommer moves on to the tangent-type military *vici* (Sommer 2006: 103), those that have a major road by-passing the fort, which are offered here as both 'much less frequent' and 'standard type' in the same section. His interpretation seems to have further difficulty with the 'ring-type military *vicus*' (Sommer 2006: 103). Here he notes that this type has been identified on the continent for both *alae* and *cohortes equitatae* (the idea being that

this type of settlement provides space between the fort and ‘*vicus*’ for horses to graze) but he concedes that thus far, ‘none have been found in Roman Britain’ (Sommer 2006: 103). The reason for this is attributed to the presence of parade grounds or simply to their being ‘no need’. If there was a need for cavalry to graze their horses outside the fort between the walls and the start of the ‘*vicus*’ in Germany, surely the same ‘need’ would have applied in Roman Britain?

Other recent works on the subject of *vici* (mostly civil) include Rorison’s *Vici in Roman Gaul* (Rorison 2001), which provides a useful catalogue. Rorison offers a brief discussion on the subject of the development of *vici* (Rorison 2001: 1), but the main aim of the book is to provide a detailed catalogue of ‘*vicus*’ sites. This is based on the assumption of *vicus* status rather than by citing actual proof, highlighting similar problems to those encountered by Sommer when attributing *vicus* status to extramural areas. Rorison admits as much in her introduction where she explains ‘In the gazetteer’s 192 sites (95-237), only sixteen inscriptions from nine locations refer to a *vicus* or *vicani* or both’ (Rorison 2001: 2). Most sites listed by Rorison are of a purely ‘civilian’ nature, and are not situated outside the gates of major military establishments thus limiting their direct comparison to military areas. It is interesting to note that defining what makes a *vicus* a *vicus* in a purely civilian context is as problematic as applying the same question to extramural settlements in a military context. Felix Marcu’s article entitled ‘Places of worship in Roman forts’ (Marcu 2007: 75-105) reminds us that although places of worship are normally associated with extramural settlement, in terms of temples and shrines, the most sacred place at any military settlement would have been the *aedes principiorum*, the chapel of the standards in the headquarters building. By bringing attention to this and other places of worship inside the fort such as the *centuria*’s *genii* at Lambaesis, not only does Marcu highlight the status of religion within the fabric of the Roman army but he reminds us that the practice of religion and cult worship took place in both the intramural and extramural areas. In 2009 the Vindolanda excavations uncovered a temple dedicated to Jupiter Dolichenus inside the walls of the 3rd and 4th century stone fort. This would support the theory that religious spaces could have

existed simultaneously in both intramural and extramural areas (Birley A.R. & Birley Andrew R, forthcoming 2010).

Bidwell and Hodgson joined the debate on the nature and significance of extramural settlement in their companion to the 2009 *limes* congress excursions entitled *The Roman Army In Northern England* (Bidwell & Hodgson 2009). Although the volume deals principally with the sites to the north and south of Hadrian's Wall it does have useful comments on both 'vici' and military annexes. Here a general discussion of the periods of military settlement in the northern military zone is offered (Bidwell & Hodgson 2009: 1-45) which includes a summary of the settlement and abandonment of extramural settlement and annexes (Bidwell & Hodgson 2009: 29-34). Bidwell & Hodgson discuss the terminology used to describe extramural settlement and warn that 'buildings outside the fort will not always represent a *vicus* with civilian inhabitants serving the needs of the military' (Bidwell & Hodgson 2009: 30). Hodgson also provides a useful summary in his Hadrian's Wall Pilgrimage Handbook which highlights the research that has taken place on Hadrian's Wall in the ten years between 1999 and 2009 (Hodgson 2009). Here such topics as market places inside the walls of the 4th century forts are discussed (Hodgson 2009: 37-38) and he offers some useful comments on the abandonment of forts in the late 3rd century (Hodgson 2009: 36) as well as the role of military 'vici' (Hodgson 2009:35).

Geraint Osborn commented on the role of extramural settlement on the northern frontier of Roman Britain in 2006 with the publication of *Hadrian's Wall and its People* (Osborn 2006), a title that has some resonance to the earlier work of Salway, *The Frontier People of Roman Britain* (Salway 1965). Osborn uses his preface to set out an ambitious agenda which aims to address the balance of 'deep seated nineteenth century misconceptions of the role of the Roman army in Britain'. Osborn feels this continues to influence those who attempt to write a social history of Hadrian's Wall, even without the distraction of 'sound bites from noted experts' who provide firm (and therefore we must assume inaccurate) answers to questions. This, he feels, has created a void in comprehension in the minds of the general public between the evidence and the answers given by archaeologists, or as Osborn himself put it as 'how history

works is frequently missing' (Osborn 2006: ix). Chapters headed 'Why build a wall?' (Osborn 2006: 19-34), followed by a neat division of the social life on Hadrian's Wall into the following 'Military life' (Osborn 2006: 35-64) and 'Civilian life' (Osborn 2006: 65-86), show a simplistic approach to the questions raised on the subject that falls somewhat short of the ambition of his opening remarks. The concluding chapter covers 'Hadrian's Wall and the English sense of History' (Osborn 2006: 88-105), is used to back up Osborn's claims that historically the approach taken has left us a 'one sided view of the wall' where military history comes above social history (Osborn 2006: 106). While this may be true, and one can applaud the sentiment, Osborn is undermined many times by simple inaccuracies which do much to deflate the power of his arguments.

The issue of the influence of the army on the province of Roman Britain, termed by some as part of a 'Romanization' effect or becoming Roman (Jones 1984 & Woolf 1998), has a bearing on the study of extramural settlement. In an extension to the debate Mattingly's article, 'Being Roman: expressing identity in a provincial setting' (Mattingly 2004: 5-25) outlines the 'current approaches to identity in the Roman Empire' and highlights both the cultural diversity, and insular nature of the group of people who can be assumed to have made up the military community in the northern frontier. The former is illustrated by an analysis of the Regina tombstone from South Shields (RIB 1065), which Mattingly uses to illustrate the complicated identity of an individual woman, the latter by a discussion of the 'self-containment' of military communities, citing the low number of references to natives in the Vindolanda writing tablets as an example (Mattingly 2004). Many of the points Mattingly makes in this paper are expanded in one of his most recent books, *An Imperial Possession: Britain in the Roman Empire* (Mattingly 2006), with a large section devoted to an overview of the recent debate and evidence for the military community in Roman Britain (Mattingly 2006: 87-225).

Much of the recent debate alluded to in Mattingly's recent work owes a debt to a group of papers published in the *Britons and Romans: advancing an archaeological agenda* volume (James and Millett 2001). James points out that 'If military communities usually represent such

complex social mixtures, then we must consider them not only in terms of the ‘military-civilian’ dimension of identity and action. Other dimensions will have been equally significant, and probably far more important’ (James 2001: 80).

There has been much academic discourse that is still rooted in the past while recent and new initiatives are yet to be fully developed in relation to military sites. This thesis aims to go some way towards redressing this balance by leading the way in a direct attempt to determine the nature and significance of extramural settlements at forts on the northern frontier of Roman Britain. It will address this question by examining the data that has been largely ignored from previous considerations, the deposition of the material culture.

1.5 Military annexes - for the combatants or enclosed extramural settlements for civilians?

The majority of military annexes, defined as enclosed or defended spaces adjacent to forts, on the northern frontier are to be found attached to the Antonine Wall forts. Like so many of the Hadrian’s Wall extramural settlements, they have been largely left untouched by large scale excavation in favour of the forts. At least twenty of the forts to the south of Hadrian’s Wall also had annexes or enclosures surrounding extramural activity (Bidwell & Hodgson 2009: 31), and like their counterparts on the Antonine Wall, few have been explored to any great extent by modern excavation. Very few annexes have been found attached to Hadrian’s Wall forts and those that have been noted have received little attention. The forts at Wallsend and Halton Chesters are exceptions, but with major damage caused by later urbanisation at the former and little archaeological excavation at the latter, neither has produced a large enough dataset of material culture which could be considered for inclusion in this study.

Whether or not annexes can be regarded as fortified *vici* or merely as an extension of the fort is the subject of extensive scholarly debate. In 1984, Sommer noted that ‘opinions about the function of annexes are very contradictory. On one side there are the scholars who strictly deny

a civilian or part-civilian use of annexes. On the other side are those who see annexes in a partly civilian use' (Sommer 1984: 18). In the 25 years since Sommer published *The Military Vici in Roman Britain* there has been little movement from either side of the debate. This was clearly illustrated in the polarising nature of the papers presented to the October 7th 2009 Northern Frontiers Seminar at the University of Newcastle which concentrated on the nature and significance of military annexes. Using evidence from the Antonine Wall, William Hanson of the University of Glasgow strongly argued that all annexes showed strong military use, and this was challenged by Paul Bidwell and Nick Hodgson, who prefer to consider annexes as fortified civil *vici*, a opinion that they argue for in their recent publication *The Roman Army in Northern England* (Bidwell & Hodgson 2009: 32). Both arguments are embedded in an extension of the debate on the nature and significance of *vici* themselves, and on how the military controlled or used its immediately adjacent hinterland.

In the 2009 excavations at the principal study site of Vindolanda (Blake 2010 – forthcoming) a defensive enclosure, of Antonine date, was discovered. This lay beneath the defences of a later fort (Severan) which was itself succeeded by 3rd century extramural settlement. The defensive enclosure had both a ditch and stone faced rampart and gateway, and appears to have marked the edge of occupation in the Antonine period. Although it is not known why this enclosure was developed, it may have been as a secondary enclosure to the fort itself, perhaps to facilitate wagon parks, horse lines and so forth. Whether or not it could have been regarded as a defended extramural settlement, or as on the Antonine Wall, an area enclosing military workshops, will only be answered when a large enough area of its interior is examined and a material culture dataset is recovered. What this enclosure does illustrate, and the subsequent use of the area by both a fort and then extramural settlement, is the interchangeable nature of the space immediately adjacent to fort walls. Within a sixty year period, c AD 160- 213 the space occupied by the Antonine 'annex' is no-longer enclosed, but its fate may have remained tightly controlled by the garrison next door.

Annexes therefore could be considered to have reflected a wide spectrum of occupation. Although at present, with limited data available, it is not possible to determine whether there was a distinction between the occupation of annexes that were built as part of a fort and undefended extramural settlements which may have developed in a more organic manner.

It is possible that the analysis of material culture from unfortified/enclosed areas of extramural settlement considered in this thesis may have something to offer to the debate on fortified extramural annexes. But until the areas regarded as having been ‘annexes’ are explored more thoroughly, and to a large enough extent to produce a robust material culture dataset which could be used for direct comparison with unfortified areas of extramural settlement, they cannot be included in this type of study. As a consequence, at present their value remains limited in what they can offer towards our understanding of the nature and significance of extramural settlement at Roman forts on the northern frontier of Roman Britain.

The debate surrounding military annexes needs to move beyond the binary argument of military or defended *vici* with the latter being advocated by some as firmly associated with ‘civilians’. As James remarks ‘there is, then, every reason to think that Roman regiments usually formed the armature for fully fledged social communities, albeit of a special kind, in which soldiers and other citizens and provincials, freedmen and freedwomen, slaves, males and females, children, adults, and the elderly, were all active participants.’ (James 2001: 80). The debate should therefore question if the many people who lived or worked in fort annexes could truly be regarded as ‘civilian’ as opposed to non-combatants who had strong associations with the army and could therefore be regarded as affiliated members of the military community with their identities partially if not completely defined by military units/the Roman army.

1.6 Primary archaeological sources, excavations – a review

There are a number of important excavation reports that need to be reviewed as part of any study considering extramural settlement on the frontier of Roman Britain. Some are directly concerned with work on the frontier in Britain and others further afield. Such reports normally

fall into two parts: on the one hand, a description of a site, on the other an examination of a number or groups of artefacts that have come from those sites. Few if any of the excavation reports reviewed offer a comprehensive cross comparison between the two types of data. In most cases the artefacts are placed at the end of the reports, or alternatively as a microfiche or a separate CD (Bidwell 1985). It would perhaps be too critical to suggest that the importance of material culture has been removed from much of the work on the northern frontier of Roman Britain, but its impact has certainly been diminished by the low priority given to its study.

All of the reports and sites mentioned in the following section have, or will in the future continue to have, an important part to play in our interpretation of life on the frontier. At present they are the only major sources of published research material from the northern frontier of Roman Britain, and the sites that have been used for comparative purposes in this study are

given a more detailed description than others which have not been directly used.

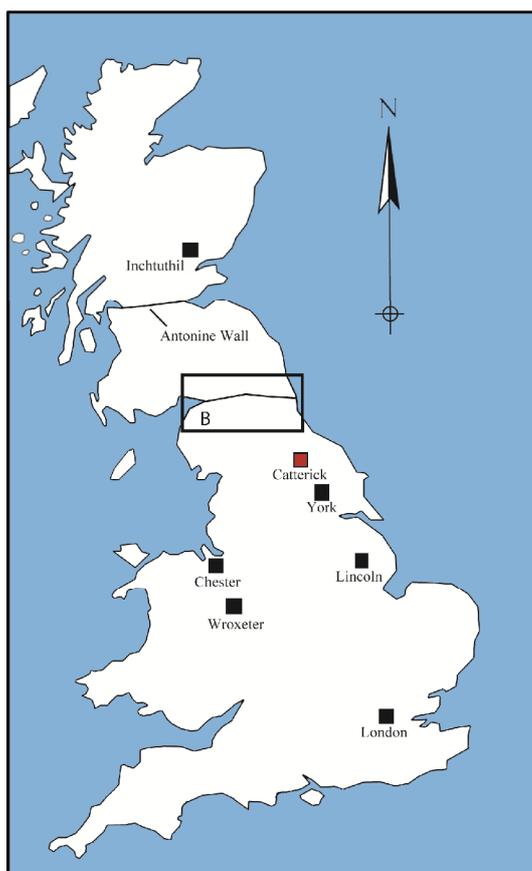


Figure 1.5 (A). Map of the UK and key Roman sites including Catterick, shown in red, which is examined as a comparative site to those from the northern frontier in chapter 6. (After Wilmott 1997)

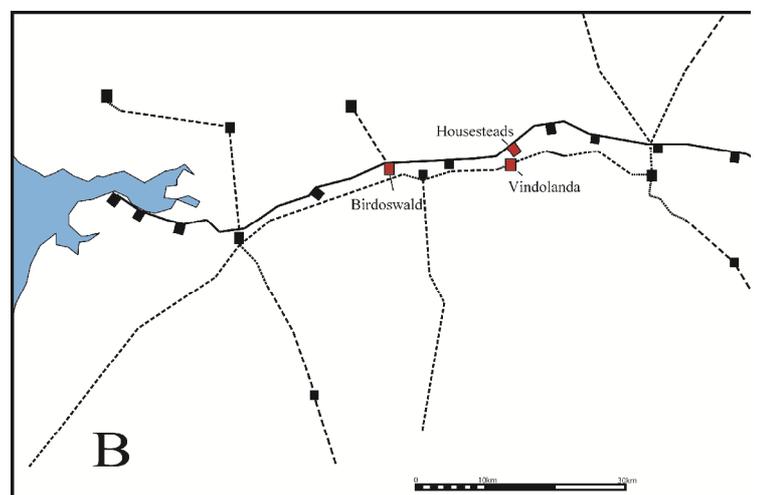


Figure 1.6. (B) A map of the Roman sites on the northern frontier of Roman Britain, with the sites used

in this study, Vindolanda,

Housesteads, Birdoswald and South Shields, highlighted in red (After Wilmott 1997).

1.7 Vindolanda

Vindolanda is a unique site from the perspective of the study of extramural settlement. A long and intensive research programme of excavation is ongoing, and a dataset of material culture, complete with associated detailed contextual information encompassing the past thirty eight years of excavation, has been recorded. The reports that go with this dataset are invaluable to this study as they provide detailed plans and information to support the Vindolanda artefact database.

Vindolanda is a complicated site with no fewer than nine superimposed building phases, each representing a new fort and possible settlement (Birley Andrew R. & Blake 2007). What follows is an outline of the relevant publications, rather than a detailed discussion of the archaeology of the site, which can be found in chapter 2. Under the auspices of the Vindolanda Trust, nine excavation reports relevant to this study have been published since 1984. The reports cover a variety of buildings and periods, both intramural and extramural.

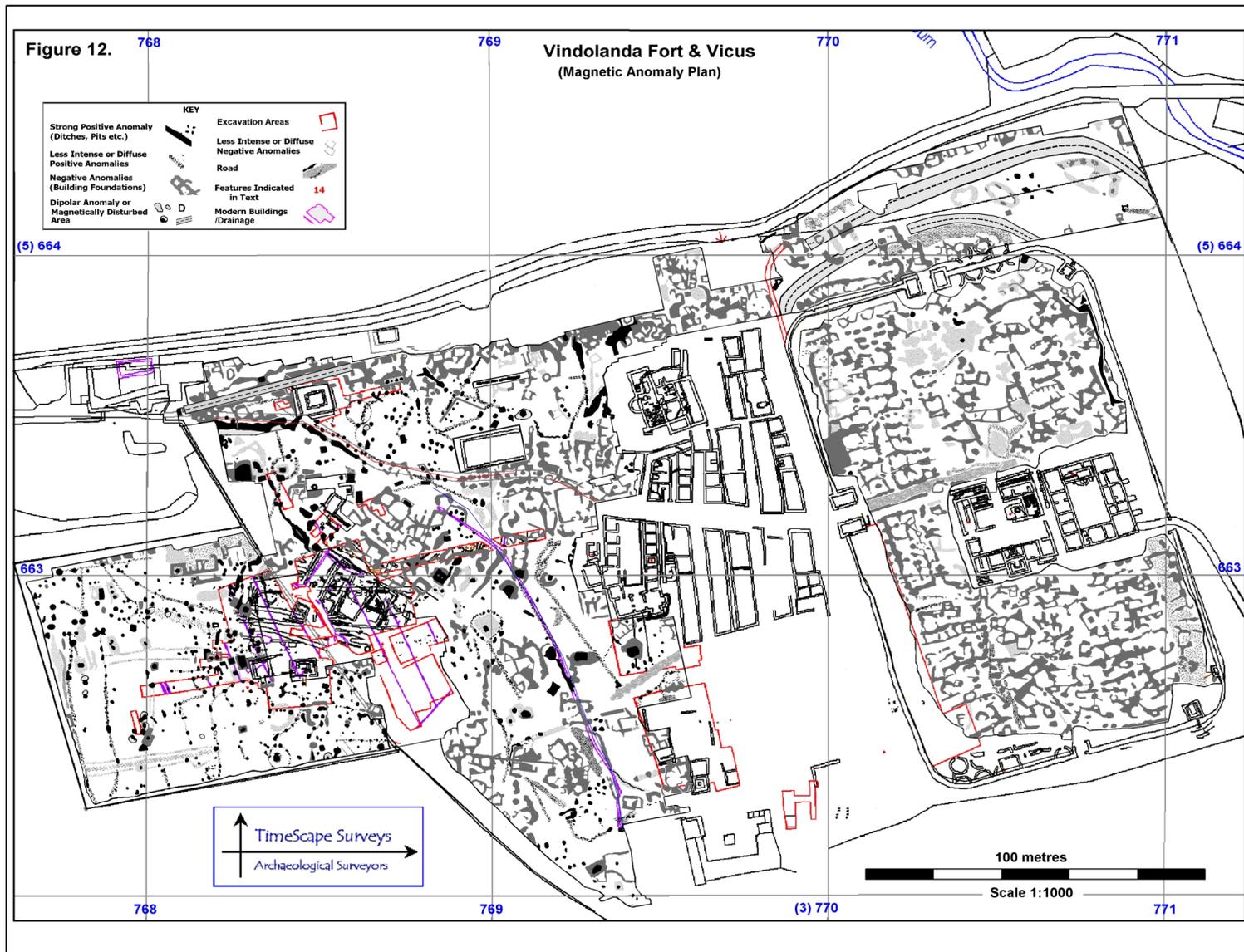


Figure 1.7 A plan and interpretive geophysical plot of the site of Vindolanda taken in the spring of 2008.

The Vindolanda excavations of the 1970's, concentrated on the 3rd century extramural settlement, the results of which were summarised in *Vindolanda: A Roman frontier post on Hadrian's Wall* (Birley R.E. 1977). This publication was followed by a series of more detailed excavation reports, starting with a summary of the work undertaken between the military bath-house and the fort's western wall (Birley R.E. 1977).

The first major report was Bidwell's *The Roman Fort of Vindolanda* which included a reassessment of the fort sequences at the site (Bidwell 1985: 1-10) and a detailed report on the excavations of a barrack block in the 3rd and 4th century fort (Bidwell 1985). Bidwell discussed the dating of the extramural settlement at Vindolanda although continuing work in these areas of the site has made most of this discussion outdated (Bidwell 1985: 88). Included in his report are comprehensive sections on the various categories of artefacts. The Bidwell report is important for the purpose of comparing barracks from various periods on the site, and the finds from within them, to the artefacts and material culture from extramural parts of the site.

In 1994 a new series of excavation reports was published, detailing work undertaken primarily on the pre-Hadrianic phases of occupation (Birley R.E. 1994). The last of these was paradoxically to be the first volume, *Vindolanda Research Reports, New Series: Volume I. The Early Wooden Forts*, which examined the pre-Hadrianic *praetoria* of periods II and III (c AD 92-97 and c AD 97-105 respectively), the barrack block of period IV (c AD 105-120) and the *fabrica* of period V (c AD 120-130). Of particular use are the detailed lists of all artefacts and their room locations within the buildings which are reported at the end of each section. An example of this would be Room E in the period II *praetorium* (Birley R.E. 1994: 45-46). Volumes II and III cover the same set of excavations and they report on different artefact groups. Volume II, *Vindolanda Research Reports, New Series: Volume II. The Early Wooden Forts. Reports on The Auxiliaries, The Writing Tablets, Inscriptions, Brands and Graffiti*. (Birley E. & Birley R.E *et al.* 1993) gives important contextual information about the location of various writing tablets, something which is less prominent in the otherwise excellent Bowman and Thomas volumes on the writing tablets (Bowman & Thomas *et al.* 1983, 1994, 2003).

Volume III is perhaps the best known of the three due to the contribution of Driel-Murray: *Vindolanda: Research Reports, New Series. Volume III, The Early Wooden Forts. Leather, Textiles, Environmental evidence and Dendrochronology* (Driel-Murray *et al.* 1993). The discovery of items of Roman female footwear inside barracks, once thought to be a male only preserve, has revolutionised the way we can envisage the make-up of military communities.

From 1998-1999 two interim reports dealt with the excavations of the 3rd & 4th century commanding officer's residence. The first, *Vindolanda 1997 excavations: Praetorium site. interim report.* (Birley R. & Blake *et al.* 1998), and the second, *The 1998 Excavations at Vindolanda: The Praetorium site Interim Report* (Birley R. & Birley Andrew R. *et al.* 1999). Although the *praetorium* would have been a high status building, with a mixture of occupants from the commanding officer himself to his family, slaves and servants, it is exactly this range of potential occupants that makes it a reasonable choice for comparative purposes.

A brief report on the southern defences of the later stone fort at Vindolanda provides some useful information about late 4th century buildings inside the fort (Blake 2001), listing all the small finds to come from the respective buildings. In the same year, *Vindolanda's Military Bath Houses* (Birley Andrew R. 2001) reports on the excavation of a pre-Hadrianic bath house to the south of the site. This excavation of this extramural building linked the writing tablet evidence to the archaeology of the site once more 'builders to the bath house', writing tablet no. 155: Bowman & Thomas 1983: 77, amended in Bowman & Thomas 1994: 98, amended further in Bowman & Thomas 2003: addenda to no. 155). Other reports concerning the *vicus* at the site can be found in the 2003 Vindolanda research reports. Volume 1 reports on *vicus* houses (Birley Andrew R. 2003), and volume 2 on the site of a 'Romano-Celtic' temple (Blake 2003). The 2003-2004 excavations (Birley Andrew R. & Blake 2005) covers work in the 3rd and 4th century extramural settlement at the western part of the site, and a following volume (Birley Andrew R. & Blake 2007) both extramural and intramural excavations of the 3rd and 4th centuries on the site. A useful fascicule on Roman Jewellery from Vindolanda (Birley B. & Green 2006)

complements the most recent excavation reports by way of a catalogue of the material and some detailed discussion of the applied significance of the jewellery to the site.

1.8 Catterick



Figure 1.8 A plan of the fort and town at Catterick, after Wilson (Wilson 2002: 451).

Catterick or *Cataractonium*, was a Roman fort with associated extramural settlement in the 1st century and is the only comparator site from the Wall hinterland. Although the fort remained occupied to the end of Roman Britain, the extramural settlement developed beyond those found adjacent to Hadrian's Wall sites into a small Roman town by the middle of the 2nd century. Catterick differs significantly from the other study sites as the large population was likely to have a considerable number of people who were outside the immediate military community. The town was fortified in its own right with a large defensive and stone built wall. The site is situated 65 miles to the south of the frontier at Hadrian's Wall along the Roman road of Dere Street, which connected it to York in the south and Corbridge in the north. Aside from antiquarian excavation, the majority of the information we have on the fort and town has come from a series of excavations conducted in part by John Wachter, formerly of the University of Leicester, and in part through rescue excavations carried out by a number of different groups as the modern road, the A1, was upgraded, and a bypass was placed through the ancient site. The results of these excavations have been collected together and reported on in Peter Wilson's reports on the site of *Cataractonium: Roman Catterick and its Hinterland* (Wilson 2002) in two volumes. The first volume deals principally with excavations on the site and covers work carried out over the last fifty years. The second volume is a very detailed analysis of the aspects of material culture excavated from the site, from the coinage to plant remains. This report can be considered for comparative study, as it contains excellent scholarship and thorough descriptions of many of the types of artefacts that are commonly associated with military communities, and is therefore a worthy reference volume.

1.9 Housesteads

Housesteads has attracted considerable attention in the past (see the extensive list of publications in the bibliography), but of particular importance are Bosanquet's final report for 1904 (Bosanquet 1904: 193-300), dominated by a desire to secure a plan of the fort, with minor work outside the walls, and the four reports on the 1931-34 excavations from the '*vicus*' (Birley

& Charlton *et al.* 1932, Birley & Charlton *et al.* 1934 and Birley & Keeney 1935). Bosanquet's report devoted eight pages to the finds, but there was little detail and no description of contexts or stratigraphy, although it did include a comment on items of female ownership 'bracelets, beads and similar trinkets' being found in the barracks (Bosanquet 1904: 235). The 1931-34 excavators were also pre-occupied with attempts to produce plans of the extramural settlement, and the only published 'small finds' were a variety of bronzes (Charlton 1934: 193-205). The final report included Eric Birley's valuable general assessment of civil settlements (Birley & Keeney 1935, 208-246), which was to set the scene for the later work by Salway and Sommer. Keeney, in the excavation section of the 1935 report (Birley & Keeney 1935), included his assessment of the nature of the occupiers of the settlement, with the observation, unsubstantiated by hard evidence, that there appeared to be amongst them 'inhabitants of purely native stock'.

Other useful reports are those of Wilkes on the excavation of a barrack block (Wilkes 1960: 61-72), Robin Birley on excavation of extramural buildings south of the Vallum (Birley R. 1961) and Dorothy Charlesworth's report on the excavation of the *praetorium* (Charlesworth 1976: 17-42).

As a result of his excavations on the north fort wall, James Crow's 'Housesteads' (Crow 1989 & revised edition in 1995), provided a little more information on the extramural settlement of the site. The 1995 volume is useful for examining more up-to-date plans of the fort and its extramural settlement. In 2009 the long anticipated report covering the excavations at Housesteads from 1954-1995 (Rushworth 2009) was published. This report, in two volumes, principally examines the excavations of the north eastern quadrant of the fort, and updates the available plans of the known extramural settlement. A comprehensive catalogue of material culture is published in volume 2, concentrating on the intramural artefact assemblage which also allows for the contextual analysis and deposition of material culture from the site.

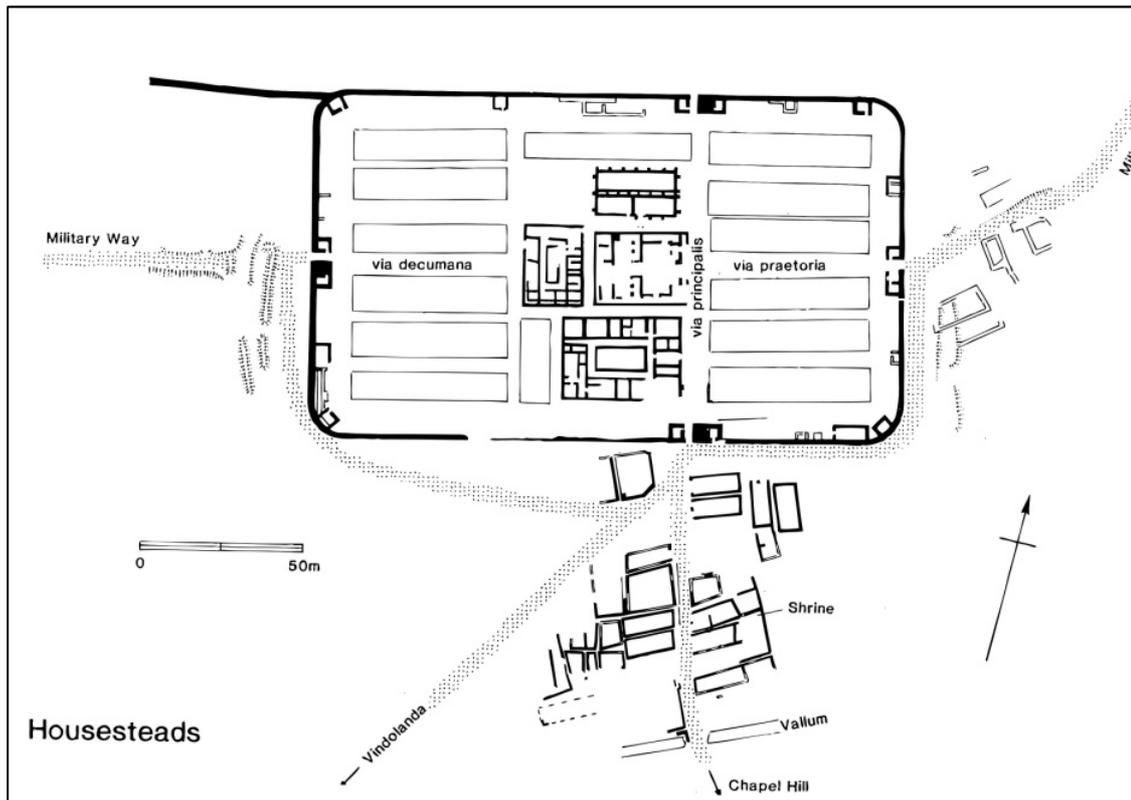


Figure 1.9 A plan of the fort of Housesteads and its associated extramural settlement. (After Crow 1995:

58)

1.10 South Shields

Roman South Shields was situated on the southern bank of the mouth of the River Tyne. It was an auxiliary fort which also operated as a Roman port. Like Vindolanda, South Shields (or *Arbeia*) has been the scene of ongoing modern research excavation (after considerable antiquarian work over many years in the late 19th century and early 20th century). The antiquarian work principally dealt with the internal features of the fort phases at the site. Three archaeological reports form the backbone of the recently published material from *Arbeia* and all include sections on artefacts. Dore and Gillam started the process of modern publication with a report on the early excavations of fort defences and some of the granaries in *The Roman Fort at South Shields: Excavations 1875-1975* (Dore & Gillam 1979). The second report, *The Roman Fort at South Shields: Excavation of the Defences 1977-81* (Miket 1984) was a detailed small finds catalogue from the site. It included a substantial contribution from Lindsay Allason-Jones on various categories of finds such as copper-alloy objects, amber and bone artifacts (Allason-

Jones. 1984: 134). The most recent publication improves on both of the previous efforts in its scope and scale: *Excavations at South Shields Roman Fort: Volume 1* (Bidwell & Speak 1994). This includes a detailed account on some artefact categories, including hairpins by Alex Croom (Croom in Bidwell & Speak 1994: 189).

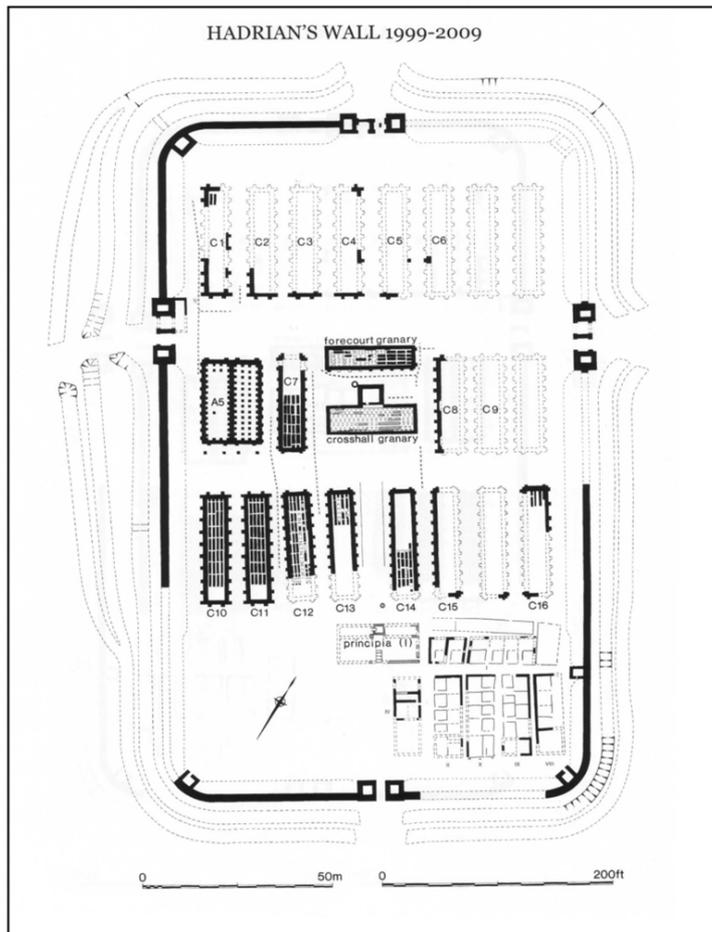


Figure 1.10 The fort of Arbeia at South Shields (Bidwell and Speak 1994: 34). In the early 3rd century, the fort had been converted to a large supply base in the Severan period, and filled with granaries, the northern-most of which survived well into the 3rd century.

Taken together, the three reports offer a volume of information about the fort of Arbeia and the variety of artefacts recovered during the excavations of the site. However, the majority of artefacts to come from the site offer little scope for contextual analysis, due to the loss of finds records (Allison Jones-Miket 1984). Although the excavation of what must have been an extensive extramural settlement has yet to be undertaken, material culture from the site is still relevant for comparative intramural purposes.

1.11 Birdoswald

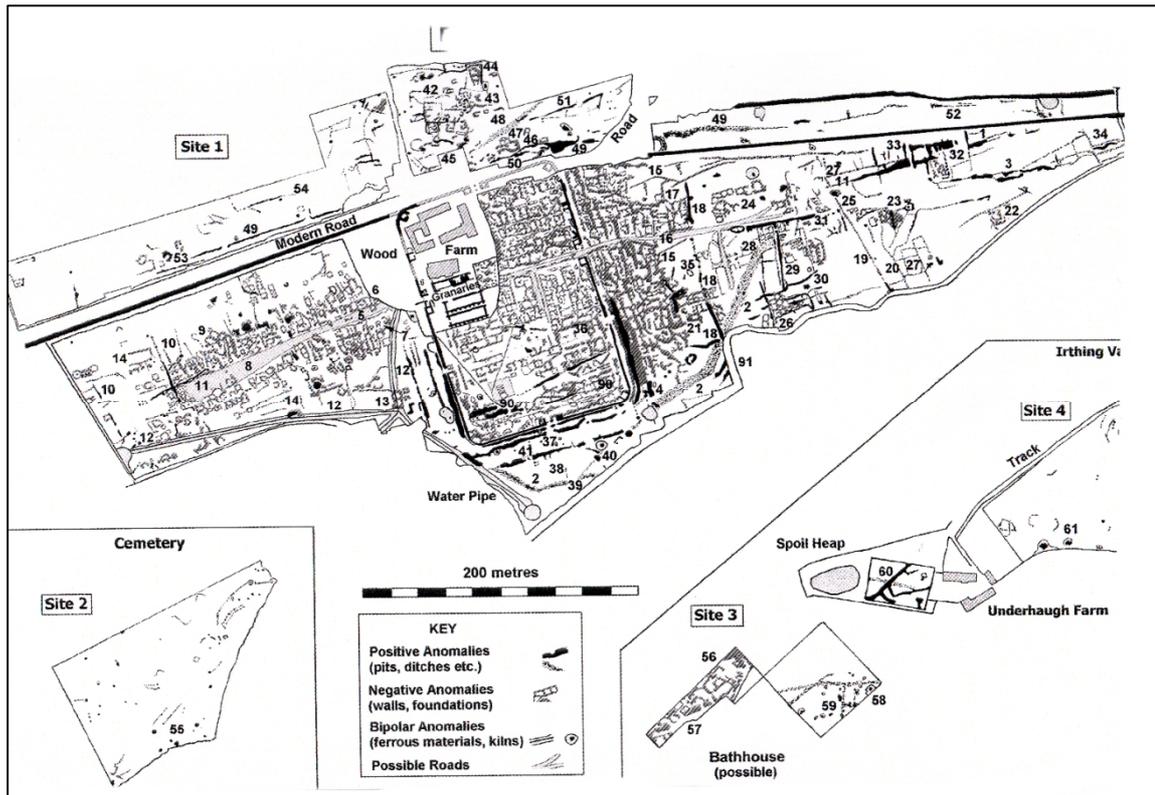


Figure 1.11 Birdoswald magnetometer survey conducted by Timescape (Biggins J.A. & Taylor D.J.A. 2004: 159-178).

The Roman fort of Birdoswald (*Banna*) is situated near the eastern border of the modern county of Cumbria. The majority of the fort and its extramural settlement have yet to be examined but there have been a series of both antiquarian and modern excavations at the site which are of relevance to the subject of this thesis, the latter of which justifies its inclusion. The earliest recorded antiquarian excavations were conducted at the site in the early 19th century by Thomas Crawhill (the owner) and although these were not published, their results were mentioned in an account by the Northumberland historian John Hodgson (Hodgson 1840: 207). Gerald Simpson started seven years of work on his famous excavations at the site in 1927, assisted at times by Ian Richmond and Eric Birley, and this produced the chronology of three phases for the settlement of the site, and it was thought, Hadrian's Wall as a whole (Wilmott 1997: 7). Modern excavations were conducted on the site of the granaries, west gate and ditches by Tony Wilmott from 1987-1992 and these have been comprehensively published by Wilmott in his 1997

excavation report. This report has been used by Gardner, who has plotted the distribution of finds from the excavations in an attempt to explore the context of artefacts and the archaeology of social practices (Gardner 2007: 128-141). The site of Birdoswald therefore provides useful intramural evidence for comparison with relevant material from the site of Vindolanda, and will help to establish whether or not the Vindolanda intramural dataset is truly representative of its type.

1.12 Comparative Reports and artefact studies

The selected comparative reports and artefact studies will be used to compare with the Vindolanda datasets and to provide a wider context for this study. ‘Extracting the social relevance of artefact distribution in Roman military forts’, by Allison and Fairbairn *et al.*, published in *Internet archaeology* in 2004, brought a new and exciting perspective to military studies as well as a GIS graphical illustration of spatial data. The study aimed to use ‘artefact assemblage analyses to better understand spatial and gender relationships’ (Allison *et al.* 2004: abstract), and was centred on the legionary fortress of Vetera I in the province of Germania inferior. The study examined the spread of female-related artefacts in the excavated areas of the fort. Objects chosen for study included brooches (Allison *et al.* 2004: 8.2.1a) and hairpins (8.2.1c) as well as shoes, beads and necklaces (8.2.1d). The discussion on the choice of objects is well thought out, with a good description of classifications (Allison *et al.* 2004: 8.1-8.7) and especially appreciated is the raw data in the form of the full catalogue of small finds, downloadable into Microsoft Excel format (Allison *et al.* 2004: sections 9-12). While it is accepted that these objects came from a much larger settlement than those being studied on the northern frontier of Roman Britain (legionary versus auxiliary) the study does provide excellent comparative data and methodologies. Continuing on from her work at Vetera I, Penelope Allison published a report in 2006 on her study of the auxiliary fort at Ellingen, situated in the Roman province of Raetia (Allison 2006). This work offers a valuable insight into the distribution of artefacts at the site varying from coinage, fine ceramics and dress items, to

animal and human remains, and as a result is more directly comparable to this thesis than the analysis of the Vetera I material.

An important contribution to artefact studies is a short paper by Gardner, entitled ‘Artefacts, Contexts and the Archaeology of Social Practices’ (Gardner 2007: 129-139). This tests some of Gardner’s own earlier theoretical models, as set out in ‘Seeking a Material Turn: the artefactuality of the Roman Empire’ (Gardner 2003: 1-14) on several datasets of material culture from the northern frontier of Roman Britain. It offers a continuation of the approach adopted by Allison’s work on the German *limes*, as he examined a broad range of possibilities through an association of artefacts to social practices (Gardner 2007: 128). Gardner attempts to tie in activities such as the ‘dumping’ of refuse with social institutions, as at a ‘dwelling’ at Birdoswald and in the *principia* at South Shields. His main point is that ‘artefacts speak on a different range of actions’ and therefore the study of material culture has almost endless possibilities (Gardner 2007: 131). In his case study, Gardner uses his conceptual framework to highlight the distribution of coins in terms of ‘*exchanging*’ and bracelets and brooches (which he refers to as ‘*personalia*’) in terms of ‘*appearing*’ (Gardner 2007: 131).

The excavation report on Roman Ribchester in Lancashire by Buxton and Howard-Davis (Buxton & Howard-Davis 2000: 33) includes a brief account on the extramural settlement/annex at the site, with stables and barns encroaching on the fort’s defensive ditches in the third century. This appears to have blurred the boundary between the fort and its associated extramural area. Unfortunately, like so many brief reports, beyond the excellent summary of work undertaken, relatively little attention is paid to the material culture that has come from this part of the site. In 2007 a report on Roman Manchester (Gregory 2007) published a series of rescue and developer led work that had been undertaken in the city over a 5-6 year period on Liverpool Road, Barton Street, Southern Street and Deansgate. The excavations were important as they identified late 1st to late 2nd century extramural settlement, as opposed to 3rd century extramural settlement which is the period more usually associated with extramural developments identified through archaeological recovery. Unfortunately, although

the excavations were in some sense illuminating, with many industrial areas located, the tiny volume of material culture recovered from them makes any direct comparison with the main sites used in this study impracticable. Of similar importance to Roman military studies is the Elginhaugh report in two volumes by Hanson (Hanson 2007). Volume 1 deals specifically with the layout and interpretation of the plans of the auxiliary fort and annex at Elginhaugh, the latter of which was subjected to small scale excavation. The second volume is a standard catalogue of material culture recovered from the site, including the very few artefacts from the annex (Hanson 2007). The publication of the excavations of Roman Piercebridge from 1969 to 1981 by Harding and Scott in a volume edited by Cool and Mason is a useful and very well presented addition to the corpus of material on intramural and extramural settlement (Cool & Mason 2009). Although this report deals with the excavation of a relatively small area it includes a summary of the evidence for a possible temple to Jupiter Dolichenus immediately outside the walls of the fort, which in light of the recent discovery of an intramural temple to Jupiter Dolichenus at Vindolanda is indirectly comparable (Scott & Large 2009: 101-104).

The excavation and analysis of the Roman cemetery associated with the fort at Brougham in Cumbria is an important volume to examine (Cool 2004). The report is particularly useful due to the sparse amount of cemetery data from Hadrian's Wall and sites such as Vindolanda, although new excavations at the Birdoswald cemetery (2009) may significantly add to this. The report includes a very detailed analysis of almost all aspects of burial practices, from cremation rituals (Cool 2004: 283-309) to personal ornaments and equipment (Cool 2004: 381-398), and importantly the dating coincides with the recognised period in extramural expansion at many sites, starting c AD 200 and cutting off abruptly in the beginning of the fourth century. This time frame can be associated with many other sites that have established dating sequences for their extramural development (although not all military extramural settlement is restricted to the 3rd century, as at Carriden). At Vindolanda, the main stone built phase of extramural settlement is established c AD 215 and is in decline by the end of the third century (Birley R.E. 1977: 78). Cool reprises her work on Brougham in a paper which seeks to raise the profile of specialists'

reports and reminds readers of the 'infinite potential' that the study of material culture from Roman Britain offers to scholars (Cool 2007: 54).

The question of what happened to the military communities on the northern frontier of Roman Britain during the fourth and fifth centuries is difficult to answer. A good starting point is Wilmott and Wilson 'The Late Roman Transition in the North' (Wilmott & Wilson 2000) whose arguments are expanded upon in an excellent paper by Rob Collins entitled 'Late Roman Frontier communities in northern Britain: A theoretical context for the 'end' of Hadrian's Wall' (Collins 2006). Collins gives a summary on past and present perspectives before offering his own theoretical model for the end of Roman settlement, which is largely based around the study of material culture and the identity of community rather than the individual. The publication of the granary excavations at Birdoswald in Cumbria (Wilmott 1997) provided evidence of restructuring inside the walls of a fort, possibly to accommodate a reduced garrison and its complement of non-combatants in the comparative safety and comfort of the walls. Excavations in Roman Newcastle have recently been published in *Archaeologia Aeliana* (Snape & Bidwell 2002: 275) and show the possibility of a late Roman market being set up in the centre of the fort. Evidence from the Millennium excavations in Carlisle also indicate the presence of a market, and a paper was presented to the 2004 Carlisle excavations Millennium conference by David Shotter entitled 'From fort to flea market', based on coin analysis from the site. This paper is due to be published as part of the final publication of the Millennium excavations in Carlisle (forthcoming 2010).

Other recent reports that should be examined for evidence relevant to extramural settlement are Hardknott (Bidwell *et al.* 1999), and Strageath (Frere & Wilkes 1989). These publications combine to form a background to the debate surrounding the nature and significance of extramural settlement in the 3rd and 4th centuries and the potential for material culture to influence our understanding of the archaeology of any given site.

1.13 Geophysical Survey

Geophysical survey is regarded as one of the most important tools available to archaeologists and has been widely used to explore the extent of extramural settlement immediately adjacent to Roman forts on the northern frontier of Roman Britain, which now appears to have been significantly more extensive than previously thought. In the last ten years, a number of Roman forts and their surrounding occupied areas have been subjected to this non-intrusive technique, mainly by Biggins, Taylor and Robinson, operating as Timescape Surveys. The survey work has been published in a variety of journals, including *Britannia* and *Archaeologia Aeliana*. Sites published include Halton Chesters in Northumberland (Biggins & Taylor 1997 & Taylor *et al.*2000), Birdoswald in Cumbria (Biggins & Taylor 1999 & Biggins & Taylor 2004), Housesteads in Northumberland (Biggins & Taylor. 2004), High Rochester in Northumberland (Hancke *et al.*2003), Maryport in Cumbria (Biggins *et al.*2004 & Taylor 2000: 172), and on the fort and settlement at Castlesteads in Cumbria (Biggins & Taylor 2007: 15-30).

Added to this resource, two further sites have been examined by Timescape Surveys. One has been published on the fort and extramural area at Carvoran in Northumberland, shown in figure 1.12 (Birley Andrew R. 2003: 283-284). Timescape has also carried out a survey of the field to the north of the site of Vindolanda in Northumberland, which is available as part of the Vindolanda archive, and in 2008 they completed a major survey of all the unexcavated areas in the principal 'camp' field (*Britannia* 2009- forthcoming).

Taken as a whole, the work conducted by Timescape in the past ten years forms a formidable volume of data. Some attempt has been made by Biggins and Taylor to evaluate the plans they have produced. This has been handled on a site by site basis, and in some cases has neglected references to known excavations, with proven features over the areas of survey (Housesteads being a prime example: no reference to the 1960 *vicus* excavations by Birley R. 1961: 301-319). The interpretation of the data presented by Timescape in their reports remains open to question. Few sites surveyed by Timescape have been excavated 'post geophysical survey' to test the

validity of the geophysical survey, and meaningful plans have yet to be drawn from the results. The survey results often show a mass of debris, perhaps buildings, but without excavation the character and nature of the settlement of these potential structures remains a mystery.

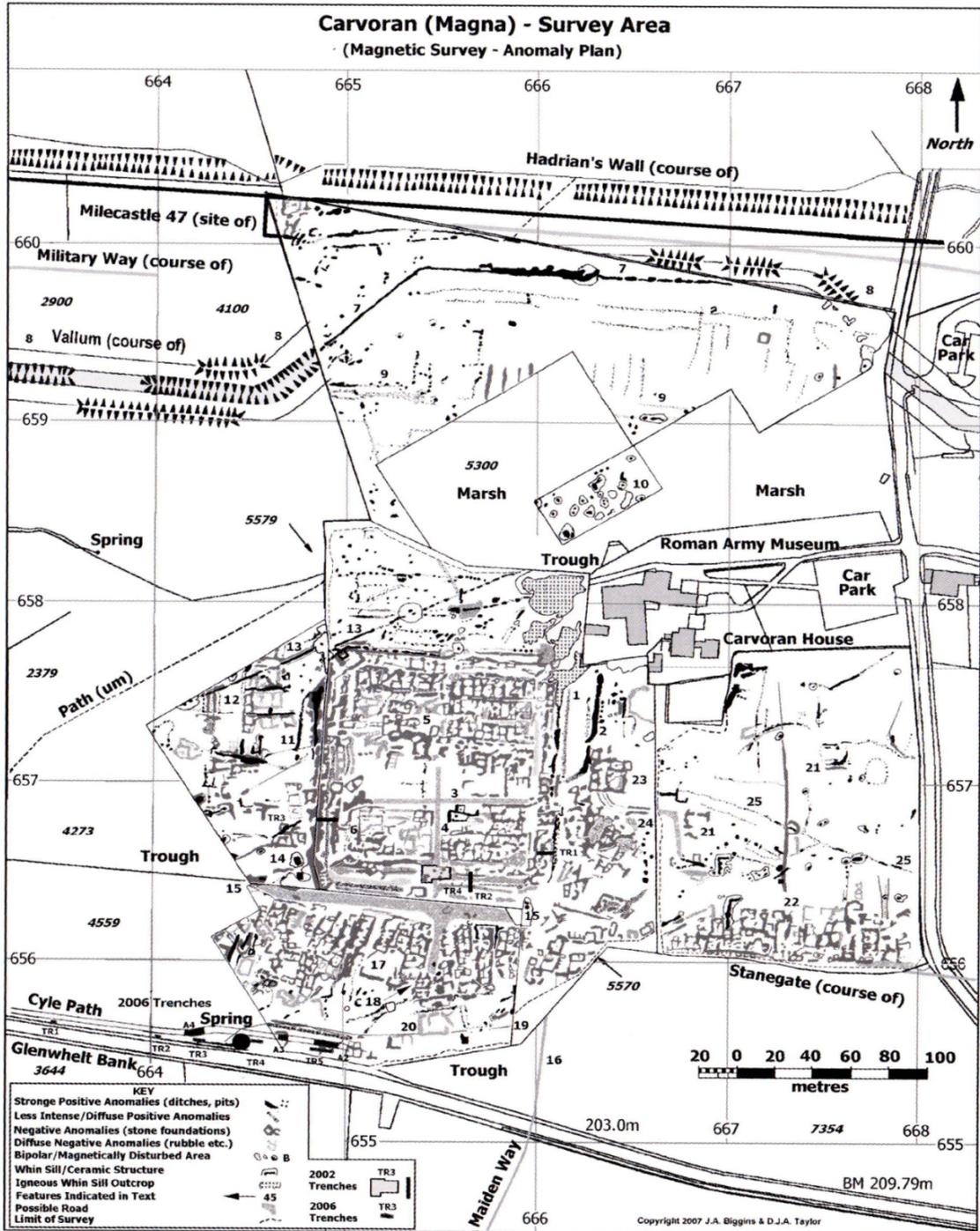


Figure 1.12 A Timescape interpretive plan of the magnetometer survey of the fort at Carvoran.

Geophysical work has also been undertaken at Catterick, under the auspices of English Heritage. With results published in the first of two excavation reports by Peter Wilson (Wilson 2002: 34). Unusually the authors of this report have attempted to draw a meaningful plan of the settlement from their data: the result is a plausible plan of the site and its hinterland. Other geophysical work is in progress, and publication of an geophysical programme for Roman forts in Scotland by David Woolliscroft and Birgitta Hoffman includes the forts at Fendoch and Drumquhassle (Woolliscroft & Hoffmann 2006) which can also be found in *Britannia* (Hunter 2005: 395-401).

Elsewhere in Britain, Roman military sites in Wales, such as at Llandoverly, have seen some remarkable results through geophysical survey work, much of which has been published in *Britannia* (Burnham 2005: 384-394, Burnham 2006: 372). The forts examined show a wide variety in extramural features, with possible annexes such as at the fort of Bryn y Gefeiliau in the north highland region of Wales (Hopewell 2005: 240) to linear developments at Canovium in north Wales (Hopewell 2005: 245), which in plan appears to be a mirror of the Roman development at Maryport in north west Cumbria. However, once again, despite the excellent work in defining areas of settlement, road layout and ditches, we must remind ourselves that geophysical surveys can tell us little of the periods of settlement or the nature of settlement. Forts that have been identified as possibly having military annexes in the form of adjacent ditched enclosures or other earthworks alone can be misleading without the benefits of excavation, as very often Roman military bases are the location of more than one fort building phase leaving the ground criss-crossed with unrelated ditches as at Vindolanda (Birley R 2009). The survey of the fort at Pen Llystyn, Bryncir (Hopewell 2005: 236) suggests that military bases are often enlarged or reduced to meet the needs of the moment. This can result in a proliferation of ditches, with new extramural sites enclosed in what used to be the interior of a fort, rather than inhabiting a purpose built annexe.

To conclude, while geophysical survey is unlikely to be able to provide firm answers to the questions about the nature and significance of extramural settlement at Roman auxiliary forts on the northern frontier of Roman Britain, the technique does at least indicate that such settlement was often more widespread and more complex than has been previously acknowledged and indicates the topographical variability to be found within extramural areas. For example, the geophysical survey at Birdoswald (Figure 1.11) shows that there is a high concentration of occupational disturbance (interpreted as extramural buildings) immediately adjacent to the east wall of the fort than is apparent from the survey at Carvoran (Figure 1.12). However, the limitations of geophysical surveys have been demonstrated at Birdoswald where the survey only shows a tiny fraction of the features (including the extent of the ditches) to the south of the fort as opposed to those uncovered during the excavations (Wilmott 1997: 10)

1.14 The need for a fresh approach

While research on the extramural settlement of the northern frontier of Roman Britain has moved forward over recent years, thanks in part to the continuing excavations at sites such as Vindolanda (Birley Andrew R. & Blake 2007), Carlisle (forthcoming), and aided by the publication of reports from Manchester (Gregory 2007), Catterick (Wilson 2002) and Ribchester (Buxton & Howard-Davis 2000) the problem remains that the majority of the data that is available on extramural settlement has come from a previous archaeological era. The rates of recovery and recording of the precise contextual information that is needed to fully appreciate the value of material culture did not exist in the early 20th century when a great deal of field work was undertaken and when the conceptual frameworks for the understanding of the northern frontier were being formulated. This is not a criticism of what that has previously been undertaken, but an acknowledgement that rates of archaeological recovery have improved even

though the areas covered by modern archaeological investigation have tended to reduce in size. The increased recovery of material culture has led to larger excavation reports, offering long catalogued artefact lists, but these basic databases are seldom placed into their archaeological contexts, and are more often to be found categorised into various typologies. Cool cautions that if the study of material culture is to take its true place in the archaeological debate, then it needs to be included more prominently, so that excavation reports become more useful than many of them currently are (Cool 2007: 57).

A lack of data from extramural areas has been caused by the archaeological bias towards study of the interiors of forts on the frontier. In comparison to the level of intramural work that has taken place, the small scale of extramural excavations offer fewer genuinely comparable datasets and it may take a considerable time before any site other than Vindolanda on the northern frontier has a large enough surface area excavated to allow more than preliminary comparisons to be drawn. It is hoped that in the future more work will be carried out at sites such as Birdoswald so that studies like those undertaken by Gardner (Gardner 2007: 129) can be extended into extramural contexts.

Ancient sources and epigraphic evidence for extramural settlement and activities remains frustratingly thin, although through the Vindolanda writing tablets we have a new and intimate insight into many aspects of daily life on the frontier, including those that took place beyond the walls of the pre 3rd century Roman forts. Only two extramural buildings contemporary with writing tablets have been found to date, the large bath house on the south side of the fort, and a Romano-Celtic temple to the west of the fort. The bath house is directly mentioned in the tablets (chapter 2, section 2.4). It can only be hoped that continued research, particularly in the form of excavation, will recover more texts and inscriptions on stone and wood, and help towards improving our understanding of the military community.

Geophysical exploration of military sites has enlarged our archaeological horizons, showing it is probable that extramural settlement far exceeded the intramural areas traditionally thought of as defining Roman military settlement. While this is a welcome breakthrough, geophysics alone cannot answer some of the most basic questions about life on the frontier. Those such as Sommer who advocate geophysics as the most important breakthrough in extramural studies in modern times (Sommer 2006: 104) need to keep in perspective the fact that geophysics offers no answers to the most basic of questions; who were the occupiers of buildings/structures identified as anomalies, when were they occupied and what they were used for? Sommer does however advocate geophysics as being useful in defining areas of potential settlement and in helping archaeologists to decide where best to excavate in an attempt to answer relevant questions. It may be that zoning within extramural settlements took place, and that certain areas of settlements were subject to different legal jurisdictions than others. A basic model of potential zoning at Vindolanda based on suggested building use, such as residential, industrial, recreational, retail, does suggest a carefully a planned settlement (Birley 2007: 4) but attempts at discerning 'zoning' are hampered as they are seldom sophisticated enough take into account how the use of those spaces may have changed through time.

The categorization of extramural settlement as being 'civil' remains a lasting prejudice and the use of this term must now be critically re-examined, especially in the light of the data presented by this study. The terms of combatant and non-combatant are offered as a non-divisive terminology in an attempt to alleviate preconceptions that the terms of civilian and soldier may historically carry with them. The study and analysis of the distribution and deposition of artefacts from both inside and outside the walls of Roman forts will be considered by adapting and building upon the principles of the methodologies applied by scholars such as Penelope Allison to intramural sites in Germany (Allison 2006). The archaeological contexts of the data presented in this thesis firmly associates artefacts with the structural spaces from which they were recovered. Where large quantities of artefacts were discovered they are shown as a cluster

centred on and around the area of discovery (as in figure 4.7). The approach taken in this thesis advances the study of the spatial distribution of artefacts from military sites on other frontiers as it offers a wider context from which that distribution and deposition might be examined.

When considering the question of the 'great-divide', the fort walls and gates themselves may have constituted a dividing line. Gates may have been guarded by sentries requiring a password or watchwords for entry into the interior of the fort, and the lack of knowledge of this password or watchword, as much as the walls themselves may have been a barrier to free entry. As pointed out by Davies who cites the examples of duty rosters at Dura and the Ancient source of Hyginus, up to 25% of the garrison could be assigned to guard duty details every night. The Dura papyri give details of the guards at the *porta praetoriana* and also at the *porta aquaria* which are mentioned in the guard rosters P. Dura 107 & 110 (Welles *et al* 1959). In the context of an auxiliary fort on the northern frontier, such as Vindolanda, Davies' theory would have meant that between 120 and 150 soldiers would be on guard duty at night (Davies 1989: 54-57). While such high numbers on duty at night would surely only have been required in times of perceived threat or in campaign conditions the need to reply to a watchword or password may nevertheless have been a requirement not only at the fort gates but at any point within the immediate surrounds of a military base. Such a zone of security could have naturally encompassed the extramural settlements immediately adjacent to the fort walls, a view supported by Davies (Davies 1989: 55).

When considering the evidence from artefacts Vindolanda is currently the only northern frontier site with the breadth and range of material culture from both extramural and intramural areas to enable a meaningful comparison to determine whether the fort wall was a 'great-divide' between different members of the military community. The comparator sites of Catterick, Housesteads, South Shields and Birdoswald provide a certain amount of analysis, at a lower resolution, where possible. It was hoped that those comparator sites would have included

Carlisle, but the Carlisle Millennium excavation report is still awaited (forthcoming 2010), and therefore it has not been possible to include a consideration of the recent work at Carlisle into this thesis.

Chapter 2

The Vindolanda dataset

2.1 Introduction

The datasets from the site of Vindolanda are vital for addressing the question of ‘what was the nature and significance of extramural settlement at Roman auxiliary forts on the northern frontier of Roman Britain’. The potential value and strength of the Vindolanda data lies in the fact that it is the largest and most complete dataset of material culture to come from any site on the northern frontier of Roman Britain. This includes a large volume of data from both extramural settlement and intramural occupation of the 3rd and 4th century periods.

To understand the importance of the site of Vindolanda and its material culture to this study it is necessary to indicate the nature of the site, its history, its archaeology, methods of excavation and the depositional processes that have produced the datasets used in this thesis.

The site of Vindolanda lies in south west Northumberland, in the district of Tynedale, more or less half way between the North Sea east of Newcastle and the Irish Sea to the west of Carlisle, and sits just within the boundary of the Northumberland National Park. Vindolanda is a part of the Hadrian’s Wall World Heritage Site and is classified as National Ancient Monument number 28471, centred on the map coordinates of NY 768663. The site is subject to a series of continuing research excavations administered by the Vindolanda Charitable Trust (Charity number 500210), founded in 1970 with the aim of researching the site and making the remains accessible to the general public through the display and interpretation of the monument.

Hadrian’s Wall itself was built on a whinstone ridge a mile to the north of Vindolanda, with the fort of Housesteads two miles to the north-east, and the fort of Great Chesters five miles to the north-west. Vindolanda was constructed on a naturally defensive position, a spur of land above the junction of two small streams.

The name Vindolanda, although probably derived from a Celtic word, was not necessarily a pre-existing native British name. It may have been given to the site by a 'Celtic-speaking' Roman auxiliary unit (Rivet 1980: 1-19). 'Vindolanda' is taken to mean something like 'white/shining meadow/lawn' or 'fair moor' (Rivet & Smith 1979: 502). This suggests that the area was a green-field site, native upland farm land, before the first Roman garrisons arrived. Traces of pre-Roman ploughing and field boundaries have been found beneath the Roman remains on the site, as they have at many places along the line of the Roman frontier in northern Britain, but no traces of a pre-Roman settlement centre have been found beneath the Roman remains so far. An early Roman road, now called the Stanegate, ran just to the north of the site (30m to the north of the 3rd and 4th century forts), once linking the Roman sites of Corbridge (*Coria*) in the east to Carlisle (*Luguvalium*) in the west. The first fort at Vindolanda, built c AD 85 (Birley Andrew R. & Blake 2007: 3) is thought to have been constructed for the purpose of guarding and maintaining the Stanegate road, which effectively marked the limit of the frontier in Roman Britain from c AD 105 to the construction of Hadrian's Wall.

The landscape surrounding Vindolanda would have had a great deal to offer the Roman garrison. The site has a number of powerful fresh ground-water springs, which are resistant to drought conditions. The natural subsoil is boulder clay, ideal for use in the manufacture of building materials, fort ramparts and for pottery and tiles. The adjacent hillsides (shown in figure 2.1) contain mineral resources and have been quarried and mined for iron, coal, lead, sandstone and limestone in both the Roman period and the 18th & 19th centuries. Added to this was the ability to harvest heather and bracken from the hillsides, which was used for a variety of purposes including floor surfaces and fuel. While there is evidence to suggest that the uplands were farmed, and therefore provided the added resource of turf for building ramparts and grazing/fodder for animals, the valleys seem to have been a source of timber and a hunting ground for the soldiers. There are several references in the Vindolanda writing tablets to such hunting activity by the commanding officers of the fort such as in Tab Vindol 233 (Bowman & Thomas 1994: 206-207), Tab Vindol 593 (Bowman & Thomas 2003: 47-48), and Tab Vindol

594 (Bowman & Thomas 2003: 48-52) and Tab Vindol 615 (Bowman & Thomas 2003: 77-78). From the 1st century AD to the end of the Roman settlement at Vindolanda the remains of deer, swans and smaller birds, wild boar and other game are found in large quantities in the animal bone assemblages recovered from excavations on the site (Bennett 2007: 163).

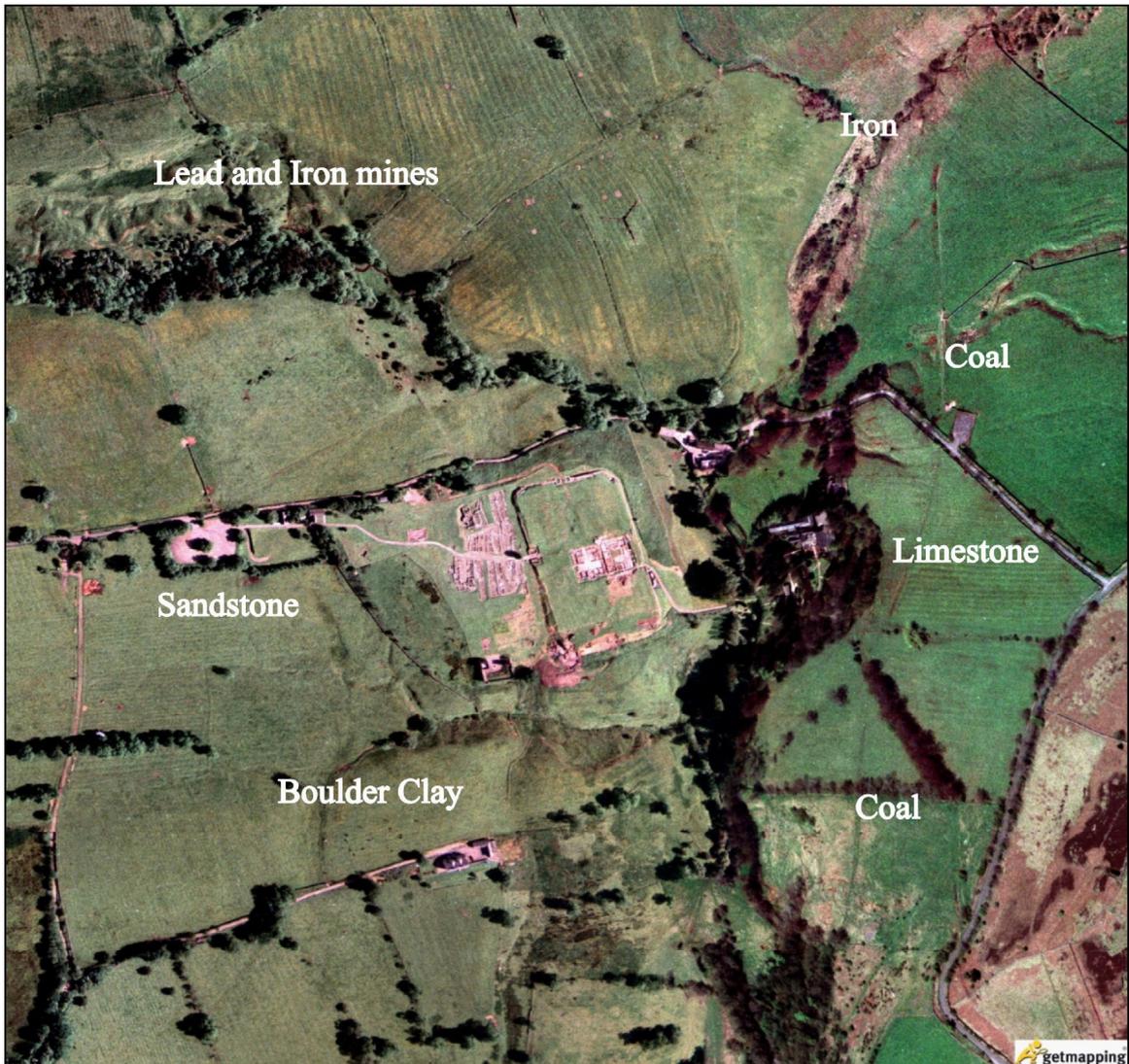


Figure 2.1 An annotated satellite view of Vindolanda taken in 2000, courtesy of Getmapping

The 3rd and 4th century stone remains are clear in the centre of figure 2.1 above as are extensive mine workings to the north and south of the site, and other natural resources are labelled accordingly.

2.2 History of research

The history of research at the site of Vindolanda highlights the importance of the remains and associated material culture datasets to the study of the northern frontier of Roman Britain. It is a history that stretches back to the Elizabethan historian, William Camden, who visited Hadrian's Wall for the first time in 1594, before the 4th edition of his *Britannia* was published (Camden 1594). Camden mentions the remains at Vindolanda, although he was personally unable to inspect them due to the presence of 'rank robbers' or moss troopers, members of the Armstrong family who lived near Vindolanda and controlled strongholds at Housesteads, Grandy's Knowe and Causeway House (300m from the western limit of the site) along the line of the Stanegate road. The following century saw a growth in antiquarian interest in Hadrian's Wall, as people came to inspect the remains, talk to local people about them, and then communicated their experiences to friends either by letter or in a wide variety of publications. One such account was written by Dr Christopher Hunter in 1702, who commented on what we now know are the remains of the Vindolanda 3rd century bath house:

'Some years ago (probably well before 1702) on the west side of this place, about fifty yards from the walls thereof, there was discovered under a heap of rubbish a square room, strongly vaulted above, and paved with large squared stones set in lime, and under this a lower room, whose roof was supported by rows of square pillars of about half a yard high: the upper room had two niches, like (and perhaps in the nature of) chimneys on each side of the every corner or square, which made in all the number 16: the pavement of this room, also its roof, were tinged black with smoak. The stones used in vaulting the upper room have been marked as our joiners do the deals for chambers; those I saw were numbered thus – x, xi, xiii'. (Hunter 1702)

This clearly shows that some buildings in the extramural area, as well as the fort walls, were standing to a great height until relatively recent times. John Warburton, an excise officer, conducted some work on the site in 1715 or 1716, when he discovered an altar and a number of leather shoes, although these finds were not published until after Horsley's *Britannia Romana*

(Horsley 1732). John Horsley included all the inscriptions he could find from the site, although there is little to suggest that he made a personal inspection of the remains.

By the time of the publication of Warburton's *Vallum Romanum* in 1753, farming had been well re-established in the area due to more peaceful conditions created by the Union of the Crowns in 1603 and the later Act of Union in 1707. There is evidence of a great deal of disturbance from stone robbing, ploughing and drainage work being undertaken as a consequence (Birley Andrew R. & Blake 2007: 97-99). The plan in figure 2.2 shows how the land surrounding the site was divided into various small holdings. This farming activity further disturbed the remains of the last periods of settlement of the site, and many of the large foundation stones in extramural areas show the scars of ploughing (Birley Andrew R. & Blake 2005:1-3). To the west of the site of the bath house the land is criss-crossed by 18th and 19th century field drains. Despite this, Vindolanda's relatively rural location on the old Stanegate road did save it from the destruction visited onto many other sites along the line of Hadrian's Wall. An Act of Parliament in the 1750's led to the construction of a new road (much of it along the line of the Wall itself) between Newcastle and Carlisle in response to the 1745 Jacobite rebellion. In 1769 John Wallis, the first of Northumberland's historians, published his *History of Northumberland*, and in that volume recorded that 'some time ago' at Vindolanda, a group of masons had spent time demolishing the remains of an ornate temple which he believed had been dedicated to the goddess Diana. He also recorded that a tenant of nearby Archy's Flat, Hugh Ridley, had reported the frequent discovery of cremation urns on his land on the north side of the Stanegate road (Wallis 1769:27). The position of Archy's Flat in relation to the fort at Vindolanda is shown in figure 2.2.

Notwithstanding the attention that had been paid to the remains before the 19th century, relatively little was known about the history of site. This started to change when it came into the ownership of Anthony Hedley in 1814 (Birley 1995). Hedley spent some years researching and excavating the remains at Vindolanda, and building the house of Chesterholm as a home for his family (Birley 1936: 152-169). Hedley saved much of the site from the ravages of farm

labourers, most notably the tombstone of Cornelius Victor (RIB 1713), which had been re-used as part of the fort wall. He unfortunately failed to preserve a flight of stone steps leading from the east gate of the fort to the stream some 50 metres away, which was being removed, stone by stone, and no trace of this stair remains today (Hedley 1822: 208). In 1831 he started his own excavations, which included the north, east and west gates of the stone fort, the northern half of the late 4th century layers of the *praetorium*, and at other locations unknown to modern scholars. His principal discoveries included three stone altars from the courtyard of the *praetorium* (RIB 1685, 1686 & 1687). Hedley's death in 1835 saw the loss of his papers and notes, together with his collection of material culture such as pottery, coins and other artefacts. Fortunately his friendship with the Northumberland historian John Hodgson has resulted in the survival of some of his correspondence, together with Hodgson's own notes and plans of Hedley's work on the *praetorium* site, summarised in Hodgson (Hodgson 1840, 196).

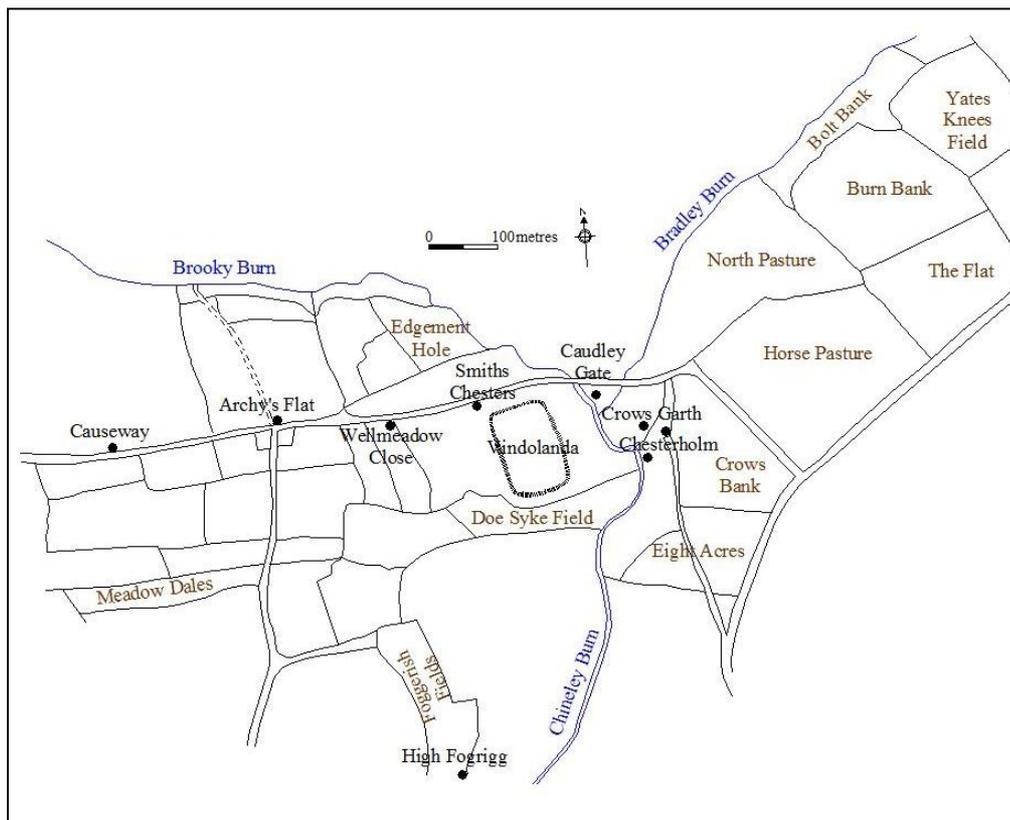


Figure 2.2 Courtesy of Robin Birley, showing the site of Vindolanda as it was in the 19th century, and the surrounding small holdings and field names taken from a Clayton Estate map.

In 1863 John Clayton of Chesters (near Chollerford) acquired the Hedley estate, which included the Vindolanda fort and hinterland, and he incorporated it into his own expanding Hadrian's Wall estate. Rather than signalling the next phase of major research on the site, the John Clayton years, 1863-1890, can be seen as a period of consolidation and protection for the majority of the remains. Clayton transported the altars and sculptured stones found by Hedley from Chesterholm to his mansion at Chesters, and he embarked on refurbishing the houses on the Chesterholm estate. This included putting in field drains and repairing the Stanegate road. During the course of these operations a 5th or 6th century Christian tombstone with the *Hic Iacit* formula was brought down from the site for renovation work at Chesterholm and was subsequently identified and read by Collingwood Bruce and Robert Blair, the Secretary of the Society of Antiquaries (Collingwood & Wright 1965: 541).

The great John Clayton estate survived virtually intact until 1929. In 1914 further drainage work was undertaken at the west end of the site, known then simply as the 'camp field'. A labourer found the *Vicani Vindolandesses* altar (RIB 1700) during the course of this work (see chapter 1 page 18). This was a hugely significant discovery for it confirmed that the name of the site was Vindolanda, rather than the *Vindolana* of the *Notitia Dignitatum* (Hassall 2004: 186). The inscription, dedicated to the god Vulcan, is almost certainly dated to the 3rd century and it had been commissioned on behalf of the occupants by someone whose name has not survived. As previously discussed, Vindolanda is situated within an area that is rich in mineral resources. Excavations have shown that the Romans were heavily involved in the exploitation of those resources, with the discovery of numerous workshops on the site (Birley Andrew R. & Blake 2005: 74).

In 1929 the Clayton estate was finally broken up and an Oxford Classics graduate, Eric Birley, bought Codley Gate farm and the Chesterholm part of the estate. Eric Birley had initially come to the north from Manchester, where his family was based, to join Gerald Simpson's excavations at Birdoswald (Wilmott 2001: 15). He decided that it was essential to acquire his own Roman fort in order to conduct a long term research project. Eric Birley was appointed

lecturer at Armstrong College, Newcastle (then a part of the University of Durham) in 1931, and in 1935 he transferred to Durham. After the Second World War he became professor of Romano-British History and Archaeology until his retirement in 1971. Eric Birley moved into Chesterholm in 1930, and the family remained there until 1950 when the property was sold. During this time, in 1938, with the immediate threat of war looming, the remains of the fort, but not the extramural areas, were placed in the guardianship of the Secretary of State so that they could be protected from any further damage, by agriculture in particular. The decision to leave out all areas of extramural settlement from Guardianship protection inadvertently reflected the lack of attention/status that extramural settlement was receiving from scholars at the time.

Eric Birley's first excavations took place in 1930, when he re-examined the north, west and eastern gateways and a stretch of the north eastern wall of the fort. Later, in 1934, he discovered the first of the so far unexplained circular huts on either side of the north wall of the fort (Birley 1937). In 1934 Birley and Ian Richmond jointly undertook the excavation of the *principia*, showing that there were two buildings of that type on the same site (Birley & Richmond *et al* 1936: 218-257). The finds from these excavations were stored in the Housesteads 'Museum' during the war and many went missing (perhaps stolen), others eventually found their way to the Museum of Antiquaries in Newcastle, such as the fragment of a carving depicting a sun god from the earlier *principia*. An interim excavation report was offered in *Archaeologia Aeliana* (Birley & Richmond *et al* 1935: 218-257), but the full report including all of the material culture never saw publication due to the demands of the impending war. The physical remains were left open for later consolidation, which took place between 1941 and 1942 under the auspices of the Ministry of Works. All of the artefacts from these excavations, whether published or not, were dispersed between the homes of antiquarians, farmers, various museums and University departments.

In 1959 Robin Birley excavated three extramural structures, in Huntercrook land adjacent to the 'camp field', and between 1967 and 1969 small amounts of work took place outside the western walls of the stone fort (Birley R.E. 1970: 79-156). This work generated a large amount of

interest and in 1970, with the generous donation of the camp field by Daphne Archibald (who had successfully purchased the land from the local farmer, Thomas Harding) the fledgling Vindolanda Trust was founded (Birley A.R. 2002: 15). From this point onwards, the material culture from the excavations at Vindolanda began to be comprehensively catalogued and developed into the Vindolanda Trust's documentation and collection database into which all future material culture has been integrated.

The early years of the Vindolanda Trust's excavations were concerned with the extramural part of the site, starting with the examination of the 3rd century bath house in 1970. What followed in the next five years was a systematic uncovering of both sides of the main street leading to the west gate of the fort, and all of the top layers of the extramural buildings between the 3rd century bath house and the western fort wall were excavated between 1974-1976 (Birley R.E. 1976). The dating of these levels must now be regarded as being in the second half of the 3rd century. The plan, in chapter 3, figure 3.4, illustrates the different areas of site under excavation at this time. The attention to the extramural parts of the 3rd century site was disrupted in 1973 by the discovery of the deeply buried pre-Hadrianic structures outside the south west corner of the stone fort (Birley 1994: 1). The discovery of the pre-Hadrianic forts significantly changed the emphasis of the excavations on the site, and for the following ten years large scale excavation of the earlier deposits became the primary focus of the work, which was later published by the Vindolanda Trust in the 1990's (Birley E & Birley R.E. *et al* 1993-4). During the course of this work an impressive archive of written material was recovered from the site. This archive was in the form of ink writing tablets, and wax stylus tablets, although the ink tablets proved to be the more illuminating of the two (Bowman & Thomas 1983). Writing tablets are still being found in the early deposits on the site (Birley Andrew R. & Blake 2005: 82), and now number over 1600.

In 1980 Paul Bidwell conducted excavation of the northern half of a barrack block in the north eastern corner of the stone fort (Bidwell 1985), as seen in chapter 5, and further intramural work was not restarted until the spring of 1997 when the modern excavation of the *praetorium* started (Birley R.E. & Birley Andrew R. *et al* 1998). This work was completed in the following year (

Birley R.E. & Birley Andrew R. *et al* 1999) and in 1999 and 2000 the southern defences of the period VII+ fort were uncovered (Birley Andrew R. & Blake 2000), which included numerous small structures on the rampart mounds, clay ovens and a toilet block on the south eastern corner of the fort. During the course of the excavations in 2000, a pre-Hadrianic bath house was discovered outside of the southern defences of the 3rd and 4th century fort wall. This was excavated and consolidated for display, as were a number of robust extramural buildings outside the south gate of the 3rd. and 4th century fort.

In 2001 extramural excavations continued in sites XXXIV/XXXV (Birley Andrew R. 2003) and on a small Romano-Celtic temple to the north of the wells and water tanks (Blake 2003) (see section 2.7). 2002-2004 saw further work being undertaken on the southern and western parts of the extramural areas of the site, uncovering industrial buildings and roadways, temples and shrines to the west of the site, and two large courtyard buildings in the southern extramural area (Birley Andrew R. & Blake 2005). 2005/2006 and 2007 saw the continuation of extramural excavations to the western edge of the site where more industrial buildings, wells and shrines were uncovered (Birley Andrew R. & Blake 2007). At the same time, a re-examination of the work carried out on the buildings between the 3rd century bath house and the fort wall was undertaken, showing that there had been more than one distinctive period of settlement in the 3rd century at this part of the site (Birley Andrew R. & Blake 2007 & Birley Andrew R. & Blake 2010 - forthcoming), and that the first stone fort on the site known as period VI, had extended to the north of the later stone fort of period VII. 2005-2006 also saw work undertaken and completed to uncover and explore the last section of fort wall from period VII+, south of the west gate. This excavation provided evidence for late building on the site of the fort ramparts, in the 4th and 5th centuries, as well as unearthing a toilet block on the south western corner of the stone fort (Birley Andrew R. & Blake 2007: 31-36). The exit drain from this toilet, refurbished at the start of the 4th century, possibly using robbed extramural stones, included an important inscription by the *Cives Galli* to the goddess *Gallia* in concord with the (*cives*) *Britanni* (Birley A.R. 2007: 104-112). It is possible that this could have been robbed from a temple complex

identified in the western part of the extramural area. The excavations of 2009 proved that temples were not necessarily confined to extramural contexts, when a temple to Jupiter Dolichenus, complete with altars and *Aedicula* was found built into the northern rampart mound of the 3rd and 4th century stone fort (Birley A.R. & Birley Andrew R 2010: forthcoming).

In 2008 the two massive granaries/stores buildings to the west of the *principia* were excavated, along with the roadways around them, and a start was made on the examination of what should be barracks to the north of them. A report on this work will not be published until the analysis of the environmental remains has been completed, hopefully at the beginning of 2010, but some specialists, including Richard Brickstock on the coins, have submitted their interim reports, and this information will be used in this thesis.

2.3 Vindolanda's history of occupation:

The work that has been undertaken on the site has enabled archaeologists to recreate a history of the settlement and it is now believed that there were no less than nine Roman forts at the site (Birley Andrew R. & Blake 2007: 3-4). The nine forts were not the same size or shape: some parts of the site were covered by all nine periods of fort construction, and others were only intermittently part of intramural areas of the site. New levels of fort construction were superimposed over the demolished remains of earlier forts. Demolished fort remains were sealed with layers of turf and clay before new construction took place, often over half a metre in depth and covering the entire site including former roadways and fort defences (Birley R.E. 1977: 103).

In most cases this style of site preparation made the post depositional movement of artefacts, by human or animal intervention, from one layer to another, less probable. Such a movement is only likely to have occurred where deep foundation trenches or ditches were being dug, which would result in material deposited in earlier occupation to be re-deposited into higher contexts. The site plans shown in section 2.5 show the location of the various fort defences, and it is in

these areas where the movement of artefacts, through human intervention, from one period of occupation or context to another, would have been more likely to occur.

By the end of the 4th century some parts of the site had risen above the pre-Roman landscape by more than 6m, and by doing so had created either anaerobic or waterlogged conditions, in which almost all organic/inorganic objects could survive (Birley R.E. 1977: 134). The fort and associated extramural settlement of the 3rd and 4th centuries, which are of particular relevance to this study, represented the last major construction project on the site and they were not completely sealed by new layers of construction. Here the patterns of deposition are more open to different processes, including disturbance by stone robbers involved in quarrying activities and by later agricultural practices. This has created a layer of unstratified material across the site, covering the last remains of occupation, to varying depths in different areas. Over the remains of the 3rd century extramural settlement, some 20-30cms of soil represents the plough zone, and all of the artefacts that were recovered in this zone have been omitted from this study. Inside the fort, which continued in occupation beyond the end of Roman Britain, a similar layer of de-contextualised soil and associated artefacts has been excavated and again the datasets from these levels has been deliberately omitted from this study.

It remains a possibility that some of the material in extramural contexts was placed or dumped there by intramural inhabitants of 4th century or later date, while stone robbing for their own buildings. However, the lack of 4th century pottery and coinage, even in the plough zone of the extramural settlement would suggest that the 4th century inhabitants did not venture far beyond the walls of the fort, or the ditches to deposit their waste.

The following table lists all of the nine periods of fort construction and other periods of identified settlement, including the size of forts, and dates and garrisons (if known).

Period of settlement	Size of fort	Date	Garrisons if known
I	3 acres – 1.214 hectares	c AD 85-95	Coh I Tungrorum
II	5 acres – 2.2 hectares	c AD 95-100	Coh VIII Batavorum
III	5 acres – 2.2 hectares	AD 100-105	Coh VIII Batavorum
IV	8 acres – 3.24 hectares	AD 105-120	Coh I Tungrorum Vardulli cavalry + Legionaries
V	5 acres – 2.2 hectares	c AD 120-130	Coh I Tungrorum
VI	3.6acres – 1.45hectares	c AD 130-160's	Possibly Coh II Nerviorum
VIA	4 acres – 1.17hectares	c AD 160-200	Unknown – Possibly North African in origin or Coh II Nerviorum
VIB	1.5acres – 0.61hectares	c AD 208-211	Unknown
VII	3.6acres – 1.45hectares	c AD 212-280	Coh IV Gallorum
VIII	3.6acres – 1.45hectares	c AD 300-367	Coh IV Gallorum
IX	3.6acres- 1.45hectares	AD 367-410	Unknown –Riacus
X	3.6acres- 1.45hectares	c AD 410-600	Unknown – <i>Brigomaglos</i> and <i>Riacus</i> only known occupants

Figure 2.3 Showing the periods of settlement at Vindolanda and the known garrisons and fort sizes.

Unfortunately little is known about the size of extramural settlement outside the gates of most of the forts at Vindolanda apart from the 3rd century remains, which are dominated by period VII, c AD 212-300, which is the main focus period of this study. In this phase the size of the fort was substantially less than the area covered by extramural buildings. The latter exceeded an area of

10 acres, giving an estimated coverage of 13-14 acres combined in the 3rd century. A similar pattern can be observed at many sites on the northern frontier of Roman Britain, with geophysical and archaeological evidence from Housesteads (Biggins & Taylor 2004: 52-60), Birdoswald (Biggins & Taylor 2004: 159-178), Castlesteads (Biggins & Taylor 2007: 15-30) and others suggesting at least a doubling of the fort size for the area covered by extramural settlement. In the case of Vindolanda, and its larger timber forts, it would not be unreasonable to suggest that the total area covered by the site in period IV, cAD105-122 could have exceeded 24 acres.

From period VIII onwards it appears that settlement on the site was concentrated within the walls of the last fort. The extramural settlement that has been extensively explored outside the west gate of the fort (section 2.5) is thought to have been abandoned by c AD 280 (Birley R.E. 2009: 162-168). The evidence for abandonment comes from both a lack of coinage, post c AD 280, and of later pottery types from this part of the site while both continue within the walls of the adjacent fort. Repairs that were undertaken to stabilize fort walls in the late 3rd and 4th centuries at Vindolanda show that many extramural building stones were reused in these projects (Birley Andrew R. & Blake 2007: 47). Such robbing activity may well have had an impact on the distribution of some of the material culture from within the buildings being demolished at this time. This has to be taken into account on any discussion regarding the patterning of material culture on the site. It is likely that the extramural buildings closest to the west wall of the fort, and therefore readily accessible, suffered from demolition for reuse in the fort defences. It is possible that small and limited extramural settlement, dating from the 4th century, may have existed further away from the gates of the fort but if this was the case it has yet to be discovered.

While buildings were abandoned, perhaps even purposely demolished, the roadways leading to and from the fort gates were maintained and in parts resurfaced while the fort remained in use. The military bath house may have been functioning into the 4th century, and it remained at least partially complete for many years after that, perhaps used for other purposes.

Post-Roman settlement has been recorded wherever excavation has taken place inside the fort, especially during the 1997-1998 excavations of the *praetorium* (Birley R.E. & Birley Andrew R. *et al* 1999) and the 1999-2000 (Blake 2001), 2005-2006 (Birley Andrew R. & Blake 2007: 48-51) the excavations of the southern and western fort defences.

Excavation work in 2008 on the site of the Vindolanda fort granaries provided substantial evidence for post Roman settlement from both the buildings and material culture, although the true nature of this settlement was unclear. It could be that a warrior war band occupied the site in the 5th century, a scenario that has been suggested for nearby Birdoswald by Wilmott (Wilmott 2001: 129-140), or the site may have been inhabited by an early monastic community. The finding of an important tombstone outside the remains of the north gate of the last fort at Vindolanda would perhaps substantiate either claim. The tombstone, dated to some-time between c AD 450-550 was dedicated to the memory of a man named Brigomaglos, who was a Christian, and whose name can be roughly translated to mean ‘big chief’ (Jackson 1982: 61-5). At this stage there are suggestions that at least part of the fort site had been cleared away to make room for farming or gardens (the north-east quadrant), with evidence of ploughing having taken place. Such an activity would clearly have the ability to influence the spread of material culture from this part of the site perhaps moving smaller and more portable objects in particular from the higher 4th century deposits. It is for this reason that unstratified artefacts have been discounted from the plots in this study in an effort to minimise the impact of post depositional practices such as ploughing and gardening.

From the end of the 9th century to the beginning of the 17th century there is little evidence of direct human settlement, or farming, at the site. Vindolanda was described as ‘the bower’ (Wallis 1769: 27) as it was completely covered by trees. The recovery of a few Anglo-Saxon artefacts such as brooches and strap ends marks the end of our knowledge of the site at this time. It was not until the 17th century that crofters came to populate and farm the area. The countryside surrounding the site remained sparsely populated in medieval times with the

majority of the local population concentrated to the south of the river Tyne some two miles to the south of the site. An early medieval village and manor, Bradley Hall, had been constructed a mile and a half to the north of the site and it is possible that the occupants of this settlement robbed Vindolanda of stone and perhaps even farmed some of the nearby land, although Housesteads was closer and perhaps more accessible for stone robbing than Vindolanda. The Stanegate road remained the main east/west highway in the area until the construction of the Military Road, which was open by 1758. Those travellers who were brave enough to travel in an otherwise lawless area would have had to pass the overgrown remains of the site at Vindolanda (Warburton 1753).

2.4 The Vindolanda writing tablets

The Vindolanda writing tablets are a unique source of information about the daily lives of a Roman garrison on the Northern Frontier in the pre-archaeologically visible extramural settlement phases. The tablets are relevant to this study but it must be acknowledged that there may have been differences between the earlier and later extramural settlements making a direct comparison difficult. The tablets are primarily the work of combatants and are concerned with army routine, and there is important information amongst them relevant to both intramural and extramural activities and structures. The writing tablets give tantalising glimpses into the workings of the military community as a whole, both inside and out of the confines of the timber forts, such as at shrines, in the woods, mining, building bath houses, cottages and guest houses all of which were extramural activities. With one exception, the tablets were found within the confines of the five timber forts at Vindolanda, dating between c AD 85-130, and the majority were associated with the residence of prefects of the Ninth Cohort of Batavians (Birley R.E. 1994: 57).

The first publication of the writing tablets by Bowman and Thomas, *Vindolanda: The Latin Writing-tablets* (Bowman & Thomas 1983), came too late for previous major works on the

subject by Salway (1965) and Sommer (1984) and others to comment on them. The majority of references to extramural activity are within later volumes by Bowman and Thomas, published in 1994 (*Tabulae Vindolandenses II*) and 2003 (*Tabulae Vindolandenses III*) respectively, and so the wealth of information that they hold is only now beginning to be digested properly.

This section will concentrate on the information that the tablets reveal about the various different types of traders and goods that were available at the fort, and the information that the tablets give on the ‘outside’ building projects by the garrison that are likely but not proven except in one case to have been in the extramural settlement. The tablets also identify the presence of women, children, and slaves inside the walls of the fort, which has been corroborated by the discovery of female and childrens footwear from the intramural settlement (Driel-Murray 1999). I shall refer to the tablets by number, **180** etc, as listed in the three Vindolanda Writing tablet volumes ‘*Tabulae Vindolandenses*’ by Bowman and Thomas, which I will refer to as *Tab. Vindol. I* (Bowman & Thomas 1983), *Tab. Vindol. II* (Bowman & Thomas 1994) and *Tab. Vindol. III* accordingly (Bowman & Thomas 2003).

2.4.1 Military supply to those who worked in extramural areas

180 (*Tab. Vindol. II*: 121-128, lines 9-10 and 27) An account for the distribution of wheat that includes:

- 1.9 *bubulcaris in siluam m(odii) viii*
item Amabili ad fanum m(odii) iii
.....
- 1.27 *Lucconi ad porcos.....*
To the oxherds at the wood, 8 modii
likewise to Amabilis at the shrine, 3 modii
To Lucco, in charge of the pigs

This tablet gives a good indication about the range of activities that were taking place surrounding the fort, and suggests that these were either being carried out directly by the army or on behalf of the garrison by people who were receiving military rations of grain (which was being supplied by a non-combatant contractor, who was also a man from overseas, see figure 2.5). ‘Amabilis at the shrine’ might suggest direct military control of sacred sanctuaries and sites in extramural areas, or at the very least, army sponsorship for such sites. However, the recent discovery of a shrine inside the walls of the 3rd century fort at Vindolanda (Birley A & Birley A R forthcoming) means that this was not always the case. Whether Lucco was a non-combatant, a contractor or a combatant, he was being issued rations by the army, and as such could be regarded as having been a member of the military community. Lucco is not alone as being named as in charge of the pigs: in 183 (Tab Vindol II: 134-135) Candidus also gets a mention in a similar type of document

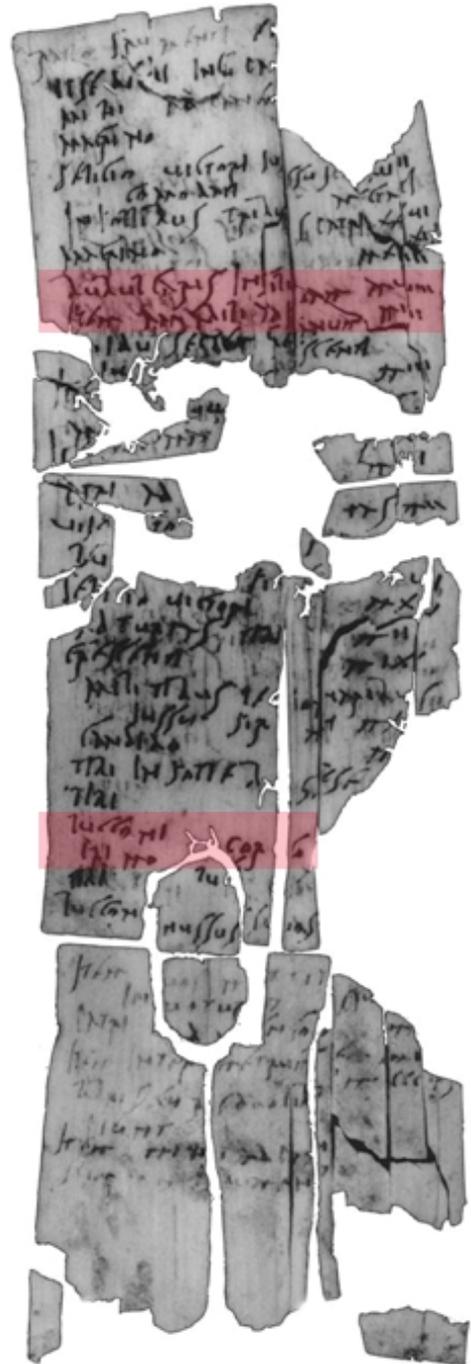


Figure 2.4 tablet 180, which includes the oxherds, Amabilis at the temple and Lucco in charge of the pigs (highlighted in red). Photographed by the British Museum and reproduced from the Vindolanda Trusts writing tablet archive.

2.4.2 The Vindolanda trading community

Several Vindolanda tablets make mention of goods readily available that cannot have been transported great distances, and must have been locally produced and purchased for the benefit of the garrison. Both combatants and non-combatants may have been in a position to trade with people who lived inside the fort. Whittaker, argues that the distinction is hard to make; ‘The alternatives, soldier or civilian, have been badly posed’. Instead of “or” we should say “and” (Whittaker 2004: 90). However, ‘soldier or civilian’ is a relevant issue, as the status of those who lived and worked in extramural areas does have the potential to shed light upon the make-up of the military community as a whole.

182 (Tab Vindol II: 131-134, line 14) An account of money owed which includes *Atrectus ceruesar(ius)*, Atrectus the brewer. Bowman and Thomas take this to be a compilation of accounts between civilians and soldiers, but other writing tablets, notably **628** (Tab Vindol III: 84-86), a demand for beer, remind us that beer was regarded by the soldiers as a military necessity rather than a luxury, making Atrectus the brewer (whatever his actual status) a highly valued military asset. The brewery must surely have been an extramural feature, although possibly no more than a shed.

Brewers are once again noted in **581** (Tab Vindol III: 23-34) in a domestic account from the period 3 Vindolanda *praetorium* AD 102-105. This document is a lengthy list of goods being accounted for in the commanding officer’s household over a period of several years and it mentions *ceruesario* ‘the brewer’ several times (lines 6,17, of 4), indicating the presence of a brewery somewhere nearby. More importantly, the tablet refers to a long list of goods that must have been locally available to the commanding officer’s household, and would be expected to be fairly fresh. These items include chickens and geese. **302** (Tab Vindol II: 278-280) referred to the purchase of apples, cheese, fish sauce, olives and beans as well as chickens and eggs. The merchants or entrepreneurs that supplied the forts such as Vindolanda on the Roman Frontiers had access to a large array of goods, and it could be argued that the shopping list in tablet **302** is

for a person going to the local market, possibly outside the gates of the fort, or to a nearby town such as Corbridge.

The presence of a tailor at Vindolanda in **607** (Tab Vindol III: 68-69)

vi K(alendas) Augustas emptum per Taurinum acia f (denarii) (quadrantem) (assem i)

ex eo

.....

sagaciam Auentini cimussa

refectum et cons[

uentralem Lucani [

alicla Crescentis. cor[

.[

.....

27 July, Purchased through

Taurinus, a length of yarn (?), for *denarii* ¼ (?), 1 *as*

From this the cloak of Auentinus was repaired with

a hem (?)

.....

Repaired and stitched together (?)....

the money-belt of Lucanus.....

the shirt of Crescens.....

Several combatants at Vindolanda have the name of Crescens. It could be that the unknown tailor was based nearby, if not inside the fort itself. Crescens may have been a slave, a provincial tradesman or a combatant. The tablet itself came from the period 3 bonfire site (c AD 104) outside the commanding officer's residence, where so many documents associated with the

working of the household were found. It is possible that a household servant or slave made the list.

Tablet **344** (Tab Vindol II: 329-344) is one of the better-known documents from the site of Vindolanda, and is a petition from a ‘man from overseas’, that could be the plea from the merchant writing in Tab Vindol 180, as this tablet is on the back of Tab Vindol 180, discussed on page 92. He had been beaten with rods until bleeding, and had pleaded for mercy on two points: the first was that he was innocent of the crime (a understandable view), the second that he was ‘a man from overseas’. This implies that it was acceptable to beat the locals, or ‘*Brittunculi*’ **164** (Tab Vindol II: 107) but not ‘proper’ men from the continent.

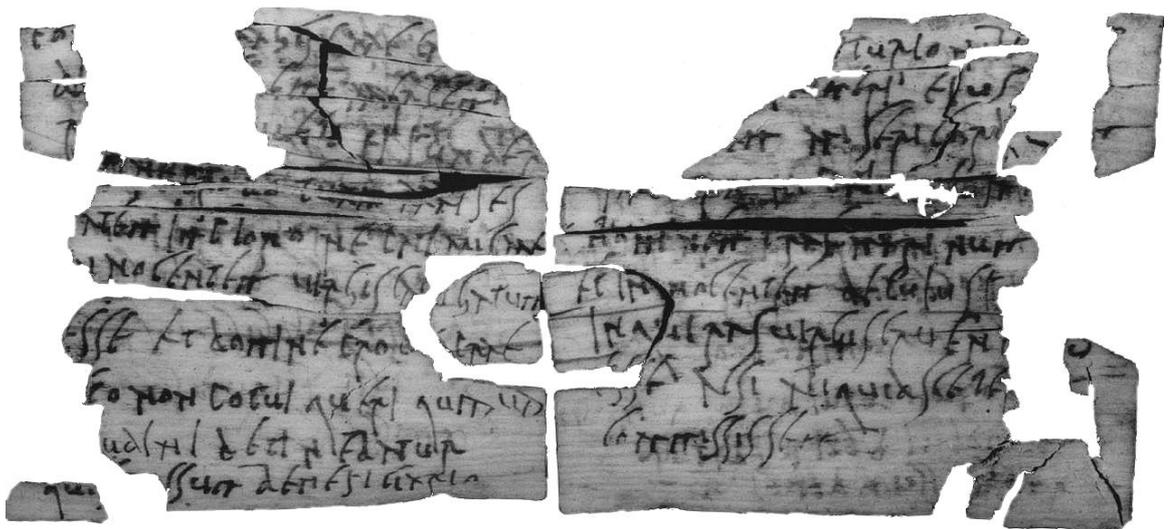


Figure 2.5 tablet 344, a man from overseas. Photographed by the Allison Rutherford and reproduced from the Vindolanda Trust’s writing tablet archive.

Little in the way of direct references was made in the writing tablets to the native population of the surrounding area interacting with the military community at Vindolanda. One exception is tablet **649** (Tab. Vindol. III: 106-109) which is a military diptych dealing with supplies of grain to the second timber fort at Vindolanda c AD 90. In this tablet the wagons of the ‘*Brittones*’ are being used to convey the grain to the fort, and they are charging the Tungrians a transportation fee. It would appear that the Roman army was not averse to using civilian contractors when it

suiting their needs. The largest writing tablet to come from the site, **343** (*Tab. Vindol. II: 321-329*), is from the period 4-fort cAD105-120 and could also be from a merchant, sending supplies to Vindolanda, raising the possibility of continuing use of civilian contractors. But it has to be noted that the status of Octavius in **343** remains unclear and it is a possibility that Octavius could be the quartermaster for the fort, or even a centurion engaging in private trade. **213** (*Tab. Vindol. II: 187-188*) also mentioned the purchase of barley as ‘commercial goods’. This is a letter between two men who were probably “non-commissioned officers”, Curtius Super and Cassius Saecularis, and clearly shows that Roman army officials were engaged in commercial trade. Whether this commerce was free trade or compulsory purchase on behalf of the state is unknown.

2.4.3 Veterans and the collection of money owed

It is possible that a number of veterans remained attached to units and travelled with them from posting to posting, perhaps residing in extramural areas, or inside the fort itself. **187** (*Tab. Vindol. II: 149-150*) Supplies us with the name of *Ingenuus*, described as a veteran. Another possible veteran, is mentioned in **593**, although Bowman and Thomas would prefer the person to be named as ‘Veteranus’ rather than him being an actual veteran and this may refer to a man who is left behind with a set of hunting nets when the garrison moves (*Tab. Vindol. III: 47-48*). It could be that this veteran with the hunting nets is the same man being entertained in the commanding officer’s household in **581** (*Tab. Vindol. III: 27-34, line 22*), when the commanding officer holds a dinner party for veterans. If the Ninth Cohort of Batavians left behind a veteran, he was probably residing in a house outside the fort at Vindolanda, as the departing garrison demolished the military base. This was then to be replaced by a new fort less than a year later, inhabited by a different unit, the First Cohort of Tungrians (Birley A.R. 2002: 41).

178 (*Tab. Vindol. II: 120-121*) The revenues of the fort:

Reditus castelli

vi K(alendas) Aug(ustas) (denarii) xxxvi s(emis)

v K(alendas) Aug(ustas) (denarii) xxvii

iiii K(alendas) Aug(ustas) (denarii) [

iii K(alendas) Aug(ustas) (denarii) v[

pr(idie) K(alendas) Aug(ustas) (denarii) xv [

summa (denarii) Ix[



Figure 2.6 tablet 178, an infra-red photograph of 'the revenues of the fort', a much abraded tablet from period III c AD 100-105. Re-produced here courtesy of the Vindolanda Trust writing tablet archive.

'Revenues of the fort:

27th July, denarii 36.5

28th July, denarii 27

29th July, denarii ..

30th July, denarii 5+

31st July, denarii 15+

total, denarii 80+'

This tablet suggests that the garrison is making money or lending money, and as such had an outside income, and a obvious source for this income may have been the rent from extramural properties. The Kalends of a month was important for accounting and legal reasons as shown in Digest 12.1.40, which refers to the fact that 'at the end of the first month, interest on the first

payments began to run'. This document could then conceivably be an account of interest payments or rent.

Perhaps the most sensible place for obtaining an extra income would be from an extramural settlement. It is quite possible that the plots of land and the buildings on them could have been leased out to *vicani*, or soldiers who had outside business interests they wished to pursue. It is perhaps premature to discount business ventures in extramural areas as being a lucrative sideline for soldiers of a garrison or veterans rather than assuming they are the sole preserve of 'civilian' traders. It could be argued that the temporary nature of garrisons at any one place would make it undesirable for a member of a military community or garrison to wish to lease land on a long term (next to their fort), and they would not perhaps consider an extramural settlement as a permanent home. However, a medium term lease may have been more acceptable. Could the threshing floor 'excussorium' referred to in the Octavius letter **343** (*Tab. Vindol. II: 321-329*) written from Vindolanda be a rented facility from the garrison? Octavius is clearly in the midst of a cash flow crisis when writing **343**, asking for 'money that is owed to be sent to him'. Perhaps he is one of the men whose rent is due in tablet **178** (*Tab. Vindol. II: 120-121*).

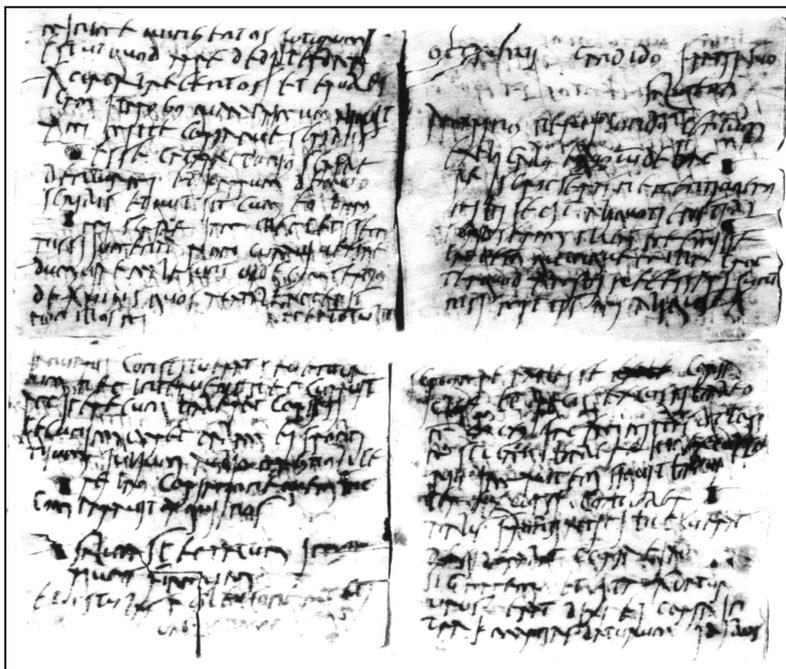


Figure 2.7 tablet **343**, the Octavius letter. This is the longest letter to have been recovered from the site, and it includes details of money transactions, as well as derogatory comments about the state of the local roads. Re-produced courtesy of the Vindolanda Trust writing tablet archive.

This situation may have changed in the 3rd century, once fort garrisons became more static and land leasing by people in extramural areas may have been considered a more sustainable and desirable option. Legionary fortresses are known to have had a *territorium*, or area beyond the gates that was set aside for their own use (Sommer 1984: 13), and auxiliary forts seem to have been no exception to this, as proven by the inscription in RIB 1049 from Chester-le-Street, where the cavalry regiment refers to the building of a bath house on their ‘domain-land’ in the beginning of the 3rd century (Collingwood & Wright 1965: 349).

It is then quite possible that the ability of the people to lease land from the military *territorium* outside the walls of a fort may have been a significant factor in the development of centres such as Corbridge in Northumberland and Carlisle in Cumbria, or at the site of Brough-on-Humber in Yorkshire (the settlement at Brough-on-Humber seems to have started out as an extramural area, but developed further as a result of the early abandonment of the nearby fort, Salway 1981: 187), opposed to the majority of extramural areas where such land purchases were perhaps more difficult. It is likely that in most cases it was not possible to purchase land from a military base’s *territorium*, resulting in a lack of land ownership. This may be one of the principal differences between military extramural settlement and those that can truly be regarded as civilian governed settlements, and needs to be further explored if and when more evidence becomes available.

2.4.4 Vindolanda tablet evidence for buildings in the extramural area

A number of documents refer to building projects that were initiated by the garrisons at Vindolanda. These projects are concerned with structures that could be regarded as the linchpins in extramural zones outside forts. Three tablets directly refer to the large pre-Hadrianic baths discovered by excavators in the 2000 excavations on the site. They are:

155 (*Tab. Vindol. II: 98-100*) A fragmentary duty rota, with details of working parties, including 18 builders to the bath house c AD 99-100 (the site of which was excavated in 2000, Birley Andrew R. 2001).

181 (*Tab Vindol II: 129-131*) A lengthy but abraded account that included a record of the money owed by Vitalis, the *balniator*.

197 (*Tab. Vindol. II: 170*) A reference to the use of bath shoes, *[bal]nearia*.

Another building referred to in the tablets is the *hospitium* (guest house) that appears in **156** (*Tab. Vindol. II: 100-101*). It is assumed that Marcus the medical orderly is sent out of the fort with a detachment of soldiers to build the *hospitium*. It can be therefore inferred that this structure was under direct military control, or at least its construction was regarded as a military matter. Unfortunately we have no evidence as to who was given the task of administering the *hospitium* once it was built. It may not be far-fetched to imagine a veteran taking charge, or perhaps the building could have been leased to a non-combatant contractor, but the evidence from tablet **156** (*Tab. Vindol. II: 100-101*) points to direct military control of this facility:

Tab. Vindol. 156

Nonis Martii[s] uacat

Missip ad hosti[u]m cum Marco medico

faciendum structores n(umero) xxx

[a]d lapidem flammandum n(umero) xviii

[a]d lutum uim[ini]bus castrorum facien-

[dum]

.....

'7 March

sent with Marcus, the medical orderly, to build

the residence, builders, number 30
to burn stone, number 19 (?)
to produce clay for the wattle fences of the
camp.....'

156 also mentions what can be regarded as strictly a military matter, the production of clay and wattle for the 'camp', in the same context as the building of the *hospitium*. Can we then assume from this document that that the garrison at Vindolanda regarded the extramural area surrounding the fort as a military matter, and not as a non-combatant concern? It is likely that the residence '*hospitium*' was situated in an extramural part of the site but this cannot be proven.

Army officers were on occasions at least put in charge of regions, as in the Vindolanda Tablets, a *centurio regionarius* based at Luguvalium (Carlisle) (*Tab. Vindol. II: 250*), and two other possible cases (*Tab. Vindol. II: 255*, revised in *Tab. Vindol. III: 157*, *Tab. Vindol. III: 653*). A third century example is attested by an inscription at Ribchester (Bremetennacum): '*Titus Floridius Natalis*, legionary centurion and commandant of the contingent and of the region' (RIB 587). This would suggest that the immediate extramural settlement was to a greater extent under military, not largely civilian rule.

2.4.5 Industrial extramural activity

155 (*Tab. Vindol. I: 77*, amended in *Tab. Vindol. II: 98-100*, amended further in *Tab. Vindol. III: 155*), the same tablet that gives us information about the construction of a bath house also illustrates some of the other activities that the garrison were engaged in the surrounding hinterland of the fort in c AD 100.

viii K(alendas) Maias in officis h(omines) cccxxxiii

ex eis sutores uacat

xii

<i>s[tr]uctores ad balneum</i>	xv'''
<i>[a]d plumbum uacat [</i>	'24 April, in the workshops, 343 men.
<i>serrari[(i)...</i>	of these: shoemakers, 12
<i>s[tr]uctor[es] [a]d ualetudinar[ium</i>	builders to the bath-house, 18
<i>ad furnaces [</i>	for lead....
<i>ad lutum [</i>	sawmen (?)
<i>tectores [</i>	builders to the hospital...
<i>ad capil . [</i>	to the kilns.....
<i>ad cae[</i>	for clay.....
<i>[.]..b[</i>	plasterers.....
<i>...[</i>	for...(?)....
<i>ad.u.[</i>	for rubble
<i>cum[</i>'

The Roman lead mines and clay pits have yet to be located near Vindolanda, but it cannot be argued that the garrison would have been travelling any great distance to these locations, as the surrounding hillsides are full of old mine workings for lead, iron and coal, and the entire site is constructed on glacial deposits of boulder clay. Perhaps as a good many tablets refer to wagons (**185, 309, 315, 316, 343, 488, 583, 585, 600, 643** and **649**) a wagon park of some description must also have been a prominent feature in the extramural area, as there would have been no room for this facility inside the walls of the fort. It is possible that a parade ground could have doubled as a wagon park for this purpose. Tanning pits for leather working may also have been a feature during this period, although it must be mentioned that evidence for leatherworking taking place inside the forts at Vindolanda has been noted (Birley Andrew R 2002: 43-44). Robinson & Biggins noted the possible site of a large Roman kiln in recent geophysical work (Robinson & Biggins 2000: 8). Tablet **156** (*Tab. Vindol. II: 100*), already mentioned for Marcus the medical orderly, also mentions the presence of lime kilns, with 30 men allocated to service them.

2.4.6 Women

There are many references to women in the Vindolanda writing tablets (over 14), and it is beyond doubt that they were present inside the walls of the early forts, as supported by the evidence of their footwear (Driel-Murray 1999). Some, such as Crispa Polionis are listed as owing money (*Tab. Vindol. II: 187*), while others, such as Sulpicia Lepidina, are receiving invitations to Birthday parties (*Tab. Vindol. II: 291*). Thuttana is mentioned as a sister, and may have been stationed with a combatant at Vindolanda (*Tab. Vindol. II: 310*).

2.4.7 Slaves

The presence of slaves is as well attested as that of women in the Vindolanda writing tablets, although only five slaves mentioned in the tablets are thought to actually have been at the site, while others were engaged on business elsewhere for members of the garrison. One of the household slaves from the *praetorium* is mentioned in a list of supplies in tablet 190 (*Tab. Vindol. II: 190*) is called Privatus. Other letters include slaves writing to one another, as in Primigenius to another slave known as Rhenus (*Tab. Vindol. II: 347*). As slaves remain virtually completely invisible through the remainder of the archaeological record, and are without any distinctive material culture, these letters are an important reminder of their otherwise unquantifiable presence as members of military communities on the northern frontier of Roman Britain.

2.4.8 Vindolanda Tablets in context

The Vindolanda writing tablets provide an invaluable insight into the daily lives of many of the largely archaeologically invisible members of the military community. The presence of women, children, slaves and all manner of trades and activities covered in these texts helps to broaden the horizons of the study of the Roman army, repainting it not as a military machine, but rather as a vibrant and complex community. The Vindolanda writing tablets help to contextualise the

nature and significance of extramural settlement at Roman auxiliary forts on the northern frontier of Roman Britain.

2.5 Changing the use of space – intramural and extramural settlement:

As has been discussed, the intramural and extramural spaces at Vindolanda changed occupancy many times during the settlement of the site by the Roman army. Garrisons of different types and strengths required more or less space, depending on their composition, and the extramural areas of the site appeared to have moved to accommodate them. This section shows the area covered by the different forts at Vindolanda in relation to the 3rd and 4th century remains. The area that was later covered by 3rd century extramural settlement was under continual change as a result of proceeding military activity and periods VIA and VIB, may have had the most influence on the nature of the later period VII+ extramural settlement, as seen the location of extramural settlement in figure 2.9.

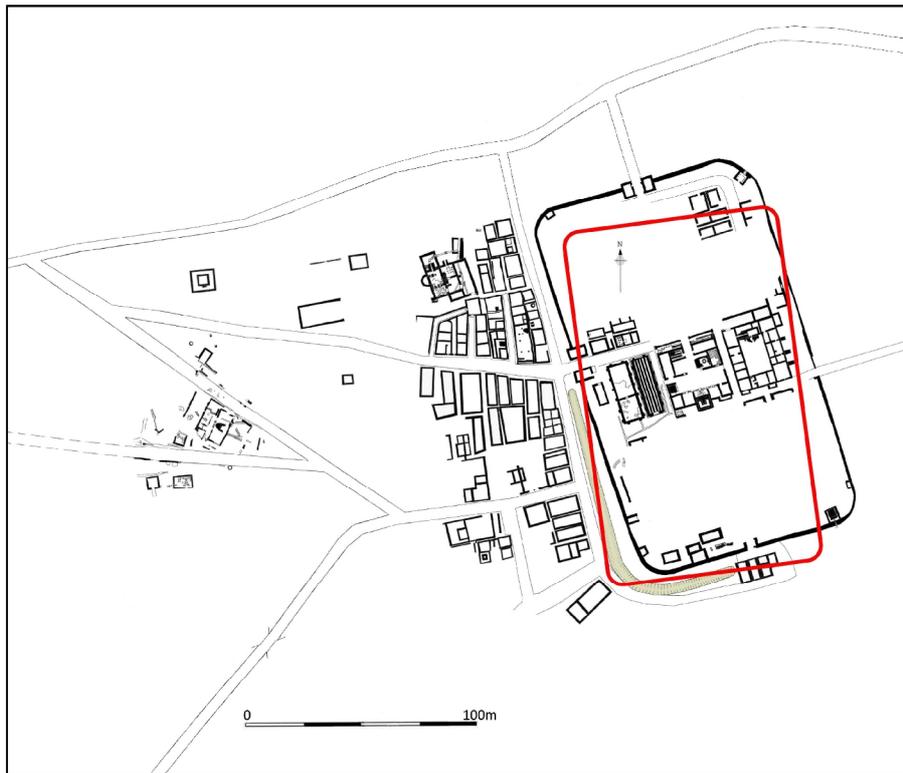


Figure 2.8 The position of the period I fort (marked in red) c AD 85-90, in relation to the 3rd and 4th century remains of period VII+



Figure 2.9 Period II and III forts, c AD 90-105 shared the same size, alignment and garrisons are shown here in relation to the 3rd and 4th century remains of period VII+



Figure 2.10 The period IV fort c AD 105-122, the largest fort built at Vindolanda, in relation to the period VII+ settlement above.

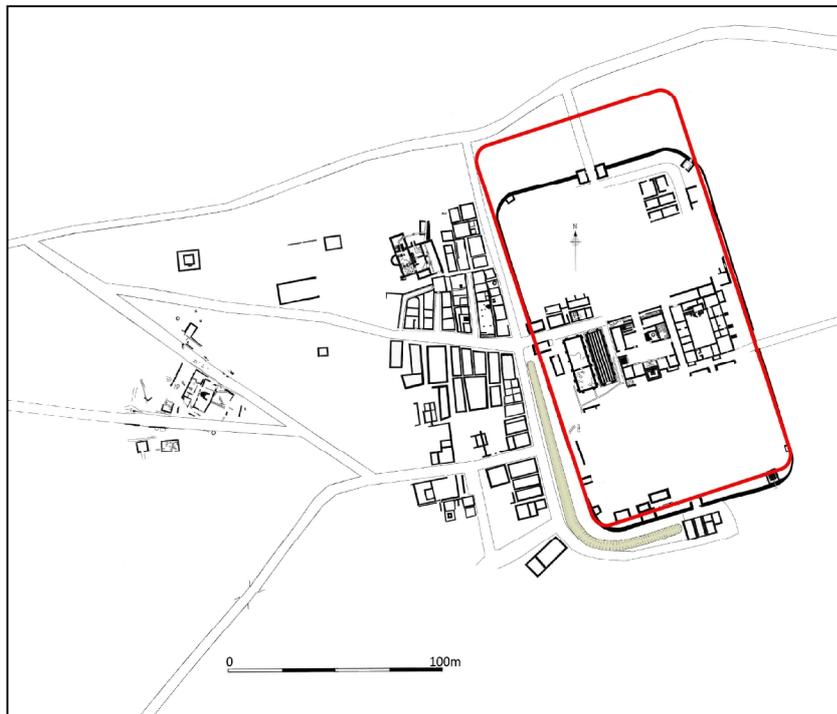


Figure 2.11 Period VI & VIA forts c AD 140-160 & c AD 160-200 shared the same location and were about the same size. Some evidence for extramural buildings from these periods has been found beneath the remains of the period VII+ extramural settlement.

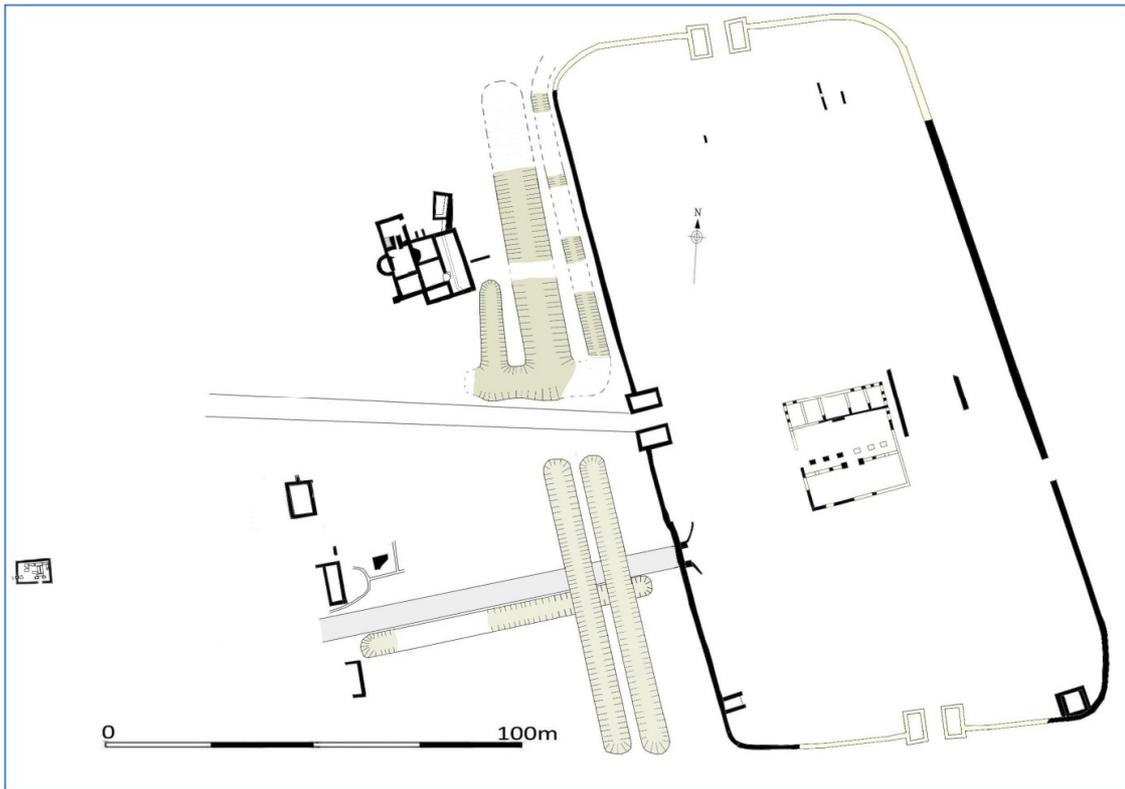


Figure 2.12 A detailed view of the known features of the period VIA fort, the first stone fort at the site of Vindolanda

The most obvious feature of the Antonine period is the comprehensive fort ditch system. This covered the area that was later to be used for a Severan fort c AD 208-211 and the later 3rd century extramural settlement. The bath house may have remained in use throughout periods VIA, VIB and VII+. Other extramural buildings from the Antonine period shown in figure 2.12 to the west of the fort were demolished by c AD 208. By c AD 208 at the latest the majority of the remains of this period had been slighted, and a new construction was placed outside the west wall of VIA.

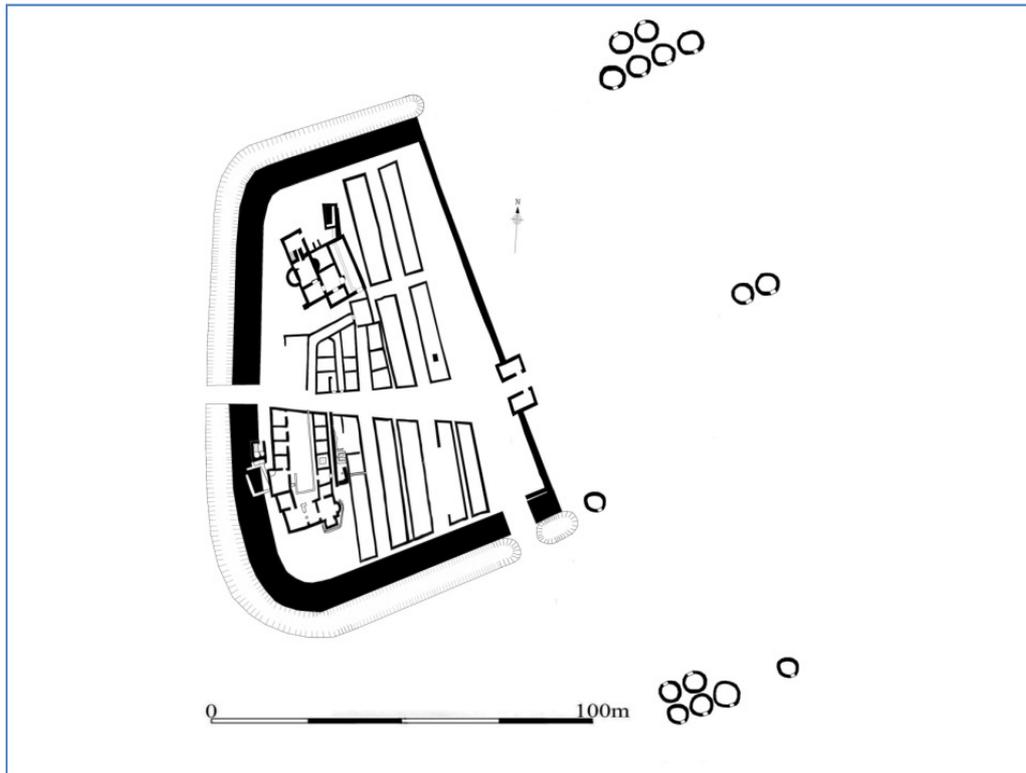


Figure 2.13 The period VIB fort at Vindolanda, in use c AD 208-211.

The VIB (c AD 208 fort) is a good example of how intramural and extramural parts of the site were interchangeable according to the size and layout of individual forts. This fort was constructed directly over the remains of the earlier ditch system/extramural part of the VIA complex, and re-used the west wall and gateway from the earlier fort for its new east wall and gate. The internal buildings were in stone, although the other defences were made from boulder clay ramparts. Over the slighted remains of the period VIA stone fort, a series of circular huts were constructed and placed in neat rows of five back to back. By the end of c AD 211 the fort (VIB) and associated structures had been slighted, including the circular huts (Blake 2001: 8). Evidence for this included the deliberate infilling of the wells inside the period VIB fortified complex with roofing slates, and rubbish from the nearby barracks (Birley Andrew R. 2003: 57-61).

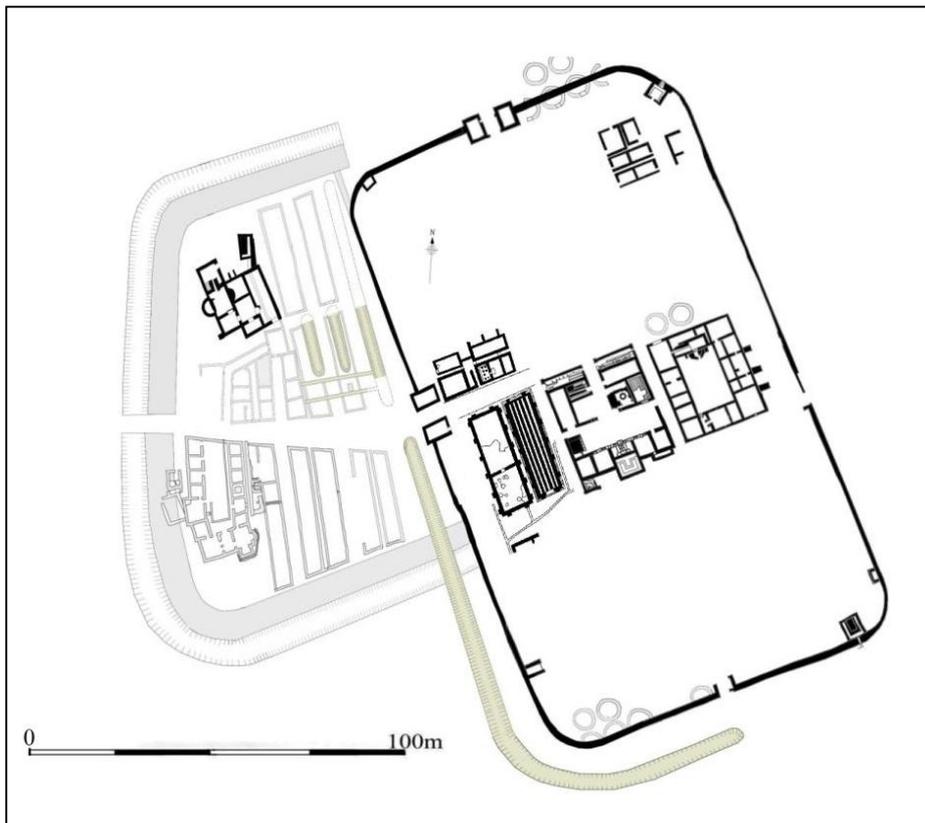


Figure 2.14 The position of the period VII fort at Vindolanda (in black) in relation to the earlier period VIB remains (in grey).

As figure 2.14 shows, shortly after the construction of the period VII fort started, a series of fort ditches were dug through the remains of the period VIB complex outside the west wall of the fort (Birley Andrew R. forthcoming 2010). These ditches were open for a short period of time. The outer two ditches on the north western side and the two feeder drains into the inner ditch do not seem to have been completed before they were backfilled in with rubble and extramural foundation stones placed over their remains. The fort ditch on the southern side of the west gate remained in use for at least the first half of the 3rd century, before it too was filled in with rubbish (figure 3.4) and effectively ceased to exist as a barrier.

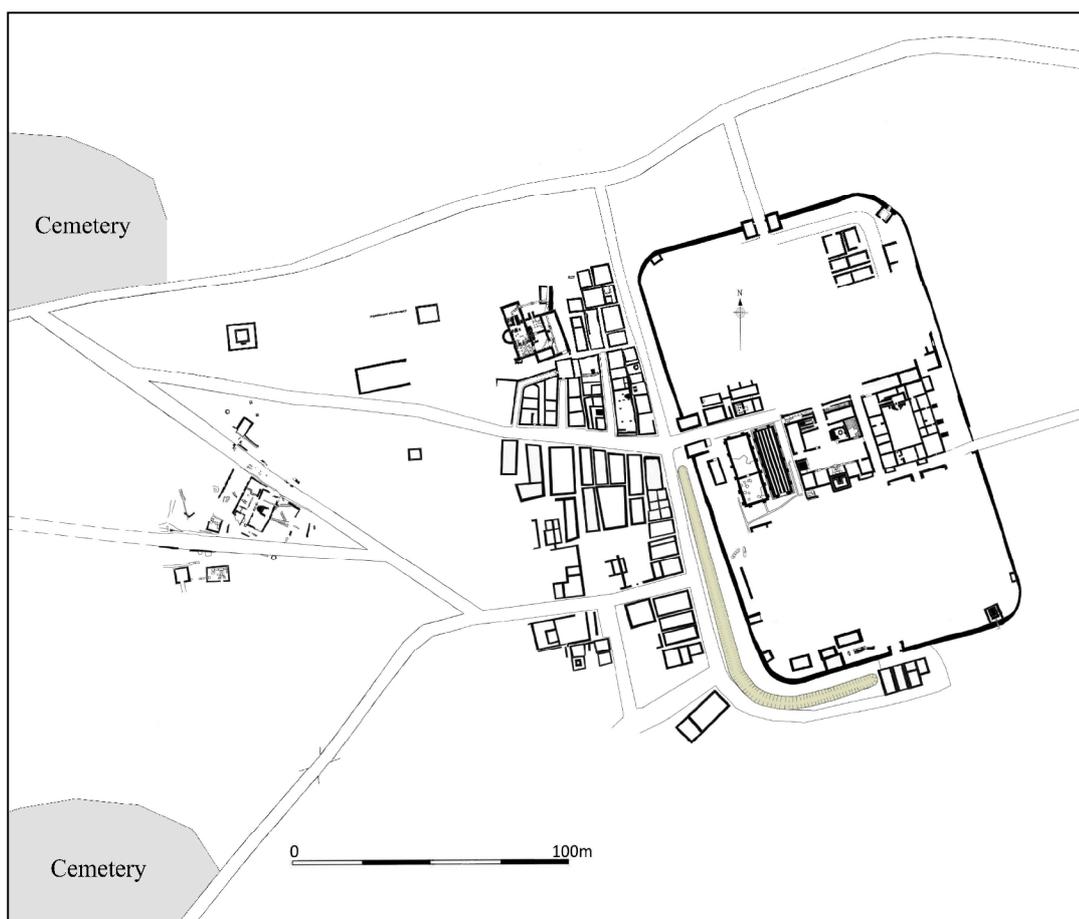


Figure 2.15 The extent of the excavated remains of Period VII, c AD 213-280 at Vindolanda.

The plan in figure 2.15 above shows the relationship between the main 3rd century fort at Vindolanda and its extramural settlement. The extramural settlement had a road network which provided at least two direct access points from the Stanegate road to the north. Two hundred metres from the west gate of the fort, an area dedicated to temples and shrines has been uncovered, and next to those, the main water supply for the site. Stone lined wells /water tanks and an aqueduct system that fed into the bath house have been excavated on the northern side of the extramural settlement. The roadway to the south west of the extramural settlement led towards the South Tyne valley and passed an area known today as Kingcairn Hill, where farmers have recorded ploughing up funeral urns for many years (Hodgson 1840: 197). The other known cemetery for the site is situated on the northern side of the Stanegate road to the west of the fort (Hodgson 1840: 197). The date for the use of these cemeteries is unknown, although they are certainly Roman and are likely to have been in use for a long time. Later 5th and 6th century burials have been recorded inside the area once covered by the 3rd century

extramural settlement. To the east of the bath house and inside the walls of the fort itself, robbed out cist burials have been found (Birley Andrew R. 2007: 49). Unfortunately it is impossible at present to tell whether one or both of the main cemeteries were used simultaneously and whether if one was for the exclusive use by extramural occupants and the other solely for intramural occupants. The separate cemetery areas may simply be expedience due to the changing demands of the size of the garrison and the areas covered by successive forts.

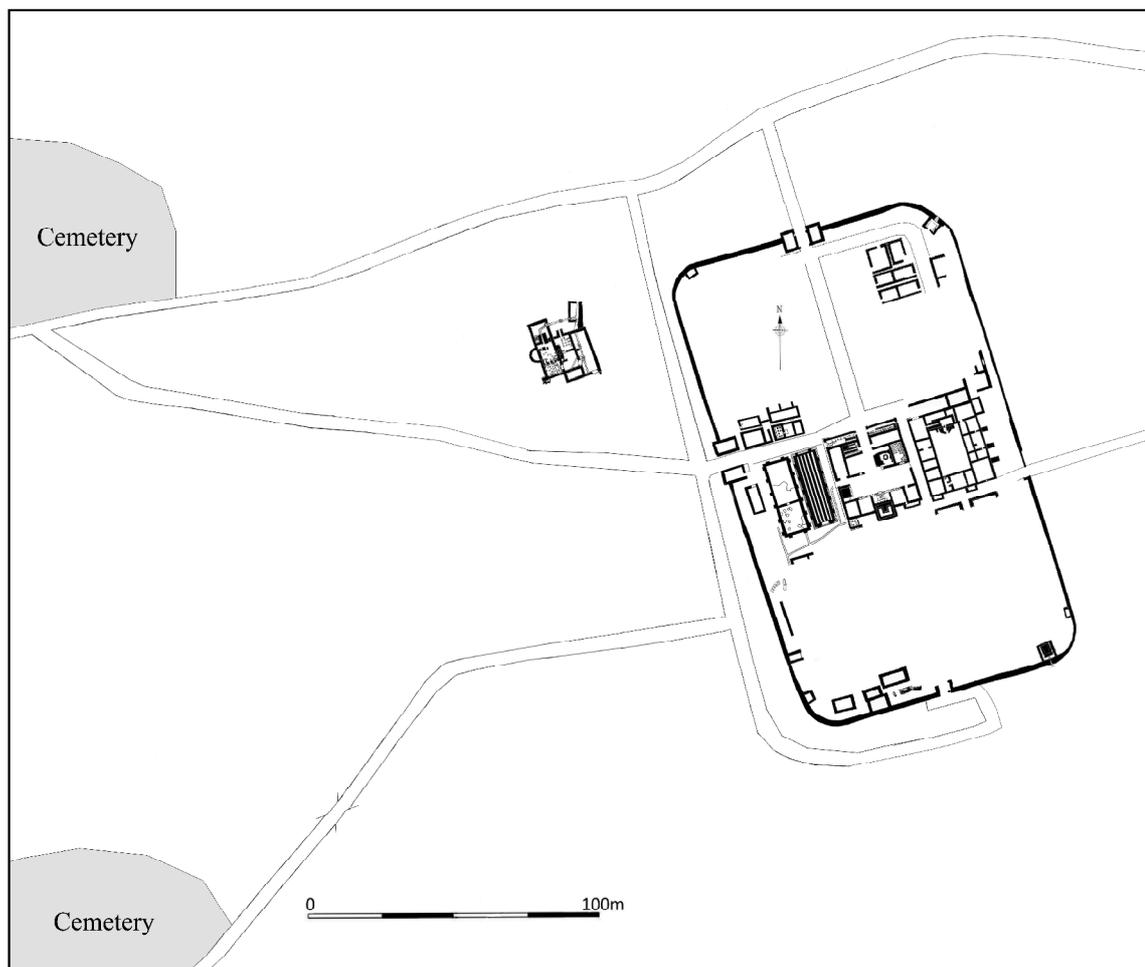


Figure 2.16 The last phase of Roman settlement at Vindolanda, periods VIII- IX c AD 300-410

In the 4th century the majority of the extramural occupied area appears to have been abandoned. Roads to the fort gates were however maintained, and a few buildings, such as the bath house, water tanks, wells and some small structures to the south of the fort may have remained in use (Blake 2001: 18). Inside the fort, the *praetorium*, barracks and roads were all repaired or substantially modified (Birley R.E. & Birley Andrew R. *et al* 1998: 30). The southern, western

and eastern ramparts previously clear but for a few clay/stone ovens, showed more substantial buildings in the 4th century (Birley Andrew R. & Blake 2007: 42-45). What is evident is that during this period the cemeteries were raided for good stone, some of which was used to repair the east wall of the fort and the *praetorium* (Birley R.E. & Birley Andrew R. *et al* 1998: 54). It could be significant that no tombstones were found in the repairs in the south or west walls of the fort, suggesting perhaps that the cemetery on Kingcairn Hill was still in use. The cemetery to the north west of the site may have been earlier in origin and its desecration for building stone may not have been problematic for the 4th century garrison, as most of the tombstones that were found reused in the 4th century fort walls can be dated to the 2nd or 3rd centuries.

2.6 The 3rd & 4th century remains

As has been shown, intramural and extramural space at Vindolanda was interchangeable during the Roman settlement depending on the size and deposition of the fort and associated garrisons. The plans, figures 2.8-2.16, illustrate how the shape, size, and position of the fort migrated from period to period. Foundations for the 3rd century extramural settlement were placed onto and across earlier intramural buildings, and, in the case of a few structures of Severan date c AD 208-211, saw direct conversion rather than complete demolition. While it is likely that the majority of the artefacts associated with to the 3rd & 4th century deposits at Vindolanda are from these periods, and not earlier ones, there may be a small margin of error due to the digging of foundations and re-use of earlier buildings in some contexts. Such problems are not uniform across the site, with different areas seeing a greater degree of disturbance. The area immediately outside the west walls of the fort has suffered the greatest disturbance due to sustained ditch digging and backfilling.

However, there are favourable considerations which make a study of the material culture from the intra and extramural settlement at Vindolanda in the 3rd & 4th centuries desirable. The unstable nature of the ground (filled in fort ditches, collapsed timber buildings and a steep hill)

required the technique of using large stone foundations to raise the buildings sufficiently off the ground to avoid an artificially suspended water table caused by earlier building methods. Terracing, and drainage and heavy clay foundations were also extensively employed to combat these problems (Birley Andrew R. 2003: 66). The heavy clay foundation floors of the 3rd century structures were particularly suited to keeping out the underlying ground water and effectively sealed earlier settlement on the site with up to 75 cm of boulder clay. The use of such robust building methods has helped to reduce cross contamination of material culture from other periods into the 3rd century contexts. The further favourable aspect of Vindolanda is that virtually all of the material culture used in this study has been recovered from modern excavations, where its associated context information has been carefully recorded. Most of the excavated sites along the line of the northern frontier have not been under intensive recent investigation, and none to the extent of the site of Vindolanda. Both the size and the robust nature of the Vindolanda dataset made the study of this material culture invaluable to the research question in this thesis. It is also important, although not of 3rd or 4th century origin, to examine the contribution that some of the Vindolanda writing tablets can make to the debate about the role and function of extramural settlement.

2.7 A guide to the 3rd and 4th century buildings/site contexts at the site of Vindolanda

The following section includes a description of all of the major locations and contexts at the site of Vindolanda which are referenced in the discussion of the spatial distribution of artefacts in the following chapter of this study. The site numbers in figures 2.17 & 2.18 correspond with plans and the allocation of titles such as domestic, workshop, commercial, temples, tombs etc have been given to structures have been identified as such in the Vindolanda research reports.

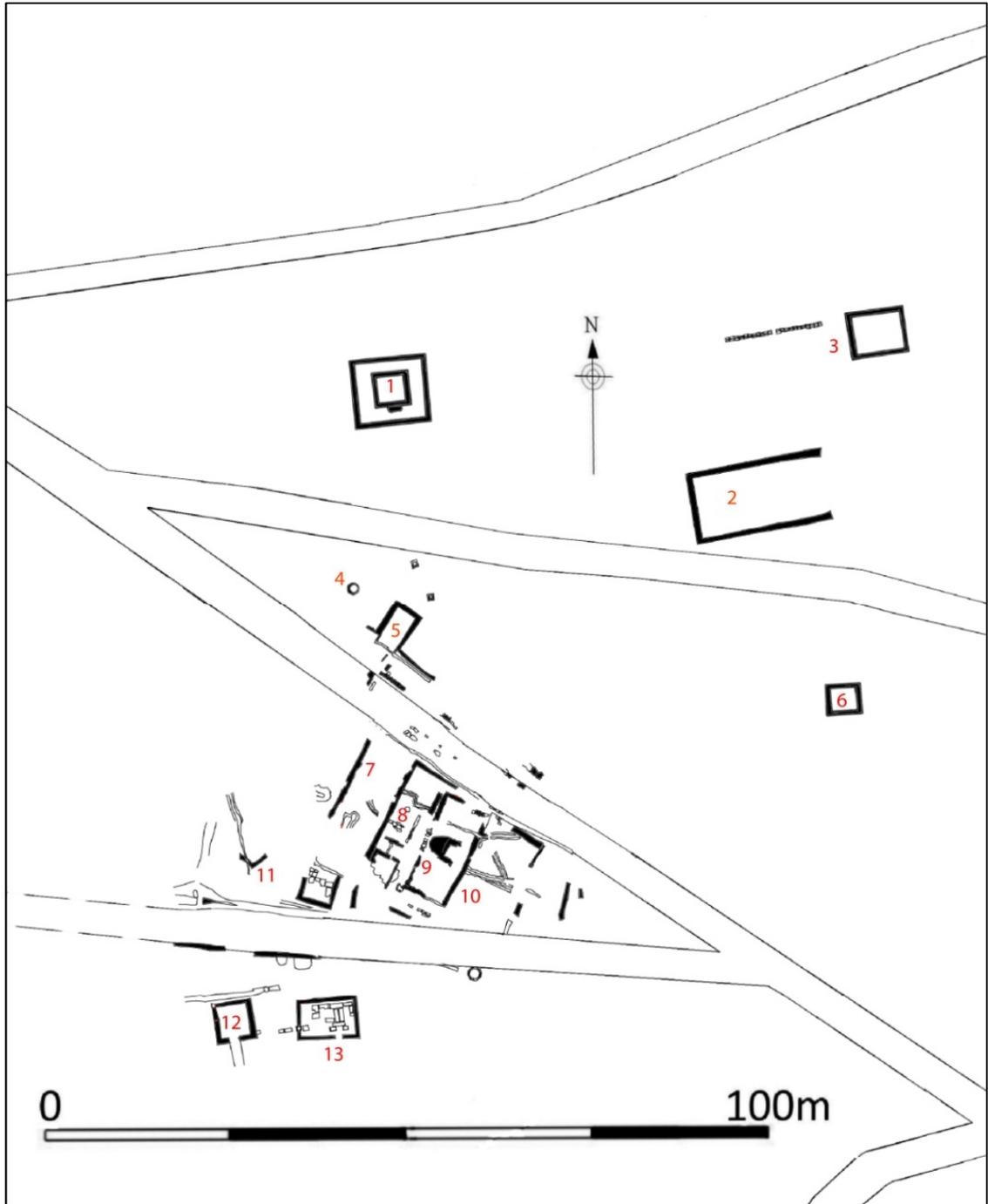


Figure 2.17 Western extramural settlement and site numbers



Figure 2.18 Extramural and intramural buildings with site numbers

1. Romano-Celtic Temple
2. Site XI – Possible store house
3. Aqueduct for the bath house
4. Site XII- Well
5. Site XIII- Water tank
6. Site XIV- Small shrine?
7. Building CXX – Domestic
8. Building CXXI- Domestic
9. Building CXXII- workshop
10. CXXIII – yard
11. Store room
12. Temple II
13. Temple I
14. Bath House
15. Site LXXXI – Domestic
16. Site LXXX –workshop/Domestic
17. Domestic
18. Site LXXXII – Domestic
19. Site LXXXVI- Domestic
20. Site LXXXV- Domestic
21. Site LXXXIV North - domestic
22. Site LXXXIV South – workshop
23. South of Bath House – Drain & cobbled yard
24. Entrance to the Bath house
25. Site XLI - Roadside well
26. Site XXI- Domestic – commercial?
27. Site XXII – Alley leading to Bath house
28. Site XXIII- Commercial
29. Site XXV – Domestic
30. Site XXVI – Side street
31. Site XXVII- Domestic
32. Site XXVIII north – Domestic
33. Site XXVIII south – Commercial
34. Side street
35. Site XXIX – Tavern
36. Site VI – Workshop
37. Workshop
38. Workshop
39. Workshop
40. Workshop
41. Site IXB – Domestic
42. Site IXA – Domestic – Commercial
43. Site XXX(N) - Commercial
44. Site XXXII – Commercial
45. Site XXXIII – Commercial
46. Site XXXIVA- Commercial
47. Site XXXIVB – Commercial
48. Site IV - Domestic
49. Site CXII – Domestic
50. Site CXI – Domestic
51. Site XXX (S) – Domestic
52. Site XXXIIB - Domestic
53. Site XXXIX – Domestic
54. Site XXXV – Domestic
55. Site V – Domestic
56. Site CXIII – Public/communal
57. Site LXXVII – Courtyard
58. Domestic household
59. Site LXXI – Domestic
60. Site LXXII – Domestic
61. Site CXIV west – Domestic Site
62. Site CXIV- Courtyard
63. Roadway between CXV & CXVI
64. Building to the west of site LXXIV – Domestic
65. Site LXXIV – Domestic
66. Site LXXV – Domestic
67. Site CXV – Tomb
68. Roadway
69. Site CXVI – Tomb
70. Site LXXIX – Domestic
71. Site LXXVIII – Domestic
72. Mausoleum
73. Site CXVII – Mausoleum
74. Site II – metal workshop
75. Western fort ditch
76. Site III – Domestic structure
77. Outside the NW corner of 3rd century fort

- | | |
|--|---|
| 78. South building 1 | 99. Western store building, north room |
| 79. South building 2 | 100. Western store building, south room |
| 80. South building 3 | 101. Granary |
| 81. South building 4 | 102. Principia |
| 82. Bone fire outside the north eastern guard chamber | 103. Praetorium |
| 83. North western angle tower | 104. Rampart building (4 th century) |
| 84. North gate | 105. Rampart ovens |
| 85. North eastern tower and toilet block | 106. Centurions quarters – barracks |
| 86. NE barracks room 1A | 107. Centurions quarters – barracks |
| 87. NE barracks room 1B | 108. East gate |
| 88. NE barracks room 2A | 109. Toilet block and tower on west wall |
| 89. NE barracks room 2B | 110. SW angle tower |
| 90. NE barracks room 3A | 111. Rampart mound |
| 91. NE barracks room 3B | 112. Late 4 th century rampart building - Domestic |
| 92. Rampart building – possible stable | 113. 5 th century rampart platform |
| 93. West gate | 114. Late 4 th century building – Domestic |
| 94. Barrack room | 115. Rampart mound near south gate – west side |
| 95. Barrack room | 116. Rampart mound near south gate – east side |
| 96. Possible 4 th century <i>schola</i> or centurions quarters (RIACUS) | 117. Toilet block/angle tower |
| 97. Possible centurions quarters | 118. South eastern tower |
| 98. Rampart building – Domestic | |

Chapter 3

Methodology

3.1 Research Methods

3.1.1 Introduction

The Vindolanda archive holds the most extensive record of extramural material culture to come from the study area. The artefacts included in this study have been entered into a database, which is shown in appendix A, as only part of the archive has been published in excavation reports. Unfortunately the comparator sites of Catterick, Housesteads, South Shields and Birdoswald, do not offer the same level of information as Vindolanda due to the lack of extramural excavation, reporting processes, and poor data collection/record keeping.

The Vindolanda data has been classified into three clearly defined categories. The first of which could have been associated with combatants such as; spears, swords, sling shots, scabbards, shield bosses, armour fragments and crossbow brooches (section 3.3). The second category uses artefact data to examine the presence of non-combatants, as exemplified by adult women, via spindle whorls, loom weights, and personal adornments such as hairpins, beads and bracelets (section 3.4). The final category examines artefacts associated with common or shared activities; literacy through inscriptions and stylus pens, leisure through gaming counters and boards and industry through the deposition of crucibles (section 3.5). Two control groups have also been included, coins, whetstones and hones, as outlined in chapter 1 (section 3.2.1).

The relevant data from the comparator sites has been obtained from published reports, and is not therefore included in appendix A as it is already in the public domain.

The Vindolanda database is stored in a Microsoft Access and Excel format. One of the most important elements of the database is the associated contextual information attached to each artefact. The contextual information includes a reference to the general location of the artefact,

whether it was from an intramural or extramural context, and further information regarding the context and period of dating. At Vindolanda, Catterick, Housesteads and Birdoswald it has been possible to exclude all of the unprovenanced or unstratified artefacts from the study, but this has not been the case for data from South Shields where the relevant data is unavailable.

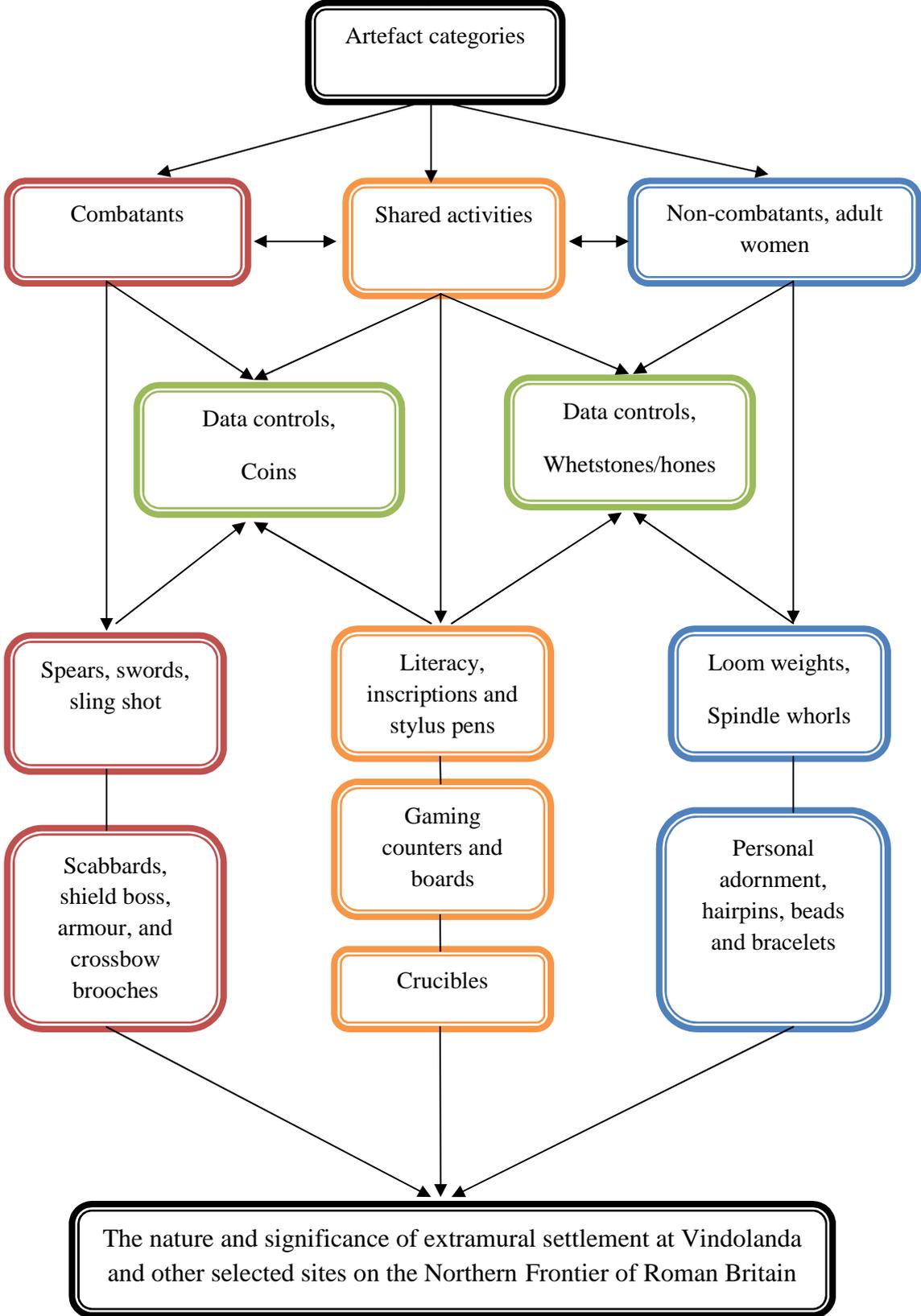
The inclusion of data from South Shields is therefore more problematic and was initially considered for rejection, as the majority of the published artefacts have come from antiquarian excavations (Allason- Jones & Milet 1984). However, the catalogue of artefacts represents a large body of data which cannot be completely ignored, and as such it has been included in the intramural category, with the caveat that any analysis of data from this site may only be used as an indicator.

Sites such as Abu Sha'ra in Egypt (Mulvin & Sidebotham 2003), Vetera I and Ellingen (Allison 2005, 2006) that have published material culture datasets are referred to when relevant for comparative purposes.

3.2 Artefact categories:

The artefacts selected from the above datasets are all commonly found on Roman military sites, and are therefore comparable with data collected from elsewhere within the Roman Empire. Due to the scope of this study it has not been possible, or necessary, to cover all artefact categories that are common to most Roman sites. The following have been selected on the basis that they may be used to answer the research question. The finds analysis in this study will test whether it is possible, through distribution patterns and intramural and extramural contexts, to identify and distinguish the presence or activities of specific groups within the wider community or suggest where these artefacts were commonly used by the whole community. The categories of artefacts used in this study have been divided under four separate headings, control, combatants, non-combatants and shared activities, some of which have a degree of cross over.

What was nature and significance of extramural settlement at Vindolanda and other selected sites on the Northern Frontier of Roman Britain?



3.2.1 Control categories of artefacts for the data plots

The relative depositions of the 'data control' categories chosen for this study are used to provide a measure against which the distribution of artefacts can be assessed. Although pottery and bone were considered as a possible artefact controls, as used by Allison (Allison 2006: 389-451), they were discounted due to the fact that the pottery research at Vindolanda is not comprehensive enough to be used in this way and the recovery rate for animal bone from 3rd and 4th century contexts is too variable due to uneven preservation conditions across such a wide area of the site. Coins have therefore been chosen as the primary control base, despite the fact that they are like any other artefact subjected to varied topographical deposition. However, coins have been recovered from the most-wide ranging and varied contexts at Vindolanda and can therefore act as a general indicator of activity against which other artefact categories can be assessed. Whetstones and hones, although a smaller dataset, are used to form a secondary control.

3.2.2 Coins

The distribution of 3rd and 4th century coins, which were portable, easily deposited, and of low denomination tends to be plentiful and can be a good indicator of where human activity took place on a Roman site. Provided that a sufficient number of coins have been found to constitute a reasonable dataset, their distribution can be useful as a control and the coin assemblages from the sites on the northern frontier of Roman Britain are extensive. If the coins recovered from a site are too few in number this would negate their usefulness, and other types of material culture such as pottery should be considered as an alternative (Allison 2006: 405). The excavations of 3rd and 4th century archaeological deposits at Vindolanda from 1929-2008 have produced 1679 coins. Of these, 717 coins came from both intramural and extramural 3rd century contexts while the 962 coins from the 4th century are largely from intramural contexts. The deposition of these coins highlights the difference between the 3rd century, when people lived in the areas inside

and outside the fort, and the 4th century when the community as a whole appears to have mostly dwelt inside the fort.

In some cases the dataset indicates contexts where coins have been deposited for safekeeping in hoards or lost in locations such as bath houses, where members of the community may have spent a considerable amount of leisure time. Coins were also deposited in significant numbers as offerings at shrines or temples, such as Coventina's well outside the fort of Carrawburgh, seven miles to the east of Vindolanda (Allason-Jones & McKay 1985). When used as a control, any variation by other artefacts from the depositional pattern of the coins can be seen as potentially significant.

3.2.3 Whetstones/hones

Whetstones/hones, used to sharpen knives, weapons and tools can be regarded as essential pieces of equipment for both combatants and non-combatants on Roman sites. Although they were portable artefacts, the contexts in which they have been found (domestic households, kitchens, barrack room floors and workshops) would suggest that they were largely deposited in or near to the spaces where they were used rather than having been randomly discarded or lost. Whetstones/hones have been recovered from every site examined in this study, making their contexts and distribution comparable. They are often found complete, although some are recovered in a partial state after being broken through heavy or excessively exertive use. The recovery rate of whetstones/hones is variable, as they may have been considered by some as a low status artefact and are not therefore always included in the archaeological report. Notwithstanding this, whetstones/hones are used in this study as a secondary artefact control as they have the capacity to demonstrate depositional variations when compared with other artefact categories.

3.3 Evidence for combatants – Weapons, crossbow brooches, shield bosses, helmet fragments, armour fragments and scabbard fittings.

Weapons such as lances, spears, bolt heads, swords, and sling shot formed a significant part of the arsenal of the garrisons of the northern frontier of Roman Britain. Unlike coins, weapons and armour were more likely to have been deposited purposefully, as ritual or grave goods, or partially as a result of repairs or discard, rather than being dropped or lost.

Many weapons were made from a variety of robust composite materials such as iron, copper-alloy and lead. As such, socketed weapons, swords and lead sling shots can survive in the archaeological environment. It is unlikely that many would have rotted away completely, leaving no trace at sites on the northern frontier of Roman Britain. However, despite their survival, most examples of socketed weapons and swords recovered from the 3rd and 4th century show evidence of varying degrees of decay. Some weapons rust onto the nearest stone where they remain attached until recovered by archaeologists, making closer analysis of the state of the objects a difficult proposition. Many of the weapons are recovered in partial form: for example, the majority of swords show that they have been damaged before being deposited. Due to this, patterns of deposition and use may differ, as many weapons were obviously discarded when broken. As Bishop and Coulston pointed out ‘The discovery of equipment in circumstances which suggest abandonment is common on most Roman military sites, and the vast majority of such material has quite clearly been damaged before loss. Moreover, items which appear to be undamaged may in fact have suffered what we might term ‘invisible attrition’: a spearhead may be in immaculate condition when deposited, but it would be useless if it’s wooden shaft were broken’ (Bishop & Coulston 2006: 27).

The use of weapons has usually been attributed to the military presence in the context of the frontier forts and their adjacent hinterlands on the northern frontier of Roman Britain. Despite this, it would not be unreasonable to suggest that non-combatants could have used weapons for hunting, or perhaps personal protection in the same manner as military personnel. As pointed

out by Nicolay 'military and civilian are key terms denoting the distinction between settlements, people and objects in the contexts of the Roman army on the one hand and in a non-military context on the other. Although each refers to clearly distinct concepts in modern, western culture, this distinction did not always hold true in Roman times. A complicating factor in the study of weaponry and horse gear is that, including the period when there was a clearly definable professional army, pieces of 'military equipment' could be used in a civilian context, rendering a specifically military association uncertain' (Nicolay 2007: 10). In provincial areas where a large number of soldiers were recruited, such as the Batavian territories there is a great deal of evidence to suggest that returning veterans came home with their armour and other military kit (Nicolay 2007: 167). Therefore it is possible that a similar argument may be offered as a partially explanation for the depositional pattern of military kit in extramural settlements.

Two Roman laws on the statute books, the *Lex Iulia de vi privata* and the *Lex Iulia de vi publica* are thought to have been put forward by Augustus to limit or control the use of weapons by citizens in the Roman Empire (Berger 1953: 554). The word *Telum* (to describe a missile weapon) was often used by jurists in conjunction with one of these laws, the *Lex Iulia de vi publica* (Berger 1953). An aggressor who was found guilty of using a prohibited weapon was deemed to have committed a crime of a higher degree, and therefore subject to a more severe punishment (Berger 1953: 730). Brunt argues that ultimately 'Disarmament was neither practicable nor necessary as a systematic rule of policy' (Brunt 1975: 270). However true this may be, disarmament may have had more relevance in a potentially volatile frontier area, post conquest and beyond, than in other areas of the empire. The Roman army may have wished to limit access to weapons amongst the surrounding population in times of unrest. However, the extramural population, in the context of a Roman fort, may have included many veteran soldiers. It can be assumed that they were allowed to keep their weapons which could have been regarded as personal property. Either way due to ambiguity of Roman law and the allowance for the personal ownership of weapons for hunting and personal protection (James 2001: 83) the deposition of weapons alone may not be enough to justify the interpretation that these artefacts

belonged to soldiers or reflected their presence. For this to happen the deposition of weapons must be considered beside a range of military kit.

Crossbow brooches appear more frequently on military sites than in purely civil contexts and have been identified as being synonymous with the presence of combatants (Bayley & Butcher 2004: 199). Bayley and Butcher suggested that the large collections of crossbow brooches found at Richborough in 3rd and 4th century contexts are directly connected with the army. They cite the forerunners of this type of brooch as being common on the German *limes*, and a form of this type of brooch may have been especially produced for the army (Bayley & Butcher 2004: 199).

Other equipment that is specifically military and which may therefore be directly assigned to combatants includes; shield bosses, helmet fragments, armour fragments and scabbard fittings. These groups of artefacts therefore form a significant part of the evidence which will be used to identify the presence of combatants in both extramural and intramural contexts.

3.4 Evidence for non-combatants as exemplified by adult women

While there is a strong argument for using specific artefacts to identify the presence of combatants, it is more problematic to positively identify all of the different types or groups of non-combatants through 3rd and 4th century material culture at sites such as Vindolanda. In earlier periods of occupation the presence of adult women and non-combatants inside fort walls has been comprehensively demonstrated by the work of Driel-Murray through an analysis of the footwear from the 2nd century barracks at Vindolanda (Driel-Murray 1995: 18).

Of 132 shoes recovered from 2nd century barrack building, 29 fell into the small-sized/intermediate footwear category discussed by Driel-Murray (Driel-Murray 1995: 18). This represents 21% of the total number of items of footwear recovered from the building, and a ratio of 4.5:1 towards the deposition of adult male footwear. The difference in deposition is most

clearly shown in figure 3.1, with small-sized and intermediate footwear (children, juvenile males, and or women) in red and adult male footwear shown in blue.

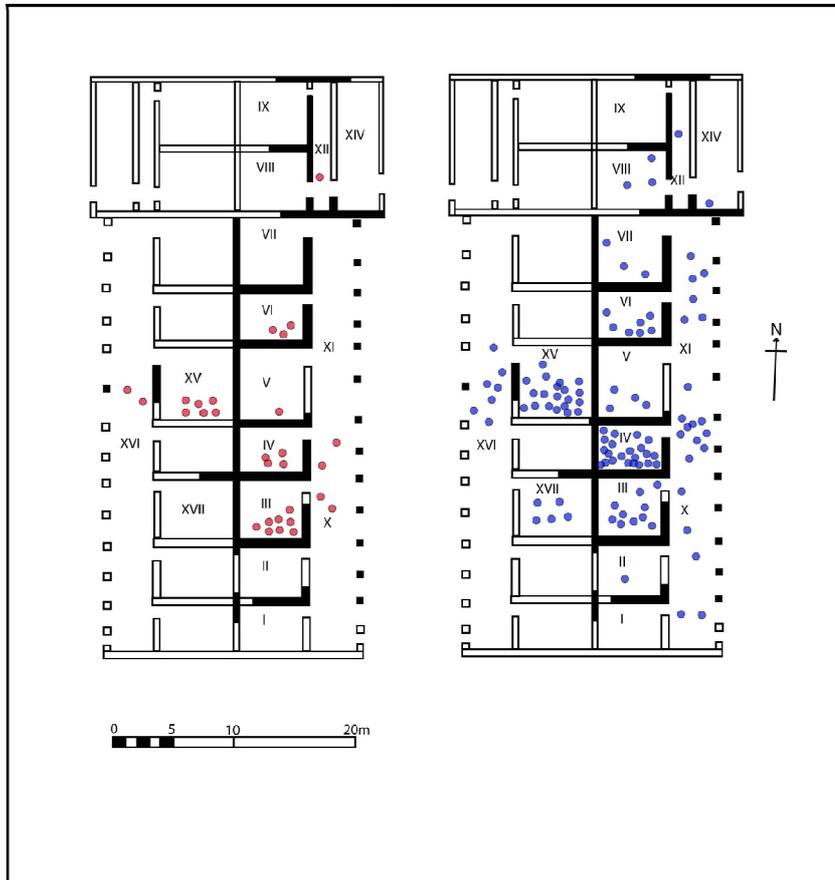


Figure 3.1 the 2nd century barrack at the site of Vindolanda. The red dots represent the deposition of artefacts which have been identified as children's, adolescent male or female footwear (taken from Driel-Murray 1995: 18). The blue dots represent the presence of adult male items of footwear.

It is not possible to interpret the data in such a way as to suggest that each item of footwear could be associated with a single individual and few of the shoes can be attributed to a known pair. Unknown variables such as the unquantifiable growth rate of children, necessitating constant replacements in footwear, or wear due to duties, or the wealth of an individual may have heavily influenced the depositional patterning. What is more, the depositional patterning of footwear remains enigmatic in providing insight into the ratio of combatants versus non-combatants living in the barrack block. It is quite possible that male slaves, servants or other non-combatants could have had as much, or more, of a presence inside the barracks than female associates of the soldiers.

Period IV Barrack	Adult male footwear	Female, child and adolescent footwear	Total number
I	0	0	0
II	1	0	1
III	10	8	18
IV	21	4	25
V	4	1	5
VI	7	3	10
VII	3	0	3
VIII	3	0	3
IX	0	0	0
X	6	4	10
XI	16	0	16
XII	1	1	2
XIII	0	0	0
XIV	1	0	1
XV	19	6	25
XVI	6	2	8
XVII	5	0	5
Total	103	29	132

Figure 3.2 A room by room breakdown of the distribution of footwear in the period IV barracks at Vindolanda.

A room by room breakdown of shoe data from the barracks (figure 3.2) shows that even in rooms with a high concentration of smaller sized footwear they were still outnumbered by the deposition of adult male footwear. Rooms XII and III had the highest ratio of adult male to non-adult male footwear, achieving parity at 1:1 for the former and 1:0.8 for the latter. Although some rooms have high numbers of small sized shoes deposited within them, they are always outnumbered by adult male shoes. For example, room XV has a ratio of 1: 0.31 adult male to smaller sized shoes. This would suggest that adult women and other non-combatants were a minority inside the 2nd century barracks.

The evidence from the 2nd century barracks enforces the view that there were significant changes in barrack use from the 2nd to the 4th centuries. The analysis of this data suggests the potential for the presence of a minority of non-combatants inside the 2nd century barracks. It is possible that at certain times of the year, when the combatants were on manoeuvres or campaign the minority non-combatant population would become the majority. It is clear that women were always present inside the forts at Vindolanda, prior to c. AD 197, but the evidence suggests that there may have been a slight increase in their numbers between the 2nd and 3rd centuries before greatly increasing in pro rata terms in the 4th century (section 4.9).

As footwear does not survive in the non-anaerobic conditions prevalent in 3rd and 4th century levels it has been necessary to select other categories of artefacts that could have belonged to or were used by adult women. The tombstone of Regina from the site of South Shields (RIB 1065) is an important piece of evidence when considering what artefacts should be included in this category (Allison-Jones 2001: 19-25). Regina is shown with her distaff and spindle in her lap, a wool basket by her left side, with a her right hand she opens a jewellery box and in the box are rings, bracelets and beads. She is also adorned with a cable pattern necklace and bracelets of a similar design. The categories that follow are therefore directly associated with a tombstone of a woman from the northern frontier of Roman Britain.

3.4.1 Spindle whorls and loom weights

Spinning may have been one of the most widely spread domestic activities on a Roman site. Spindle whorls and loom weights are seen by many as potential representations of female activity in Roman times. This is well known at civil sites such as Pompeii, where there are graffiti with numerous names of female spinners attested (Moeller 1969: 566). An analysis of the spindle whorl distribution from intramural contexts can, on this basis, be used to support the theory that women were present inside the fort. Roman military scholars have put forward convincing arguments to suggest that this pattern of use would very likely have continued into

military contexts, and that the evidence for this would be in the form of the whorls themselves (Allison *et al* 2004: 8.3). Not all archaeologists agree with this argument, in a paper entitled 'Engendering change in our understanding of the structure of Roman military communities' James points out that while spinning may not have been a soldierly task, the presence of spindle whorls does not automatically prove that women were present (James 2006: 31-36). However, for the purpose of this thesis the hypothesis that spindle whorls can be associated with the presence of women is supported.

The presence of a tailor at Vindolanda who purchased yarn to mend a cloak is mentioned in one of the Vindolanda writing tablets (Bowman & Thomas 2003: 68-69). The tailor had purchased the yarn from one Taurinus, and it is possible to speculate that in a military context Taurinus may well have been a combatant and/or merchant selling excess yarn produced by a female family member or associate. A case can be made to suggest that the Roman army would have wished to have been as self sufficient as possible. In such an argument, women spinning yarn in a barrack or extramural house could have provided an extra income for a combatant, fulfilled a useful military role in supply, clothed her own family and allowed for spinning to be a leisure activity in its own right.

Spindle whorls were often manufactured from durable materials, such as pottery, stone, bone and lead. Whorls could be quickly and cheaply manufactured and were not necessarily a high cost or status object. Although there were many types of spindle whorl used in antiquity the majority of examples that come from the northern frontier of Roman Britain are of the discoid variety. Discoid whorls have a higher diameter to height ratio and because of this they rotate slowly and for a relatively long time, making them the easiest of the whorl varieties to make and use (Gleba 2008: 105). The discoid whorl is one of the oldest known types, and was in use throughout the occupation of Roman Britain and beyond. While the shape of the whorl did not influence the yarn significantly (Wilmott 1997: 288) the weight may be more significant with heavier whorls being used for bulkier threads (Gleba 2008: 106). The weight of whorls at military sites varies from 4-5g to over 30g suggests that a wide variety of threads were being

used to make textiles of differing thicknesses and quality. The survival and recovery rates for spindle whorls and loom weights are generally high. Whorls and weights are robust objects that depend less upon sympathetic environmental conditions for survival than many other types of artefacts. As a result they are found on a wide variety of sites in varying numbers.

Loom weights, associated with the activity of weaving rather than spinning, do not have such clear gender associations and they are included as an artefact which represented an activity which was associated with cloth production, and an activity which may have been carried out by women. This argument could be strengthened if a close pattern in the deposition of the two artefacts is shown at sites on the northern frontier (section 4.5.4).

3.4.2 Bracelets

Bracelets, made from jet, shale, bone, glass and copper alloy are common finds from the military sites on the northern frontier of Roman Britain, making them a useful artefact for comparative purposes. Military awards of *armillae* (armlets) being indicative of combatants have not been included. The bracelet category includes the more delicate types which may have been worn either individually or in sets or pairs, one on each arm (Birley B. & Greene 2006: 134). In some cases, such as the wearing of glass bracelets by the Batavians, their use has been associated with the coming of age for women and as such they may be regarded as potential indicators for the presence of women in military contexts, although armlets were also worn by Celtic men (Roymans 2004: 17). Bracelets can therefore be seen as having been '*personalia*', a category of artefacts described by Gardner as '*appearing*', as dress or adornment related artefacts for women (Gardner 2007: 131).

3.4.3 Hairpins

Hairpins are frequently recovered from military sites across the Roman Empire and on the northern frontier of Roman Britain (Crummy 1979: 157). The sites of South Shields (Allason-Jones & Milet 1984: 68-91) and Vindolanda hold some of the largest collections of Roman hairpins. As Allason-Jones has stated 'Much is known of hair fashions during the Roman period

and while it is clear that both long and short hairpins were used, indeed required, in female hairstyles, there is no evidence that male hairstyles needed pinning. The Italian fashion was for men to wear their hair short and while male skeletons have been found with long hair in the Celtic provinces, for example at Poundbury, none appear to have affected pins' (Allason-Jones 1995: 28). It is therefore perhaps more likely that the hairpins recovered from military sites were used and owned by females. Hairpins were manufactured from a number of different materials, such as bone, copper alloy, iron, jet, and occasionally silver, and are normally associated with Roman women, who may have used them to hold back their hair or for jewellery (Allison 2004: 8.2.1.c). Only hairpins that have survived with complete heads have been included in this study, and artefacts that have been catalogued as hairpins without their heads have been rejected, as there is little difference between copper alloy or bone hairpin shanks and regular pins or large needles.

3.4.4 Beads

A wide variety of beads are commonly found and plotting the distribution of beads on Roman military sites may show where women were more likely to have been present. While it is accepted that bead necklaces were most likely worn by women or children some types of bead, such as large melon beads with a diameter of 20-30 millimetres may have been more likely to have been used for either personal adornment or decoration on items such as sword hilts, horse gear or other fittings (Allason-Jones: 1995, Allason-Jones 1996: 189-199, Birley B 2006: 39). Here, it must be admitted, that GIS could have been used to effectively eliminate this sub-category from the database. It should be noted that a context or building that has had a large concentration of beads deposited within it, such as a bath house, may be taken to be a more likely indicator of use in personal adornment than for other purposes and this must be carefully considered (section 4.8).

3.5 Shared activities – literacy, industry and gaming

There is no doubt that there was a general degree of literacy within the Roman Army. Bowman in 'Literacy and Power in the Ancient World' states that 'there is strong evidence for literacy among centurions, decurions and *principales* and some evidence for its presence at lower levels, but it is certainly impossible to claim mass literacy in the army'(Bowman 1996:112). The Vindolanda writing tablets show how widespread literacy was within the context of the occupation of Roman Britain. These tablets were sent to and received from a variety of people from several sites across Roman Britain including Corbridge, Carlisle, Catterick, Aldborough and London amongst others.

The diffusion of this literacy throughout the military community is however open to question. Bowman states that 'the Roman Army is limited in context, though broader than might first appear since our documentation represents not merely officers and soldiers but also wives, slaves and possibly even some civilians' (Bowman 1996: 116). It should however be noted that traders and non-combatants also feature in the Vindolanda tablets and that writing tablets are not the only indicators of literacy within the military community. Whether or not all soldiers were literate, there is a large amount of supporting evidence in the form of artefacts such as inscribed portable objects, styli and ink pens which suggest that a high level of literacy was indeed present at many military sites.

Inscriptions on stone and inscribed portable artefacts have been selected as they can be seen to be synonymous with the settlement of both areas of occupation at military sites, regardless of whether or not there was a 'great divide' based on the walls of a fort. These categories of artefacts, demonstrating evidence for literacy and communication together with those associated with industry and gaming, have the ability to show the potential for common ground. This common ground may ultimately indicate the largest difference between the character of the military communities and that of other non-military communities with a largely civil aspect.

3.5.1 Inscriptions on stone and inscribed portable artefacts

It is probable that a high level of literacy across an entire community could well be an indicator not only of a means of communication but also of social integration. Alternatively, if the occupants of one part of a single site could be shown to have been far more literate than another, then it could indicate a division between different sections of the community. This is why it is important to consider the differences in the deposition of many inscriptions on stone and portable artefacts in intramural and extramural contexts. All the inscriptions, from the sites studied in this thesis, which have been impossible to contextualise have been dismissed from the analysis, as have tombstones which by law were confined to extramural areas in the Roman period. The inscribed portable artefacts mostly consist of pottery, stone or other non-organic materials from the 3rd and 4th centuries.

Military sites on the northern frontier have produced the largest body of written and inscribed material to come from Roman Britain, much of which has been included in *The Roman Inscriptions of Britain* (Collingwood & Wright 1965, 1991 respectively) and post 1954 inscriptions are to be included in RIB III, many of which continue to be annually published by Roger Tomlin in the journal *Britannia*. Inscribed objects range from large stone inscriptions such as altars and dedications, to smaller more portable artefacts such as ceramics, diplomas and personalia (Gardner 2007: 131).

Inscriptions have been recovered from a variety of intra/extramural contexts from most of the frontier sites, suggesting that for most of the Roman occupation of Britain numeracy and literacy was synonymous with the military. However, there are two important aspects of literacy that need to be considered. The first is to question whether or not there is evidence for literacy being present in different levels or forms across an entire community, in both intramural and extramural contexts. The second is difficult to quantify, but there are indications that the general level of literacy of the late first century did not continue into the fourth century. The need to carve a name on a portable artefact may also be taken as an indicator of a lack of security

(inscribing an item to avoid theft) or of a type of lifestyle, such as inscribing an object to avoid confusion when sharing a confined space with many people who have similar objects. It may also have indicated the status of belonging to a group of literate people.

It has to be accepted that there are inherent problems in attempting to plot the find-spots of inscriptions from military sites on the northern frontier of Roman Britain. One is that inscriptions on heavy stone, such as substantial altars and building inscriptions were often broken up and re-used for general building stone (by both Roman and post-Roman builders), thus making an original context impossible to prove for some stones. Another is that many inscriptions on stone were recovered from antiquarian excavations, or through prospecting, and as such no good records of their exact contexts remain. For this reason, all stones that fall into either of the above categories have to be discounted for the purpose of the artefacts plots in this study. Only where stone inscriptions have been found by modern excavation, or were recovered with contextual information by antiquarians who kept careful notes, will it be possible to advocate their inclusion in this study. Other inscribed portable artefacts are however examined in this study, such as inscribed ceramics, and it is acknowledged that they carry with them the same inherent problems common to all portable material culture. They may be used in one place and discarded in another, or in some cases be recycled or sold. However, it is worth undertaking this task as inscriptions were visible manifestations of literacy, and it may be that the messages they conveyed varied from one area, intramural and extramural, to another depending on the audience.

3.5.2 Stylus pens

There is now evidence for a high level of literacy in the Roman army in Britain (Bowman 2003: 29). Stylus pens, seal boxes, ink pen nibs and inscribed stones are a range of artefacts that may indicate the presence of a literate person or society. The survival of stylus pens in the 3rd and 4th century deposits at sites along the northern frontier will be used to examine the evidence for literacy in extramural occupation. Stylus pens are normally forged from iron, although more

rarely can be of copper alloy or silver, and they vary in size and decoration to fit the hand and requirements of the owner. The pens are robust artefacts that survive even when corroded and can normally be easily identified in the archaeological record. Hanson and Conolly have noted that ‘these are relatively common artefacts, they offer the potential, on the basis of their context and distribution, for some assessment of the extent of literacy in Roman Britain.’ (Hanson & Conolly 2002: 155).

Vindolanda has produced the largest collection of written material from Roman Britain, mostly in the form of writing tablets written in ink or scratched on wooden and wax tablets from late 1st or early second century contexts. Wax tablets, (associated with stylus pens) could be used for record keeping, accounts, wills and financial transactions, and could be stacked like modern CD’s to form a retrievable archive, ideal for merchants and quartermasters (Birley A.R. 1999: 10). In amongst the thousands of documents from these levels, and often sharing the same context, have come over two hundred stylus pens (Birley 1999: 7). It is possible to suggest that the distribution of stylus pens can offer compelling evidence for the continuing influence of literacy in the Roman army, and its spread into extramural areas may either reflect the presence of literate combatants in those areas or literate non-combatants as the latter group are well attested for in the Vindolanda writing tablets (section 2.4).

3.5.3 Gaming

Gaming boards from northern Britain appear to have been used for one specific game and its variants, *ludus latruncularum* (a war game), played on a board lined with squares or spaces (normally 8 x 8 or 9 x 9 spaces, but could be as many as 12 x 12 spaces). This game used gaming counters lined in rows or phalanxes called little soldiers or bandits, *latrunculi* (Bell 1979: 83). The counters were made from a variety of materials including pottery, bone and stone (and there were undoubtedly some made from wood) to professionally manufactured gaming pieces made from coloured glass and jet. Figure 4.47 shows a variety of counters made

from different materials from Vindolanda. These are typical of the broad range of counters to come from other sites on the frontier such as from South Shields (Allason-Jones & Miket 1984: 56-59) and Corbridge (Bishop & Dore 1988: 204-209).

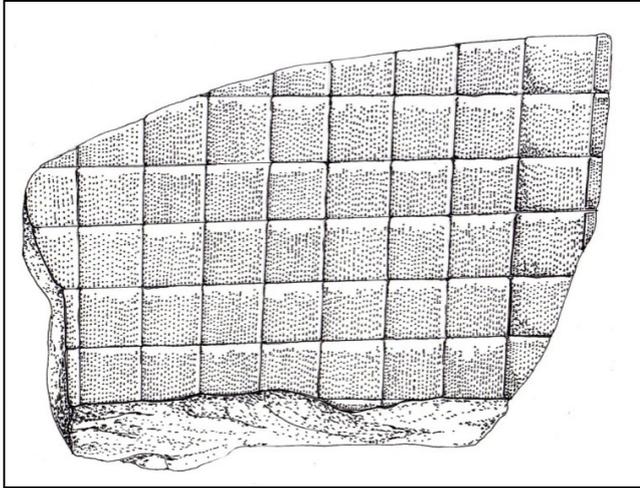


Figure 3.3 (Vindolanda small find number - SF11822) is a gaming board uncovered from a 4th century context during the 2008 excavations at Vindolanda from a street to the south of the granaries inside the fort. This board would have probably been used to play the ludus latruncolorum game, and was probably a 10 x 10 square board that has been carved on to a 22cm x 22cm smooth block of local buff sandstone.

The recovery rate for gaming boards is far smaller than that for counters, as a grid or board could have been scratched onto any piece of ground by simply using a stick to mark the mud, earth, or clay. Portable stone boards have been recovered from the sites of Chesters, Housesteads, and Corbridge on the northern frontier, and four of the *ludus latruncolorum* varieties relevant to the 3rd and 4th century periods covered in this thesis have been recovered from excavations at Vindolanda (figure 3.3).

An excellent comparison from another part of the Roman Empire is the 4th century Roman fort of Abu Sha'ar on the Red Sea coast of Egypt. This site has produced a significant number of gaming boards and counters (Mulvin & Sidebotham 2003: 602-616). At Abu Sha'ar a gaming room/den was identified inside the walls of the fort with a concentration of six boards inside a single room. Many other game boards were found across the site in both intramural and extramural contexts (Mulvin & Sidebotham 2003: 614). The concentration of game boards and counters at Abu Sha'ar is significant as they do much to demonstrate the importance of gaming in the daily lives of members of the Roman military community. Plotting the distribution of

counters and boards at sites can be used to reveal locations where people may have gathered to socialise and relax, and in these areas one might expect clusters of other artefacts associated with leisure activities such as dice and coins, especially if gambling has taken place.

3.5.4 Crucibles

The Roman army used large quantities of metal for everything from building (iron nails, t-clamps and lead) to the manufacture of utensils, tools, pens, fixtures and fittings, and the maintenance and repair of weapons and armour. The result of this was that the manufacture of goods through metalworking was likely to be a key activity on a Roman military site where the raw materials for such a process were readily available, and a large number of people would have been needed to support and maintain this industry. *Fabricae* are often identified in intramural contexts on the northern frontier of Roman Britain such as at Elginhaugh (Hanson 2007: 86). However, not all metalworking may have been a military process, and the name 'Vindolanda' first came to prominence with the discovery of an altar to the god Vulcan, the god of smithing, set up by the *vicani Vindolandesses*. The inscription was set up by a group who expressed themselves with corporate identity of 'the villagers of Vindolanda' near the Roman wells and water tanks at the site, some 150m from the western fort defences (Collingwood & Wright 1965: 535 – RIB1700).

Ideally, a blacksmith would have needed at least three others to support his work in keeping the fires burning and striking the metal, not to mention the labour intensive process of mining of ore or the collecting of bog ore/fuel and smelting (Sim & Ridge 2002: 56-57). Each workshop could then have a support network of dozens of labourers. However, despite the intensive nature of the processes involved, some aspects of metalworking such as smithing are relatively difficult to trace in the archaeological record (Heyworth 1993: 211). This is due to the fact that smithing hearths could be set up almost anywhere and were destroyed after use to extract the metals. Often the best evidence for metalworking having taken place is either the presence of slag or crucibles for copper working (Oleson 2008: 111) and a large number of crucibles were

discovered outside the walls of the 3rd century fort at Vindolanda in buildings which had surviving industrial hearths (chapter 4, section 4.12). Although these buildings may have been operated by the army, and metal working and military occupation are often seen as synonymous (Bishop & Coulston 1993: 184-185), the evidence for metalworking in extramural settlements implies that non-combatants may also have been involved in this activity as suggested in RIB1700.

3.6 The deposition of artefacts at Vindolanda

There may have been a great variation in the ways in which artefacts have come to be deposited in the archaeological records at military sites on the northern frontier of Roman Britain. The cycle of use, re-use or re-cycling before being lost, discarded or purposely deposited may have differed for each artefact and varied greatly between certain artefact groups. For instance, it is unlikely that swords and beads were deposited in exactly the same way or circumstances in most contexts. Swords were more likely to have been purposefully deposited or partial finds may have been the result of cast off after repairs, rather than casual loss.

Post depositional processes have also to be taken into account, especially on a site where constant re-building was a feature of the occupation and there may have been disturbance after initial deposition had taken place. This may have been through human activities or other agencies, such as flooding, especially relevant to material which may have been light or buoyant and could have floated out of a flooded fort ditch or washed down a street. The extramural site at Vindolanda has a gradient which slopes towards the western fort wall, and as a consequence artefacts deposited on surfaces, such as streets, or in drains, may have washed down towards the fort walls and ditch in wet weather. There may be a discrepancy between the numbers of artefacts that have survived in 3rd century intramural versus extramural contexts at Vindolanda, with a higher proportion in extramural areas. The reason for this is that the extramural settlement was abandoned at the end of the 3rd century and the space was subsequently not built

upon, while the interior of the fort continued to be modified into the 4th century and beyond. The continued intramural occupation may have resulted in the removal and disturbance of artefacts as building plots were cleared to make way for new construction. The effects of possible re-deposition of artefacts on the interpretation of a site must be taken very seriously as this issue has the potential to mislead. As a consequence the interpretation of the deposition of all artefacts needs to be carefully examined before strong conclusions are offered on the spatial spread of artefact data, especially if that data is offered as absolute proof of a type of use/occupation. Such a warning is clearly defined in Allison-Jones article entitled 'Sexing Small Finds' where she points out that a few brooches and beads in 4th century intramural contexts at Housesteads may not be seen as definitive proof that women co-inhabited the 'chalet' type buildings inside the fort (Allison-Jones 1995: 22) although this does remain a possibility.

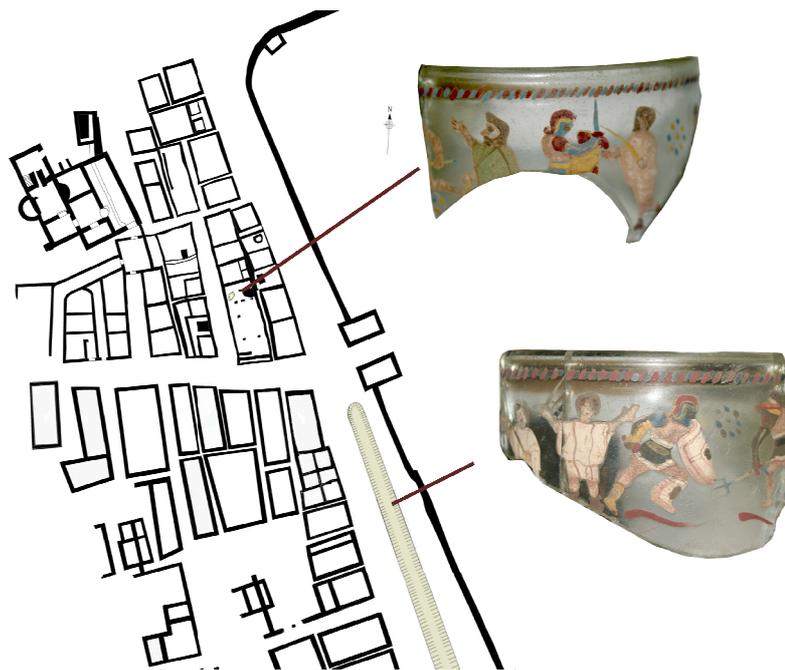


Figure 3.4 A plan of the western defences of the 3rd century fort at Vindolanda with the relative contexts of the conjoining sections of painted gladiator glass.



Figure 3.5 The conjoining sections of painted gladiator glass re-joined.

The fort ditch at Vindolanda has been treated as a separate area due to its ambiguity of use, and this may also have applied to the fort ramparts some consideration of which has been given in the discussion in chapter 4. While the ditch separates the fort from extramural occupation it is accessible to both areas and therefore the material held inside a fort ditch may have come from either context. The depositing of rubbish into the 3rd century fort ditch at Vindolanda by those who used extramural buildings is highlighted by the recovery of two sherds of fine gladiator glass (figure 3.4). These were found to make a perfect join, and were once from a single vessel (figure 3.5). One shard of the vessel was uncovered in the fort ditch during the 1992 excavations, and the other shard from a small rubbish pit during the 2007 excavations, within a building which may have been a bar or tavern (figure 3.4).

The processes involved with the formation of the site are important when considering the nature of the deposition of artefacts at military sites on the frontier. In chapter 2 the history of the occupation of Vindolanda is covered in detail, and this discusses how the fort expanded and contracted many times to exchange intramural and extramural spaces intermittently. This may have had an influence on the re-deposition of some artefacts, particularly through the digging of ditches into the earlier occupation of the site, so the location of these ditches may be a consideration in areas where cross contamination may have occurred.

The nature of the floor surfaces inside the buildings shows how many of the artefacts recovered may have been simply lost or discarded rather than purposely deposited in rubbish dumps. This

demonstrates that in general the distribution of deposited artefacts at Vindolanda, with the main exception of the ditches, can be seen to equate to deposition through use.

In the pre-Hadrianic periods of occupation, where anaerobic preservation remains, thick layers of bracken, heather and straw, sometimes over 50cms in depth, remain covering timber or earthen floor surfaces. These organic layers were probably laid down as a form of insulation to deter damp. It would appear that the layers were normally refreshed at least once a year leading to a build up over a long period of perhaps 10-12years and small artefacts which were lost, dropped or discarded in the gloom of the buildings became trapped between the various layers of floor coverings. It is quite possible that the practice of covering the floors with bracken, heather and straw would have continued throughout the occupation of the site, although the preservation levels for these do not extend into the 3rd and 4th century contexts. However, the evidence from 3rd and 4th century ovens in both extramural and intramural contexts shows that exactly the same materials were used as a fuel (Huntley 2007: 207-219). This could suggest that old floor coverings may have been recycled as fuel in later periods. Trapped artefacts such as beads would then be re-deposited in a new context.

When possible, these factors will be taken into account when considering the depositional patterns discussed in chapter 4.

3.7 Quantifying the data

It must be acknowledged that there is a considerable difference in the quantity of artefact types found in the intramural and extramural contexts at each of the sites. The discrepancies in volume of excavated material from intramural versus extramural excavations at Vindolanda, Catterick, Housesteads, South Shields and Birdoswald does not necessarily reflect what may have been the true spread of material culture across those sites. For this reason it is desirable to add another level of control other than that offered by the artefact controls. The relative volume

of earth excavated from extramural and intramural contexts is therefore an important consideration.

Unfortunately this extra level of detail is only possible when considering the evidence from the site of Vindolanda, as only at this site is there the detailed stratigraphic and contextual information necessary for such a calculation. An estimate of the total volume of the excavated area at Vindolanda has been quantified. The difference between the volume of this excavated material from intramural contexts versus extramural contexts and the fort ditches has been shown (figure 3.8).

The frequency of artefacts from different parts of the site will be expressed as a ratio of the total area excavated at the site of Vindolanda in the relevant discussion in chapter 4. This technique goes some way to level the discrepancy between the volumes of extramural excavation as opposed to intramural excavation at the site.

For example; if there is a greater volume of excavated earth from one part of a site than another, and that shows an increased frequency in an object category, an obvious bias in the frequency of artefact distribution could be claimed. This may or may not be a significant factor in the frequency of an object appearing in a distribution map, and when this does occur it is profiled in the relevant discussion.

Unfortunately (and quite understandably) excavators rarely record the exact quantity of earth removed in an excavation season, and Vindolanda is no exception. However, a basic estimate of the different volumes of material excavated from both intramural and extramural parts of the site as well as the fort ditches is possible by examining the areas that have been excavated in modern times, where we have records of the size and depth of trenches. For this reason only modern excavation of the site, post 1929, will be considered. Even here it should be noted that early excavators may not have been as assiduous in artefact recovery as the excavators of today.

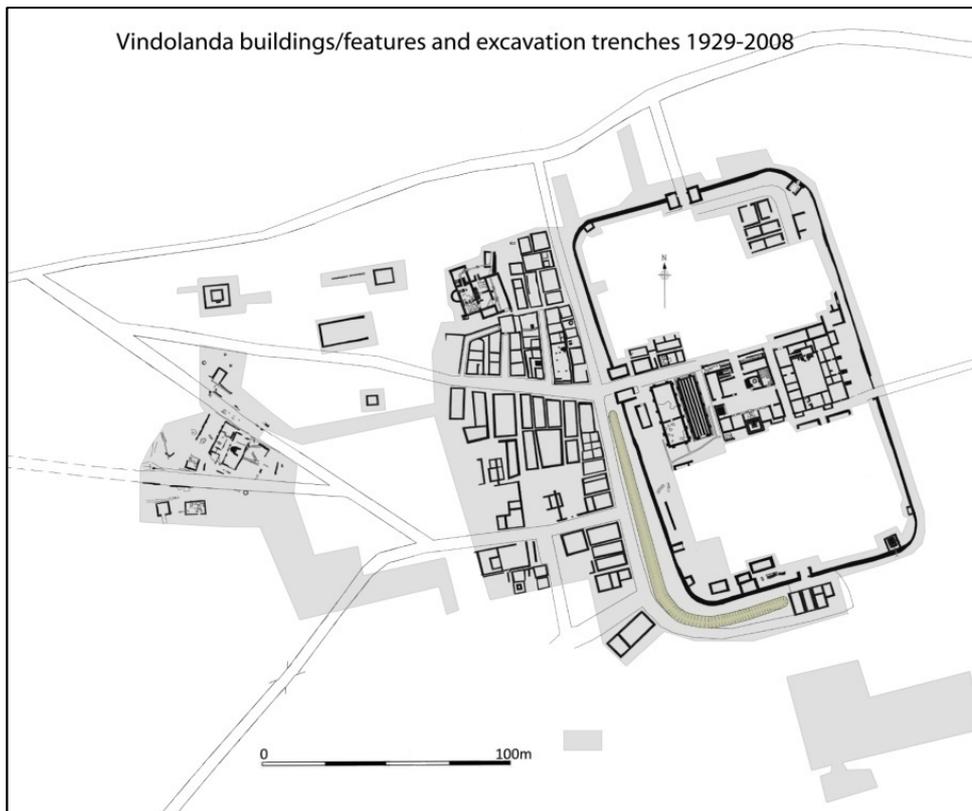


Figure 3.6 The extent of the 3rd century excavated areas of Vindolanda from 1929-2008 in grey.

While accepting that there must be a margin of error in any such calculation, the results can be informative and this has been considered when examining how to interpret the patterning of material culture from the site of Vindolanda. A separate calculation has also been included for the fort ditches outside the western and southern fort walls. These were undoubtedly part of the military defences of the fort, although were outside the walls of fort and therefore also accessible to the extramural occupants of Vindolanda.

Intramural

The average depth of the excavations to 3rd century levels starting at c AD 213 has been greater inside the fort than outside, largely due to the overburden of 4th century/5th century material and the greater quantity of surviving masonry. For these calculations, an average depth of 1 metre has been assumed.

- The central area – *principia*, *praetorium*, *horrea* and parts of the roads to the north, south and in between them: 90 x 33 metres at 1m depth = **2970** cubic metres of earth. Of this some 744 cubic metres is dedicated to the *principia*, where much of the material culture recovered from the excavation of this building was lost while being stored in Housesteads museum during WW2. This leaves a volume of only **2226** cubic metres which has contributed directly to this study.
- Southern defences, including the fort wall, the latrine in the south east corner, south gate, rampart mound and some nearby small internal structures: 94 x 20 x 1 metre depth = **1880** cubic metres.
- Western defences, including the fort wall, the western gate, the rampart to the south of the west gate, and a latrine in the south west corner: 89 x 10 x 1 metre depth = **890** cubic metres
- Northern defences, all the fort wall and the north gate, with artillery platform and latrine in north east corner: 91 x 9 x 1 metre depth = **819** cubic metres
- Eastern defences, all the fort wall, some of the rampart mound and the east gate: 157 x 5 x 1 metre depth = **785** cubic metres
- The northern half of a barrack block and roadway in the north east quadrant of the fort: 23 x 20 x 1 metre = **460** cubic metres.

Total: estimated at **7060** cubic metres of material (+/- 10%)

Extramural

The average depth of the extramural excavations from grass level to c AD 213 is 75cm, mainly due to the lack of 4th/5th century material in most areas and the fact that building techniques differed in extramural areas, which relied more on timber buildings based on stone foundations, than did intramural parts of the site. The extramural parts of the site can be divided into three separate blocks for the purpose of this exercise: the main excavated area from the bath house to the western fort wall in the north of the extramural settlement to a smithy in the south; the

western part of the site, temples, shrines and water tanks, and a small built up area to the south of the fort.

- Bath house to smithy & to the edge of fort ditches: $71 \times 157 \times .75$ depth = **8360.25** cubic metres.
- Western site, temples, shrines and water tanks combined: $84 \times 73 \times .75$ depth = **4599** cubic metres.
- Southern extramural structures, outside the south gate of the 3rd century stone fort: $22 \times 10 \times .75 =$ **165** cubic metres.

Total: estimated **13124.25** cubic metres of material (+/-10%)

The area covered gives a ratio of extramural/intramural as 2:1.

The 3rd century fort ditches

Fort ditches at Vindolanda were not a uniform shape or depth for their entire length. The southern ditch was only 4m across the top and approximately 2m deep, while the western ditch was larger at 5m x 2.5m. Both of the ditches were V shaped and quite steep, although this too varied from section to section. As such the cubic volume varies, and a mean measurement from the excavated area of both ditches has been taken.

- The western fort ditch: $\frac{5 + 2.5}{2} = 6.25$ x 149m = 931.25 *cubic metres*
- The southern fort ditch: $\frac{4 + 37}{2} = 4$ x 37 = **148**

Total: estimated **1079.25** cubic metres of material (+/-10%)

Analysis of the excavated areas by volume

The pie chart, figure 3.8, graphically illustrates the discrepancy between the volumes of earth excavated in the different areas of the fort from which the material culture was recovered and is

used in this study. The total volume of earth removed by hand excavation to the c AD 213+ levels at the site, post 1929, is **21263.5** cubic metres. Taken alone (excluding the intramural areas with no data and the fort ditches), the examination of extramural parts of the site is more than double that of the intramural areas. If the distribution of artefacts was evenly spread across the entire site, based on this data, we might expect a ratio of circa **1.88:1**, in terms of totals per category on an extramural versus intramural basis.

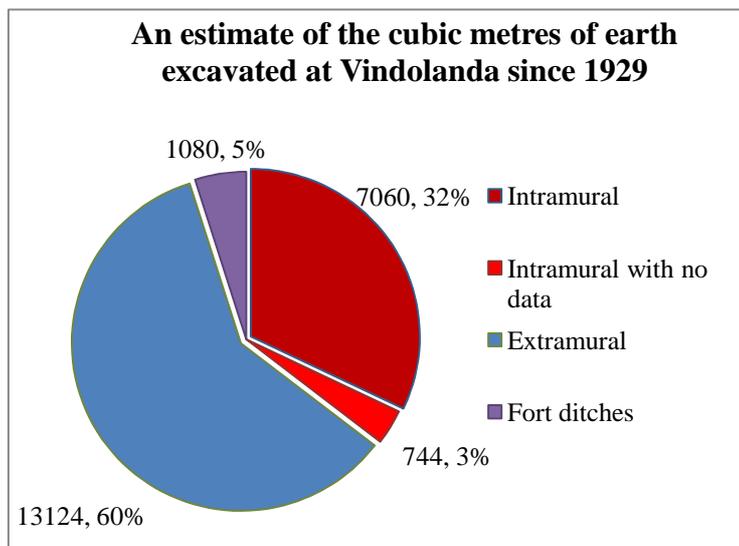


Figure 3.7 The volume of soil/debris that has been excavated in the relative areas of the site of Vindolanda. The section entitled 'intramural with no data' corresponds to the lost datasets from the 1930's principia excavations.

It is estimated, based upon the non-excavated areas at Vindolanda, that the area covered by the extramural occupation will exceed c4ha. This would mean that circa 56% of the extramural settlement has yet to be excavated. Despite this, Vindolanda remains one of the most fully explored extramural settlements of its type from the Roman Empire. Excavations have uncovered almost 50% of the 3rd & 4th century intramural area.

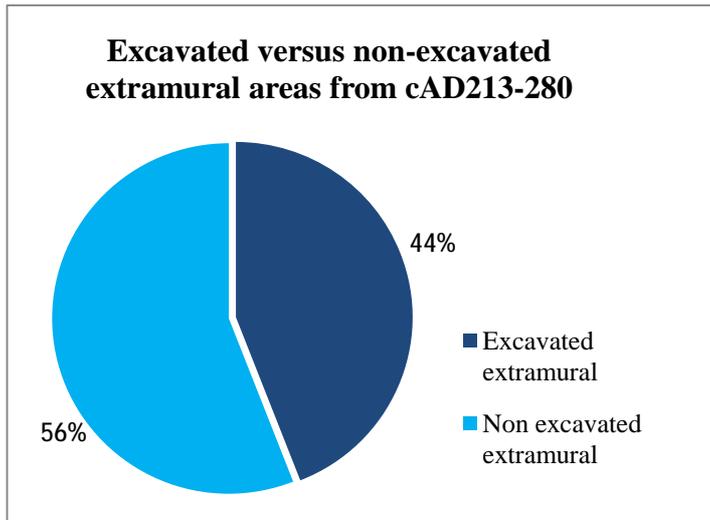


Figure 3.8 The excavated versus non excavated areas covered by the extramural settlement at Vindolanda in cubic metres in relation to that which has yet to be explored by modern excavation.

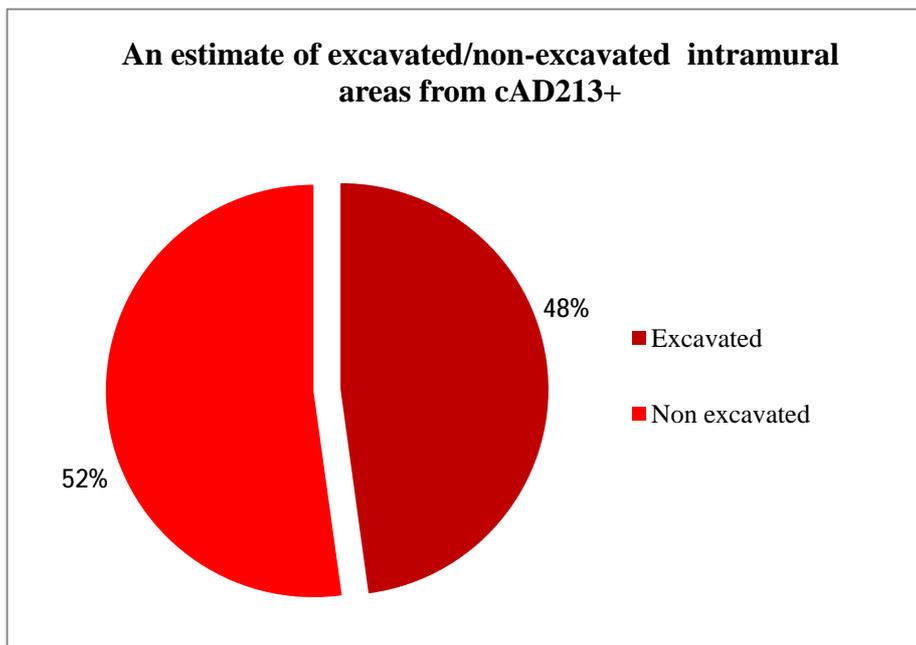


Figure 3.9 A estimate of excavated intramural areas from the 3rd & 4th centuries inside the fort.

3.8 Plotting the Data

To examine the nature and significance of extramural occupation on the northern frontier through an analysis of the deposition of material culture, a methodology was required which could present the distribution of a wide range of artefacts across the site of Vindolanda from 3rd and 4th contexts. Although a GIS package such as Arch GIS was initially considered for this task, it was rejected in favour of a more expedient and cost effective method that was adequate

to the needs of the project by using a combination of Adobe Illustrator and Photoshop. The datasets from the site of Vindolanda were manually plotted out on to a plan of the 3rd and 4th century site for ‘eyeballing’ and analysing the depositional patterns.

This technique was used to highlight any obvious patterning/clustering of artefacts on the site of Vindolanda in intramural and extramural contexts. It is important to note that as well as highlighting concentrations of artefacts in certain areas, such as beads in the 3rd century extramural occupation (chapter 4, section 4.5), this also clearly showed where there was an absence in the distribution of artefacts being deposited in other areas which may be equally significant. Adobe Photoshop and Illustrator allow for the layering of data, and plots of one artefact can be overlaid over another which highlights possible artefact associations more clearly (such as beads and bracelets, chapter 4 section 4.5). This allows for a visual ‘eyeballing’ between the depositions of different artefacts on the same plan.

Once the datasets were assembled it was possible to compare the relative frequency in the deposition of artefacts from intramural versus extramural areas at Vindolanda (chapters 4), and from the other comparator sites (chapter 5).

Chapter 4

Artefact distribution at the site of Vindolanda

4.1 Introduction

The substantial *corpus* of Vindolanda artefact data, gained from a series of modern excavations, and which constitutes the largest volume of stratified material culture from the northern frontier of Roman Britain, allows a platform upon which it is possible to build a wider comparative study. The results from the analysis of the spatial distribution of artefacts from Vindolanda can be compared against published datasets of material from other selected sites on the northern frontier and beyond (chapter 5). These have been selected as a source of comparable intramural data with smaller and varying amounts of extramural data.

This chapter is a detailed examination of the distribution of sixteen categories of artefacts from Vindolanda selected according to the criteria explained in chapter 3. Each category will be examined in terms of intramural and extramural deposition from both 3rd and 4th centuries. The finds analysis in this chapter will test whether it is possible, through distribution patterns from the Vindolanda intramural and extramural contexts, to identify the presence or activities associated with combatants, non-combatants as exemplified by adult women and artefacts that were commonly used by the whole community will form a separate shared activities category.

The analysis begins with categories of artefacts that have been used as a data control: coins and whetstones/hones (section 4.2), followed by artefacts associated with combatants (section 4.4), adult women (section 4.5), and shared activities or common bonds (section 4.10).

4.2 The data control artefacts

3rd century coin deposition

The ratio in the volume of earth recovered from the Vindolanda excavated areas is 1.88:1 (extramural versus intramural) and the ratio in coins recovered is 3: 1 towards extramural settlement with over 75% of the distribution outside the walls of the 3rd century fort as shown in figure 4.1. The difference between the quantities of coins from extramural versus intramural contexts may reflect the post depositional processes that took place in the intramural contexts in the 4th century. Intramural buildings were flattened to make way for new structures, while extramural areas were abandoned and although stone robbing took place in extramural contexts the demolition was not as thorough as in intramural contexts. The continued intramural building activity could have disturbed or redistributed coins and other artefacts from their 3rd century contexts.

Another explanation for the ratio of 3:1 in coin deposition could reflect the difference in the quantity of domestic structures examined in both areas. Only the *praetorium* and a partial barrack were excavated inside the fort as opposed to many more domestic buildings excavated outside the fort walls. Domestic spaces with floor coverings of bracken, straw and heather, as in the early barrack periods (see chapter 3), would have created excellent conditions in which small artefacts such as coins could be lost. These floors were much more difficult to clean than the flagged floors of the *principia*. Added to this is the fact that earlier excavation practices may also have had an influence on the recovery rate of coins from inside the fort, as this is the area where most of the early archaeological investigation took place. In the 1930's when the *principia* was excavated, sieving was not used as an archaeological technique on the site, and those employed in the actual excavation were not trained archaeologists (chapter 2, section 2.2). It is therefore extremely likely that a far greater number of coins were present in the *principia* than were recovered by the excavations.

Despite these considerations, the issue periods of the coins from both areas, using the Reece dating periods (Reece 2002: 145) remain directly comparable as shown in figure 4.2, with only one issue period where coinage appears in the extramural part of the site and not in the intramural area, Reece period IXb, c AD 238-259 (Reece 2002: 145).

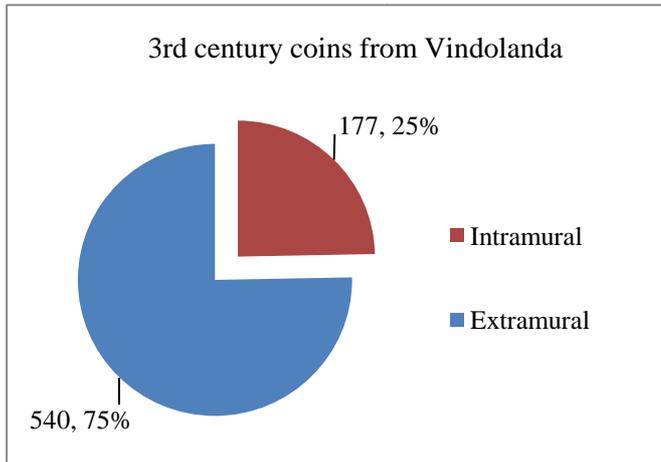


Figure 4.1 Showing the number of coins recovered from intra and extramural parts of the site of Vindolanda in the 3rd century with a larger quantity of coins deposited in extramural contexts.

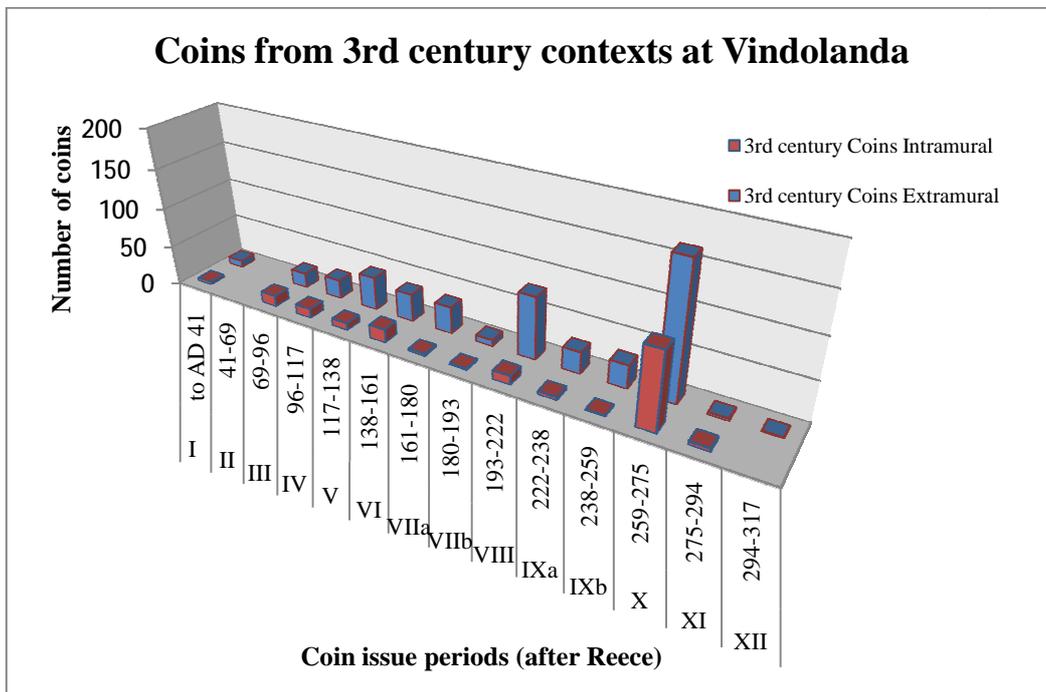


Figure 4.2 The coin issue periods for 3rd century intramural and extramural contexts.

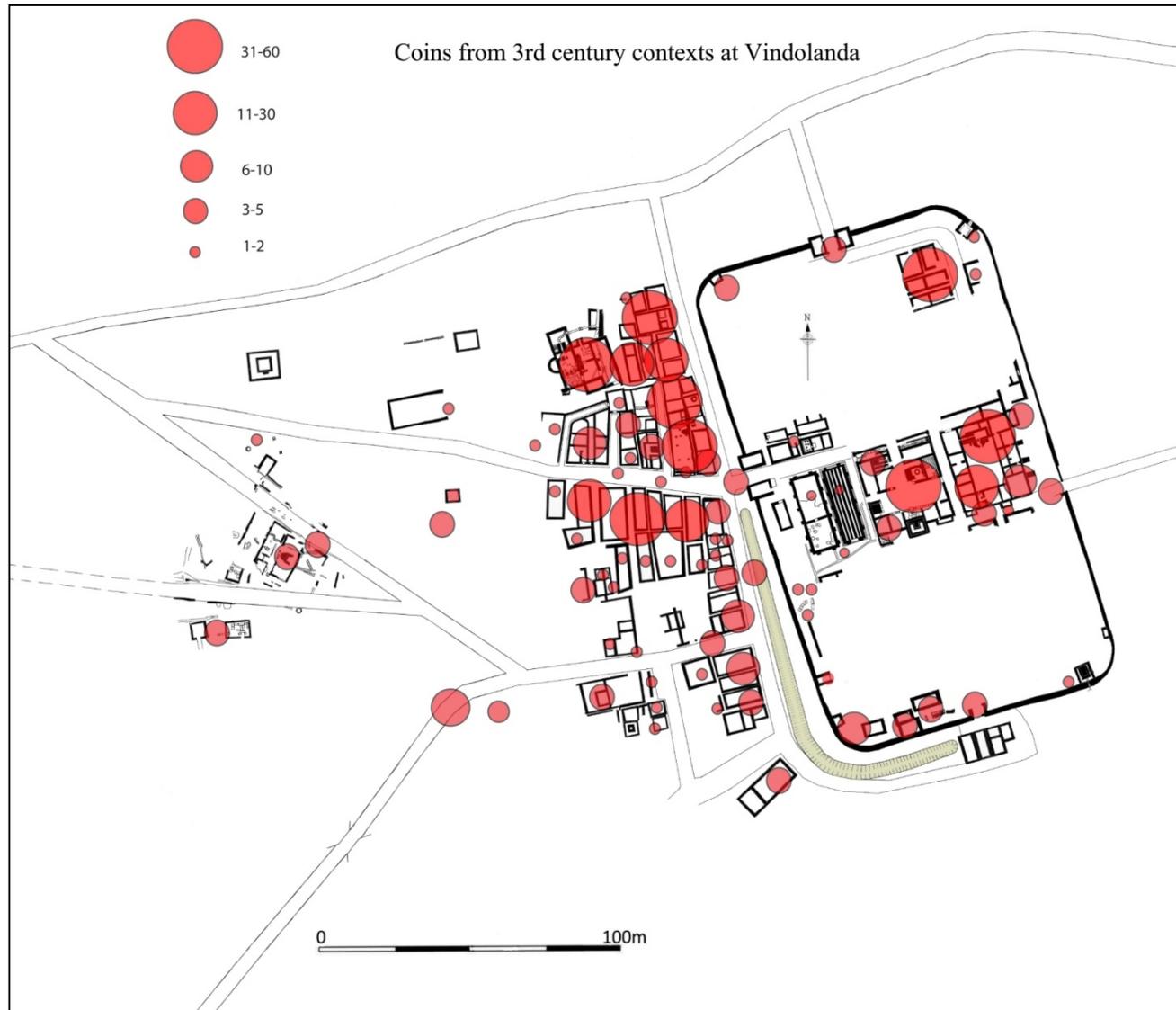


Figure 4.3 The distribution of 3rd century coinage at Vindolanda.

The close relationship in the coin issue periods suggests that there is little distinction between the coins dropped in intramural as opposed to extramural areas on grounds of supply, as they appear to be from the same source. The Vindolanda coin issue periods closely follow the peaks and troughs shown for the Reece British mean for coins, as shown in figure 4.4.

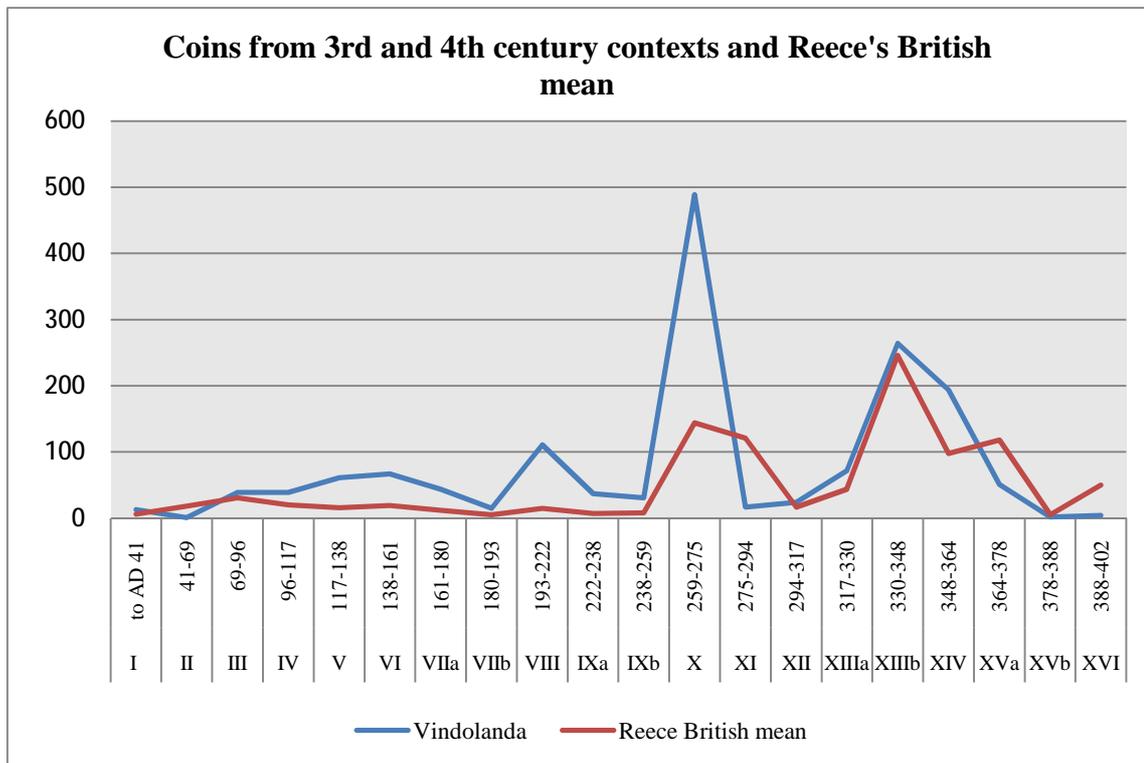


Figure 4.4 coins from 3rd and 4th century contexts at the site of Vindolanda and the Richard Reece mean average (Reece 2002: 145).

Significant concentrations of coins have been recovered from the south side of the street leading to the west gate of the fort, where it is believed commercial premises once stood. The bath house and the buildings between the baths and the western fort wall also show that a large number of coins were deposited in these contexts. The coins from the bath house are perhaps easily explained due to casual loss through removal of clothes and possibly small change lost after payment for services/food or other social activities. The concentration of coins deposited in these areas is mirrored by other artefact categories in this study, most notably gaming counters. It is possible that some of the coin loss in this area is a result of gaming or gambling having regularly taken place, or other commercial transactions being conducted. The buildings

facing the west wall of the fort have all been identified as metal workshops and the high concentration in coins may be either commercially based or perhaps could be as a result of the manufacture of copies of coins. A large number of radiate copies have come from this area and this may be due to counterfeiting.

4.2.1 4th century coin deposition

In the 4th century 99% of the coins have come from intramural contexts with 945 intramural coins to 17 extramural coins recovered thus far (to the end of 2008). The contexts for the small number of extramural coins have in the past been regarded as casual loss (Casey 1985: 103). While it is probable that the majority of the extramural settlement associated with the 3rd century fort was abandoned by c AD 280, it is not impossible that some limited resettlement may have occurred in a few areas. The deposition of coins on the road leading from the west gate of the fort shown in figure 4.6 indicates that this may have been the case. The dispersal of coins presents a case for a short lived and limited re-settlement of the extramural roadway leading to the west gate of the fort from the early to mid 4th century. This may have been no more than setting up market stalls on the abandoned 3rd century building plots, and this is supported by a small assemblage of 4th century pottery from some contexts on either side of the roadway to the west gate of the fort. Whatever the nature of this occupation, the evidence suggests that the west gate of the fort must have remained operational during this period.

Coin issue periods from 4th century contexts at Vindolanda support the argument made by Reece who suggested that new coins were in short supply in the first half of the 4th century. A result of this saw the widespread use of 3rd century radiates which continued well into the c AD 330's (Reece 2002: 141).

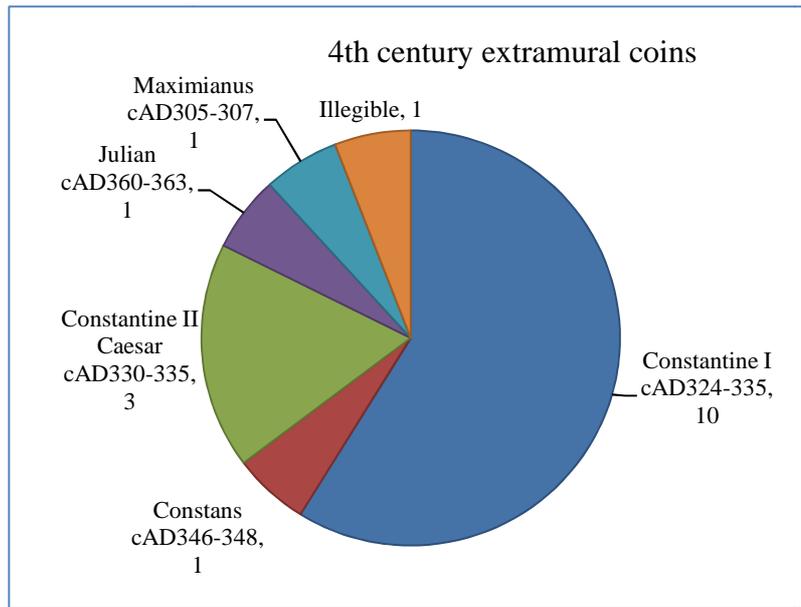


Figure 4.5 The numbers and issues of 4th century coins from 4th century extramural contexts

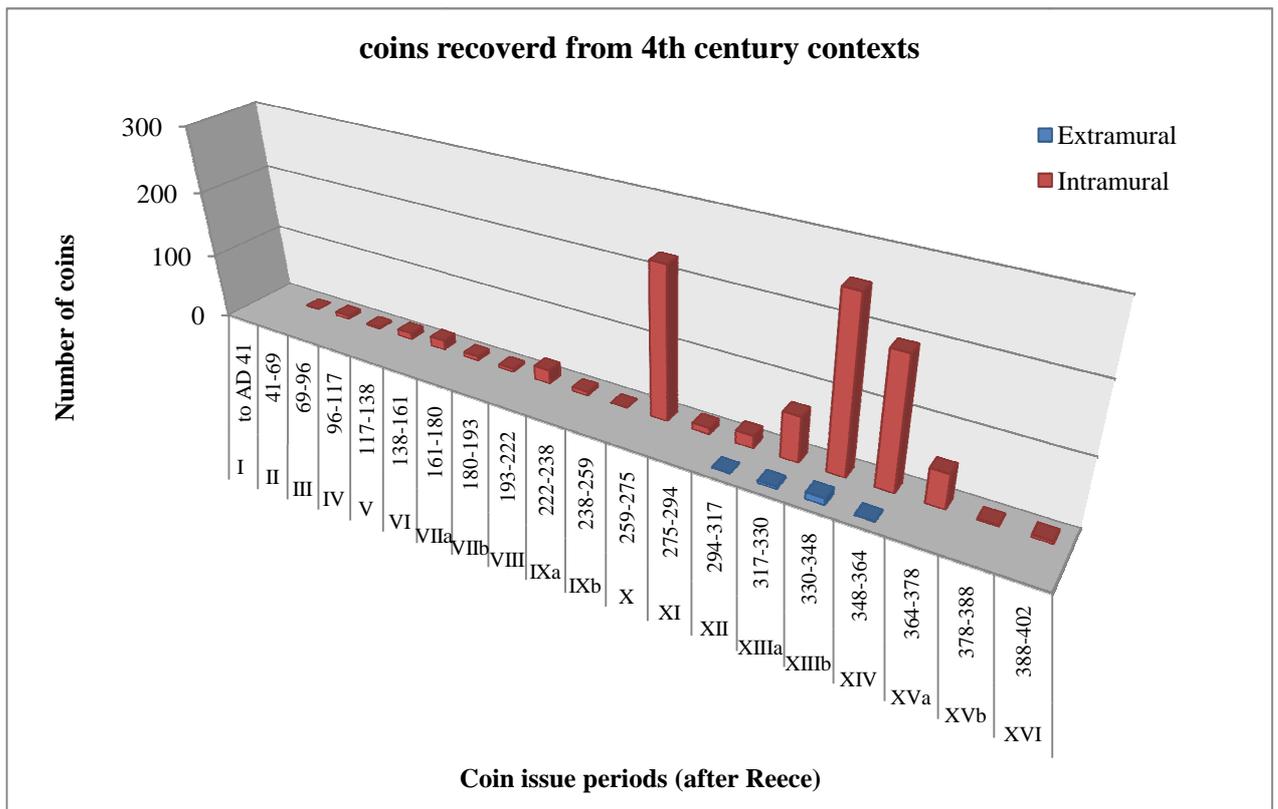


Figure 4.6 The coin issue periods (after Reece) for coins from all of the 4th century contexts at Vindolanda including earlier coin issues which may have remained in circulation.

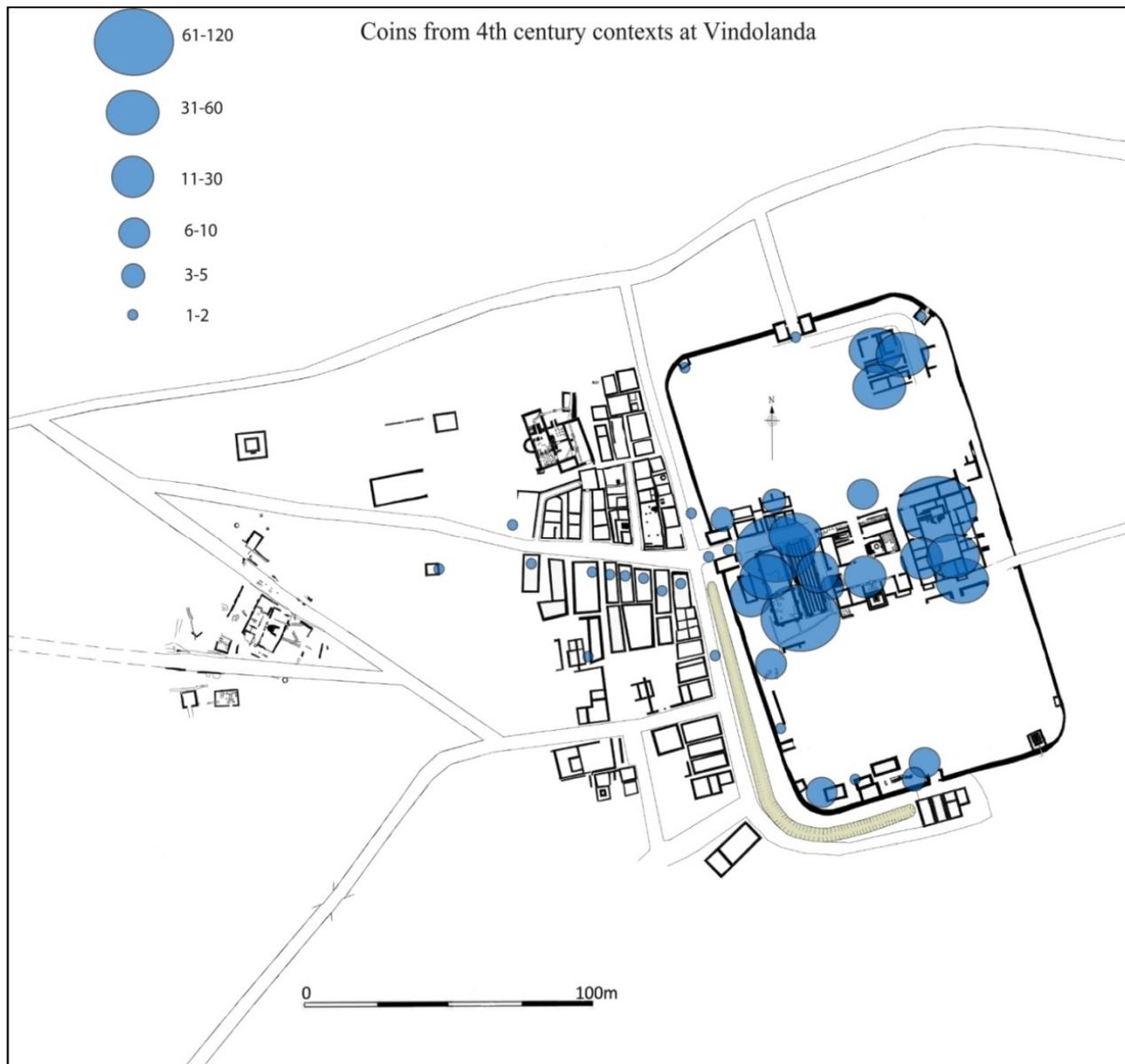


Figure 4.7 The distribution of coins from 4th century contexts at Vindolanda.

The majority of the extramural coins from the 4th century are shown to be inside the buildings on the south side of the street leading to the west gate of the fort. This may reflect the re-settlement or use of the building plots on this side of the street. Virtually no coins appear to have been deposited on the road surfaces in front of these buildings, and the lack of coins recovered from this context may be a result of post depositional processes. Heavy rainfall creates a surface runoff which has the capability of washing small artefacts towards the fort gate and into the roadside drains.

The *principia* and the ramparts generally show a similar pattern in coin distribution in the 4th century to the 3rd century levels. The largest change comes from the granaries, which have almost certainly been converted from 3rd century storage facilities to either domestic or more likely, commercial premises in the 4th century. This transformation may have happened in the first quarter of the 4th century as a large number of radiate coins came from the north, from the eastern granary and the *via principalis* to the north of the building. It is possible that this space was given over to trading, perhaps as a market area, as has been suggested for the forts at Newcastle (Snape & Bidwell 2002) and Carlisle (forthcoming 2010).

The road to the south of the granaries was equally active and this roughly cobbled area produced the only gaming board to come from a 4th century context at Vindolanda (figure 3.3). As in the 3rd century contexts, the association between concentrations of gaming counters and coins in some areas of the site cannot be easily dismissed. A much greater number of coins appear in the 4th century contexts from the barracks and the *praetorium* than those recovered from 3rd century contexts. This is mirrored by a general increase in the quantity of 4th century material culture to have come from those areas in relation to the 3rd century contexts.

4.2.2 Interpretation of the patterning

The general deposition of coins in 3rd century contexts at Vindolanda provides a pattern and control against which it is possible to evaluate the wider deposition of the other categories of

selected artefacts. There are three main areas of the site where a higher concentration in the deposition of coins is shown. Two intramural areas, the barracks and the *praetorium/principia* and a cluster in the extramural settlement, to either side of the road leading from the west gate and extending northwards to encompass the bath house and a variety of buildings which face the western fort defences.

The concentration of coins from the bath house and buildings on either side of the main east/west extramural roadway may indicate where commercial activity has taken place, or intensive occupation. A coin hoard of 111 coins from site XXIX, identified as a tavern, makes a sizeable contribution, whereas the fort ditch had a relatively small quantity of coins deposited within it.

This suggests that the inhabitants of Vindolanda may have been careful enough with their money not to throw much out with domestic rubbish. The lack of coins in the ditch also indicates that dirty floor material from extramural buildings, which contains coins and other small artefacts in varying quantities, may have been disposed of not in the ditch but elsewhere or by other means in the 3rd century. This is an important distinction when considering the way in which the inhabitants of the site disposed of their domestic waste.

In the 4th century the overwhelming majority of coins are from intramural contexts, with a ratio of 1:56 coins extramural versus intramural. This strongly suggests that extramural settlement was limited in the 4th century to either a brief re-settlement of the buildings on the south side of the east west road leading to the west gate, or that the coins may have been lost by travellers using the west gate of the fort. The sparsity of coins from 4th century contexts immediately outside the fort walls at Vindolanda would indicate that 4th century domestic waste was not deposited in these extramural areas immediately adjacent to the fort.

The 4th intramural deposition pattern also shows three prominent clusters. The number of coins deposited in the barracks and the *praetorium* remains as high as in the 3rd century. However, there is an additional and noticeable concentration of coins around the granaries and the *via*

principalis to the north of the granaries. Unlike 3rd century deposition at Vindolanda in either extramural or intramural contexts, a great number of coins were deposited on 4th century road surfaces in the inside the fort. This may indicate the presence of a market, as suggested at Carlisle (forthcoming 2010) and Newcastle (Snape & Bidwell 2002) in the same period, or this change in the deposition of coins may reflect a lack of rigorous cleaning regimes. In other words in the 4th century perhaps they did not sweep or clean the streets.

4.3 The deposition of whetstones/hones from 3rd century contexts

Whetstones/hones recovered from 3rd century contexts at Vindolanda were mostly deposited within the remains of buildings rather than on streets, ramparts, ditches or in rubbish pits. This suggests that most of the examples were deposited in or near their place of use rather than transported any great distance. This contrasts with other artefacts, some of which may have been buried, hoarded, thrown out with rubbish or lost. The 3rd century contexts at Vindolanda show a heavy concentration toward extramural settlement with 58 (88%) of whetstones/hones coming from this area. This represents a 7:1 ratio which is a significant difference. If the distribution of whetstones/hones was evenly spread across the entire site, based on the volume of earth excavated from intramural and extramural contexts, we might expect a ratio of 1.88:1 of extramural versus intramural whetstones/hones from the 3rd century. Three intramural areas have produced a total of 8 whetstones/hones from the 3rd century, 5 out of 8 can be said to have come from domestic contexts associated with either the preparation or consumption of food.

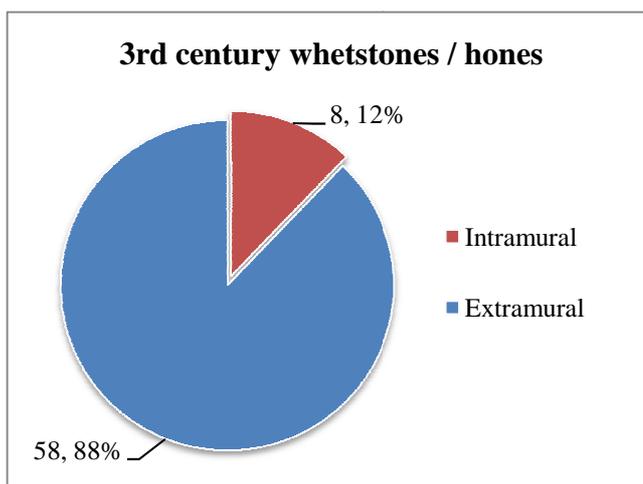


Figure 4.8, the ratio in the deposition of whetstones and hones from 3rd century contexts at Vindolanda.

The largest single concentration is from the south eastern corner of the *praetorium*, which produced 4 of the intramural examples. In this part of the building a kitchen with series of large ovens and dining room with a hypocaust system have been identified (Birley R.E. & Birley Andrew. R. *et al.* 1999: 11-12). While it cannot be proven beyond doubt that all of the whetstones/hones found here had a purely domestic use, this remains a realistic hypothesis. The single whetstone recovered from the south western rampart mound also came from a largely domestic context, a cooking bench built onto the rampart mound (Birley Andrew. R. & Blake 2007: 39). The 3 remaining whetstones/hones were recovered from the barracks in the north eastern quadrant of the fort, rooms 1A, 2A and 1B (Bidwell 1985: 50-71) and these may have also been used to sharpen all purpose knives or weapons.

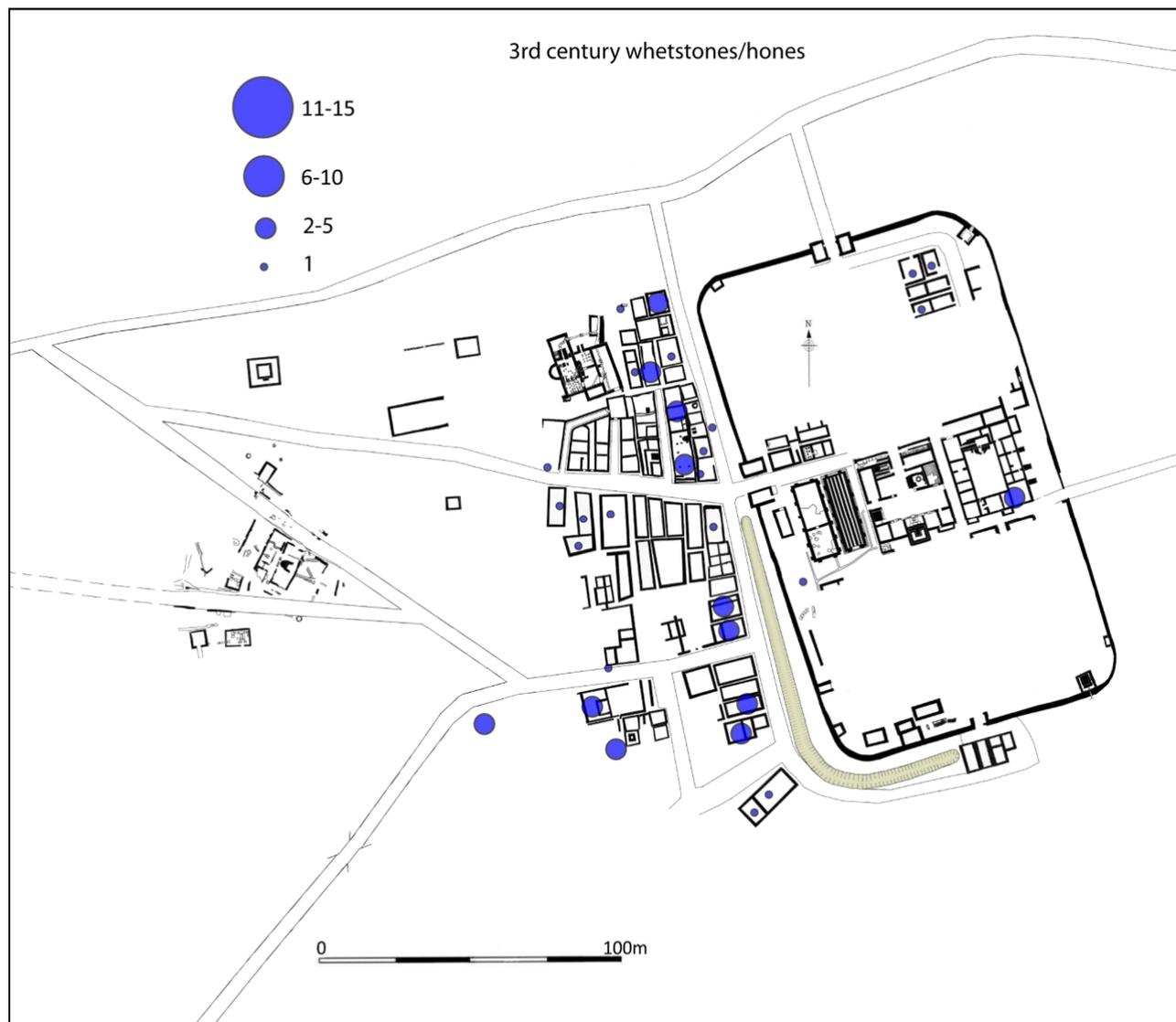


Figure 4.9, the distribution of whetstones/hones at Vindolanda from 3rd century contexts.

A far greater spread in the distribution of whetstones/hones is shown in extramural contexts, and once again, these have largely come from within built structures. Site XXIX, a strip building immediately outside the west gate of the fort, has the largest concentration of whetstones/hones. Part of this structure has been identified as a tavern, which had been furnished with an open communal space at the south side with a cooking bench and oven set immediately behind, as shown in figure 4.10. The area surrounding the cooking bench produced three whetstones/hones, and the second most northerly room, also furnished with a small oven, produced a further two whetstones. The rooms attached to the east of the building were used as workshops, and another two whetstones were recovered as well as the majority of crucibles that have come from the site (figure 4.54).

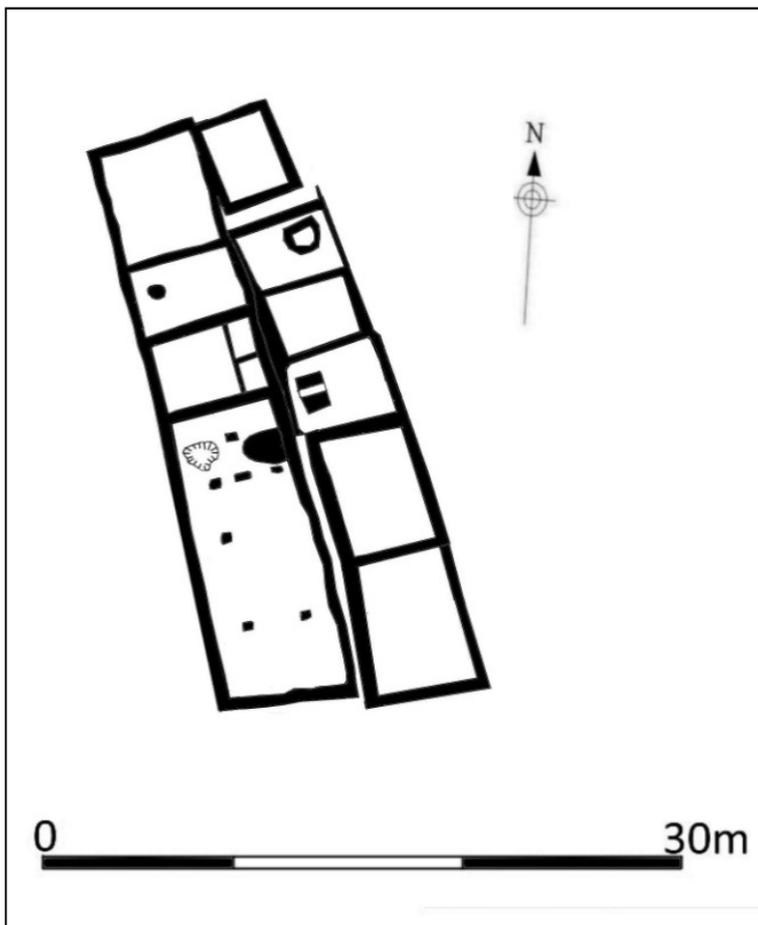


Figure 4.10 Site XXIX, which is likely to have been used as a tavern. The main room, facing the street on the southern side had a ceiling supported by columns creating an open social space. The largest concentrations of ceramic drinking vessels from a single building at Vindolanda were recovered from this building.

To the north of site XXIX, between the baths and the fort wall, further concentrations of whetstones/hones were discovered. This may indicate food preparation as well as cooking, or that the ovens had an industrial as well as domestic function. All of these examples have come from structures that were furnished with ovens. However, ovens and whetstones/hones are not always located near to one another, as shown by the lack of whetstones/hones recovered from buildings further to the west of site XXIX, all of which have had one or more ovens inside them and clearly had domestic and commercial areas within them. The same observation can be made for contexts to the south of the east/west street leading to the west gate of the fort. Only 50% of the buildings on the south side of the street have produced whetstones/hones and the majority of those structures have large ovens or cooking benches. To the south of this, opposite the south western fort wall, this is a concentration of whetstones/hones from five buildings, all of which have produced large deposits of other artefact categories in this study, such as beads, and stylus pens. Seven whetstones/hones from extramural contexts have come from outside buildings in relatively open cobbled spaces such as yards or on roadways. Where there is a single example, as on the road to the north of the west gate of the fort, this may represent a random loss rather than the object having been used in that location. Groups of more than one whetstone/hone, like those on the south western side of the extramural area, may suggest use in those areas rather than the re- deposition of waste, although this is impossible to prove beyond reasonable doubt.

It is as interesting to note contexts with an absence of whetstones/hones. The fort ditch on the south western side of the site is an area that was filled in with debris, probably from both intramural and extramural contexts by the end of the 3rd century. The lack of whetstones/hones in the ditches is directly comparable with the lack of coins from the same contexts (section 4.2.2). This would support the argument where dirty floor coverings were discarded separately from other types of rubbish and were not deposited in the Vindolanda fort ditches. This raises the question as to where the rubbish in the ditches has come from. It may be that the ditches were used for the discard of waste from stables, or possibly industrial/commercial, rather than domestic premises. The later is shown by the example of the gladiator glass which was

deposited in this ditch (chapter 3, section 3.6). This clearly suggests that there was a link in the deposition of waste into the ditch from a commercial building.

The lack of whetstones within the baths at first appears to be easier to explain as there is no obvious role for the whetstone/hones in bathing. The temples, workshops, wells, and water tanks to the west of the site have not produced any 3rd century whetstones/hones, which, in the case of the workshops and temples is perhaps surprising. The use of tools in a workshop environment would suggest the need for whetstones/hones to be present, and knives may also have been used in religious rites/offerings at the temples.

4.3.1 The deposition of whetstones and hones from 4th century contexts

As with most categories of artefacts, apart from coins, the distribution of whetstones/hones from 4th century contexts is largely confined to within intramural areas due to the abandonment of extramural settlement in the 4th century (chapter 2, section 2.3). The solitary extramural hone from this period came from the bonfire site outside the north eastern guard chamber of the fort, and was found alongside an almost complete sword (figure 4.16). This bonfire site may have either been to clear rubbish, or, given its location, was a more permanent feature perhaps lit to keep guards warm while on duty.

The barracks in the north eastern quadrant show a similar pattern to 3rd the 4th century distribution with three whetstones, and a fourth recovered to the south of the toilet block/angle tower on the north eastern corner of the fort. This would indicate that there is no significant change in the use of whetstones/hones from 3rd to 4th centuries in this area. The concentration of 3rd century whetstones/hones in the *praetorium* continues and increases in the 4th century within the south eastern rooms. There is a further cluster in the north east of the building. Here, once again there is evidence of domestic activity which mirrors many of the contexts from which whetstone/hones were found in the 3rd century deposits. The north eastern room in the *praetorium* was transformed from a 3rd century heated living space into a 4th century kitchen

complete with oven, as shown in figure 4.11. A single whetstone has come from the northwest room. This space may have been used as a stable or wagon park in the 4th century (Birley R.E. & Birley Andrew R. *et al.* 42-44).

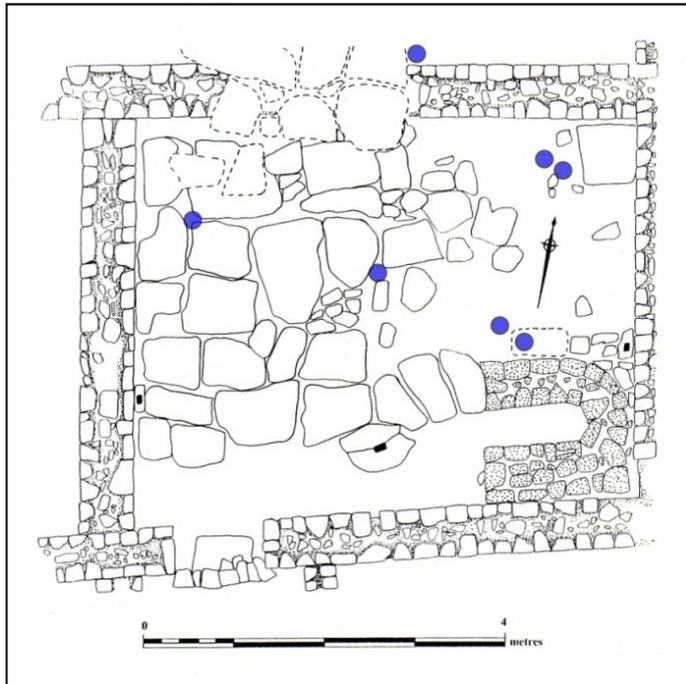


Figure 4.11 The north easterly room of the 4th century praetorium at Vindolanda with the distribution of whetstones marked in blue. Each blue circle represents one whetstone. The stone lined oven is clearly visible in the south eastern corner of the room.

The ovens on the south eastern rampart continued in use into the 4th century and a number of whetstones/hones have come from these contexts. To the north of this, a building on the rampart mound produced two hones, although no oven was found inside this structure. The occupants of the building may well have used the nearby oven built into the south eastern rampart mound for cooking purposes. Three whetstones have come from the southern ramparts, two from within buildings and a third from the south eastern corner of the fort near to a toilet block/angle tower. An explanation of the relationship between whetstones/hones and angle towers might be explained as places where combatants, serving sentry duty, could have taken the opportunity to sharpen their weapons or tools.

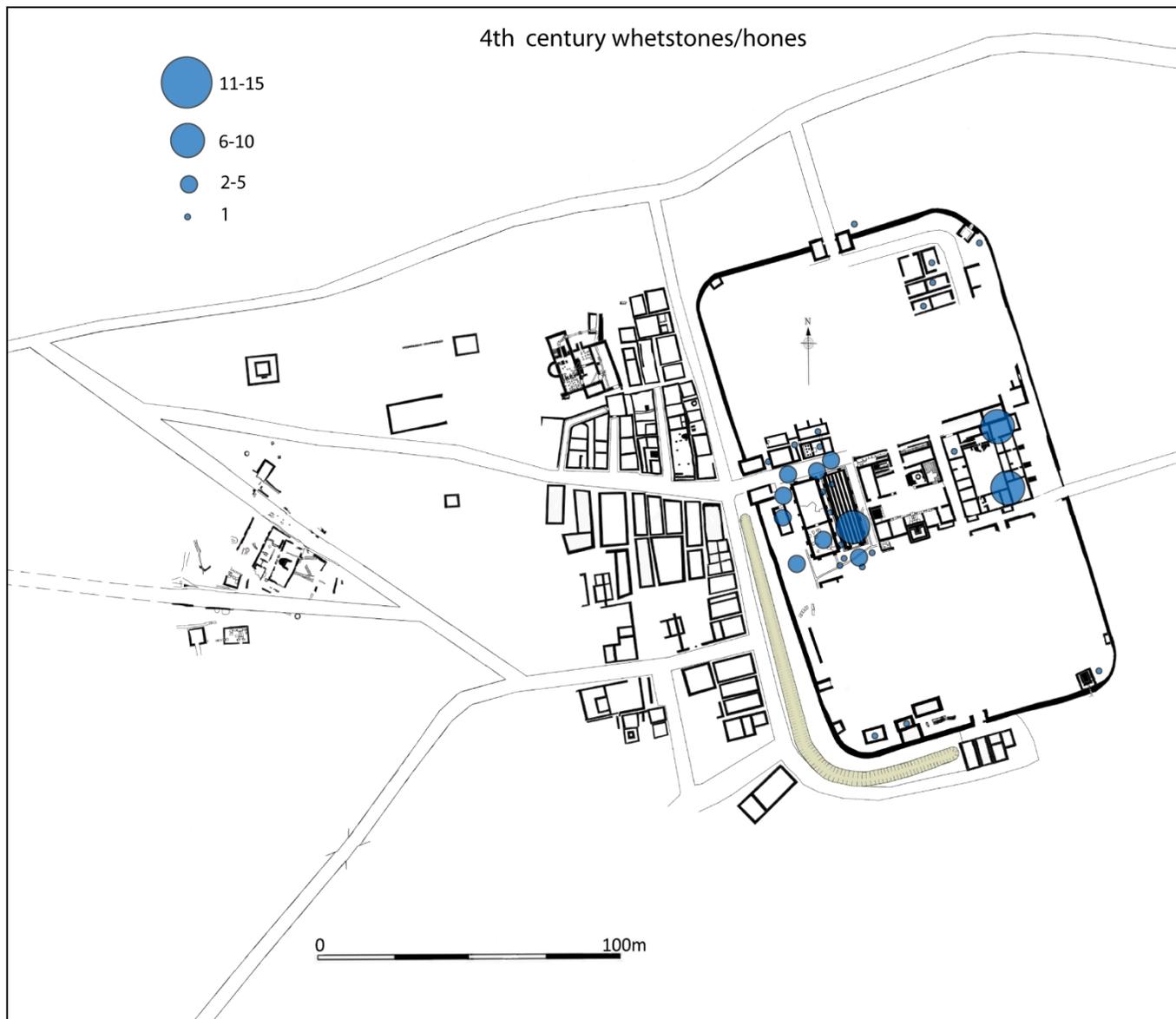


Figure 4.12 The distribution of whetstones/hones at Vindolanda from 4th century contexts.

The largest change in deposition is from the area surrounding the former 3rd century granaries, excavated in 2008 (Birley A R 2010 forthcoming). When including the roadways to the north and south of the buildings, this area provided the greatest concentration of whetstones/hones from a single area on the site in any period. The building that was once the eastern granary has shown evidence of being converted into a commercial or domestic space in the 4th century. A dividing wall was built through the middle of the eastern granary and an oven placed just to the south on top of the blocked granary basement channels. It is possible that the roadways to the north and south may have been used for markets in this period. Whetstones/hones may then also be seen as possible indicators of a market having taken place, perhaps being left behind by store holders selling either food, or services such as sharpening knives/weapons. However, it must be pointed out that there is no evidence of this practice from 3rd century deposits.

4.3.2 Interpretation of the patterning

Nearly all structures at Vindolanda have produced coins which is not the case for whetstones. However, where coins and whetstones/hones are found together a large number of coins were normally present, which may be indicative of a prolonged settlement or of high levels of activity. There is only one whetstone from a 4th century extramural context, and this does not fit with the distribution of extramural coinage from this period. Intramurally the distribution appears to be broadly linked, where there are a great number of coins (the *principia* aside) whetstones/hones have also been found.

The evidence from the distribution of 3rd and 4th century whetstones/hones from Vindolanda highlights the link between this type of artefact and possible domestic/commercial space, making their distribution of interest as an artefact category and as a control for the examination of the distribution of other artefacts in this study. The location of ovens/cooking benches and the recovery of whetstones/hones are especially marked at the site. It is clear that the distribution patterns show evidence for a trend towards domestic and commercial activity in the 3rd century extramural settlement. The data from the 4th century indicates that there was little

change in the deposition of whetstones/hones into domestic/commercial/social contexts. Wherever you have a domestic space either intramural or extramural, whetstones/hones appear in numbers. However, the patterning does suggest a significant increase in those types of areas within the fort in and around the buildings that were once granaries, suggesting their conversion in the 4th century to possible domestic/commercial/social use.

The use of whetstones/hones and coins as controls has provided two baselines by which the distribution in the deposition of artefacts associated with combatants, non-combatants and shared activities can be evaluated. The charts giving the percentages of artefacts from the selected categories, in both extramural and intramural 3rd century contexts, are shown in relation to the statistics for the controls and are presented at the end of each of the relevant sections.

4.4 Combatants - artefacts associated with combatants.

A large quantity of certain types of artefacts such as sling shots, swords, socketed weapons, crossbow brooches, shield bosses, helmet fragments, armour and scabbard fittings, may be regarded as synonymous with the presence of combatants at a site. This study will use these artefacts as indicators for the presence and activities of combatants at the site of Vindolanda in the 3rd and 4th centuries.

Weapons made from iron were robust in nature and had the ability to survive post depositional processes such as corrosion and disturbance by ploughing relatively well, making it unlikely that they would decompose entirely in the archaeology of northern Britain. Yet despite this, the archaeological recovery of artefacts such as swords and socketed weapons has remained relatively low on military sites when compared to other forms of material culture such as beads, bracelets, or gaming counters (section 4.5). One possible explanation for this is may have been the high cost of purchasing weapons and the cultural and personal value of this equipment which may have had a consequence of incentivising repairs or recycling the materials used in the manufacture of weapons. Roman army combatants were required to pay for any damages to

equipment, or to acquire new weapons, as illustrated in the form of a bill from Vindolanda period IV (c AD105-120) which listed the money owed by combatants for the purchase of new supplies including socketed weapons, in this case lances (Birley Andrew R. 2003: 96-98).

Vindolanda has one of the largest collections of socketed weapons from a single site on the northern frontier of Roman Britain and out of that collection; 49 spear/lance heads are relevant to the periods of occupation covered by this study. Of those, 17 have come from 3rd century contexts which then divide into 10 from intramural contexts and 7 from extramural contexts. This gives an extramural versus intramural ratio of 0.7:1. If there was an even spread of weapons from all contexts on the site then this figure should have more closely reflected the difference in volume of earth recovered from the intramural versus extramural areas with a ratio of 1.88:1. The remaining 32 socketed weapons are all 4th century in date and have been found in intramural contexts. Only 7 sword fragments have come from Vindolanda, and one of those was from a 4th century extramural context. Sling shot are commonly found on Roman sites, both in military and non military contexts and Vindolanda has produced 41 examples, of which 36 are from 3rd century extramural contexts and one from a 3rd century intramural context. All four of the 4th century sling shots have come from intramural contexts.

The other personal military equipment recovered from 3rd century contexts at Vindolanda includes crossbow brooches which were mainly deposited in extramural contexts. The same applied to shield bosses, helmet fragments, armour fragments and especially scabbard fittings, although the barracks produced a single example of a shield boss and a helmet fragment. The following section will examine these categories in terms of their 3rd and 4th century deposition before comparing this deposition with the control artefact categories of coins and whetstones/hones.

3rd & 4th century weapons

4.4.1 Sling shots

Of the total of 46 sling shots, 26 were made from stone and a further 20 were manufactured from lead. Lead shots were more expensive to manufacture and much heavier than stone shot and would do a great deal more damage. Stone shots from Vindolanda vary in weight from 12g to 19g, whereas lead shots are typically between 58-130g. A strong argument could be made to suggest that the different types of shot, lead and stone were designed to be used for different purposes. Figure 4.13 shows the clear trend towards the 3rd century deposition of sling shots in extramural parts of the site, with 98% (26) of the shots coming from extramural contexts. Almost half of the extramural sling shots, made of lead, were discovered in a hoard buried in a shallow pit in the floor of site XXX (N). This purposeful act of deposition may have been for storage rather than use and is not a repeated pattern.

The greatest concentration in the distribution of stone shot is to be found on the northern side of the street leading to the west gate of the fort, inside the buildings between the fort wall and the 3rd century baths. It would be reasonable to suggest that those shot were deposited in contexts where they had been stored by those who were intending to use them. The buildings on the north side of the street leading to the west gate have been identified as a combination of domestic households and workshops (chapter 2, section 2.7), and the scenario of stone shots being used for hunting purposes would fit well with the designated use of these structures, many of which have large domestic hearths for cooking. To the west of the site, in an area dominated by temples, wells and workshops there is a spread of stone shots that may have been deposited by use rather than storage or loss (section 2.7). It is not inconceivable that they could have been lost while used in hunting or practice at the periphery of the built up settlement. Two 3rd century intramural shots have been found, one from the courtyard of the *praetorium*, which was made from lead, the other inside the 3rd century granary, made from stone.

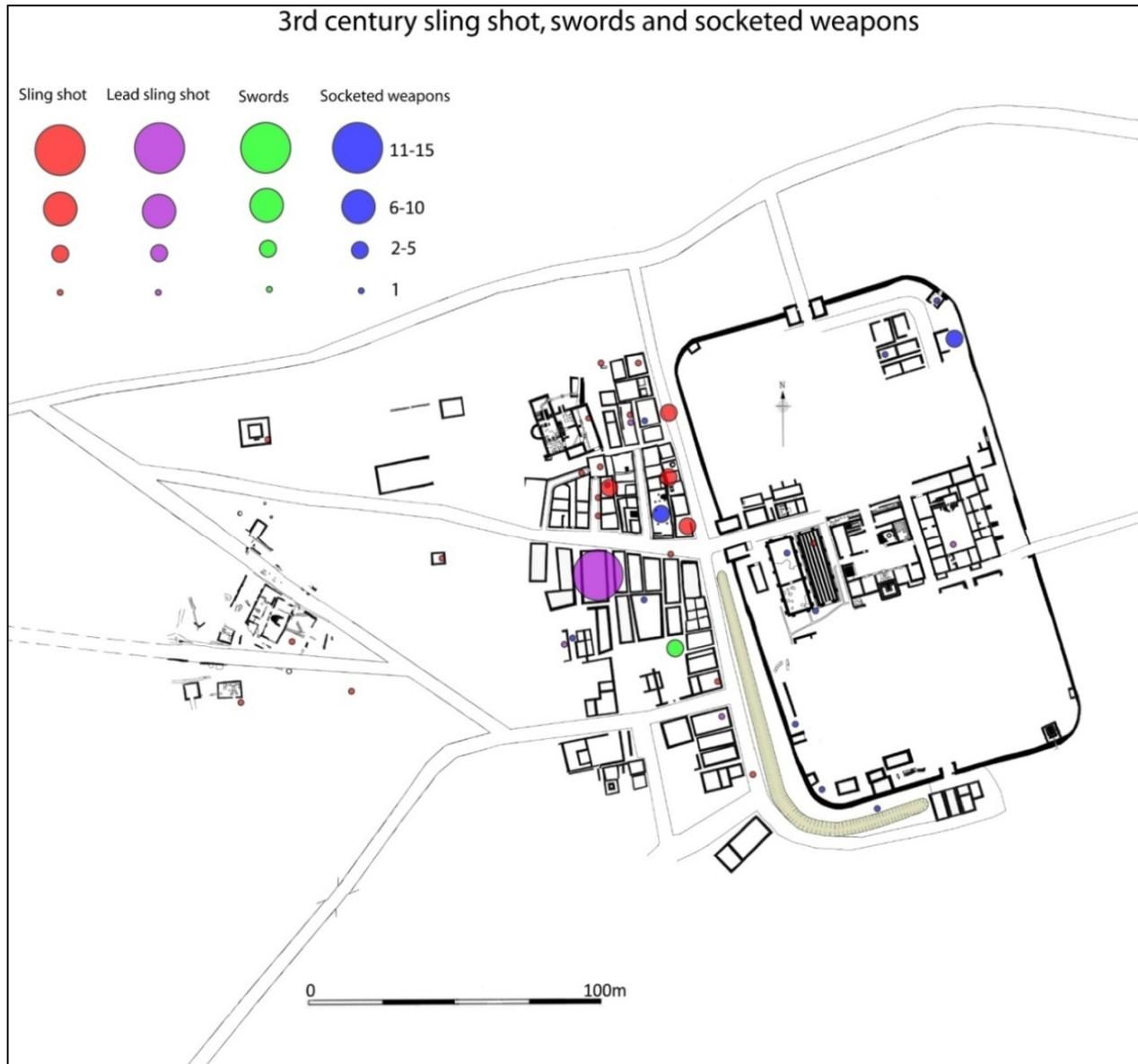


Figure 4.13 A plan showing the distribution of weapons from 3rd century contexts at Vindolanda, including sling shot, lead sling shot, swords and socketed weapons.

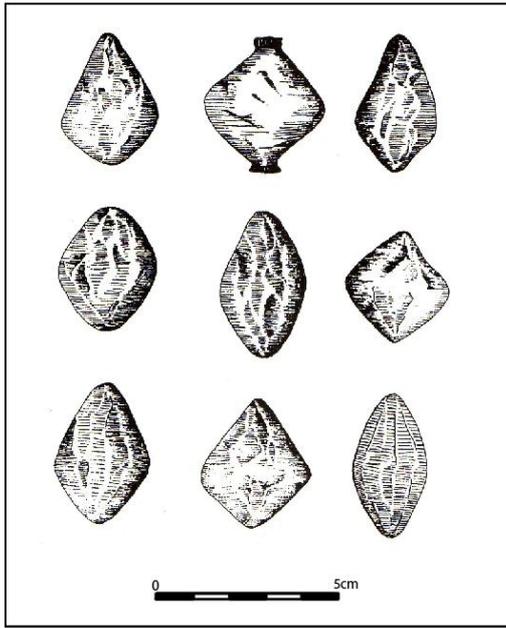
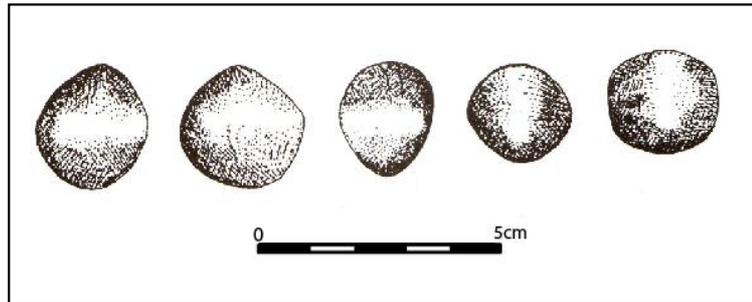


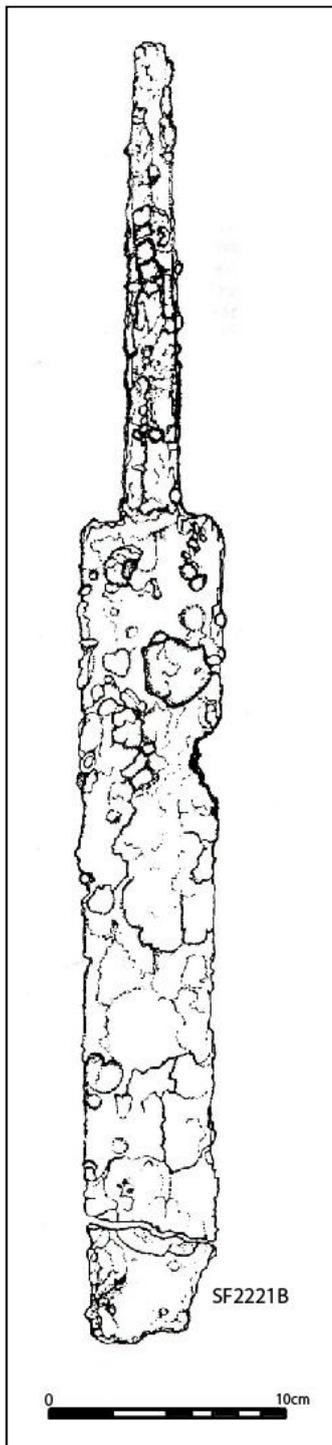
Figure 4.14. Lead shot from Vindolanda. All of the examples shown on the left came from site XXX (N), a building fronting the road on the south side of the street leading to the west gate of the 3rd century fort.

Figure 4.15 Stone shots from Vindolanda. Similar in size to lead shot but lighter and a more rounded projectile.



Four stone shots have been recovered from 4th century intramural contexts, illustrating the migration for the evidence of use of stone shot into the fort in this period once the extramural site had been largely abandoned. Most of the shot recovered have come from buildings in the central range of the fort. As in the 3rd century, one shot came from the *praetorium*. Two shots were recovered from the roads surrounding the granaries and the final shot came from a late 4th century house built onto the southern rampart mound.

4.4.2 Swords



It is notable that the only sword fragments to come from a 3rd century context at Vindolanda have come from an extramural part of the site, building LXXVII. The remaining five are all from 4th century contexts, with four from intramural locations. Three of the five have been recovered from rampart mounds, two on the western rampart and one on the eastern rampart next to the *praetorium* in the courtyard of which another sword fragment was recovered. All three of the swords recovered from the ramparts were placed into rubbish pits dug into the rampart mounds, and were surrounded by assemblages of broken pottery, animal bone and rotted organic material. The sword fragment from the *praetorium* was resting on top of the flagstones in the north western courtyard of that building. Perhaps the most interesting sword fragment from 4th century contexts is the most complete (figure 4.16), which was deposited in a bonfire immediately outside the eastern guard chamber of the north gate of the fort alongside other artefacts such as pottery, counters, beads and late 4th century coins and a whetstone. It is possible to imagine combatants warming themselves with a fire outside the gate while on guard duty, the sword may have been used as a fire poker before being discarded, but it is equally likely that the fire represented the burning of rubbish from within a building.

Figure 4.16 SF2221B, the most complete example of a sword to come from Vindolanda.

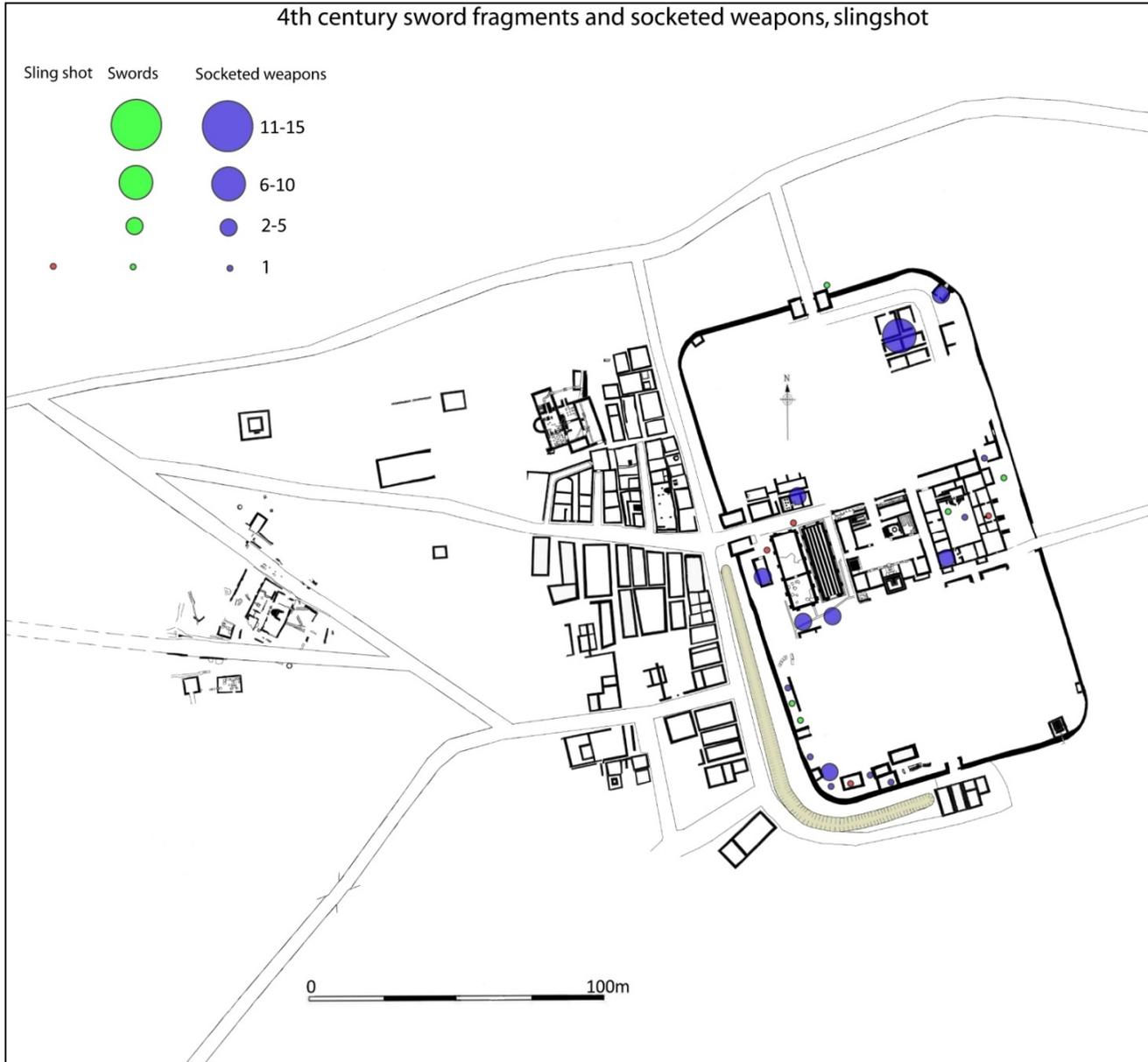


Figure 4.17 The distribution of weapons from 4th century contexts at Vindolanda

4.4.3 Socketed weapons

The 3rd century distribution of socketed weapons at Vindolanda shows a slight trend towards intramural contexts. Most of the extramural socketed weapons were individual finds from the inside of buildings, with the exception of site XXIX which had a number of socketed weapons (chapter 2, section 2.7). This long building on the north side of the road running to the west gate of the fort has been identified as a possible bar or tavern. One might expect that such a facility so close to the west gate of the fort would have been frequently used by combatants, therefore a concentration in portable military equipment such as socketed weapons might be expected in such an area. The majority of other extramural buildings show little or no evidence for the presence of socketed weapons.

Intramural deposits of socketed weapons show a similar pattern to the depositional contexts for swords. The excavation of rampart mound material has produced most of the 3rd century examples, with the barracks on the north eastern quadrant, the angle tower/associated toilet block and western store room in the central range producing the others. It is surprising that no socketed weapons have been recovered from 3rd century contexts within the *praetorium*, or guard chambers in the gateways. The 4th century deposition of socketed weapons has a much greater coverage across all excavated areas of the fort than in the previous century. The *praetorium* has several examples, and many more socketed weapons came from the barracks and streets surrounding the granary than in the previous century. Rampart mounds, particularly the south western rampart, maintain a high distribution.

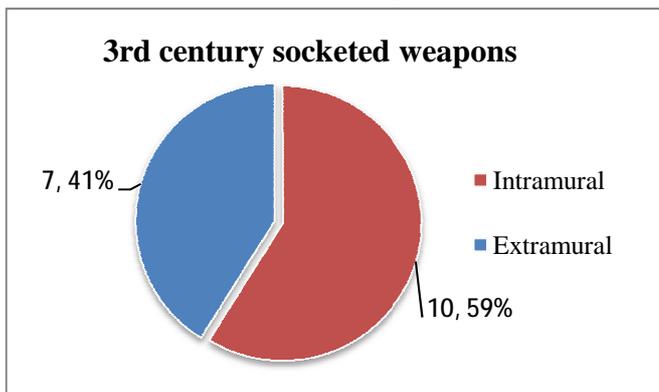


Figure 4.18 The distribution of 3rd century socketed weapons from Vindolanda.

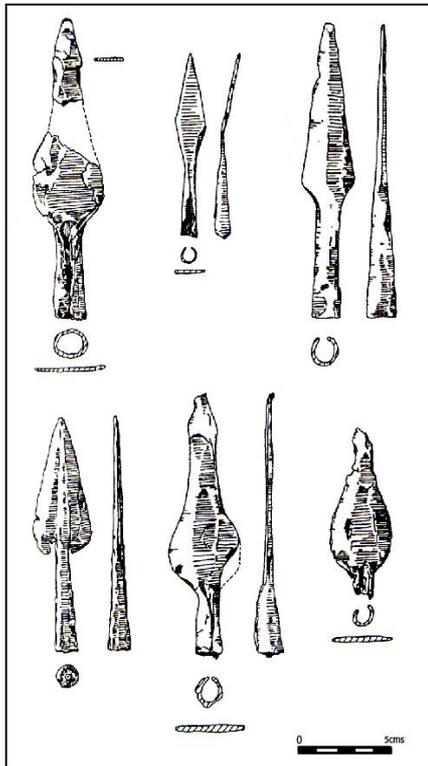


Figure 4.19 A selection of socketed weapons from 4th century intramural contexts at Vindolanda.

Further evidence for combatants

4.4.4 Crossbow brooches

Crossbow brooches constitute a small sample size with only six examples from 3rd and 4th century contexts at the site (see figure 4.20). Of those, five are from 3rd century contexts and three are from the extramural settlement and two from inside the fort. Only two of the examples were deposited inside buildings, one in a barrack room opposite the granaries and the second from a domestic house, site LXXII (chapter 2, section 2.7). It is possible that the remaining three crossbow brooches were thrown out with rubbish, as all three of their contexts can be associated with rubbish deposits, especially the fort ditch and adjacent roadways. Rampart mounds were also a convenient place to bury unwanted refuse. A single 4th century crossbow brooch was deposited inside the fort, in a granary, which was probably a domestic space at this stage.

4.4.5 Shield bosses

Five out of the six shield bosses discovered were primarily deposited in 3rd century extramural contexts (Figure 4.20). The extramural deposition pattern is varied and interesting. One shield boss fragment was deposited in a bonfire immediately outside the north gate of the fort. The other shield bosses were respectively deposited in a tavern, a domestic dwelling immediately adjacent to the west gate of the fort, the building associated with the hoard of lead sling shots, and temple/tomb at the western periphery of the settlement. The latter may indicate an offering/grave goods associated with the burial of a combatant. The shield boss in the tavern is complimented by the deposition of socketed weapons and it is tempting to suggest that off duty combatants may have been responsible for this deposition, or that the décor of the tavern reflected either the ownership by a veteran or close military associations. Some of this décor may well have been abandoned when the building ceased to function in c AD 270. A single 3rd century shield boss was deposited in the barracks, where a concentration of other weapons was also found. This single 3rd century example is followed by another single shield boss in a similar barrack context deposited in the 4th century.

4.4.6 Helmet fragments

Only four 3rd century examples of helmet fragments have been recovered from Vindolanda (figure 4.20). Three of these were deposited in extramural contexts. One must be considered as a chance or random find deposited outside a building on the western periphery of the extramural settlement. Two further helmet fragments were deposited inside site LXXII, a domestic structure which faced the western fort wall, in a room adjacent to where a crossbow brooch was also found. The single intramural example was recovered from the centurion's quarters in the barracks. No helmet fragments have been recovered from 4th century contexts. This latter point may not be significant given the very low number of helmet fragments recovered from the site.

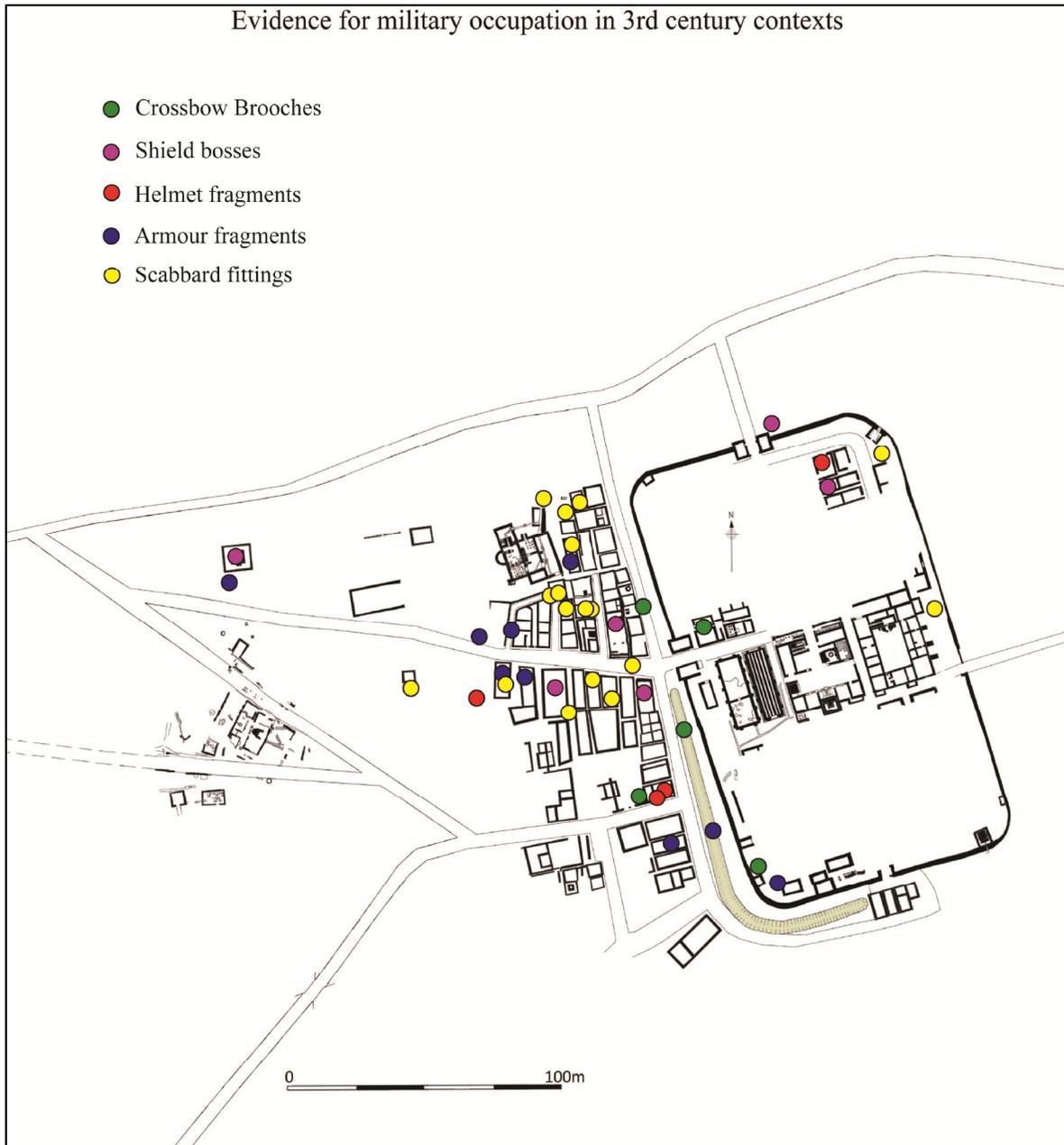


Figure 4.20, evidence for the deposition of military kit in 3rd century contexts at the site of Vindolanda.

4.4.7 Armour fragments

Nine fragments of armour have been positively identified in 3rd century contexts (figure 4.20). Of these only one was deposited inside the walls of the fort, on the south western rampart mound. It is likely that this fragment of armour was buried with refuse placed into the fabric of the rampart during restoration work in the 3rd century. The remaining eight armour fragments were deposited in the extramural settlement. A single fragment was deposited immediately outside the temple/tomb at the western edge of the settlement and may have been associated with the helmet fragment located inside the *keller*. There is a loose cluster of four armour fragments that were either side of the roadway which passes through sites XXI and IXB. This was the western end of the built up street leading to the fort. Three of these armour fragments were recovered from within domestic/commercial structures and were found mixed in with floor material. The fourth armour fragment was recovered from the small side street leading to the bath house. It is possible that this final armour fragment may have been re-deposited as a result of the clearance of an adjacent building. Two of the remaining fragments were also found amongst floor material in domestic buildings, LXXXVI and LXXV (section 2.7). The artefacts found on floor surfaces may point towards a deposition pattern associated with ‘use’ rather than being simply discarded. The final example is from the ditch immediately opposite building LXXV and, as with the previous example found on the street this armour fragment may have been discarded with waste from a workshop.

It is important to note the lack of any armour fragments from the 4th century contexts. This may be due to a change in kit, cleaning regimes or depositional practices in the 4th century.

4.4.8 Scabbard fittings

Seventeen scabbard fittings were recovered from 3rd century contexts at Vindolanda (figure 4.20). Fifteen of those came from extramural contexts and two were from the eastern rampart mound inside the fort. Both of the scabbards fittings recovered from the rampart mounds were

deposited in rubbish pits dug into the rampart clay. This is very different from the contexts in which the extramural examples have been found, none of which were placed into rubbish pits, as most came from floor surfaces inside buildings. The extramural scabbard fittings are concentrated on either side of the main road leading to the west gate of the fort and in the domestic buildings around the bath house. A single example was deposited on the roadway outside the west gate of the fort and a further individual example was found next to a possible small shrine and as such this may reflect ritual deposition.

Three scabbard fittings were found in 4th century contexts. Two of these came from the floor surfaces within the north eastern barracks and a third from inside the *praetorium*.

4.4.9 Interpretation of the patterning

The chart below shows the artefact categories converted to an intramural and extramural percentage against which they are compared to the control artefacts.

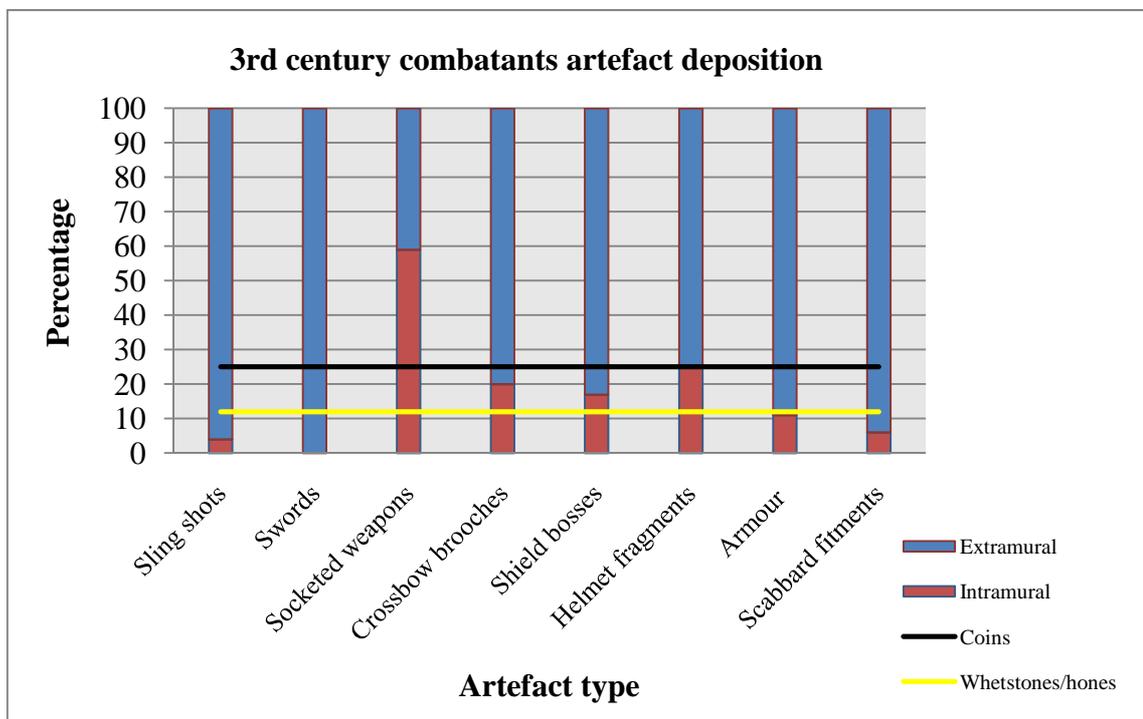


Figure 4.21, is a chart showing the relative numbers of artefacts associated with combatants from the 3rd century at Vindolanda.

If there was no spatial differentiation in deposition between intramural and extramural areas and the coin control was taken as the most accurate indication of the relative deposition of artefacts across the site then we should expect to find that 25% of the weapons, armour and other military kit would have been deposited inside the fort. This would leave a deposition pattern of 75% in the extramural settlement. The deposition of helmet fragments, crossbow brooches and shield bosses was close to or relatively close to the coin control. The chart shows that sling shots and scabbard fragments are largely confined to the extramural settlement, as with armour and swords. It should however be noted the last two categories of these artefacts constitutes a very small sample. Significantly, socketed weapons show a far greater level of deposition in intramural contexts than in the extramural settlement and for this reason this category has been chosen represent the possible presence of combatants at the comparator sites discussed in chapter 5.

The whetstones/hones control has a lower threshold than the coin control with only 12% (8) of 3rd century whetstones/hones deposited in intramural contexts. This would suggest that the relative percentage of military kit in intramural areas meets or exceeds what might have been expected to have been found in those areas. However, due to the relatively low number of whetstones/hones in comparison to coins they can only be used here as a secondary control. It should therefore be acknowledged that the coin control has more credibility when attempting to discern the true ratio of relative deposition between intramural and extramural contexts at the site.

The comparisons between the depositions of artefacts associated with combatants from 3rd and 4th century contexts illustrates the changing nature of deposition at the site through these periods (figure 4.22). This shows that only swords and socketed weapons were deposited in greater numbers in the 4th century than 3rd century contexts. The swords may be a misleading statistic as there are so few, with only seven found. This data may be interpreted in a number of ways. It could be argued that while all combatants continued to be equipped with swords and socketed weapons, other types of military kit were either no-longer used or were in short supply.

Alternatively, there may have been a change in depositional practices and cleaning regimes in the 4th century which resulted in fewer items of kit being discarded in the areas that have been excavated.

To conclude that although the sample size in general for individual artefact categories is small, when these categories are combined the 3rd century weapons and other evidence for combatants shows a significant level of deposition in the extramural settlement. If we accept that artefacts associated with combatants are evidence for military activity and possible occupation in extramural settlements, rather than the re-distribution of rubbish from intramural contexts, then there is little evidence to support the notion of a ‘great divide’ between combatants and non-combatants in 3rd century extramural contexts at Vindolanda. In the 4th century all of the inhabitants, combatants and non-combatants, of the site dwelt within the fort walls.

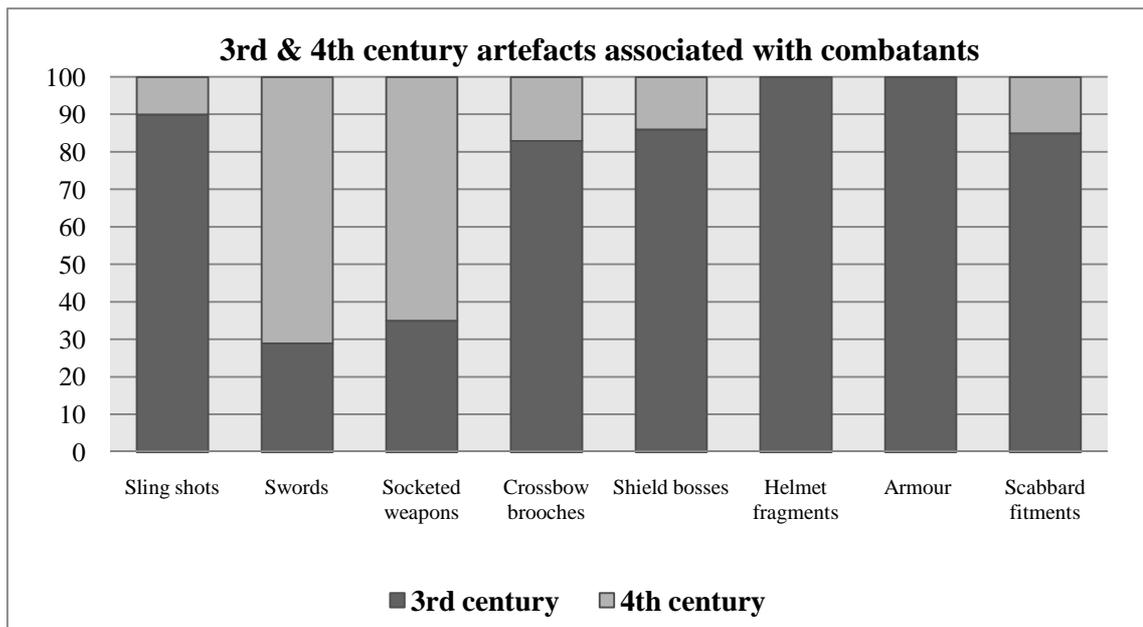


Figure 4.22 the relative number of artefacts associated with combatants in 3rd and 4th century contexts shown as a percentage.

4.5 Non-combatants

The artefacts chosen to represent the presence of non-combatants, exemplified by adult women, are evidence for spinning and weaving through loom weights and spindle whorls and personal adornment through bracelets, hairpins and beads.

4.5.1 Loom weights and spindle whorls

Ten loom weights have come from 3rd and 4th century contexts at Vindolanda. Nine of these were from 3rd century extramural contexts with a single loom weight from a 4th century intramural context. The volume of earth excavated in intra versus extramural areas at the site of Vindolanda is at present (up to 2008) 1.88:1, and the loom weight ratio is 9:1. While this suggests a trend towards weaving activity in the extramural part of the site in the 3rd century and the concentration of loom weights on a street leading to the west gate of the fort would support this. It is possible that the survival rate for lead loom weights is lower than for pottery/stone/jet spindle whorls as many of these loom weights could have been melted down and recycled. The six different locations/contexts/buildings in which the 3rd century loom weights have been recovered could indicate the presence of six different looms. However, each loom may have required 'four loom-weights which are assumed to have hung from each corner of the loom to keep the warp spanned' (Wild 1970: 75) and therefore the complete set of weights from a single loom has not survived to be found.

Although a concentration of possible looms in extramural areas might have suggested commercial pursuit it must be remembered that weaving could also be a domestic activity (Allison 2004: 146).

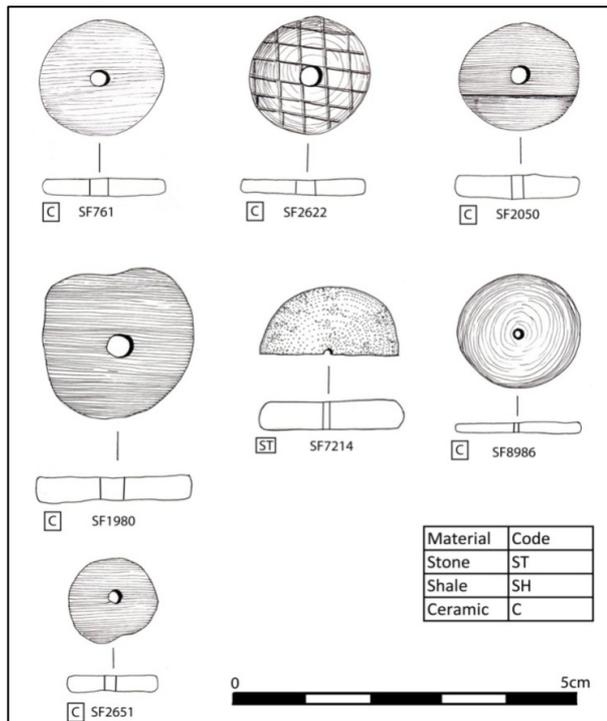


Figure 4.23 Spindle whorls from 3rd century contexts at the site of Vindolanda. SF2622, SF2651 and SF7214 are from intramural contexts, and the others are from the extramural settlement.

Vindolanda has one of the largest collections of spindle whorls from any one site on the northern frontier of Roman Britain with 115 examples relevant to the 3rd & 4th century periods of settlement in this study. Out of the 115 examples, 75 whorls come from 3rd century intramural and extramural contexts and 40 whorls from 4th century intramural contexts. In the 3rd century there is therefore a bias in the deposition of 8.4:1 towards extramural contexts.

There is little difference in shape and size between the 3rd and 4th century whorl examples from Vindolanda. Fine pottery whorls tended to be lighter, at an average of 8-15grams, than the coarse ware or stone whorls some of which weigh between 15-30grams. This made the lighter whorls the obvious choice for the production of finer fibres (Gleba 2008:106). This is perhaps one reason why whorls made from fine ware pottery such as *terra sigillata*, shards of which may have been residual from the 3rd century, remained in use in the 4th century despite the supply of fresh fine wares disappearing from the ceramic archive of the site during the late 3rd century. The whorls were probably sourced from residual broken fine ware pottery sherds.

4.5.2 The 3rd century loom weights and spindle whorls

The distribution ratio of 3rd century spindle whorls, between extramural and intramural areas of Vindolanda, shown in figure 4.24, shows a significant trend in the deposition towards the extramural parts of the site at a ratio of almost 9:1. The deposition of spindle whorls in the 3rd century would strongly suggest that more spinning activity was taking place outside, rather than within, the walls of the fort. This evidence could be taken to show that spinning, viewed by many as a female activity (Allison 2005, 8.6.1e), was mostly confined to extramural parts of the site and, by association, those engaged in this activity were also confined to the extramural areas. However, despite the fact that the quantities of whorls in intramural contexts are fewer, they still provide evidence to suggest that spinning was also taking place in intramural contexts. It is perhaps no surprise that the 9:1 ratio of 3rd century spindle whorls matches the ratio in loom weights, an affiliated activity. This evidence comes from a room in the barracks, not the centurion's quarters, in the north eastern quadrant of the fort and in the *praetorium*. If spinning was a female activity then these two areas theoretically may have housed non-combatant females which could be expected in the case of the *praetorium* where the commanding officer's family, and possibly female servants, would have resided. A further number of whorls were found on the rampart mounds near respective toilet blocks and in the alleyway between the two granaries.

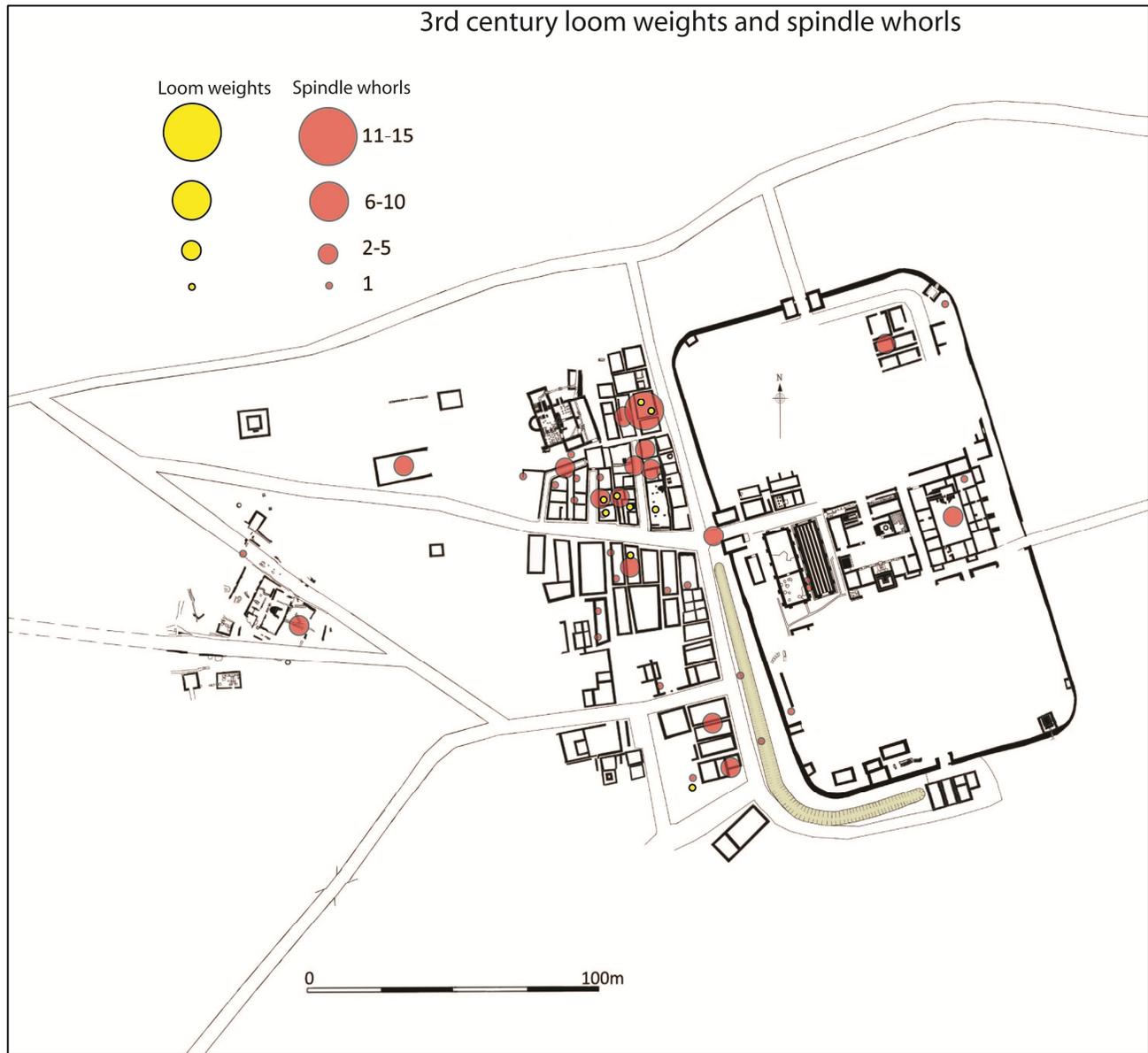


Figure 4.24 3rd century loom weight and spindle whorl distribution at Vindolanda.

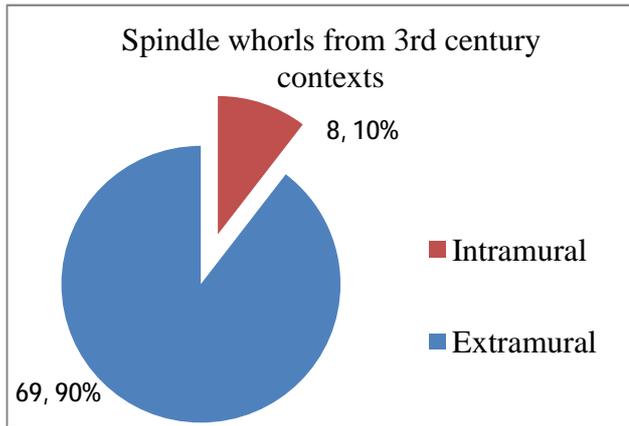
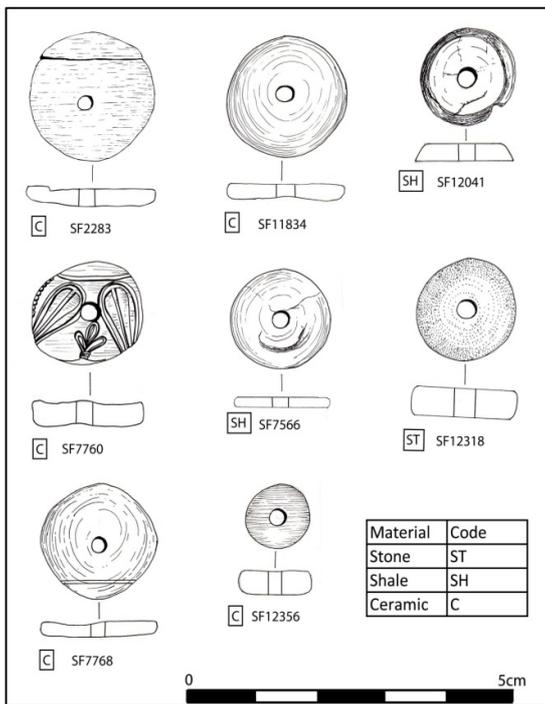


Figure 4.25 The relative percentage of intramural versus extramural 3rd century spindle whorls from Vindolanda.

There is a concentration of whorls in the buildings surrounding the military bath-house in the north of the extramural settlement. Here we also see a grouping of loom weights and the significance of the two coming together may provide evidence of combined domestic and commercial spinning and weaving having taken place.



Fewer than 50% of the buildings identified in the 3rd century extramural occupied areas have produced whorls or weights, showing that while there is evidence for spinning having been a widespread activity, it may not have been conducted in every household or space.

Figure 4.26 4th century spindle whorls from intramural contexts at Vindolanda.

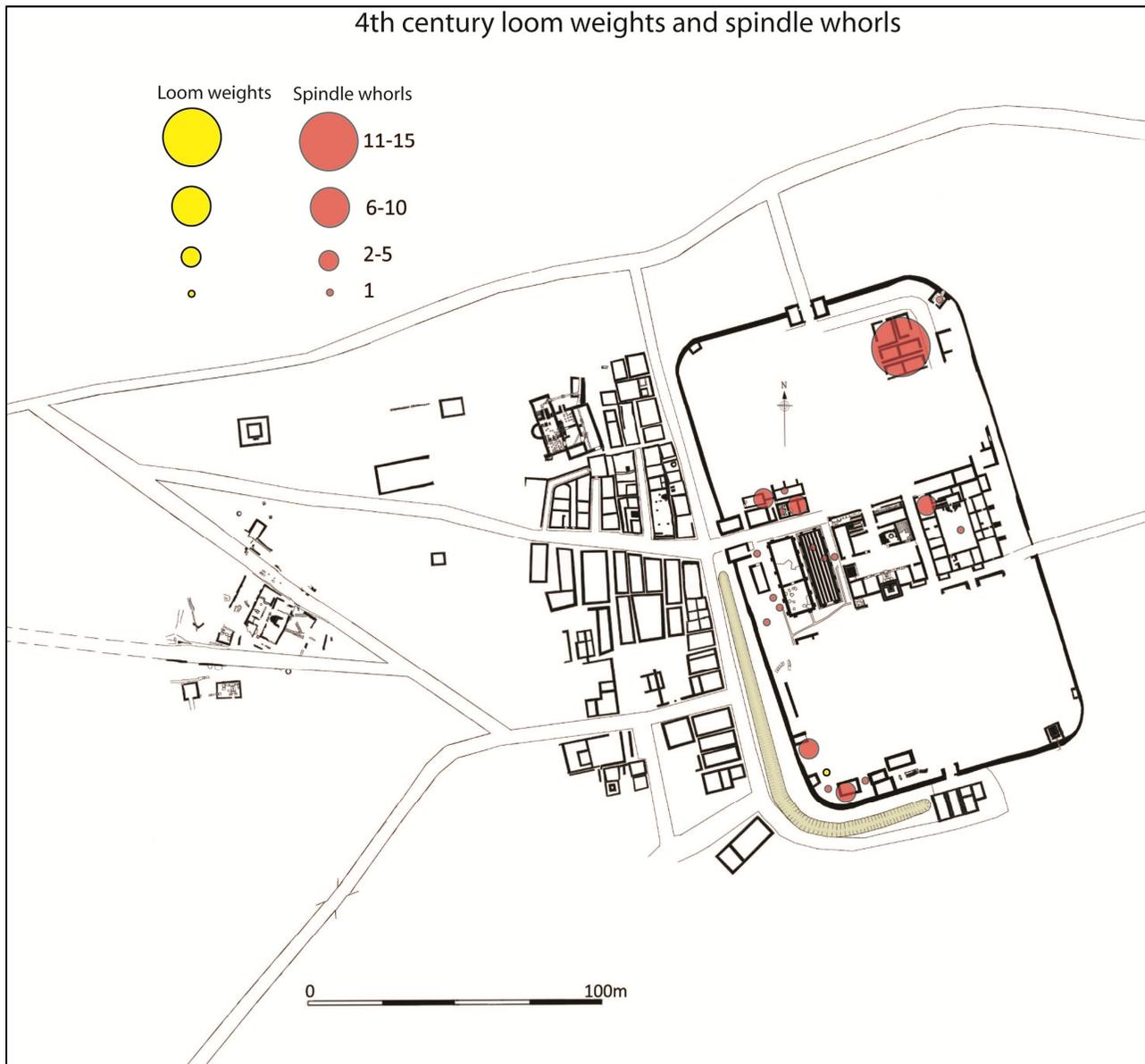


Figure 4.27 The distribution of loom weights and spindle whorls from 4th century contexts at Vindolanda.

4.5.3 The 4th century loom weight and spindle whorls

Forty spindle whorls and one lead loom weight have been excavated from 4th century contexts at Vindolanda, and all are from intramural parts of the site. The 4th century whorls were made from similar materials to the earlier 3rd century examples and there is no difference in the average weight or shape as shown in figure 4.26.

Intramural areas that produced whorls in the 3rd century are still represented, but in some cases there is a marked difference in numbers of whorls recovered.

The barracks in the north eastern quadrant show a large increase in the deposition of spindle whorls between 3rd & 4th century deposits. The deposition of whorls was confined to one barrack room in the 3rd century while the 4th century barracks had whorls deposited in all of the rooms. As there was no extramural settlement in the 4th century, the occupants of the barrack room areas could surely have included larger numbers of non-combatants than in the earlier period. Increased spinning activity was now in evidence inside the fort as a consequence of this. There is no reason why barracks would have been extensively modified to accommodate non-combatants, as supported by the evidence for the presence of non-combatants in barracks from much earlier periods of occupation (section 3.4).

Another possibility for the concentration of whorls may be that the northern part of the barracks had been used as a centre for textile production within the fort in the 4th century, as a textile workshop (*textrinum*) or as a spinning workshop. The levels of whorls in the *praetorium* remained static, perhaps indicating that this space remained the preserve of the commanding officer and his family and may not have been available to those who would have once occupied the extramural part of the site.

In the 3rd century there are very few examples of spindle whorls found on the ramparts. A radical change occurs in the 4th century with a significant increase in the number of whorls, and a loom weight, coming from the south western rampart. It may indicate a marked increase in the level of spinning activity but there is a possibility that either whorls were reused as gaming

counters, as the south west rampart produced a large cluster of gaming counters in the 4th century (figure 4.27), or that spinning and gaming was taking place in what was a general area for social and leisure activities. In the 3rd century there is no evidence for spinning and weaving having taken place in the granaries in the form of whorls, but this changed in the 4th century when the eastern granary was converted into a commercial/domestic space and three whorls were discovered (Birley Andrew R 2010 forthcoming).

4.5.4 Interpretation of the patterning

The distribution of loom weights 9:1 and spindle whorls 8.5:1 shows a very clear trend towards this activity in extramural settlement in the 3rd century. Once the area of extramural settlement is largely abandoned, the distribution is condensed within intramural contexts, suggesting a continuation and possibly an increase in practice of this activity in the 4th century. The large increase in whorls from 4th century contexts within the north eastern barracks is of particular note as is the lack of loom weights from 4th century contexts. From the evidence thus far it would appear that while spinning continued to be a regular occupation there is little or no evidence for weaving. This may be because of a lack of excavation of domestic structures inside the fort from 4th century contexts. Without further excavation, it may not be possible to obtain a credible picture of the continuation or otherwise of this activity inside the 4th century fort.

From 3rd century contexts, the distribution of loom weights and whorls are closely matched by the distribution of coins across the site. There are no contexts that have produced weights or whorls without coins. Differences appear in the distribution of whetstones/hones and weights/whorls, with a concentration of weights/whorls in the buildings immediately to the south of the baths that is not matched by whetstones/hones. This may suggest the presence of a textile workshop in this locality or merely reflect a part of the site popular with those engaged in cloth production activities. However, at Pompeii Allison noted that it was not possible to draw any 'distinction between cloth production destined for household use and that for distribution

outside' (Allison 2004: 148). In other words, every domestic structure had the potential to be a centre for this type of industry. It is quite clear that at Vindolanda in the 3rd century it would appear that most females were undertaking activity activities in the extramural areas but there is evidence that spinning was taking place in the fort and not just in the *praetorium*.

4.6 The deposition of bracelets from 3rd century contexts

4.6.1 Extramural bracelet deposition

Forty-seven bracelets, which are likely to have been associated with women, have been recovered from 3rd century contexts at Vindolanda, 34 of those from extramural contexts and 13 from intramural contexts. This gives a depositional ratio of 2.8:1 or 74% in extramural contexts. If distribution was equal over both areas one would expect it to be closer to 1.88:1, extramural versus intramural. Coins had a ratio of 3:1 towards extramural deposition and whetstones/hones a ratio of 7:1.

A ratio of 2.8:1 is not as striking as it might first appear when compared to other adult women artefact categories such as spindle whorls 8.6:1 or hairpins 7.4:1, suggesting that in the wider context of all of the categories under study there is little evidence for a dramatic difference in distribution on a purely intramural/extramural basis.

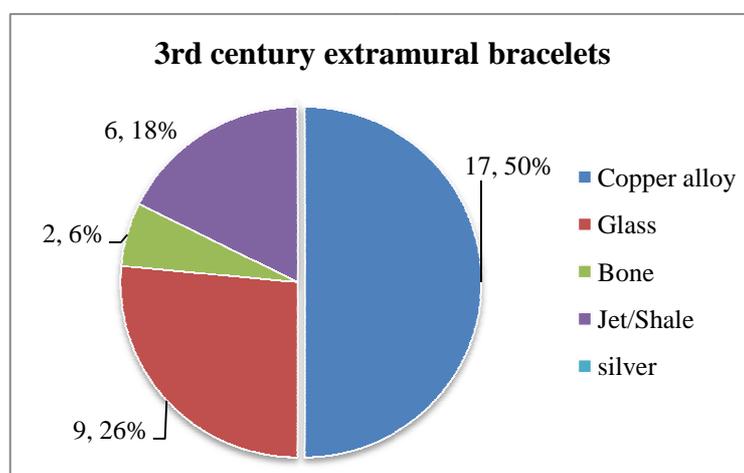


Figure 4.28 materials used to manufacture 3rd century extramural bracelets recovered from the site of Vindolanda.

Of the variety of materials used in the manufacture of the bracelets deposited in 3rd century extramural contexts at Vindolanda, copper alloy dominates the dataset with 17 of the bracelets recovered being manufactured from copper. This is followed by six of jet and shale, nine in glass and a small number of bone bracelets from this period. Copper alloy is more dominant in the 3rd century than for any of the other periods of settlement at the site. The majority of bracelets from the extramural part of the site have been deposited within domestic building contexts. An example of this is site XXVIII where three bracelets were recovered from the northern room which was a domestic space situated behind a shop front. To the south of this room the main shop or commercial space faced onto the east/west street leading to the west gate of the fort.

While the majority of bracelets were deposited within buildings, a number have come from perhaps more external social contexts where the process of '*appearing*' may have taken place, possibly in association with the process of '*exchanging*' (Gardner 2007: 131). The two bracelets recovered from the roadway between buildings CXIV and CXIII in the south east of the extramural settlement may be associated with an area that has produced evidence for leisure activities such as gaming, as evidenced by the large number of gaming counters (section 4.10). The side street leading to the bath house entrance produced two bracelets and it is interesting that they should be recovered from this area rather than from the baths where one might expect to find items of personal adornment lost or deposited as clothes were removed for bathing. Two bracelets were recovered from the south-west of the extramural settlement on a cobbled yard next to a roadway and the most westerly example came from immediately outside a temple doorway.

Three bracelets were located directly outside the walls of the fort, two from between the fort wall and ditch on the southern and south western defences and the final example from immediately to the northwest of the north western angle tower. All three bracelets may have been deposited from the fort wall onto the berm between the wall and ditch, rather than by the 3rd century extramural occupants as access over the fort ditch on the south western side may

have been problematic until it became completely filled with debris by the beginning of the 4th century. The rubbish deposits from the fort ditches produced no bracelets which may once again indicate that there was no or little tipping of domestic waste into these ditches.

4.6.2 Intramural bracelet deposition

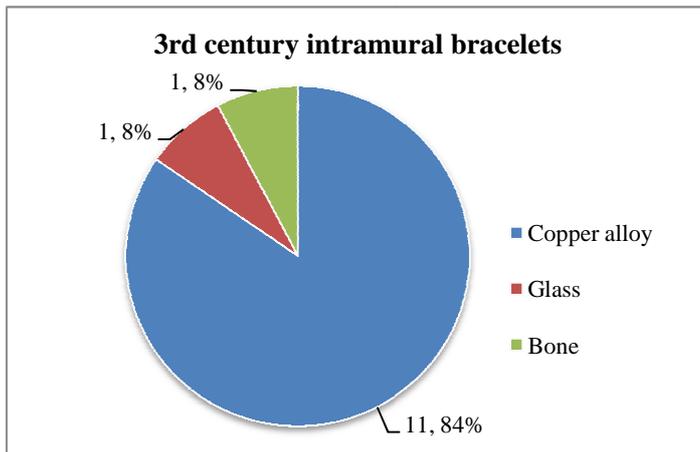


Figure 4.29 The materials used to make 3rd century intramural bracelets deposited at the site of Vindolanda.

There are fewer materials used in the manufacture of bracelets from 3rd century intramural contexts. Jet/shale bracelets are noticeably absent from the intramural collection. Copper alloy continues to dominate with over 84% (11) of the artefacts being manufactured from this material.

Thirteen bracelets have been recovered from 3rd century intramural contexts and their deposition pattern is dominated by two areas, the *praetorium* and the rampart mounds. The centurion's quarters in the north eastern barracks have produced a further example, and another came from a partially explored barrack room to the south of the *praetorium*. Three of the five bracelets discovered on the western rampart mound came from contexts surrounding rampart ovens. The remaining two from the western rampart mound were immediately to the south of the south western guard chamber of the west gate. A single bracelet was found on the north eastern rampart, although it is quite possible that this may be complimented by further examples once the eastern rampart is fully explored. No bracelets were recovered from the vicinity of the 3rd century storehouse and granary. The distribution pattern for 3rd century bracelets is almost identical to that for loom weights and spindle whorls from the same period (figure 4.29).

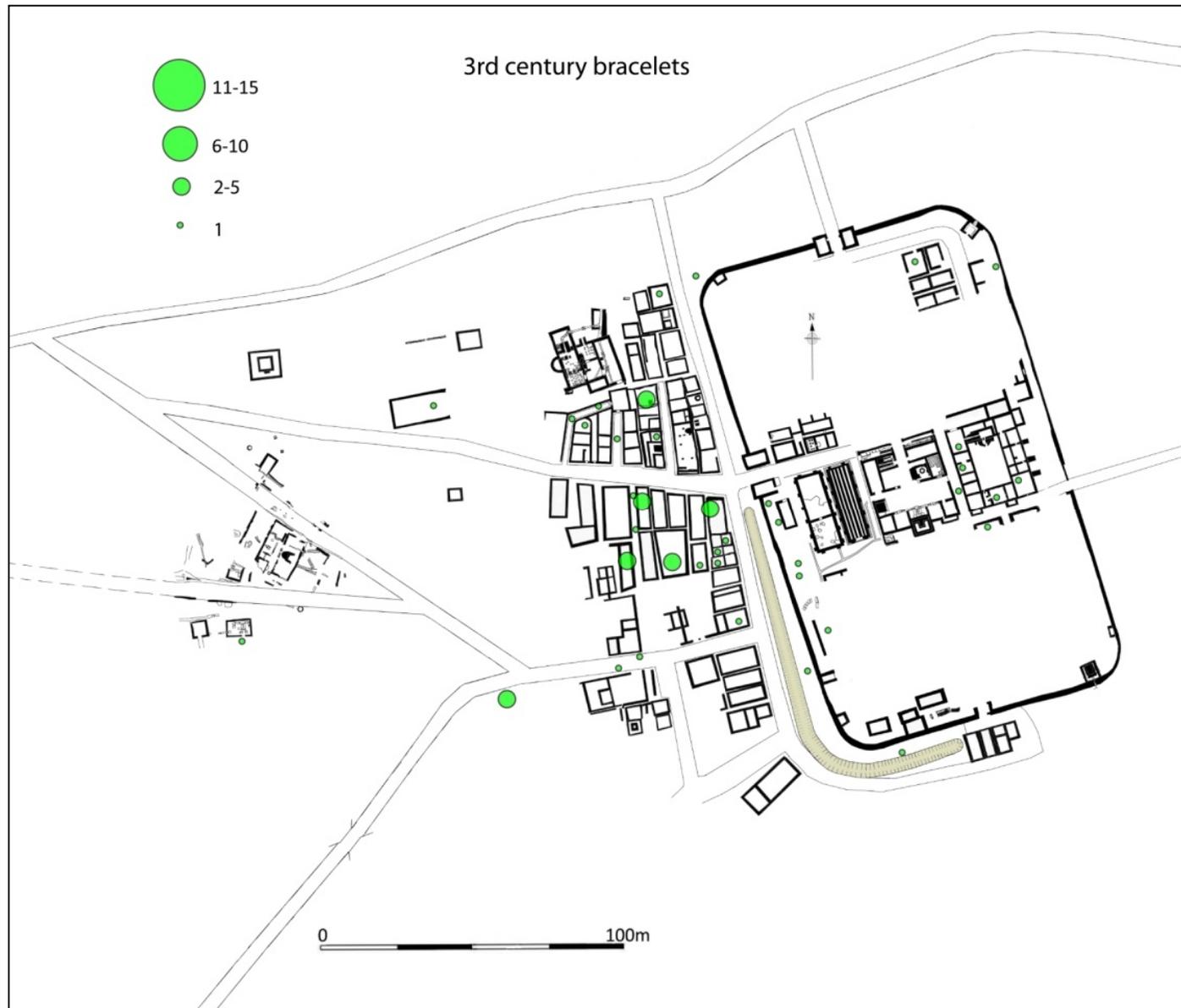


Figure 4.30 The distribution of bracelets from 3rd century deposits at Vindolanda.

4.6.3 The deposition of bracelets from 4th century contexts

Forty nine bracelets have been recovered from 4th century contexts at Vindolanda, all of which have come from intramural settlement. The barracks at the north east of the fort had the largest increase in the quantity of bracelets deposited in the 4th century.

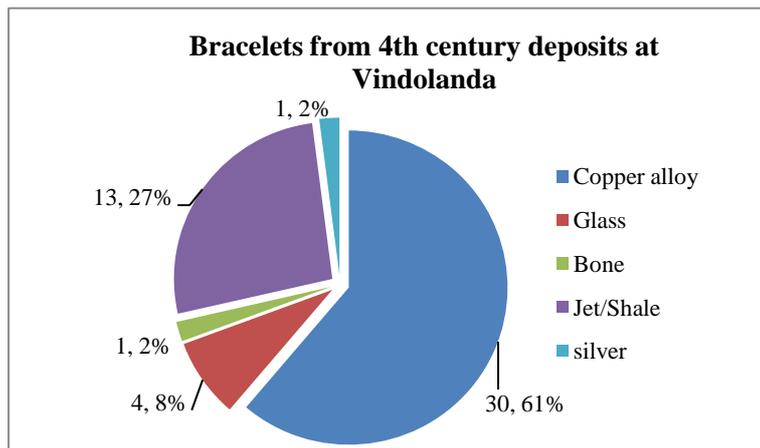


Figure 4.31 The materials used in bracelets recovered from 4th century deposits at the site of Vindolanda.

While the deposition of copper alloy bracelets continues to dominate the intramural dataset in the 4th century, the percentage of jet and shale bracelets increases dramatically to more closely reflect 3rd century extramural deposition. This is not a surprising pattern given that the use of jet and shale continue to rise in popularity during the late 3rd and 4th century (Allason-Jones 1996: 29).

A single bracelet was recovered from a drain in the north eastern corner tower/toilet block. The *praetorium* retains a similar quantity of 4th century bracelets (5) to the number of 3rd century examples (4), but their distribution changes from the south and west wing of the building in the 3rd century to the south and east wings in the 4th. This may reflect the major re-fit of the structure during the 4th century, and correspond with the new kitchen, dining room, toilets and baths that were fitted to the eastern wing of the *praetorium*. The western rampart, to the southwest of the former granaries had a good spread of bracelets. Like the 3rd century deposits, many of these can be associated with rampart ovens, particularly the four bracelets recovered to the south of the rectilinear building placed onto the rampart mound to the south of the west gate.

One of the largest and possibly most significant changes in 3rd-4th century deposition in intramural contexts can be found in the area surrounding what were once store houses or granaries. Here, and on the *via principalis*, a large concentration of bracelets (7) were uncovered deposited either on the road surface (which was heavily flagged) or in roadside drains. Both buildings to the west of the *principia*, were re-built in the 4th century and the change in distribution of most of the artefacts in this study in this area would support a change in use for these structures. It is possible that a market could have been set up to the north of the buildings, between the west gate and the *principia*, and that the former storehouses were converted into commercial/domestic dwellings similar to those found outside the west gate of the fort in 3rd century contexts.

4.6.4 Interpretation of the patterning

Bracelets have been deposited in both intramural and extramural 3rd century contexts at the site of Vindolanda, with a ratio of 3:1 in their quantity towards the extramural settlement. The largest concentration of bracelet deposition has come from the 3rd century buildings adjacent to the east/west road leading to the west gate of the fort, linking the fort to its associated extramural settlement. No bracelets have been found in the bath house, or tavern from 3rd century contexts, although several have been recovered from buildings that are regarded as have being workshops. In the intramural contexts the *praetorium* (west wing) and rampart mounds (south eastern) dominate, although two bracelets have been recovered from barrack room contexts. The bracelets evidence once more suggests that, in the 3rd century, the majority of women lived outside the fort walls but that there were also a significant numbers present inside.

Forth century deposition in intramural contexts shows a major increase in bracelets from the barracks in the northwest quadrant of the fort and, for the first time, a large number of bracelets being deposited in and around the former storehouse and granary. The rampart mounds and the *praetorium* maintain a similar distribution pattern to those from 3rd century contexts.

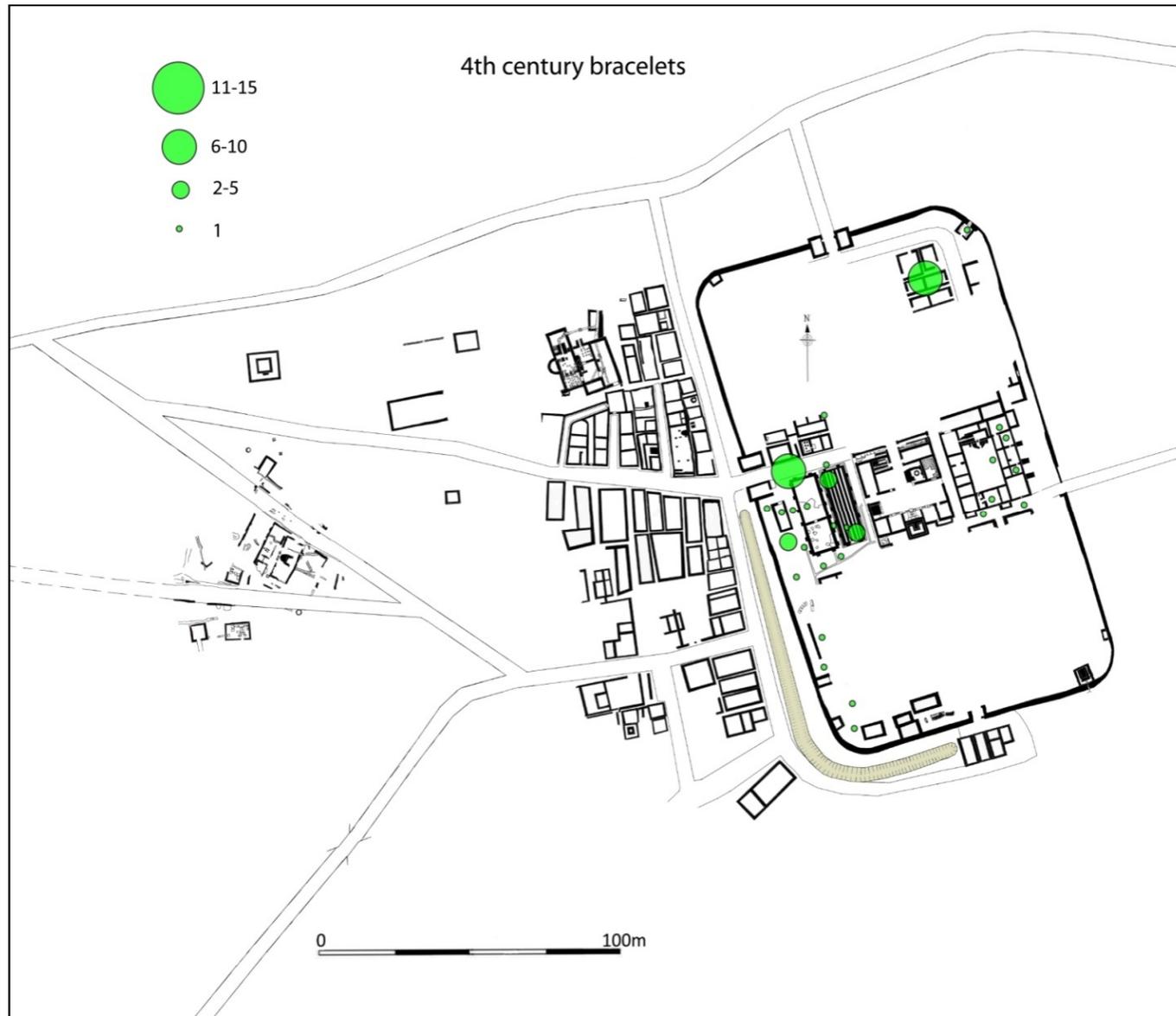


Figure 4.32 The distribution of bracelets from 4th century contexts at Vindolanda.

4.7 The deposition of hairpins in 3rd century contexts

Vindolanda has a collection of 126 hairpins that are relevant to the period of study and which have been positively identified as complete hairpins and fall into the pre-ordained categories discussed in chapter 3. Incomplete pins, which may or may not have been hairpins, have been discounted from this study. Of the 126 hairpins, 76 are from 3rd century contexts with 67 (88%) from the extramural settlement and 9 (12%) from intramural occupation. The deposition towards extramural contexts gives a ratio of 7.66:1 above the mean of 1.88:1 (volume of excavated material extramural versus intramural at Vindolanda). The percentage of intramural hairpins is same as that for the whetstones/hones control but is considerably lower than the coin control which shows 25% for intramural deposition. When compared with the primary control it would appear that there are fewer hairpins in intramural contexts than one might have expected. Although the intramural sample is small it may be significant. The hairpin evidence supports the theory that while there were women inside the fort, they were far fewer than in the extramural settlement. Bone hairpins are the most frequently recovered type from both extramural and intramural contexts, forming 72% (45) of the extramural assemblage and 89% (8) of the intramural assemblage. This re-enforces the point that the environmental conditions in extramural and intramural areas of the site are reasonably well suited to the survival of bone objects and that bone hairpins were cheaper and therefore more frequently used. The area covered by 3rd century extramural settlement shows the greatest variety in materials used to manufacture hairpins, with a number of jet and iron hairpins alongside the bone and copper alloy pins.

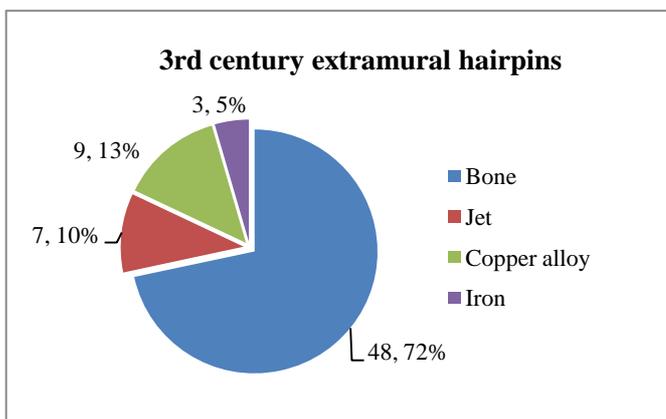


Figure 4.33 Showing the different materials used to manufacture hairpins recovered from 3rd century extramural contexts at the site of Vindolanda.

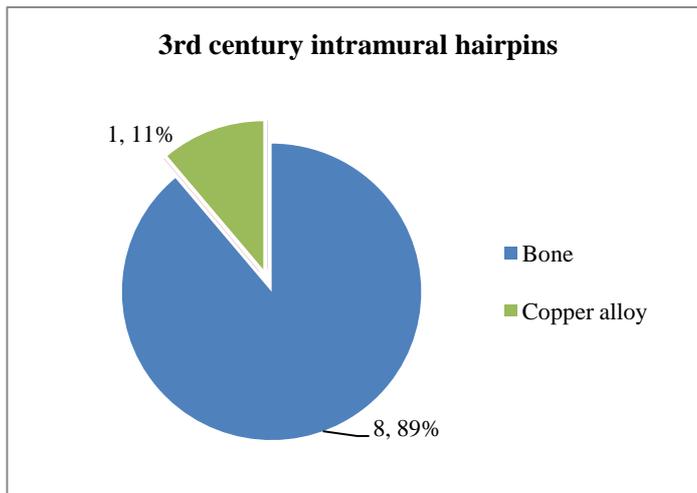


Figure 4.34 The different materials used to manufacture hairpins recovered from 3rd century intramural contexts at the site of Vindolanda.

The largest single concentration in the distribution of hairpins in the 3rd century has come from the baths, and in particular the drain running through the floor of the changing room. In the context of changing clothes and preparing for a bath it is not surprising that so many should come from this area. It is more difficult to explain why hairpins should be found in reasonable numbers from the bath house toilet drains. A possibility explanation is that the hairpins could have been washed down into the toilet drain from the changing room drains before becoming lodged the toilet sediment. It is difficult to ascertain whether or not the dominance of bone hairpins in the archaeological record from Vindolanda reflects that fact that bone was the material of choice, readily available and therefore cheaper than metal, shale or jet, or was simply less durable than copper alloy, and therefore more liable to break and be discarded.

The dwelling immediately to the east of the baths also produced a number of hairpins as it has for a number of different artefact categories in this study such as beads, spindle whorls and gaming counters.

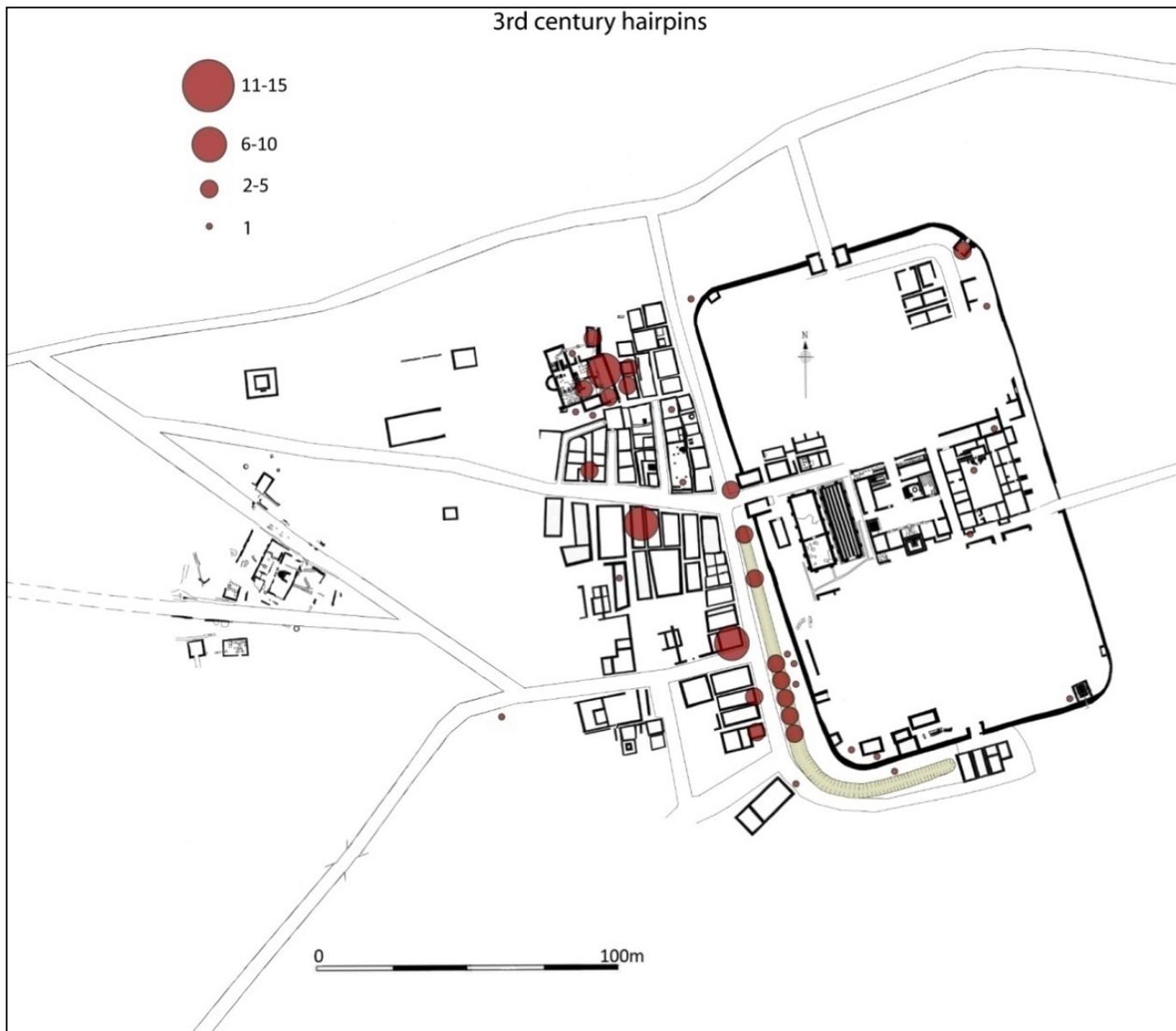


Figure 4.35 The deposition of hairpins from 3rd century contexts at the site of Vindolanda.

Seven other buildings in the 3rd century extramural occupied area have produced hairpins. Two were found in the “tavern”, site XXIX, outside the northern guard chamber of the west gate, and three from the corridor between sites XXIII and XXV immediately to the south of the baths. On the south side of the main east/west street leading to the west gate of the fort, site XXXIIA produced seven hairpins, as did site LXXII opposite the south western fort wall. These two buildings also produced a large quantity of beads, as have most of the contexts in which hairpins have been found. Aside from the 3rd century baths, the greatest quantities of hairpins have come from the western fort ditch and berm. Bone hairpins were especially light and buoyant, and it is possible that many may have found their way into the ditch having been washed from road surfaces or through the main extramural drains which nearly all emptied into the fort ditch on the western side of the fort. The five hairpins dropped onto the berm between the ditch and the walls of the fort (south, south west and north western corner) could have either been washed out of flooded ditches and deposited in the silt or dropped from the rampart mounds.

Intramurally, the concentration of hairpins in the north eastern angle tower/toilet block stands out, especially as the excavations of the other two toilet blocks on the south east and south western corners of the fort have not produced any hairpins within them (although they are present nearby on rampart mounds). The *praetorium* produced the final two intramural examples, both of which were bone.

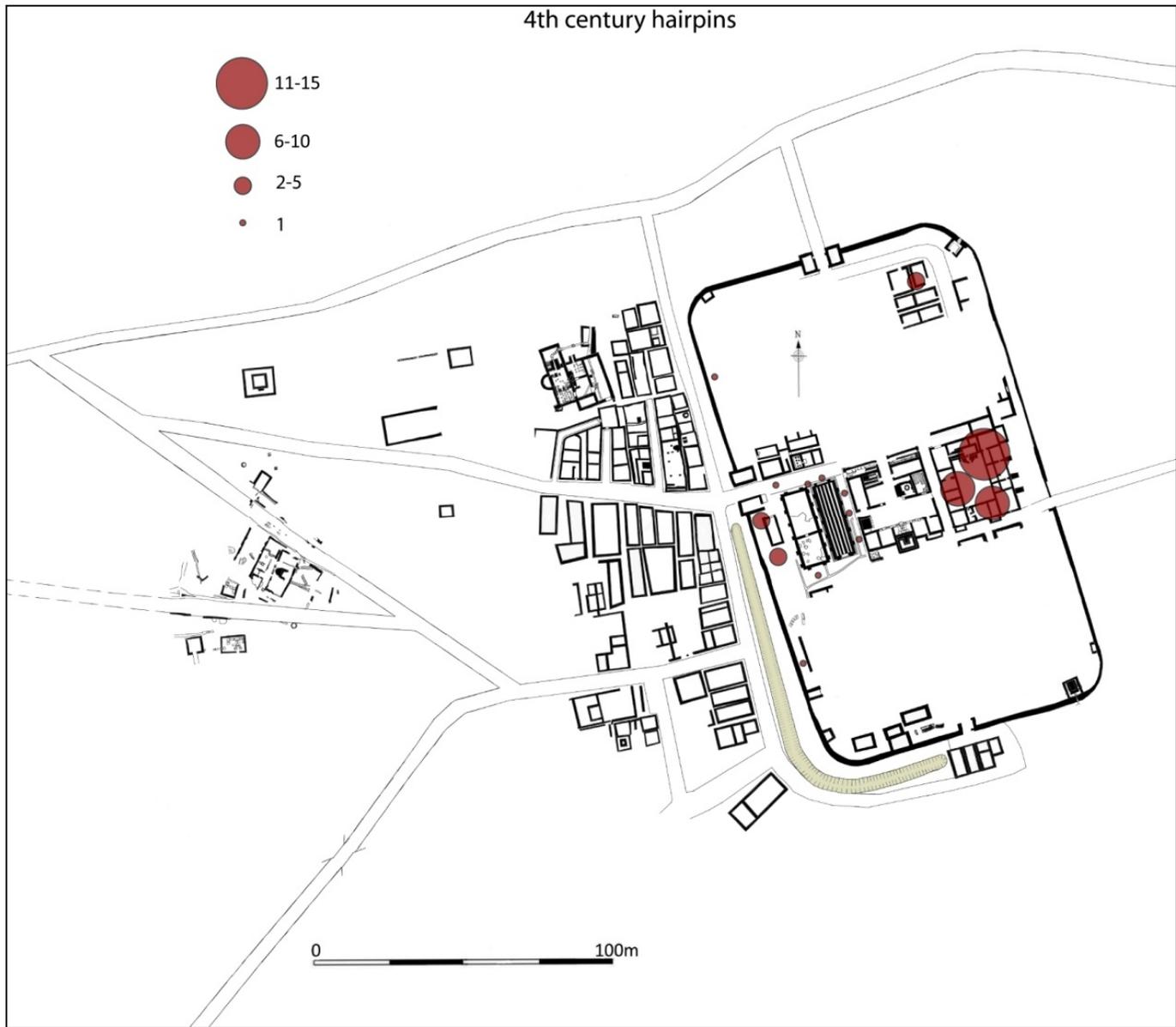


Figure 4.36 The deposition of hairpins from 4th century contexts at the site of Vindolanda.

4.7.1 The deposition of hairpins in 4th century contexts

Fifty hairpins have been recovered from 4th century contexts at the site of Vindolanda, and all of those from intramural locations. As in the 3rd century examples, bone hairpins dominate the collection with 35 (70%), followed by 8 in jet (16%), with 7 in copper alloy (14%) in third place. The *praetorium* has the largest concentration in the deposition of 4th century hairpins with the majority, 29 hairpins, coming from this building. This is followed by the streets that surrounded the former granaries and the south western rampart mound to the south of the western gates southern tower. The barracks in the north eastern quadrant of the fort had three hairpins, one each of bone, jet and copper alloy. A single bone hairpin was recovered from the north western rampart, and it is possible that this hairpin will be joined by others when the remainder of this section of rampart is excavated in 2010.

4.7.2 Interpretation of the patterning

If the hairpins recovered from the site of Vindolanda were mostly worn by women, either in their hair or as jewellery, then the distribution clearly shows the evidence pointing towards the presence of a significant number of women in 3rd century extramural settlement. However, the distribution of hairpins in the *praetorium* and around the fort toilet blocks would support the view that women were also present in intramural contexts. In the 4th century, the evidence for women in intramural contexts is amplified through the deposition of hairpins, particularly from within the *praetorium* and the area surrounding the former granaries. The barracks in the north eastern quadrant, unlike in the 3rd century deposits, had a small distribution of hairpins. These are complimented by other categories, such as spindle whorls which may support the presence of women in this context (section 4.5.2). It is possible that the differences between the 3rd and 4th century deposition of hairpins in the barracks reflects a change in cleaning regimes and the disposal of waste, with floor materials perhaps being more frequent refreshed in earlier periods.

The 4th century reconstruction of the barracks may have also removed a great deal of the 3rd century occupation material.

4.8 The deposition of beads in 3rd century contexts

The 3rd century contexts at Vindolanda have produced 248 beads. Of these, only 13 (5%) have been found in intramural contexts. Four of these beads were melon beads. This shows a heavy deposition and recovery of beads from extramural contexts with 235 (95%). This far greater than the 1.88:1 volume of excavated extramural versus intramural material from Vindolanda, and the intramural deposition is much lower than either of the control statistics. If the number of beads from the intramural area had matched the coin control of 25%, 62 beads would have been found. Even at the lower rate for the secondary control of whetstones/hones at 12%, a total of 30 beads would have been expected. This supports the statistics from the hairpins, and once again suggests that although women were present inside the 3rd century fort; their numbers were far fewer than in the extramural settlement.

Over 80% of the structures in the 3rd century extramural settlement had beads deposited within them. Melon beads have been separated from the overall bead assemblage and given their own plots (figure 4.38) as they are recognised as having had a dual purpose, as both ornaments/jewellery for humans and in some cases for horse gear or decoration on sword hilts or other equipment, and are mainly attributed to 1st and 2nd century date (Allison 2005: 8.2.1.e, Birley B & Green 2006: 39).

The buildings on the northern side of the east-west street running to the west gate of the fort have the heaviest concentration of beads at the site, particularly those between the bath house and the fort wall. One might expect a concentration of beads to be found in the baths, as the removal of clothing would have helped to facilitate loss. So it is no surprise to see that the majority of beads recovered from the baths have come from the drains in the changing room and toilet block where they could have easily rolled in to the drains and become lodged in silt. As

the drains were fed by emptying the baths water tanks, they would have been flushed out fairly frequently, making it likely that the beads recovered represent a small fraction of those that may have been lost in this building. Similarly, excavation of a toilet block attached to an earlier pre-Hadrianic military bath house at the site also produced very few artefacts other than a large quantity of beads (Birley Andrew R. 2001: 41).

Sites XXIII-XXIX (chapter 2, section 2.7), a mixture of commercial and domestic premises, all had a large number of beads deposited within them, mostly in the domestic contexts/dwelling areas to the rear of the shop fronts facing the road to the south. The tavern site, XXIX, is different as the beads deposited were mostly in the front of the building where the commercial and social space was situated. Industrial workshops, facing the fort wall on the north western side of the extramural settlement had fewer beads deposited within them than nearby domestic and commercial buildings, although a number of beads had been deposited in the workshops to the west of the site near the wells, water tanks and temples. This would imply that women may have been involved in industrial activity, although perhaps their numbers were limited when compared with the evidence for their presence in domestic spaces.

Site XXXIIA, commercial premises on the south side of the street, and sites LXXVIII, LXXV and LXXIV probably domestic dwellings, opposite the south western corner of the fort show concentration in the deposition of beads.

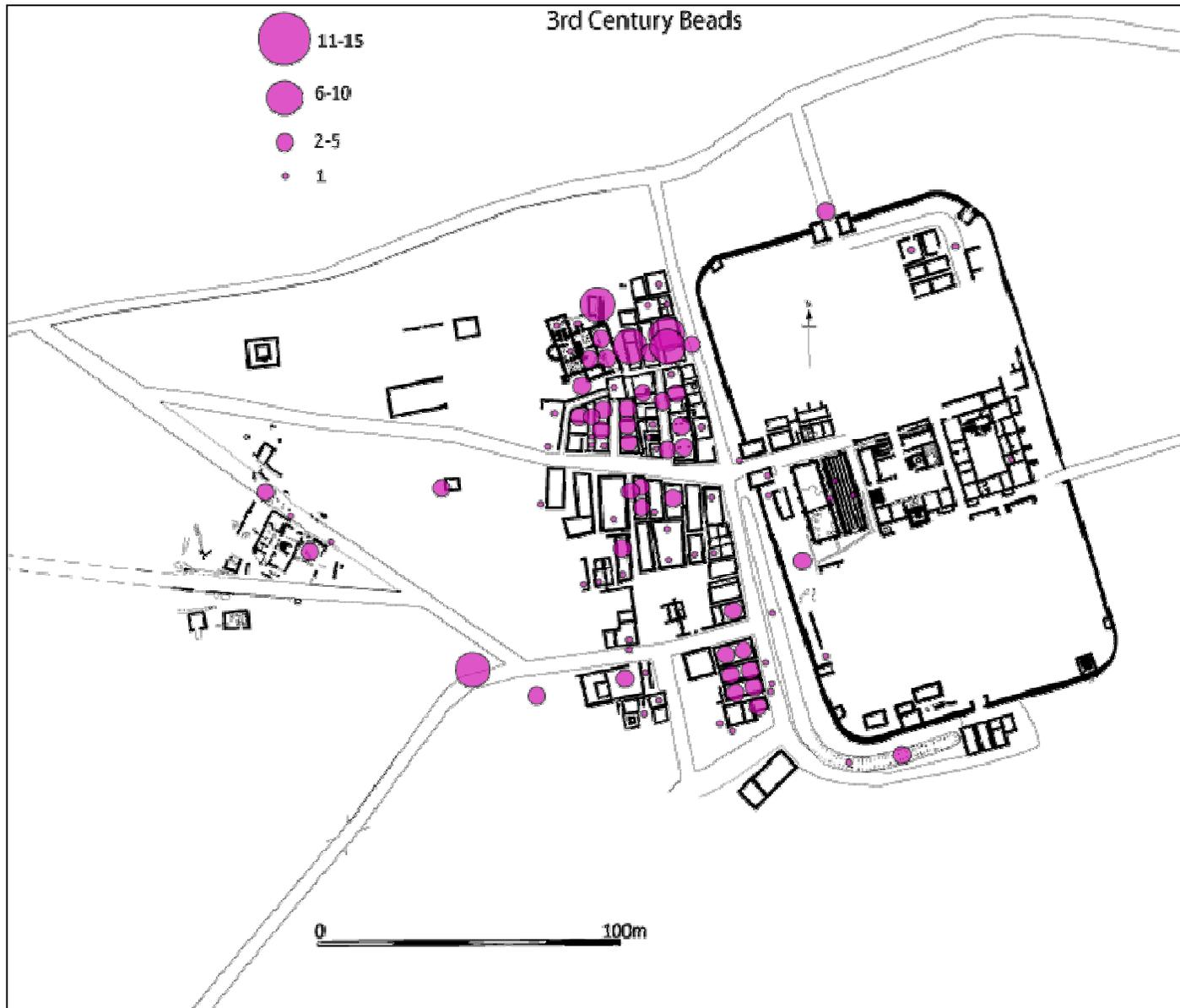


Figure 4.37 The distribution in the deposition of beads from 3rd century contexts at the site of Vindolanda (including melon beads).

Six out of the 20 melon beads deposited in 3rd century contexts were not recovered from within buildings. Three of these came from a courtyard between two temples at the western edge of the site, a fourth from the roadway leading to the water tanks and the fifth from to the west of the baths. The sixth melon bead came from the courtyard of a building to the south west, site CXIV. The room leading to the changing room of the baths produced another two examples although none came from within the bath house itself. Three out of the four 3rd century intramural melon beads have come from rampart mounds, and there is another single example from a basement channel in the eastern granary.

A small number of beads were deposited outside the north gate of the fort and a single example from the west gate has also been recovered. These are joined by a few beads from the south and south western fort ditch.

Intramurally, the 3rd century deposition of beads is mainly confined to contexts that can be associated with the defences of the fort such as the southwest angle tower/toilet and rampart mounds. Three beads were deposited near a series of ovens built in to the ramparts to the southwest of the granaries, and a further two were deposited on the roadway to the south of the *praetorium*. No beads have been recovered from the 3rd century barrack room deposits or from within the *praetorium* itself. Three beads were recovered from the granary, one of which was a melon bead, and a further bead came from the small path between the granary and the stores building.

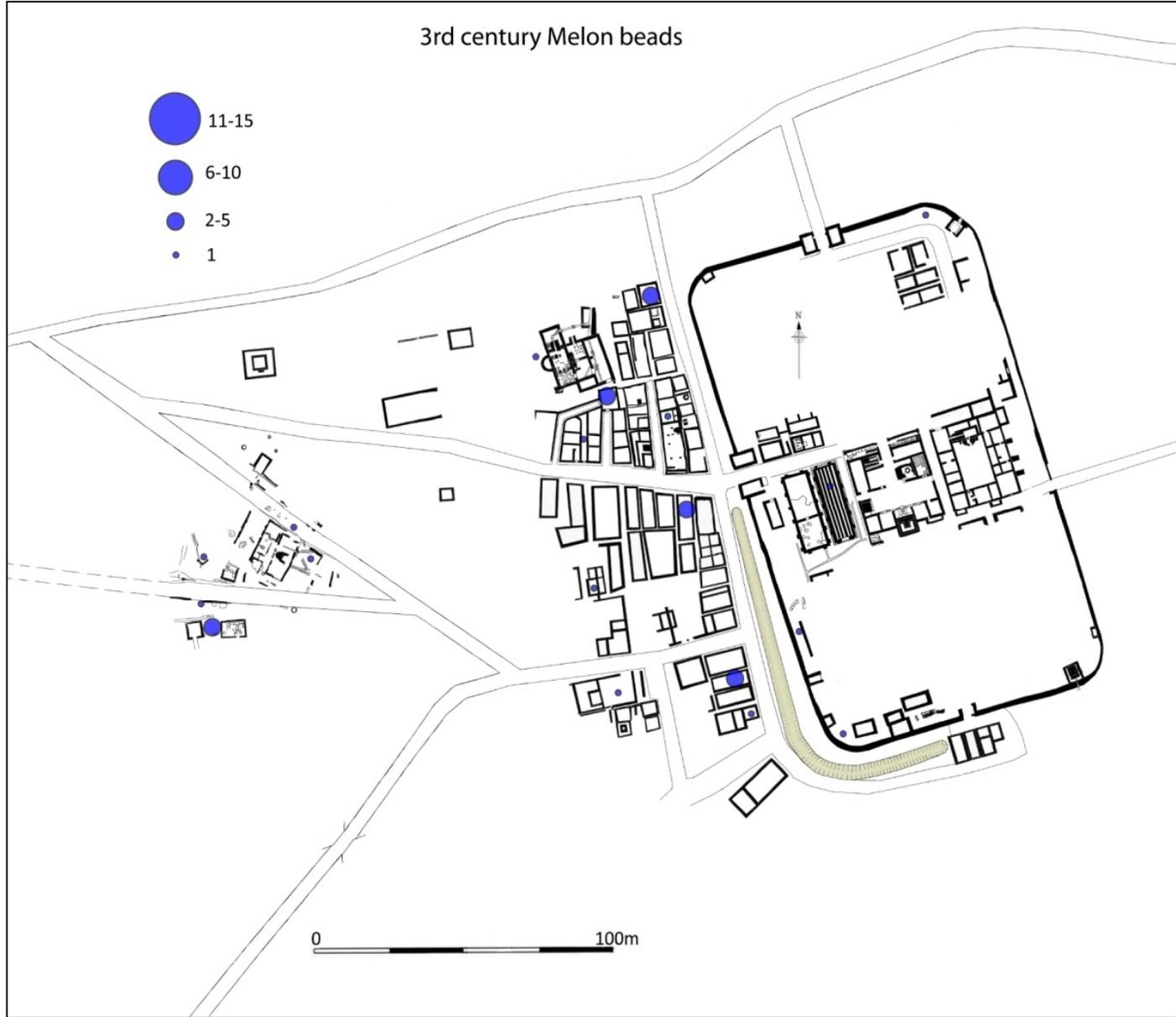


Figure 4.38 The distribution of 3rd century melon beads from the site of Vindolanda.

4.8.1 The deposition of beads in 4th century contexts

Seventy five beads have been recovered from 4th century contexts at the site of Vindolanda, seven of which are melon beads. Seventy three of the beads have come from intramural contexts, the two extramural examples were deposited next to the north gate and south western wall of the fort. Three melon beads were deposited on the wide cobbled street to the south of the former granaries, one in the barracks to the north east, and one each on the southern and south western ramparts.

4th century intramural bead deposits remain present in rampart mound contexts as they were in the 3rd century, from the south, south west and north east ramparts. However, unlike the 3rd century depositional patterns, they are now present in the barracks on the north east of the fort, and the buildings across the street to the north of the former granary and stores house and the *praetorium*. The deposition of beads from within the *praetorium* is similar to the pattern for bracelets in the 4th century, with no beads having been deposited in the western range of rooms. Two beads came from roadway contexts to the south, opposite a toilet block and furnace that service the *praetorium*.

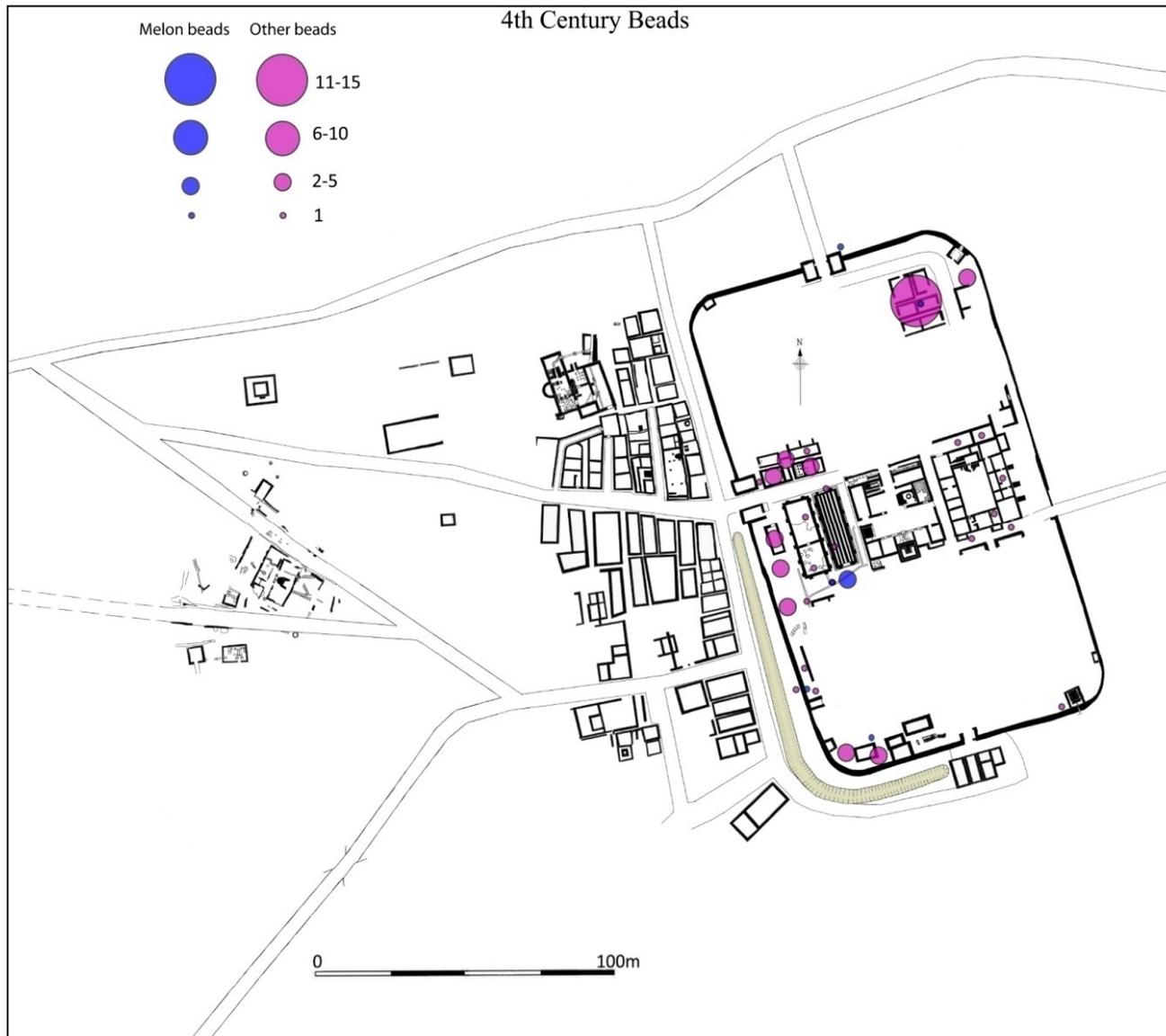


Figure 4.39 The distribution of 4th century beads from Vindolanda including melon beads (in blue

4.8.2 Interpretation of the patterning

There is a greater distribution of beads in 3rd century extramural contexts at Vindolanda, and on one level this might be taken to suggest that beads may have been more likely to have been worn and deposited by women than combatants. However, an analysis of the general deposition of beads from within the fort requires a more complex explanation.

The absence of beads from the barracks in the northeast quadrant of the fort in the 3rd century would support the view that the deposition of beads was associated with females, as the combatants who lived in this accommodation did not deposit any beads here.

Alternatively, the lack of beads from within the 3rd century *praetorium*, where one might expect a number of women to have lived, suggests that the deposition of beads at the site may not have always had a connection to such a simplistic division. What is clear is that in the 4th century, when the extramural settlement was largely abandoned at Vindolanda, the number of beads deposited inside the fort rose dramatically. This is a smaller sample than from the 3rd century but it still a significant. The 4th century population at Vindolanda was largely confined to the intramural area, and the number of beads from those contexts in the 4th century is far greater, almost six times, than the number of 3rd century intramural beads. This demonstrates either the demographic changes that took place between the 3rd and 4th century at Vindolanda or a possible change in fashion or depositional practices.

4.9 Adult women and non-combatants – an interpretation of the datasets

The great majority of the artefacts associated with adult women (non-combatants) from 3rd century contexts were deposited in the extramural settlement but there is significant evidence for the presence of females inside the fort walls, and this seems to have always been the case at Vindolanda (section 3.4). When compared with the coin control this trend is even more evident, as the majority of these artefacts have a lower frequency inside the fort than might be expected. This is less evident with the secondary control of whetstones /hones, yet even here the relative number of artefacts associated with women is lower inside the fort in the 3rd century. Bracelets are an anomaly as there are a higher percentage of bracelets deposited in intramural contexts than both of the controls. This data could be interpreted to indicate that bracelets were worn by both men and women, although it should be noted that the relative number of bracelets only slightly exceeds the coin control.

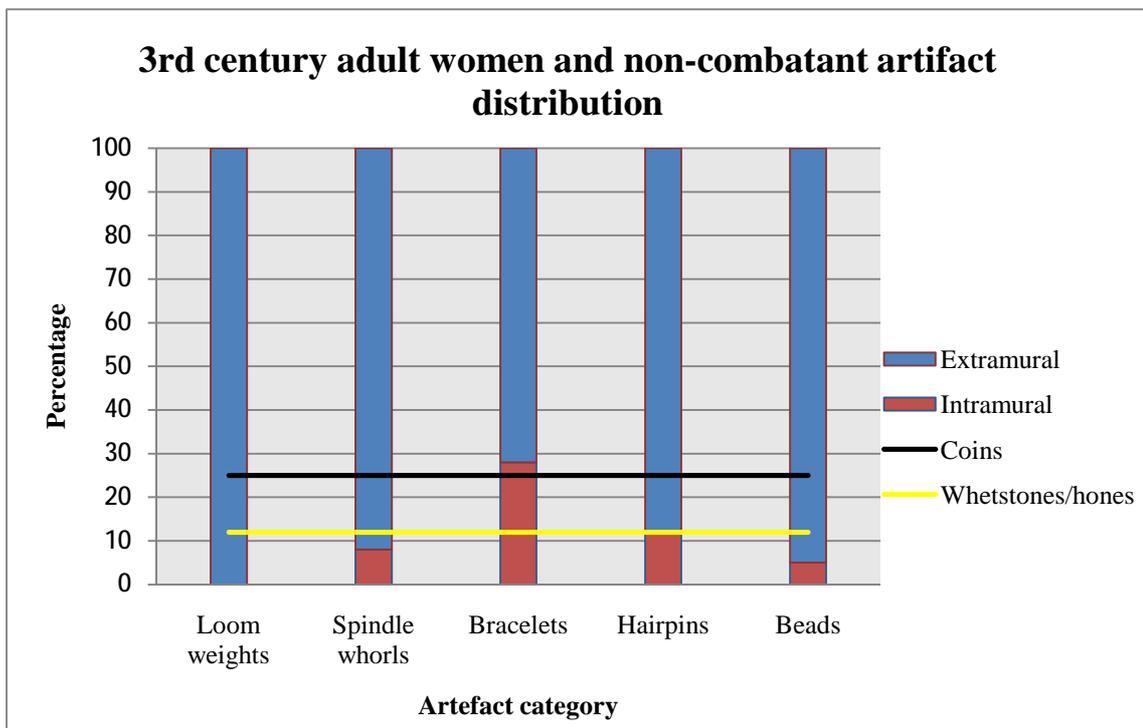


Figure 4.40 the relative distribution of artefacts associated with adult women at Vindolanda in the 3rd century.

Artefacts associated with adult women in 3 rd century contexts		
	Intramural %	Extramural %
Loom weights	0	100
Spindle whorls	8	92
Bracelets	28	72
Hairpins	12	88
Beads	5	95
Total	53	447
Average percentage	11%	89%

Figure 4.41 a chart showing the relative numbers of artefacts from 3rd century contexts shown as a percentage.

The statistics from figures 4.40 and 4.41 strongly indicate the presence of adult women in larger numbers in the extramural settlement in the 3rd century and show that virtually all of the evidence for textile production taking place is outside the walls of the fort in this period. This is matched by the high ratio of artefacts of personal adornment also being found in the 3rd century extramural settlement.

The low percentage of artefacts related to adult women from within the 3rd century fort is perhaps a reasonable reflection of their presence and relative numbers. This data does not argue for the exclusion of women from intramural areas, rather it places that occupation into a wider context.

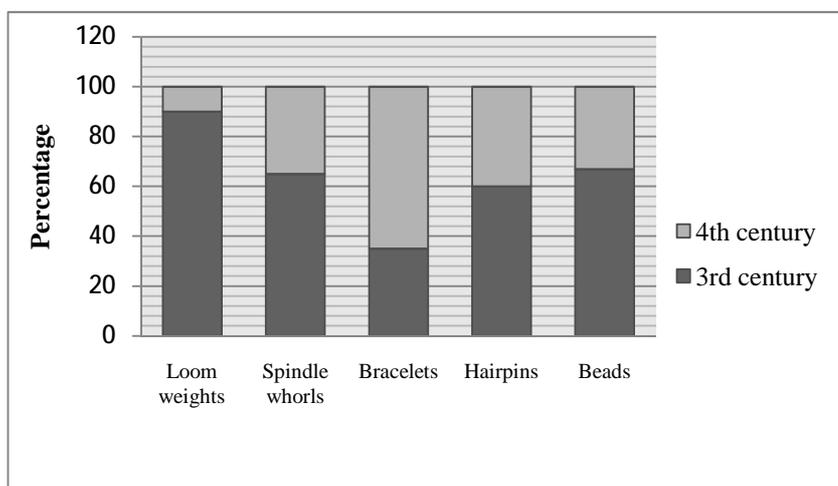


Figure 4.42 a chart showing the relative numbers of female related artefacts from the 3rd and 4th centuries.

The evidence for the presence of women inside the fort changes dramatically in the 4th century and this is attested by most of the artefacts, especially the fashion for wearing and depositing bracelets which remained strong in intramural contexts. This statistic is not surprising given that the extramural settlement is abandoned at the end of the 3rd century. It is unlikely that the large number of artefacts with possible female associations would have found their way into the fort purely by chance.

4.10 Shared activities

This section examines the relative deposition of artefacts that may have been linked to common or shared activities across the whole of the military community. They include artefacts associated with literacy, industry and leisure activities. It is possible that an examination of the depositional patterns of these shared activities will help to define the nature of the military community as a whole and one that may be different from the wider civil population of the rest of the province.

4.10.1 Inscriptions on stone and inscribed portable artefacts from 3rd century contexts

Forty-two inscriptions on stone and fifty-one inscribed portable artefacts have been recovered from 3rd century contexts at the site of Vindolanda, and an initial examination of the plot data in figure 4.43 shows that both inscriptions on stone and inscribed portable artefacts have been found in a wide range of contexts. Although some of the inscriptions may not have been found in their original locations, all of those that were clearly re-used as building material without a clear association with their original location, have been discounted for the purpose of intramural and extramural comparisons. One would expect to find a heavy ratio towards inscriptions on stone from inside the fort given that this area was dominated by the largest buildings (building inscriptions) and the excavation of a 'commanding officers' residence' can produce large dedications by their former occupants.

Twenty-four out of the forty-two inscriptions on stone have come from inside the fort, a ratio of 1:1.75, while the distribution of inscribed portable artefacts is reversed, with forty out of fifty-

one having come from extramural locations, a ratio of 1:3.6. Set against the main control dataset of coins (25% intramural) the inscriptions on stone have a percentage of 57% in intramural contexts. The opposite applies to portable inscriptions where 40 or 78% have come from extramural contexts. This would suggest that a significant number of extramural inhabitants could at least write their own name.

4.10.2 3rd century intramural inscriptions

The majority of the large stone inscriptions from Vindolanda have come from intramural contexts, either as building inscriptions or as dedications on altars. The west gate, north wall, granary and the *principia* have produced building inscriptions of a 3rd century date at the site. Although it must be stressed that many more building inscriptions may have perished due to the remodelling of the fort in the 4th century. Extramural structures that could have warranted building inscriptions or dedications in stone may have included the temples to the west of the site and the baths.

The *praetorium* has produced the most inscriptions on stone from a single building, with six major altars recovered. Warburton found RIB 1684 in the course of his brief 'excavation' at Vindolanda in or soon after 1715 and his vague description of the find-spot implies that it came from a hypocaust room within the fort, almost certainly the baths suite at the north end of the *praetorium*. Anthony Hedley in 1831 recovered RIB 1685, 1686 & 1687 from the north end of the courtyard in the same building. All three were apparently lying face down on the courtyard surface. A fifth altar, SF 7410, was found during the excavations of 1998 at the south end of the building, in topsoil, where it appears to have been abandoned by stone robbers before Hedley's days. It is likely that RIB 2062 (dedicated to Jupiter by a prefect of the Fourth Cohort of Gauls, Naevius Hilarus) and for several years before the 1830's lying in the old castle in Newcastle, had also come from this *praetorium*, after being acquired by the agent of the nearby Greenwich Hospital estates.

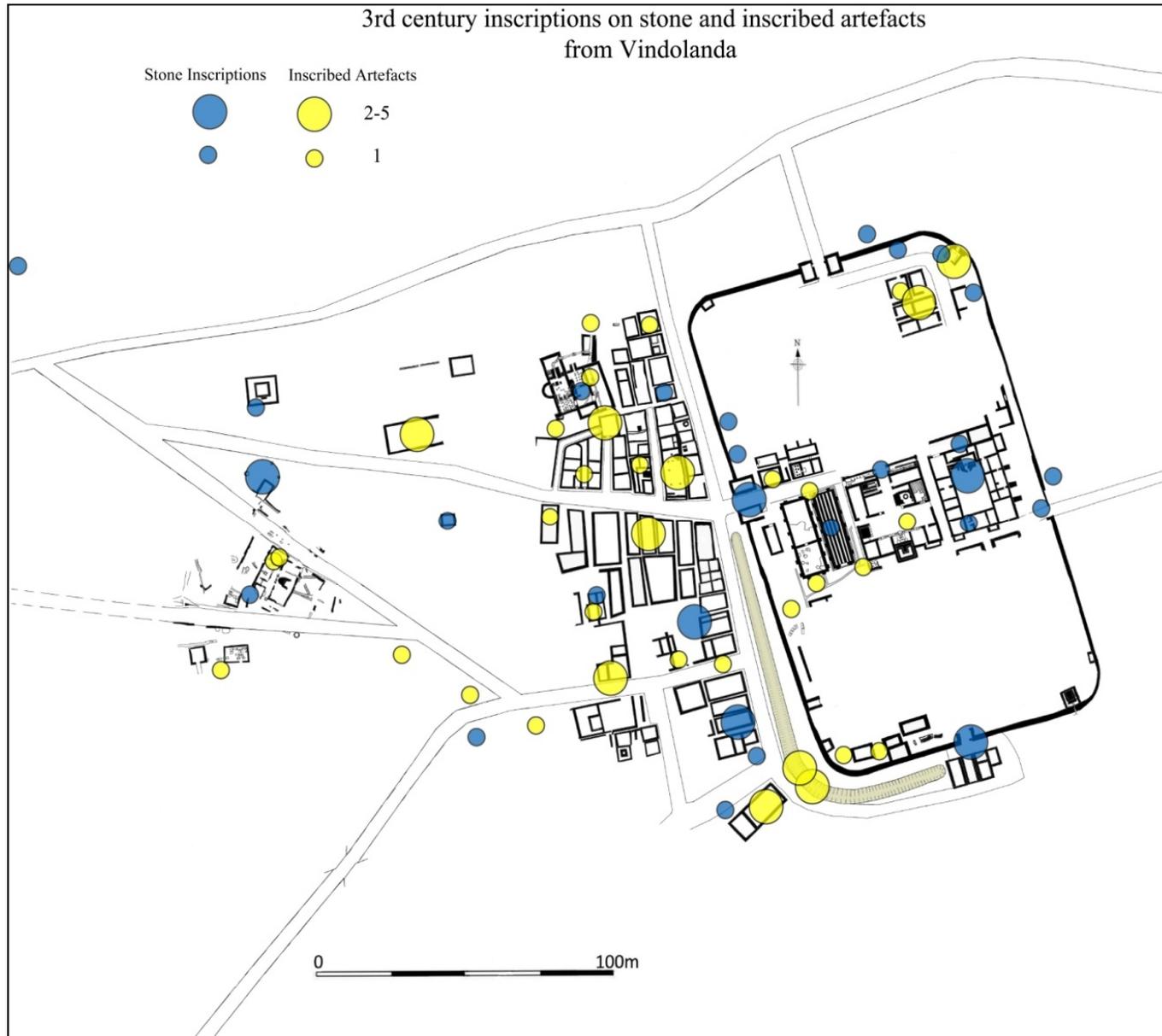


Figure 4.43 Inscribed stone (blue) and portable artefacts (yellow) from 3rd century contexts at the site of Vindolanda.

RIB 1686 is firmly dated to AD 223 or a year or two before that, by the erasure of the Imperial name which is generally held, on grounds of spacing and style, to have been Severiana, and all six dedications can probably be dated to the first half of the third century. There is a good precedent for such altars to be still standing in their original position a hundred and more years later. Carvoran's RIB 1778, a dedication to the Emperor's Fortune, was set up in the baths suite of the *praetorium* there in AD 136/138, and was still in position on its plinth when the Carrick's removed the soil above it in the early 1830's (Birley R.E. 1998: 14). Although dedicated by a prefect of the First Cohort of Syrian Archers, it had not been removed by successive prefects of the Second Cohort of Dalmatians in the third and perhaps part of the fourth centuries.

The only other inscription associated with the *praetorium*, HP III (Birley R.E & Blake *et al.* 1998: 57), was inscribed on a flagstone at the southern edge of the *via principalis*, next to the north wall of the *praetorium*. Its meaning remains unknown.

The six *praetorium* altars:

RIB 1684

Fortunae/ P(opuli) R(omani)/G(aius) Jul(ius) Raeticus c(enturio) leg(ionis) VI Vict(ricis)

'To the Fortune of the Roman People Julius Raeticus centurion of Leg VI Vic (set this up)'

RIB 1685

Genio / praetori / sacrum Pi/tuanus Se/cundus prae/fectus coh(ortis) IIII / Gall(orum)

'Sacred to the Genius of the Commanding Officer's Residence, Pituanus Secundus prefect of the Fourth Cohort of Gauls, (set this up)'

RIB 1686

I(oui) O(ptimo) M(aximo) / ceterisque / diis immort (alibus) / et Gen(io) praetor(i) / Q (unitus) Petronius / Q(uinti) f(ilius) Fab(ia tribu) Urbicus / prae(fectus) coh(ortis) IIII / Gallorum // ex Italia / domo Brixia / uotum soluit / pro se / ac suis

‘To Jupiter, Best and Greatest, and the other immortal gods, and to the Genius of the Commanding Officer’s Residence, Quintus Petronius Urbicus, of the Fabian voting tribe, prefect of the Fourth Cohort of Gauls, from Brixia in Italy, fulfilled his vow on behalf of himself and his family’

RIB 1687

I(ovi) O(ptimo) M(aximo) / et Genio / dissq(ue) cus/todib(us) coh(ors) II[II] / Gall(orum) et Ve [.....] / Caecil [..] E [.] I / OP CELER [.....]

‘To Jupiter, Best and Greatest, and to the Genius and Guardian-gods, the Fourth Cohort of Gauls and Ve....Caecilius Celer’

RIB 2062 *I(ovi) O(ptimo) M(aximo) / coh(ors) IIII Gal(l)or(um) / et Naevius Hilarus / praef(ectus) cur(am) ag(enti) / Firm{.....}*

‘To Jupiter, Best and Greatest, the Fourth Cohort of Gauls and Naevius Hilarus, their prefect, under the charge of Firm.....’

SF7410

I (ovo) O(ptimo) M(axiom) / [?et] G[e]nio pra[e]tori sa]c[rum....].....]pa[.]us[.]/ g[...o] trib(unus) le[g(ionis) I] Min(erviae) S[eve]r(ianae) A[l(exandrianae)] exp[r]ovinc / G[er]man[n]ia p(rae)p(ositus) / num(eri) [G]e[rman] / orum / v(otum) s(olvit) l(ibens) m(erito)

‘Sacred to Jupiter Best (and) Greatest (and) to the Spirit of the *Praetorium*, pa[-]us [-]g[--
-]o, tribune of the legion I Minervia Sever(iana) Al(exandriana), from the province of
Germania, commander of a unit of ? Germans, willingly and deservedly fulfilled his vow.’
(Birley A. R. 1998: 29-35).

The sentiments expressed in the altars are typical of similar inscriptions from *praetoria* across the empire, but they are useful for the purpose of this study as they focus on the fact that there was an added sacred space within the fort in the *praetorium* as well as within the *principia*. Four of the altars were dedicated to Jupiter, the largest concentration of altars dedicated to this deity at the site, while another was dedicated to the Genius or spirit of the building. The inscriptions also offer to some details about the ethnicity or backgrounds/ranks of the dedicators. There is one centurion (from Legion VI Victrix), four prefects (one from Italy) and a tribune from Germany mentioned on the inscriptions. It is possible that the centurion from the Sixth Legion was either in temporary charge of the 4th cohort of Gaul’s when they arrived at Vindolanda, or the commander of a detachment of legionary soldiers. The extramural bath house of this date was either refurbished or completely rebuilt at this time using bricks produced by the Sixth Legion, as shown by the numerous stamps. Should Julius Raeticus have been in charge of the regiment at this time it is possible that he may have been responsible for the construction or lying out of a large proportion of the 3rd century extramural structures at the site. The complete lack of inscribed portable artefacts from the *praetorium* perhaps offer insight into the difference in living conditions for the commanding office and his family and the rest of the community. There is no evidence to suggest that he found it necessary to mark his own property within the confines of the *praetorium*, whereas others could not take that risk.

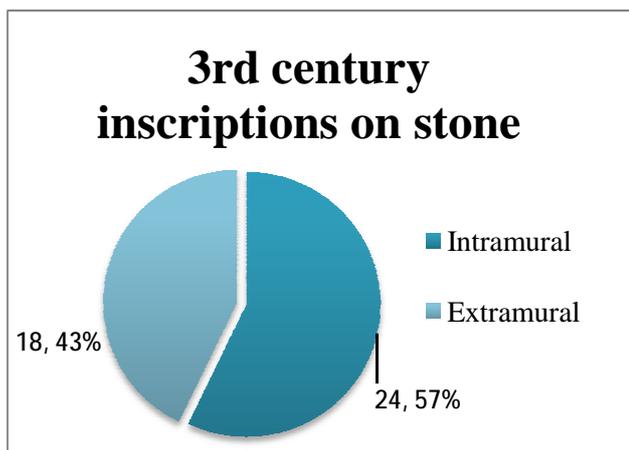


Figure 4.44 The percentage of 3rd century inscriptions on stone to come from intramural and extramural contexts at the site of Vindolanda.

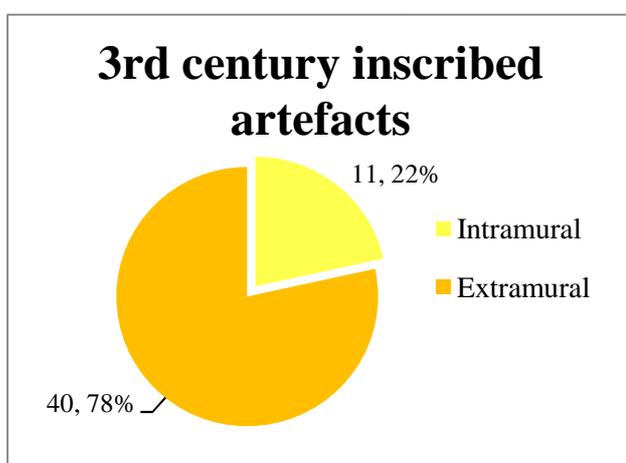


Figure 4.45 The percentage of 3rd century inscribed artefacts to come from intramural and extramural contexts at the site of Vindolanda.

The remaining legible intramural inscriptions on stone from 3rd century contexts are dedications on altars which have come from rampart mounds and the north eastern barracks. The majority of the smaller inscriptions were dedicated on altars to the god Veteris (4) and have come from the west gate, east gate, north wall and the west wall. Veteris may well have been a god of war and therefore more associated with the presence of combatants than non-combatants. One potential interpretation of the name is that it is associated with the old Norse term for ‘thrust’ (*hweta-*) i.e. a spear or sword thrust (Birley A.R. 2003:82). The largest quantity of inscribed portable artefacts from intramural contexts also came from the ramparts, which included a dedication to the Mother Goddess, and the barracks on the north east quadrant of the fort. Here a number of names and numerals were carved onto ceramic artefacts and a quern stone, and are joined by the only fragment of a Roman military diploma to come from Vindolanda, building

IIA (Bidwell 1985: 93-102). Three inscribed ceramic artefacts were found on the roads surrounding the granary, two to the south and one to the north of those buildings.

Name	Rank – title (if known)	Context
CORNELIUS	Singularis Consularis	Tombstone - re-used in
VICTOR		fort wall
CELER	Combatant - from the century of the senior centurion	Outside south gate
VICTOR	Unknown	Outside north eastern fort wall
BER	Unknown	Outside north eastern fort wall
[...]LIAE[...]	Unknown female	Tombstone - re-used in fort wall
INGENUUS	Unknown, but probably civilian	Tombstone - Western cemetery
LONGINUS	Unknown	LXXVIII
SENILIS	Unknown	LXXVIII
LUPULUS	Unknown	IV roadway
AMATUS & FIL[...]	Unknown	LXXI
CIIP - CR	Combatant - Cohors II Pannoniorum – lead seal	XI
CVA	Probable combatant – lead seal	XXVIII
CATINIUS	Unknown	Bath House
[..] ABINO [..]	Unknown	Fort ditch SW corner
MATUGENUS	Unknown	Fort ditch SW corner
[..]MICA [...]	Unknown	Western fort ditch
[..]MOS[...]	Unknown	Western fort ditch
EXPERATUS	Unknown	XXIV
FELIC[...]	Unknown	Bath House
[..]MARTINV[..]	Unknown	XXXIII

MART[...]	Unknown	XI
[...]CYM[...]	Unknown	XXXIII
[...]FEC[...]	Unknown	LXXIII
[...]VCIV[...]	Unknown	Fort ditch SW corner
ATTO	Unknown	LXXX
AVR	Unknown	IX
[...]RCATOR	Unknown	XXIX
PELI	Unknown	XXXVII
[...]ISTAS	Unknown	III
[...]NII[...]	Unknown	III
ADA	Unknown	CXI
CELENT[...]	Unknown	LXXI
[...]ALACI[...]	Unknown	Roadway between CXII & CXIV
NEVTO	Unknown	CXII
[...]CIVS	Unknown	V07B-20 – temples
[...]ATTO	Unknown	XXVIII
[...] V FI[...]	Unknown	XXIX
PRIMI[...]	Unknown	V07B=37 workshop
[...]TOTI[...]	Unknown	XXV
SIMIAG[.]	Unknown	Western fort ditch
MOXI	Unknown	CXXI

Figure 4.46 A table showing all of the names recovered from inscriptions and graffiti from 3rd century extramural contexts.

4.10.3 3rd century extramural inscriptions

Inscriptions on stone from 3rd century extramural contexts at the site of Vindolanda fall into three categories: large stone altars, smaller ‘portable’ stone altars and tombstones. The large stone altars have all come from the western edge of the site, as have the tombstones. Small portable altars have been recovered from a mixture of contexts including domestic. Only one tombstone has been found from the Roman cemetery to the north west of the extramural occupied area, that of ‘Ingenuus’ who lived 24 years, 4 months, and 7 days. All the other tombstones were found re-used in 4th century repairs to the fort walls and other buildings within the fort, such as the *praetorium*.

To the west of the area covered by extramural settlement, in the immediate vicinity of the wells and water tanks, (which might be considered a communal area), a concentration of four altars have been recovered. The first of these were found during drainage work at the site in the early twentieth century, RIB1689 to Jupiter and RIB1700 set up by the *vicani Vindolandesses*. They were complimented by two smaller dedications to the god Veteris/Veteres when modern excavations commenced in the early 1970’s. The two Veteris altars are part of a collection of seven dedications to the god from 3rd century extramural settlement. The remainder came from sites LXXXIV, LXXVIII, LXXI (section 2.7) and to the immediate south of the south gate of the fort. The other gods covered by extramural inscriptions include Mogons (IV roadway) and Hammia (the Syrian goddess). As a whole the inscriptions on stone from the extramural settlement cover similar themes to the altars found in intramural contexts. However, there is no mention of the 4th cohort of Gauls on extramural inscriptions. Instead we have what must be regarded as a separate expression of corporate identity from the extramural site, the *vicani Vindolandesses*.

With a lack of building inscriptions dominating public space in extramural contexts (apart from the collection of inscribed stones from the vicinity of the wells and water tanks), the main difference between the distribution of intramural and extramural inscriptions on stone is that

they are largely absent from the prime areas of the extramural settlement. The buildings to the north and south of the road to the west gate of the fort have produced no stone inscriptions, yet the distribution of coinage suggest that this area may have been one of the most active areas of settlement. No inscriptions in stone have been recovered from the east/west street to the south of the main street leading to the west gate of the fort but in both areas there are concentrations of inscribed portable artefacts. Site II (number 74 in section 2.7), opposite the south western corner of the fort and the fort ditch between produced a high number of inscribed artefacts. The material from the corner of the ditch can be explained by rubbish being tipped into the ditch at this point. The toilet on the south western fort wall is also in fairly close proximity to this part of the ditch system so it is possible that some of the inscribed portable artefacts from this context may originate from intramural contexts.

Figure 4.38 shows a table of all of the inscriptions that give the names of individuals from 3rd century extramural settlement. There is evidence of forty named individuals from 3rd century extramural contexts at the site of Vindolanda, more than double the sixteen names from intramural contexts. Of those, only one can be proven to be evidence of a combatant recovered from within an extramural building. A combatant serving with *cohors II Pannoniorum* left his initials CR on a lead seal in building XI which has been identified as a possible store house. He is possibly joined by another potential combatant who left his initials on a lead seal building XXVIII (CVA) (number 31 in section 2.7). Neither, however, are likely to be Vindolanda residents. Cornelius Victor certainly was, and his dedication stone would have undoubtedly have been set up in the cemetery to the west of the site before being removed for fort wall renovations in the 4th century.

Celer left his dedication on a Veteris altar outside the south gate of the fort, and mentioned the fact that he came from the century of the senior centurion. The buildings immediately to the south of the south gate have been identified as possible store houses. If we include all of those who made dedications to Veteris as possible combatants then we could see their presence in buildings LXXVII, LXXXIV, LXXI, and XXVIII (section 2.7).

Name	Rank and title (if known)	Context
JULIUS RAETICUS	Centurion VI legion	<i>Praetorium</i>
PITUANIUS SECUNDUS	Commanding officer IIII cohort Gaul's	<i>Praetorium</i>
QUINTUS PETRONIUS	Commanding officer IIII cohort Gaul's	<i>Praetorium</i>
URBICUS		
VE...CAECILIUS	Commanding officer IIII cohort Gaul's	<i>Praetorium</i>
NAEVIUS HILARUS	Commanding officer IIII cohort Gaul's	<i>Praetorium</i>
SENACULUS	Unknown	East Gate
[...]IVIVIM[...]	Unknown	NE barracks
CA[...]	Unknown	NE barracks
FOF	Unknown	<i>Principia</i>
MINIO	Unknown	Southern ramparts
[...]VITRI F	Unknown	Southern ramparts
TALONIS	Unknown	NE barracks
[...]INIIO	Unknown	Road to south of granary
[...]ICTIN[...]	Unknown	<i>Via Principalis</i>
MART	Unknown	Southern rampart
[...]MIH[...]	Unknown	SW rampart mound

Figure 4.47 A table showing the names recovered from inscriptions and graffiti from 3rd century intramural contexts.

Most of the named individuals from intramural contexts that have indicated their rank or association have come from the large *praetorium* altars on which there was plenty of room to leave more than the most basic of information. The name of MART from the southern rampart may be taken to have been an abbreviation of MARTIALIS, and this also appears in the extramural settlement in building XI, although it is impossible to prove that they were the same individual it is a tempting thought. TALONIS and the other two inscriptions from the barrack from the north east quadrant of the fort could well have been combatants, although once again, this is impossible to prove as they could equally have been servants, slaves or other non-

combatant personnel. It is noticeable that those that are named from intramural areas all have officer status. The serving soldiers are as ‘anonymous’ both inside and outside the walls of the fort in terms of direct literary evidence.

Numerous stone inscriptions have been recovered from 4th century intramural contexts at Vindolanda, but most had been re-used as a building stone from another part of the site or cemetery. For this reason they have been omitted from the plan in figure 58 plotting the distribution of 4th century inscribed artefacts from Vindolanda. The inscription of *RIACUS*, which may even be 5th century in date, was located on a doorstep to a building just inside the west gate of the fort during the 2008 excavations (Britannia 2009). The bulk of inscribed evidence comes from names carved onto portable artefacts, the majority of which were ceramic. Several of the ceramic artefacts were manufactured from 4th century coarse ware pottery and therefore can be securely dated to 4th century contexts. However, the majority of the vessels are made from *terra sigillata*, and as a consequence their presence in 4th century contexts must be regarded with caution, the potential for some of them being residual waste from the previous century very high. Two areas within the fort show significant concentrations of inscribed artefacts. These were the southern and south western ramparts and the north eastern barracks. Both areas consistently produce high densities of the other artefacts from a 4th century date used in this study and compare favourably with the two controls of coins and whetstones.

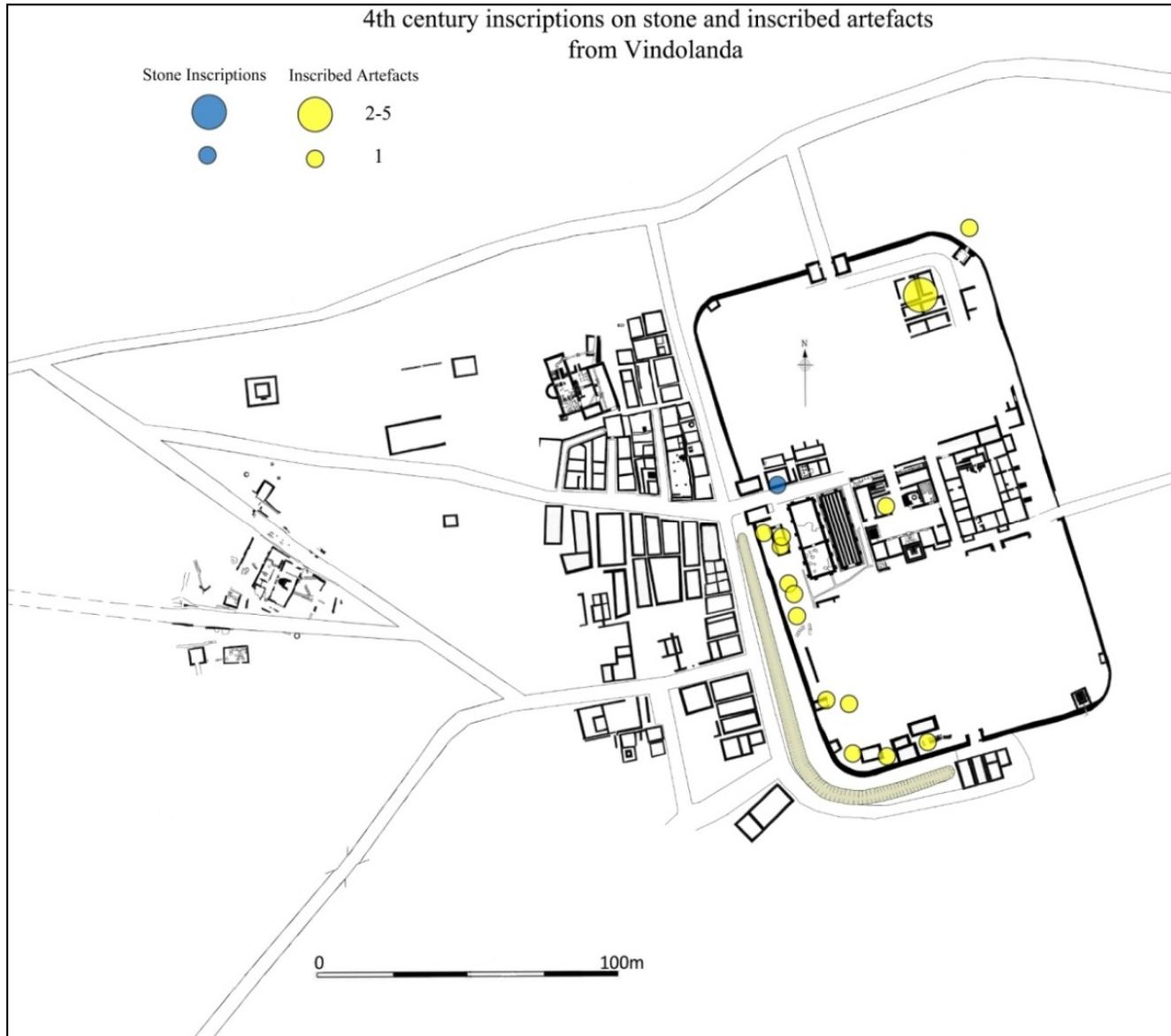


Figure 4.48 The distribution of inscribed material from 4th century contexts at Vindolanda.

Inscriptions on stone and inscribed portable artefacts from 4th century contexts

4.10.4 Interpretation of the patterning

The number of inscriptions on stone and portable artefacts from 3rd century contexts at the site of Vindolanda leaves little doubt that a significant minority of the occupants had been literate enough to write their names, perhaps read inscriptions and leave their own personal mark on objects that they owned.

Almost the entire excavated site, both in intramural and extramural areas, has produced evidence that would support this view. This is shown with a slight bias in the deposition of inscriptions on stone from intramural areas and a larger bias towards the deposition of portable inscribed artefacts in extramural settlement. The majority of the fifty six named individuals from inscriptions or portable artefacts have not referred to any military rank, leaving their status as combatants or non-combatants unknown. In such cases it would be tempting to suggest that the portable inscribed artefacts from intramural contexts such as barracks were dedicated by combatants. However, such an interpretation needs to be resisted as the opposite may equally have been the case.

Where there are inscribed portable artefacts marked by named combatants from extramural contexts, they could indicate the use or settlement of those contexts by combatants. This evidence may be supported by the distribution of Veteris altars from the site, which have been associated with combatants, such as CELER. Dedications to Veteris have been recovered from both intramural and extramural contexts in almost equal numbers.

4.11 Stylus pens - 3rd century stylus pen deposition

Vindolanda has a collection of 266 stylus pens. However only 38 are relevant to this study as the majority of the Vindolanda stylus pens come from pre-Hadrianic contexts which are outside the scope of this thesis. Of those, 32 stylus pens have come from 3rd century contexts at Vindolanda, the majority of which are from extramural contexts. Only two stylus pens (6%) were recovered from 3rd century intramural contexts, this number seems very low when compared to either of the control artefacts of coins (25%) or whetstones/hones (12%). The volume of earth excavated in extramural versus intramural contexts at Vindolanda at the end of 2008 is 1.88:1, the difference in frequency between extramural stylus pens and intramural examples is 19:1. As approximately 50% of the 3rd century intramural site has been excavated, it is unlikely that a ratio of 1.88:1 will be reached.

The low number of intramural stylus pens is startling given the fact that the majority of stylus pens, 228, were recovered from late 1st to late 2nd century intramural contexts. Added to this, the two intramural examples recovered from the 3rd century fort have not come from the same type of contexts as earlier examples, as they were recovered from the south-western ramparts, rather than in social and domestic contexts such as *praetoria*, barracks or *schola*. It is possible that some of the large number of stylus pens recovered from the south western fort ditch were thrown into the ditch by people discarding rubbish from intramural contexts (although the deposition of decorated gladiator glass into the fort ditch, discussed in chapter 3 section 3.6, shows that it is equally possible that rubbish could come from extramural contexts). However, an alternative explanation could be that the stylus pens were thrown into the ditch as an offering to a local deity, as has been suggested by Merrifield when discussing the recovery of over 100 styli from the excavation of the bed of the Walbrook (Merrifield 1965: 101). The stylus pens from the ramparts were recovered from contexts near rampart ovens. One might expect to find stylus pens in the *praetorium*, as they have been a source of some of the largest collections of written material from the site in other periods of occupation (Birley Andrew R. 2002: 62). Sadly few records of material culture from the *principia* have survived its 1930's

excavation and it is impossible to know whether this is a result of poor record keeping and recovery or if their absence from the 3rd century *praetorium* is an indicator of patterns of careful use or tight cleaning regimes.

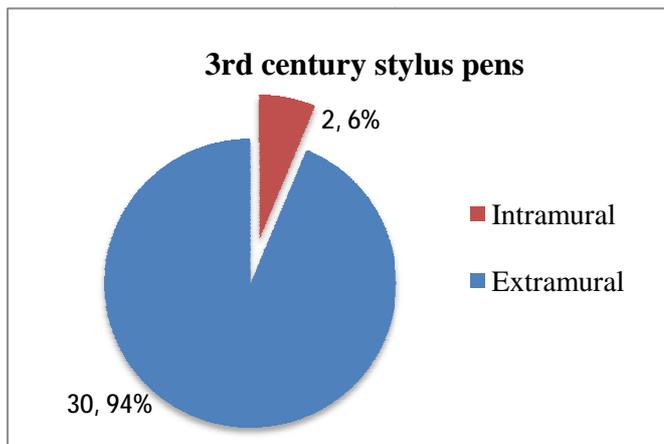


Figure 4.49 The relative distribution of stylus pens from 3rd century contexts at Vindolanda.

Extramural styli are concentrated in domestic contexts along a strip of settlement which fronted onto the western defences of the 3rd century fort. Two buildings facing the northwest corner of the fort, sites LXXX and LXXXII (figure 4.50) produced the five pens and these are the only examples to have come from the northern part of the extramural settlement. It is interesting to note that the greatest concentration of 3rd century pens comes from the part of the site which was essentially the boundary line between the fort and its extramural settlement. A possible explanation for this may have been a particularly strong relationship/bond between those living and working in the buildings facing the west wall of the fort and the inhabitants of the fort.

This may be evidence for traders and merchants or army personnel setting up premises immediately next to the fort walls, the pens being the only surviving evidence of record keeping. However, there is a marked difference in the deposition of stylus pens and evidence for military kit (section 4.4, figure 4.20) with the street leading to the west gate of the fort and the area surrounding the bath house, including the tavern, devoid of styli. The difference in deposition between these two categories may highlight the demarcation of recreational space from that where work and industry took place.

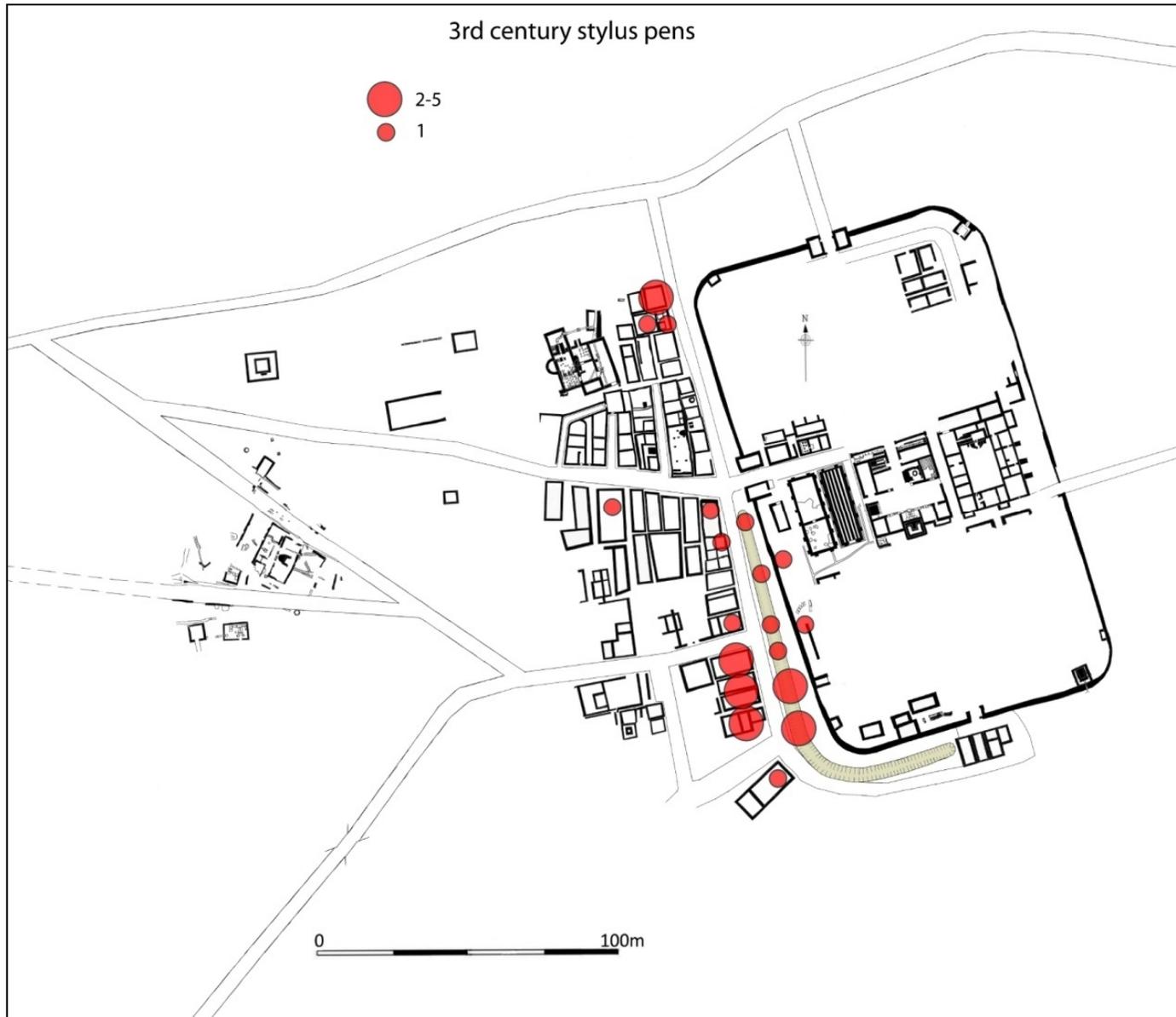


Figure 4.50 The distribution of stylus pens from 3rd century contexts.

4.11.1 4th century stylus pen deposition

Six out of the seven 4th century stylus pens from Vindolanda have come from intramural contexts. The only extramural example has come from a bonfire site outside the north eastern guard chamber of the fort, alongside a complete sword (figure 4.16) gaming counters (section 4.10) and a number of beads (section 4.5) and other artefacts highlighted in this study in the relevant sections. Several of the intramural areas from which stylus pens have been recovered from 4th century contexts have shown evidence of industrial/commercial activity, a theme which carries on from the 3rd century distribution (figure 4.51). The two pens recovered from the south of the granaries may have been seen in the same potential commercial context as those from 3rd century contexts immediately outside the fort gates.

There is strong evidence to suggest that this part of the fort became a commercial area in the 4th century (Birley Andrew *et al.* 2010 –forthcoming). An argument which is supported by the large number of 4th century coins found from these contexts (figure 4.7). A high volume of spindle whorls located in the 4th century barracks in the north eastern quadrant may support the view that spinning may have been taking place on a commercial and domestic level in this area, and the stylus pen located there may also have been used for record keeping. We see evidence again for record keeping from the *praetorium* with a stylus recovered from the southern courtyard of the building and another nearby in the most south-westerly room.

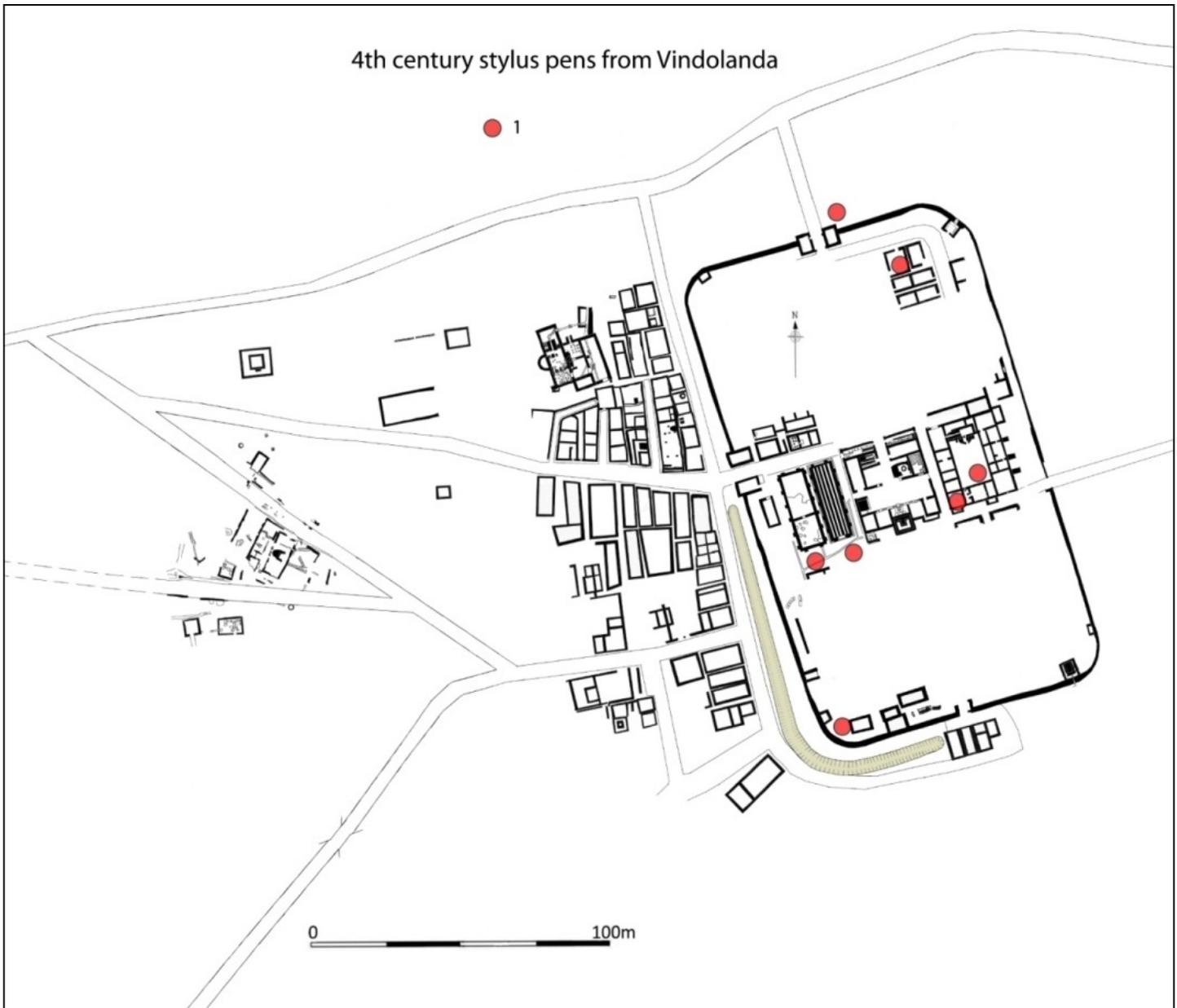


Figure 4.51 The distribution of stylus pens from 4th century contexts at Vindolanda.

This room may well have been a workshop area, and was furnished with a workbench/oven and a coal bunker in set into the floor (Birley & Birley Andrew R. *et al.* 1999: 16).

4.11.2 Interpretation of the patterning

Whetstones/hones and stylus pen share a close relationship with the strip of buildings that faced the western fort wall. The link between whetstones/hones and domestic households with ovens at Vindolanda is marked, and it may be no coincidence that the stylus pens from intramural contexts on the 3rd century ramparts also came from contexts close to rampart ovens. Although it is not inconceivable that there could be a connection between the deposition of stylus pens and record keeping associated with the distribution/consumption of food, there may be another less obvious reason for the close relationship in the distribution patterns. Selected waste from buildings with ovens could have found its way into the fort ditch in this period, and this may account for the high numbers of stylus pens recovered from ditch contexts.

The lack of stylus pens from the 4th century *principia* could be down to poor archaeological collection or a lack of recording/reporting from the 1930's excavation of that building. It is likely that this building would have had male clerks, or secretaries who would have been involved in record keeping associated with unit administration. The two stylus pens from the south of the granaries, may have also been deposited in this context. The overall increase in the number of stylus pens recovered from 4th century intramural contexts as opposed to 3rd century intramural contexts may be due to a change in the cleaning regimes inside the fort.

4.12 Crucibles from 3rd century contexts

The depositions of crucibles in 3rd century contexts from Vindolanda are mainly from the extramural settlement. Of the sixty four artefacts at the site, there is a ratio of 31:1 or 97% towards extramural contexts. The two crucibles (3%) from intramural contexts contrasts markedly with the 25% coin control and the 12% whetstone/hone control for the same area. This ratio may be reduced in the future by further intramural excavation as the presence of *fabrica* within the walls of Roman forts is well attested (chapter 2, section 2.2). The two intramural crucible fragments have come from the south western rampart mound near a series of large ovens. While those ovens were mainly used for cooking purposes (Birley Andrew R. & Blake 2007: 44), it is not inconceivable that they may have been associated with dedicated smelting facilities which have not survived into the archaeological record. The location of the industrial areas on the western side of the settlement may have made life fairly unpleasant inside the north western quadrant of the fort, as the prevailing wind blows from the southwest to the northeast across the site. However, those living in the areas surround the bath house, to the east of the workshops (where there is ample evidence of military kit) would be less likely to have been effected by the smoke and fumes generated by such activities.

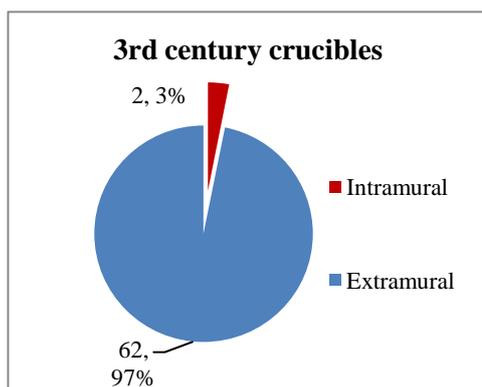
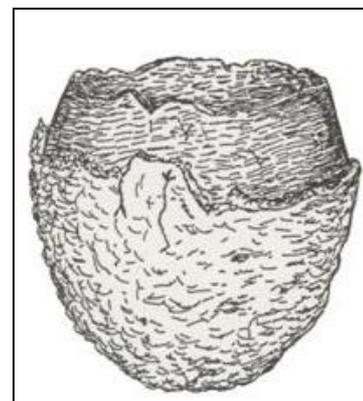


Figure 4.52 The chart to the left clearly shows the bias in the distribution of crucibles to come from 3rd century contexts at Vindolanda.

Figure 4.53 A crucible from a 3rd century context at Vindolanda.



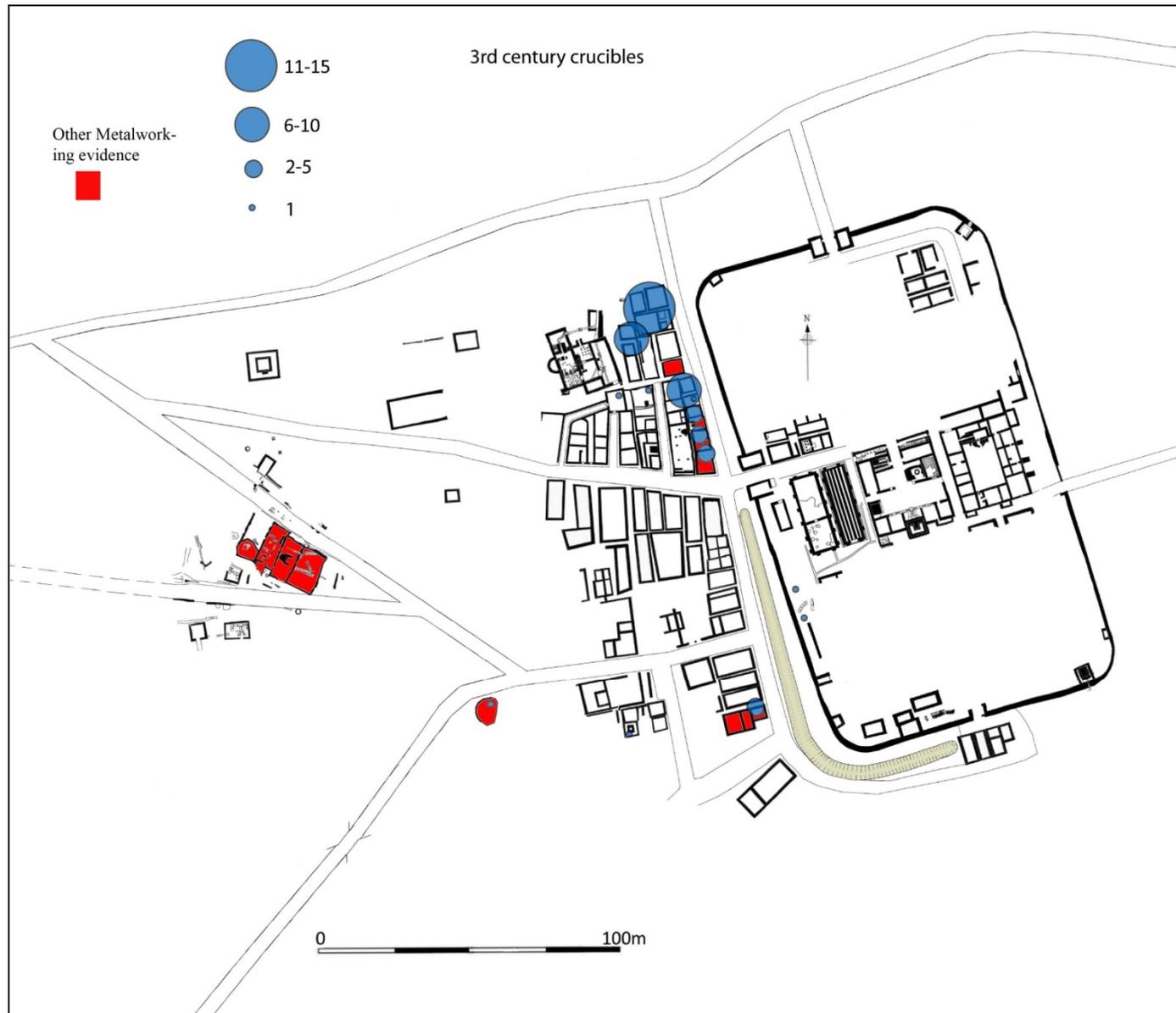


Figure 4.54 The distribution of crucibles from 3rd century contexts at Vindolanda marked in blue. The red areas show where other evidence of metal working has been positively identified, such as hammer splatter or the residue from smelting furnaces.

The extramural area between the bath house and the western fort defences has shown the most evidence for metalworking through the deposition of crucibles. These buildings are also well represented by a large number of coins and have cooking benches that may also have functioned as furnaces. The workshops to the east of site XXIX (chapter 2, section 2.7), immediately facing the fort wall to the north of the west gate, were equipped with furnaces and a large number of crucibles, several of which are complete, were recovered from these contexts. The building close to the south western corner produced three crucibles and a great number of beads and whetstones. One crucible fragment came from the mausoleum, on the south side of the settlement, and a final example from beside a roadway leading from the site to the south west. There would have been practical benefits to setting up metal workshops outside the fort. One of which would be easier access for the supply of materials, and a further benefit would be to reduce the risk of fire inside the fort. The physical situation, next to the fort ditch at the base of a hill, would also have provided good access to water, and a ready place to tip waste (into the ditch) and so further reduce the risk of fire. The proximity to the fort wall may also be either an indicator of the location of the main market or close control over the industrial processes at Vindolanda by the Roman army.

4.12.1 Crucibles from 4th century contexts

There are five crucibles from 4th century contexts at Vindolanda. Two were deposited in the bonfire outside the north eastern guard chamber of the fort, alongside a complete sword, whetstone and a number of beads. A third came from within the *praetorium* and the final two from contexts on the rampart mounds. One crucible came from the southern rampart and a second crucible from the south-eastern rampart mound. The crucible in the *praetorium* is possible evidence to suggest a change in use for this building at some point within the 4th century, although one crucible does not signify a workshop having been present. The examples from the rampart mounds show that crucibles were still used in similar intramural contexts in the 4th century to those of the 3rd century.

4.12.2 Interpretation of the patterning

The current available evidence from Vindolanda shows ample confirmation for metal working in the 3rd century which is mostly restricted to the extramural settlement in this period. The two stages of the metal working process seem to have been well organised with smelting taking place at the western extremity of the occupied settlement before the ingots were transferred to workshops closer to the fort wall for manufacturing into objects, as shown by the large number of crucibles from those locations. A change then takes place in the 4th century when the evidence for metal working through the use and deposition of crucibles moves inside the fort. This evidence, slight up to 2008 was boosted in the 2009 by a series of new excavations centred on the north western quadrant of the fort. These provided more evidence for metalworking in the 4th century in the form of workshops, large quantities of iron slag and crucibles (Birley Andrew R 2010-forthcoming).

4.13 Gaming counters – gaming boards

4.13.1 The deposition of gaming counters and boards in 3rd century contexts

Two hundred and two counters and three gaming boards have been recovered from 3rd century contexts at Vindolanda. Gaming counters appear at first glance to be fairly evenly spread across the site (figure 4.57) although this is misleading as 163 (81%) of the counters are from extramural contexts and 39 (19%) from intramural contexts, a ratio of 4:1. This statistic must however be treated with caution as it will almost certainly change when more barracks and ramparts are excavated in intramural areas, bringing it closer to the 1.88:1 ratio in volume of excavated earth between extramural and intramural contexts. The 19% of counters from intramural contexts is mid way between the coin control (25%) and the whetstone/hone control of 12%.

All three of the 3rd century Vindolanda gaming boards have come from the extramural part of the site. In both intramural and extramural contexts almost 50% of the counters were made from the secondary use of ceramics. Glass, shale and jet counters, custom made for gaming and relatively more expensive than stone or ceramic counters, form 26% (42) of the extramural assemblage and a smaller 15% (6) of intramural counters. Bone counters are poorly represented with 7% (7) from extramural contexts and 8% (3) from intramural contexts. It is unlikely that the low number of bone counters reflects a poor survival rate as a substantial number of artefacts made from bone have survived from the Vindolanda 3rd century contexts. An alternative explanation could be that at Vindolanda the low numbers of bone counters is a reflection of either their relatively low popularity in relation to other materials or that they were prized to a greater extent and therefore infrequently lost.

There are large clusters of counters in two of the extramural areas. The bath house is perhaps the most obvious place one might expect to find large numbers of counters as it is likely that it also served as centre for recreation.

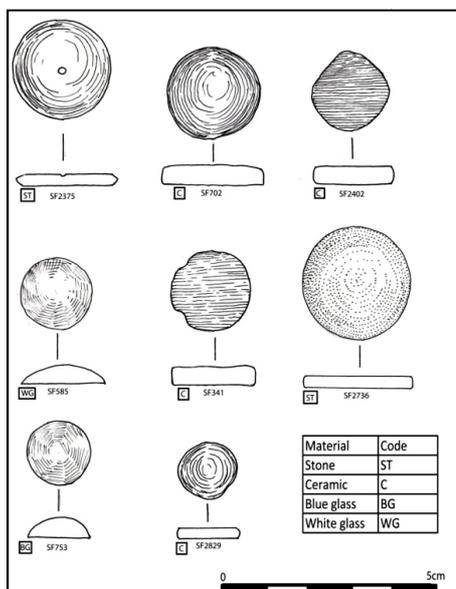


Figure 4.55 Gaming counters from the site of Vindolanda. None of the counters are exactly the same size, although all are small enough to have been used on the stone gaming board shown in figure 4.57.

The changing room in the baths produced the largest concentration of counters from this building, and it is perhaps therefore surprising that no game boards have been recovered from

the baths, although the scratching on perishable and potentially portable floor boards (or *opus signinum*) of the bath house cannot be ruled out. Immediately to the south and east of the baths were a series of buildings which have been described as domestic housing (Birley Andrew R. & Blake 2005:4), and it is interesting to note that the number of counters is directly comparable to the barracks in the north east of the fort. The second area shows a large concentration of counters in the southern part of the extramural settlement situated near two buildings which may have been used for social purposes. The courtyard building and heavily flagged structure to the north were situated on one of the minor extramural roads surrounding the fort, and well out of the way of the main street running to the western fort gate. The building to the north was furnished with a deep well, one of only a few to be located at Vindolanda in this period, and so would make a natural focal point for people to meet, draw water and play games. Two of the three gaming boards from this area were associated with a heavy concentration of counters. Between these two extramural areas is the part of the settlement situated on the south side of the road leading to the west gate of the fort. This area is almost devoid of counters. However the third board was discovered in this location but had no accompanying concentration of counters and it is possible that this board was re-used as a building stone, and that its final deposition had little to do with gaming. This area of the settlement does not appear to have been associated with leisure activities.

The barracks, like the baths, might be expected to produce a large number of counters dropped by combatants, and this is comparable with the data from Ellingen (Allison 2006: 387-452) and Abu Sha'ar (Mulvin & Sidebotham 2003: 614), where barrack blocks see a concentration of evidence for gaming having taken place.

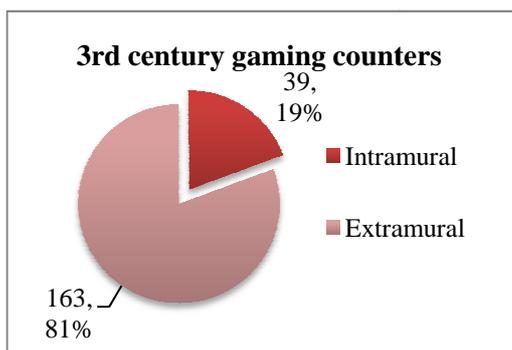


Figure 4.56 The percentage of each type of counter in both intra and extramural contexts.

Inside the fort there is comparatively little evidence for gaming from within the central building range, with no recorded counters from the *principia* or granaries, and a very a small quantity of counters from 3rd century contexts in the *praetorium*. It may be speculated that the commanding officers of the 3rd century garrisons and their dependants were either not as keen on gaming as the rest of the community, that the cleaning regimes were more stringent or that games were played on portable boards. The archive of writing tablets from commanding officers 1st and 2nd century *praetoria* at Vindolanda discuss many leisure activities in great detail. Parties (Tab Vindol II 291 Bowman & Thomas 1994: 256-158), social dinners and hunting are all listed (Tab Vindol II 233 Bowman & Thomas 1994: 207), but there is no mention of games or gambling and very few counters were recovered from these contexts. Excavations of the rampart mounds, especially in the southern and eastern quadrants have, however, produced a number of counters suggesting that games may have been played either by combatants on guard duty or by those using the latrines on the corners of the fort.

In the third century there was a degree of commonality between intramural and extramural areas of the site of Vindolanda in terms of leisure activities represented by gaming counters. The deposits of gaming counters matches that of military kit (section 4.4), and industry (section 4.12) in the 3rd century extramural areas. Therefore although counters have been chosen as representing a 'shared activity', the results of this depositional pattern could be interpreted as being military by association with other categories of artefacts that have been designated as being part of military kit.

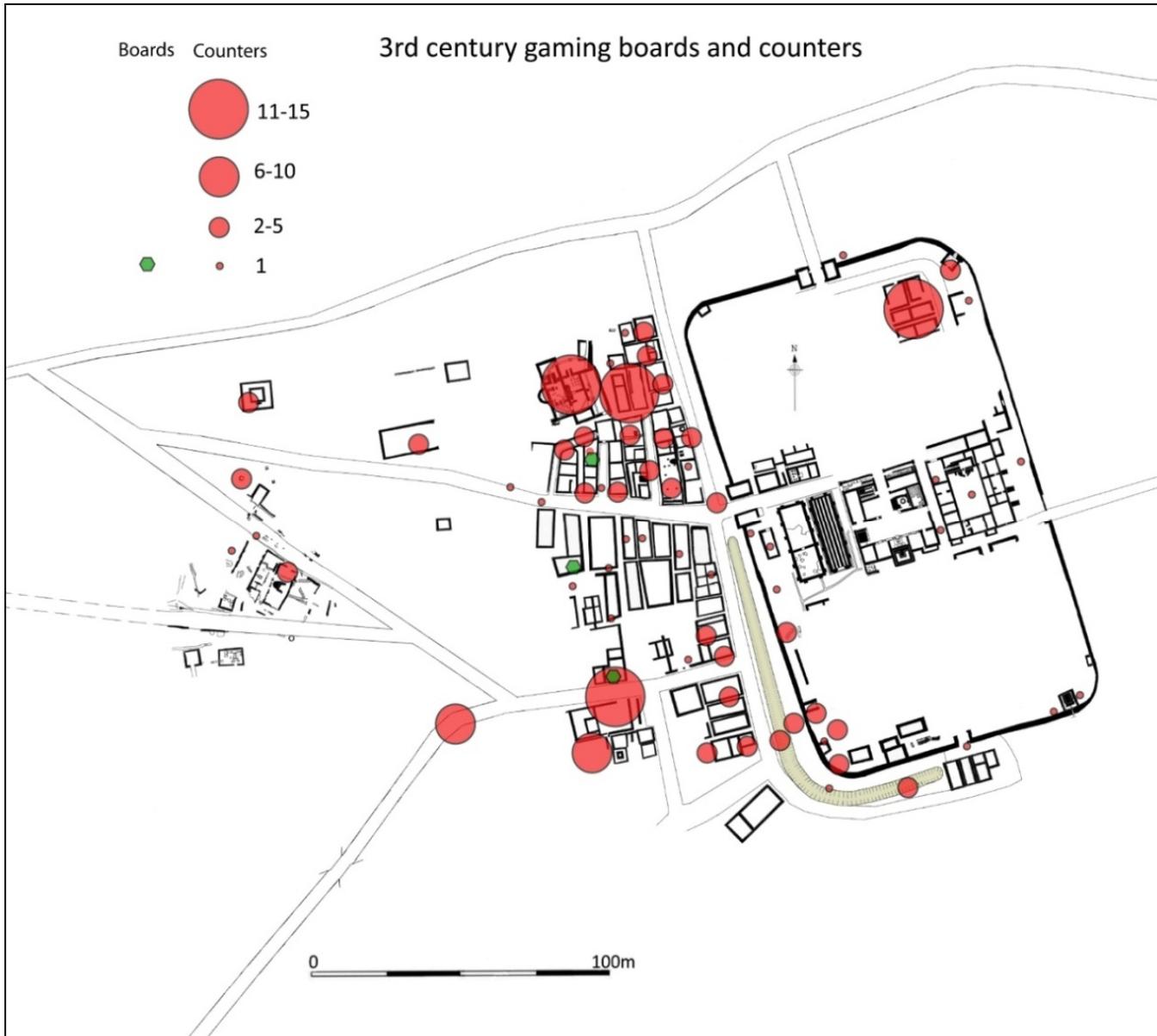


Figure 4.57 The distribution pattern of 3rd century gaming boards and counters at Vindolanda.

4.13.2 The distribution of 4th century gaming counters and boards

Due to the almost complete abandonment of the extramural settlement around the 4th century fort at Vindolanda, counters of that date come from intramural contexts. A significant change in the quantity of counters is found in and around the *praetorium* which for the first time offers considerable evidence to suggest gaming taking place inside that building. It is tempting to suggest that this coincided with a change in the size of the garrison and therefore perhaps in the social status and responsibilities of the commanding officers and families in the 4th century, but an alternative possibility could be a significant change in use for the building during the 4th century. At the end of the 4th century, c AD 370 the *praetorium* was furnished with a new baths suit on its northern side, and a Christian church was built in the interior of the courtyard (Birley R. & Birley Andrew R. *et al.* 1998: 46-47, Birley R. & Birley Andrew R. & Blake 1999: 23). This may help to explain the large distribution of counters in 4th century contexts at the *praetorium* as its role changed from being a residence for the commanding officer and family to a more communal centre and baths, and therefore replicating the evidence for gaming displayed in the 3rd century extramural baths. There may also be a parallel for the counters and board games found in the vicinity of the early Christian church at Vindolanda in a former military base at the fort of Abu Sha'ar in Egypt. After abandonment in the late 4th century Abu Sha'ar was taken over by a Christian community and gaming boards and counters continued to be found in post military contexts (Mulvin & Sidebotham 2003: 611).

The change in use of the granaries from storage facilities to domestic or commercial accommodation in the 4th century is reflected in the number of counters recovered. The increase in gaming counters recovered from 4th century contexts reflects a change from 3rd century storage and working space to 4th century commercial/social and domestic space. The *via principalis* to the north of the granaries and the road to the south have also produce a number of counters. It is perhaps no coincidence that a large number of 4th century coins came from both of these areas, which could indicate that gambling connected to the playing of games was also taking place.

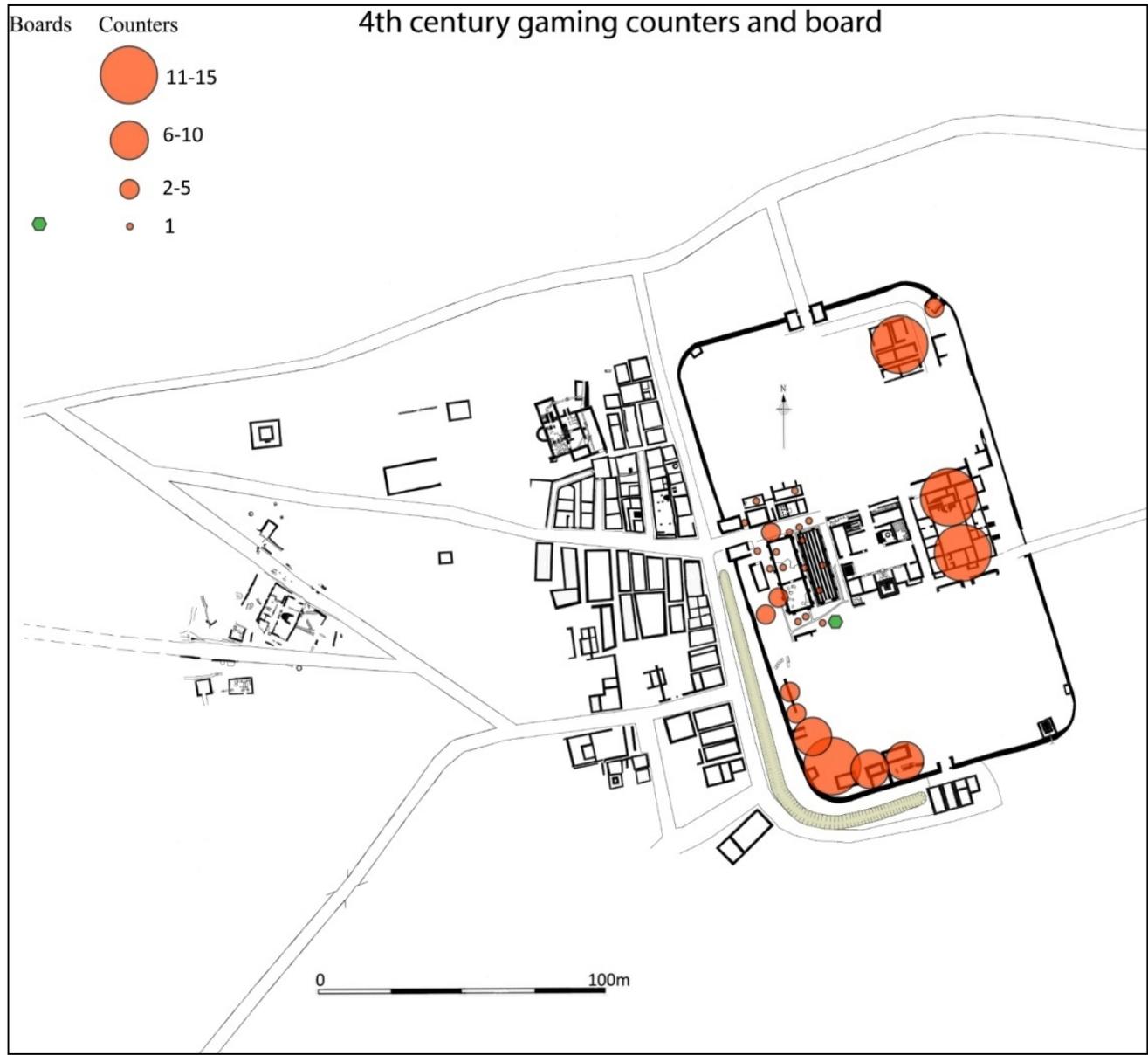


Figure 4.58 The distribution of 4th century gaming counters at Vindolanda.

The most striking concentration of counters came from the south western corner of the fort in the 4th century. Here a number of very late 4th century structures were built over the 3rd century clay rampart mounds. The barracks that once occupied the south western quadrant appear to have been demolished by the early 4th century, and were replaced by a roughly cobbled surface (Birley Andrew R. & Blake 2007: 44). More of this area will require exploration to determine the extent of the cobbling but it would not be unreasonable to suggest that a roughly cobbled square might have been created within the walls of the fort in the 4th century. This area may then have been used as a convenient open space for gaming and recreation within the walls of the fort, or as an internal parade ground or vehicle park.

4.13.3 Interpretation of the patterning

The widespread distribution of gaming counters and boards at Vindolanda in both 3rd and 4th century contexts highlights the continued importance of gaming in the daily lives of the military community at the site during its Roman occupation. Although the supply of specialist gaming pieces appears to have diminished as the settlement continued there is nothing to suggest that the popularity of games such as *ludus latrunculorum* waned through this period. Like coins, the highly portable nature of counters allowed them to be carried anywhere and concentrations in the deposition of counters may indicate the locations where members of the community met to play games and therefore spent a considerable amount of their leisure time.

The more expensively produced custom-made gaming counters of glass, shale and jet decrease in frequency during the 4th century and are replaced by homemade stone counters, normally manufactured from pieces of roofing slate. Bone counters continue to be present in the 4th century, and ceramic counters, perhaps more difficult to successfully manufacture from late pottery forms such as calcite grit wares, decrease in number. The impurities in the fabric of late Roman pottery makes it more difficult to work into perfect shapes, such as small circular counters used for gaming, than finer wares of earlier 3rd century date.

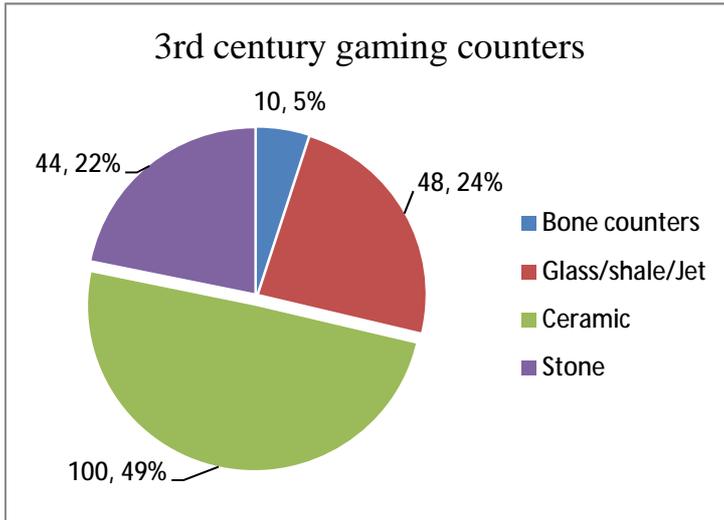
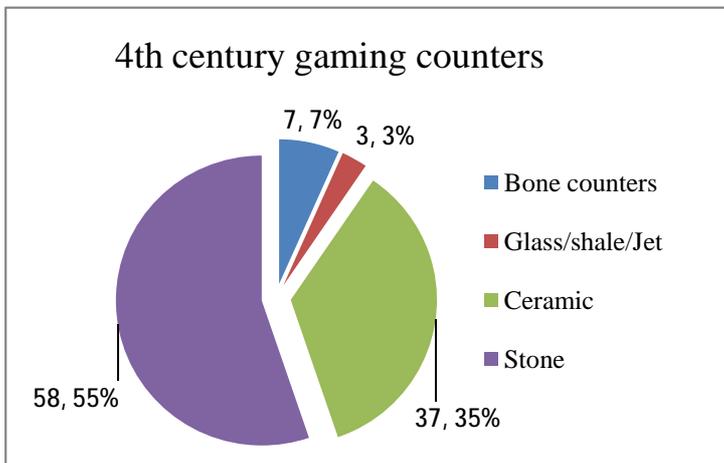


Figure 4.59 The different materials used to make 3rd and 4th century gaming counters recovered from Vindolanda.



The distribution of counters in both intramural and extramural parts of the 3rd century site indicates a community bonded by the social activity of gaming.

4.13.4 Interpretation of shared activities

In general terms, as shown in figure 4.60, there is more evidence for ‘shared activities’ in extramural contexts as compared to intramural contexts. The combined inscriptions on stone and on portable artefacts show the most evidence for shared activity between intramural (38%) and extramural (62%) contexts. However, if the portable inscribed artefacts are viewed separately they are more in line with the coin control (22% intramural and 78% extramural).

The gaming counters (19%) come close to the matching the percentage for the deposition of the coin control (25%) in the intramural contexts. Gaming, through the deposition of gaming counters, appears to have been the second most substantial form of shared activity. The lack of evidence from gaming boards could be ascribed to the types of surfaces/materials used to inscribe the boards. For example, a gaming board scratched upon a wooden floor surface would not have survived from the 3rd or 4th century periods of occupation due to the lack of suitable anaerobic conditions. All of the other categories fall well short of the coin control percentage of 25% and also fail to meet the whetstones/hones control of 12% for intramural deposition. This shows that the extramural settlement was the main focus for shared activities at the site.

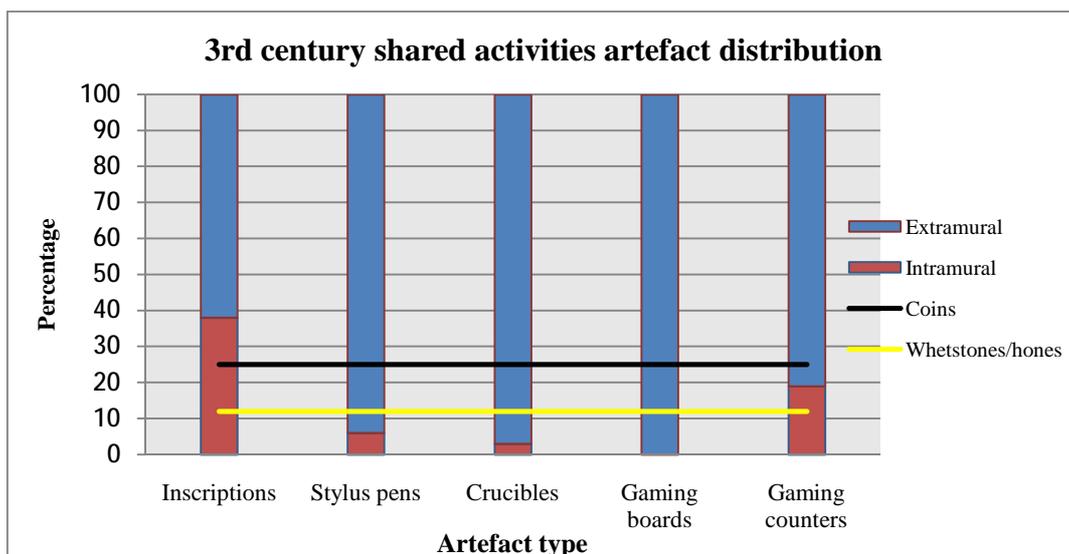


Figure 4.60 the percentage of shared activities in 3rd century intramural and extramural contexts at Vindolanda.

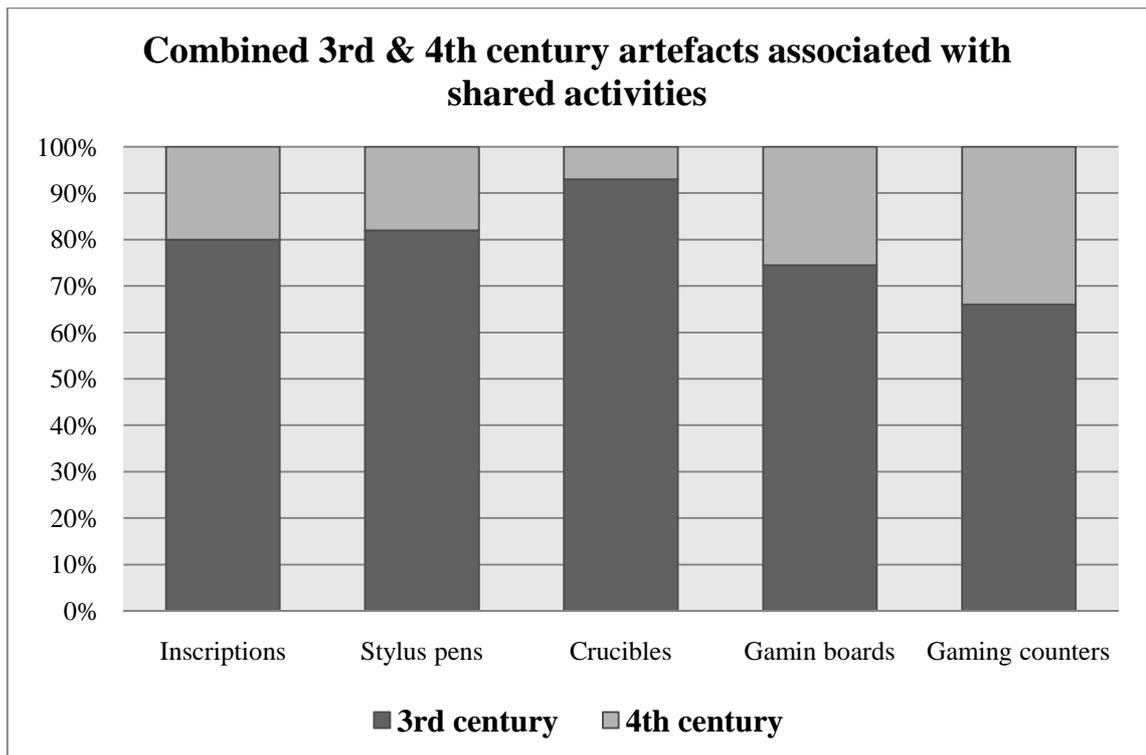


Figure 4.61 combined 3rd and 4th century data for shared activities, at Vindolanda, shown as a percentage.

The combined 3rd and 4th century evidence, as presented in figure 4.61, shows that most shared activities continued into the 4th century, albeit on a reduced scale. The most striking feature is the dramatic reduction in the level of industrial activity, as represented by crucibles, based on the evidence available up to 2008.

4.14 A general summary of the 3rd century data

Combatants

The inclusion of the combatant category of artefacts is vindicated in this study as the deposition of artefacts associated with the military suggests that they had a huge influence/presence in the Vindolanda extramural settlement. However, the plots in section 4.4 show that although there is clear evidence of military activity it does not encompass the entire settlement. The military activity appears to have been largely concentrated in the buildings that were either side of the road leading to the west gate of the fort and in the buildings clustered around the bath house. Here we have a series of important structures which may have had strong military connections, including the baths, the tavern and a series of workshops. It would be a step too far to suggest that this represented some form of military compound in the extramural settlement. However, the area was undoubtedly heavily used by combatants whether on or off duty for a variety of purposes that included bathing and socialising as well as for commercial or industrial activities. The deposition of artefacts in 3rd century contexts on the ramparts and in the ditches combined shows a clear zone where very there very few artefacts associated with combatants compared to the extramural settlement (figures 4.13 & 4.20).

Non-combatants (adult women)

The evidence for non-combatants as exemplified by adult women is heavily weighted towards the 3rd century extramural settlement. The non-combatant artefact statistics demonstrate that although there were a significant number of women in intramural 3rd century contexts, the evidence for the presence of the majority of adult women based on the deposition of artefacts comes from the extramural parts of the settlement. The 3rd century deposition of beads and artefacts associated with textile production clearly demonstrate that, although the presence of women is more wide spread than that of combatants in extramural contexts, they were not excluded from any of the areas that show strong indicators for combatant activity. All three key

3rd century extramural areas of combatant activity, the baths, tavern and the workshops have a number of female-related artefacts deposited within them. Hairpins and bracelets show a more widespread pattern in their deposition but are also found in the same contexts as military kit. Other military areas such as the zone which encompassed the fort walls, ramparts and ditches showed a clear concentration in the distribution of female related artefacts which complement these results. However, while beads and were present in small but almost equal numbers in both ditches and ramparts (figure 4.37) there were significant discrepancies in the distribution of hairpins with the majority coming from the fort ditches and a much smaller number from the ramparts (figure 4.35). This once more highlights the discrepancy in the concentration of female related artefacts in intramural and extramural contexts in the 3rd century settlement at Vindolanda.

Shared activities

The evidence for shared activities is more prevalent from the extramural settlement. There is however a discrepancy between the inscriptions on stone and inscribed portable artefacts and the other categories of stylus pens, crucibles, gaming boards and counters. When combined, the 3rd century inscriptions on stone and inscribed portable artefacts show a more even pattern between the intramural and extramural areas of the settlement (section 4.10, figure 4.43). The gaming counters are heavily clustered around the baths and on the north side of the road leading to the west gate of the fort underpinning the evidence provided by the combatants and non-combatant artefact categories that this was an area that was heavily used by all members of the military community.

A great divide?

The nature and significance of the extramural settlement at Vindolanda in the 3rd century strongly suggests that the occupation was far from purely civil in nature and more heavily tied in with the military occupation of the site than previously suggested (Sommer 1984, 2006).

Significant parts of the extramural settlement appear to have been used by combatants for work or social activity and this shows that, from their point of view, there was no great divide.

However, this is unlikely to have been the case for all members of the military community as there is no evidence to suggest that all adult women could freely access the fort. The low deposition rate of artefacts associated with women inside the fort (ramparts aside) compared to the evidence from the extramural area suggests that although women were most definitely not excluded in the 3rd century their presence may have been in some way limited. Some may question whether women, other than those associated with centurions or commanding officers, were permitted to stay inside the fort at night. The evidence presented here would support the theory for female day time activities such as spinning where daylight would have been preferable. However, it could be argued that the evidence for women equates to actual residence if personal adornment is taken into account. For surely it is more likely that the majority of these types of artefact would have been deposited when undressing at night. This is of course conjecture but the results of the artefact distribution, have, I believe, successfully shown that the walls of the Vindolanda fort acted as a demarcation line in the 3rd century but also that they were porous in both directions and cannot therefore be regarded as a great divide. The pattern of intramural occupation changes dramatically in the 4th century when the extramural settlement is abandoned and the military community became far more integrated. There is a significant increase in the deposition of female-related artefacts from 4th century intramural contexts where it becomes evident that adult women were present in far greater numbers.

Chapter 5

Material culture from comparator sites on the northern frontier of Roman Britain

5.1 Introduction

The preceding chapter concentrated on exploring the nature and significance of extramural settlement on the northern frontier of Roman Britain through an analysis of the material culture from the site of Vindolanda. The purpose of this chapter is to determine how representative the Vindolanda datasets are in comparison with those from the other study sites and to highlight any similarities or differences that may be observed. The comparator sites and associated reports considered are Catterick, in the military zone but not on the frontier, and the frontier sites of Housesteads, South Shields and Birdoswald (figure 5.1). It was expected that the long awaited excavation report from Carlisle would have been available at the time of writing, which would have added a better east-west balance across the frontier zone. This was not the case and the valuable evidence that this report would have undoubtedly contained has of necessity been omitted.

Unfortunately none of the comparator sites have the same quantity of intramural versus extramural excavated areas as at Vindolanda. The available evidence from these sites also makes direct comparison in terms of periods of time problematic. Only at Birdoswald and Vindolanda has it been possible to clearly associate all of the chosen artefacts with definite periods of 3rd and 4th century occupation.

The excavations of South Shields, Housesteads and Catterick present more of a challenge, for despite some excellent reports, the dating and collection of the evidence remains patchy due to excavation practices and recording shortcomings from antiquarian excavations. This is highlighted by the lack of large numbers of whetstones/ hones from these sites. It is very likely that these artefacts were present in significant numbers but, as they may have been given a very

low status by excavators, many were not included in the older archaeological records. As it is not possible to separate all of the artefact data from these sites into definitive periods of 3rd and 4th century occupation, they are more limited in their scope to act as direct comparators for the Vindolanda data. For this reason, the Vindolanda 3rd and 4th century data has been combined to facilitate a more direct comparison in this chapter.

To a certain extent the coin assemblages from the sites transcend this issue. Their inclusion is therefore of more importance than merely as a control for other sets of data, as primarily used in chapter 4. As highly portable and datable artefacts they offer an insight into the different periods of occupation of extramural areas. Apart from coins, the analysis of the other artefact categories will concentrate on the dimension of space rather than time, i.e. intramural versus extramural. Where possible, each category of artefact examined from the comparator sites is the same as those for Vindolanda and a coin control has been established for Catterick and Housesteads to add extra value to the evaluation of the artefact datasets. Such a coin control has not been possible for South Shields and Birdoswald where the relevant information is not available and no intramural versus extramural comparisons can be directly made here.

The data from the comparator sites is therefore useful at a general level to examine broad trends. This may provide an understanding of patterns of deposition of selected artefacts associated with combatants, non-combatants and shared activities at the study sites.

At the end of this chapter conclusions are offered on the main points arising from the comparable datasets. These considerations are followed by a wider discussion in chapter 6, which examines all of the evidence presented in this thesis, offering a firm statement on the ability of material culture to add to our understanding of the nature and significance of extramural settlement at Vindolanda and other selected sites on the northern frontier of Roman Britain.

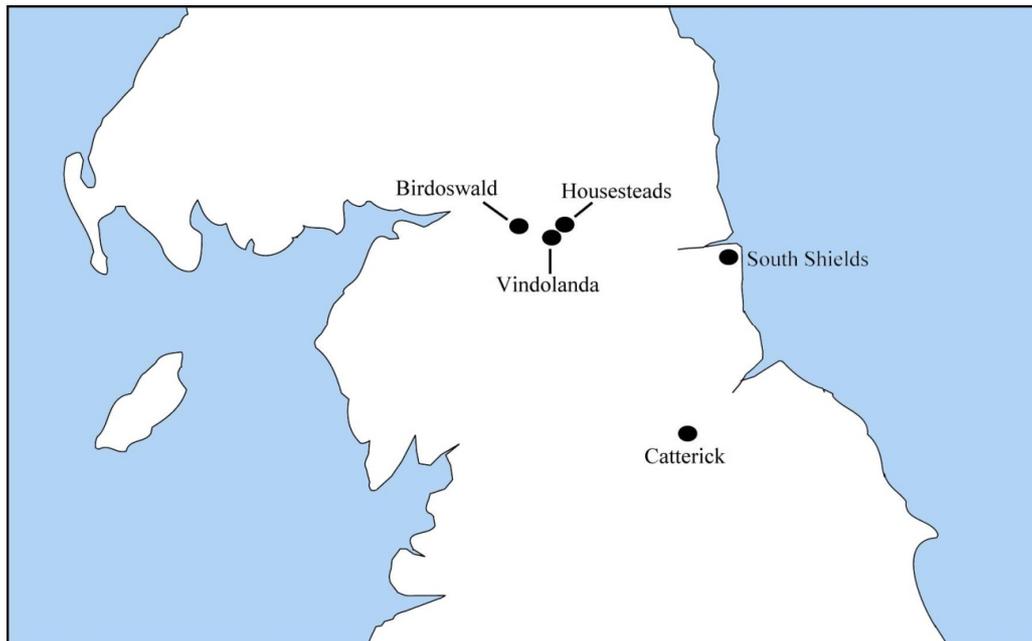


Figure 5.1 showing the location of the comparator sites.

5.2 The comparator sites

A detailed description of the comparator sites is offered in chapter 1, section 1.8-1.11. The descriptions given below concentrate on the archaeological sources and records that are used for comparative purposes in this chapter.

5.2.1 Catterick

Catterick was a Roman fort with a walled extramural town situated in the north of Yorkshire, and is the most southerly site to be examined. The military occupation of Catterick may have started with the conquest of Brigantia in AD 71-74 and the military base remained in occupation until the end of Roman Britain (Wilson 2002: 446). The extramural settlement to the east of the fort appears to have developed into a fortified town by the middle of the 2nd century (Wilson 2002: 457). Catterick has been investigated in a series of excavations from 1958 to 1997, driven by the demands of rescue archaeology rather than by a carefully constructed research programme, making these excavations somewhat disjointed. They were undertaken by various

bodies, including those by John Wachter in the 1970s and 1980s, followed by the Department of the Environment Central Excavation Unit, 1981-1984, and English Heritage central archaeological service, 1993-1997 (Wilson 2002: xviii). The results of these excavations have now been collected into two volumes (Wilson 2002). The Catterick areas that have been included are the intramural areas of 433 (1958-1959 bypass excavations, Wilson 2002: 46-121) and 452 (Thornbrough Farm site, Wilson 2002: 223-232), and the extramural areas 434 (1972 bypass excavations, Wilson 2002: 46), 240 (Catterick Bridge site, Wilson 2002: 185-204), 251 (Honey Pot Road site, Wilson 202: 205-208), 273 (Catterick racecourse, Wilson 2002: 209-216) and CAD (Cadbury-Schweppes factory sites, Wilson 2002: 235-239). Others, including site 46 (Bainesse), are discounted because although they are included in the main Catterick report, they are too distant from the main site to be considered as either intramural or adjacent extramural settlement (Wilson 2002).

5.2.2 Housesteads

The Hadrian's Wall fort site of Housesteads is discussed in chapter 1: section 1.9 The data included in this section comes from a variety of excavation reports, some extremely limited in scope, giving little detail or contextual information (Birley E. *et al* 1931: 222-237, Birley E & Keeney 1935: 204-259, Birley E 1939: 172-184). These reports cover both intramural and extramural excavations with the majority of the intramural excavations taking place in the late 19th century and principally concerned with obtaining a plan of the internal structures (Bosanquet 1904: 193-300). Given the above conditions, there would have been great difficulties in effectively using Housesteads for comparative purposes were it not for the recent publication of a long-awaited report on the 1954-1995 excavations. This report has been published in two volumes, the first dealing with structural evidence (Rushworth 2009: volume 1) and the second, the material assemblages from the Housesteads excavations (Rushworth 2009: volume 2). Unfortunately, although this report adds much needed clarity to the intramural datasets from the site, it is lacking in corresponding extramural artefact data. This is

disappointing, as evidence from the coins at this site suggest that Housesteads might well have offered the most direct comparison to the Vindolanda extramural data, had this been available.

5.2.3 South Shields

The '*Catalogue of small finds from South Shields Roman Fort*' (Allason-Jones & Miket 1984) gives a comprehensive list of the known collection with the exception of coins, pottery, inscribed and sculptured stones and animal bones and shells. However, the authors state that 'no reference has been made to their contexts as the finds had been divorced from their original small finds numbers and context cards by the time they were brought to the attention of the authors' (Allason-Jones & Miket 1984: preface). Most of the material culture found at South Shields was excavated from the intramural part of the site, although a few extramural artefacts came to light when examining the external fort defences (Bidwell and Speak 1994). This is not surprising given that very little extramural excavation has been undertaken at this site. However, as South Shields has one of the most substantial datasets of material culture to come from intramural contexts on the northern frontier of Roman Britain, the assemblage is still highly relevant to this study.

5.2.4 Birdoswald

The Hadrian's Wall fort and site of Birdoswald has been subjected to a series of recent excavations which has resulted in a relatively small but well documented catalogue of material culture (Wilmott 1997). A more detailed explanation of the site is offered in Chapter 1, pages 40-41. At Birdoswald it has been possible to concentrate on the 3rd and 4th century periods of occupation, periods 3-5 (Wilmott 1997: 22), separating this data from earlier and later occupation material. This differs from the approach to the analysis of material culture taken by Gardner who included artefacts from all periods of Birdoswald occupation (Gardner 2007: 128-139).

5.3 Coins as an artefact category

At Vindolanda (chapter 4) the deposition of coins was used primarily as a control for the other artefact categories covered in that section of the thesis. As Roman coins are portable, plentiful and datable, they can be seen as ideally suited to this purpose (chapter 3, section 3.2.1). The coin issue periods are used in this chapter to assess associations in periods of activity between intramural and extramural areas on the individual Roman sites (Reece 2002).

Figures 5.2 to 5.6 show the results of data analysis between the various sites. They have been presented to highlight the comparisons of intramural and extramural coins from Vindolanda, Catterick and Housesteads followed by the intramural data only from South Shields and Birdoswald, as the extramural data from these sites is insufficient to provide a meaningful comparison.

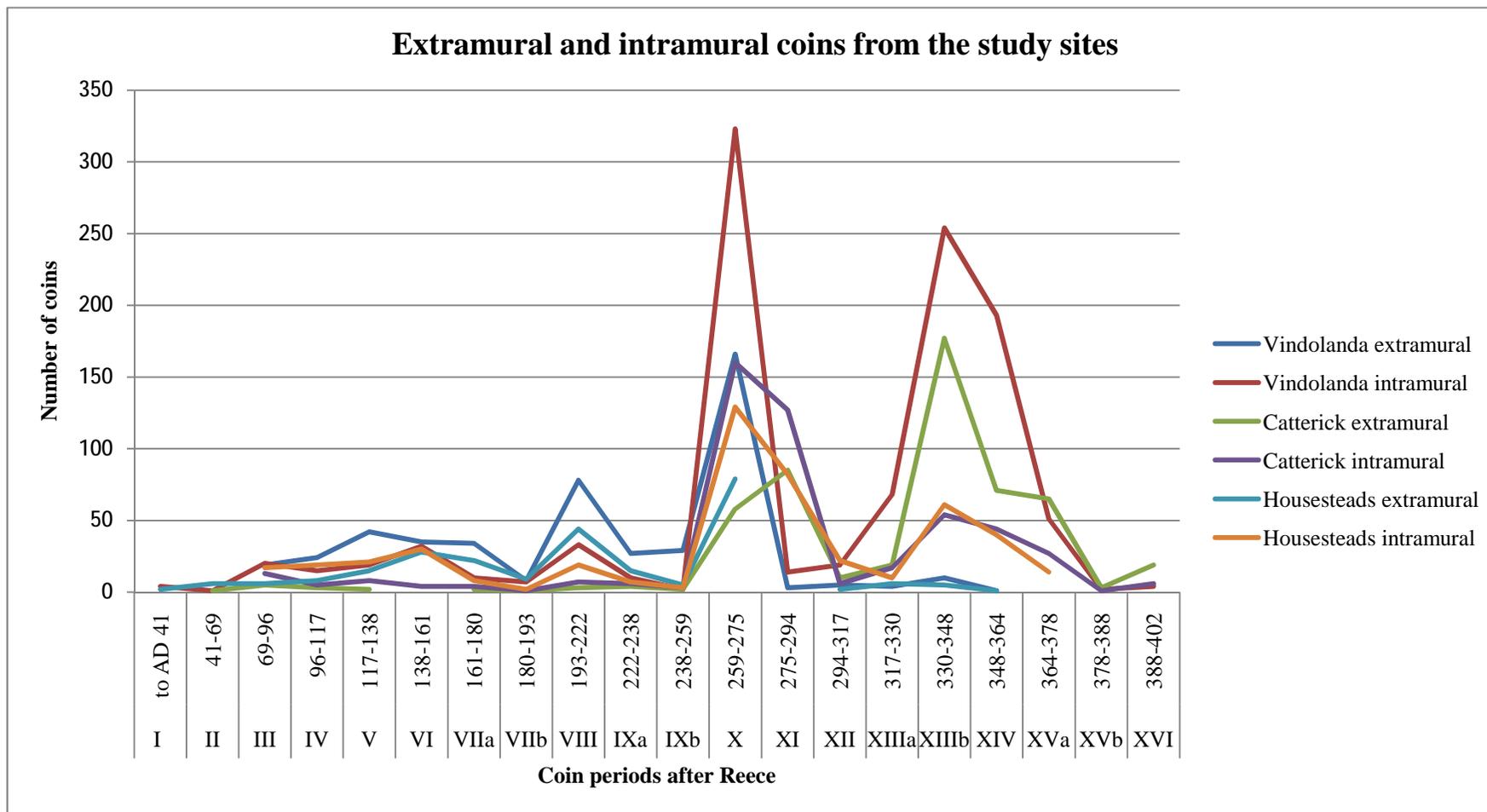


Figure 5.2 An amalgamation of 3rd and 4th century coin data from the study sites.

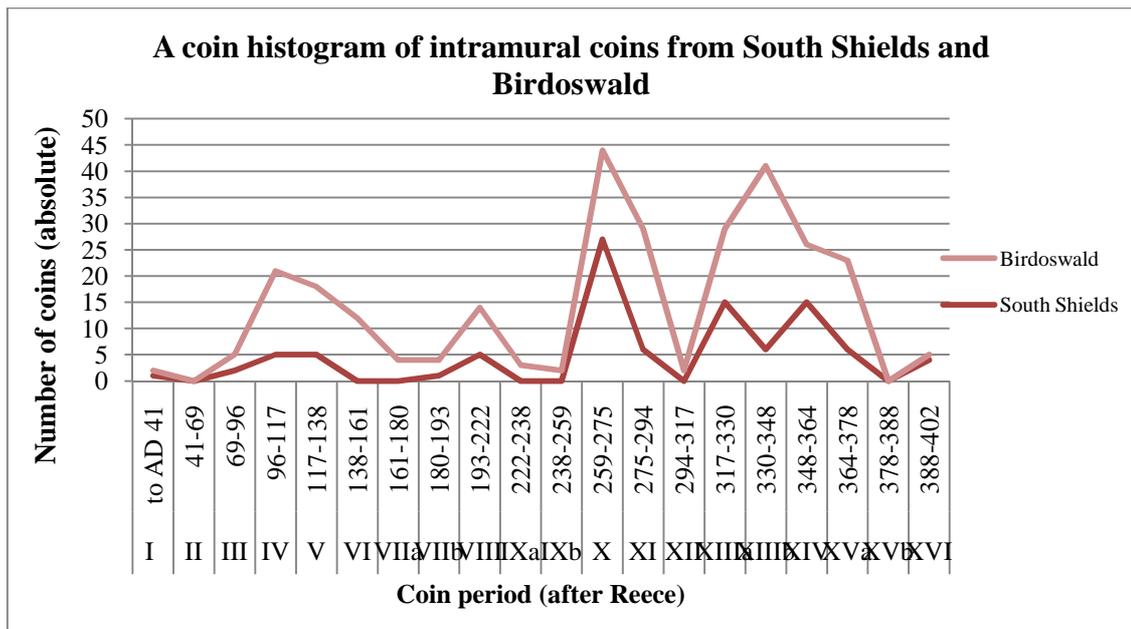


Figure 5.3 A combined histogram of coins from intramural contexts at South Shields and Birdoswald.

The coin data from Vindolanda and Housesteads (figures 5.2) shows a significant degree of similarity. Extramural settlement at both sites appears to have been abandoned in the late 3rd century, after which a limited number of coins were deposited in extramural contexts. The 4th century deposition of extramural coins at Vindolanda (figure 5.2) is concentrated on the main road leading to the west gate of the fort (figure 4.7). Housesteads shows a similar pattern of deposition with 4th century extramural coin evidence coming mainly from an area adjacent to the fort walls. It has been suggested that these Housesteads coins may have been thrown over the fort walls or deposited in rubbish that was tipped outside the fort (Brickstock 2009: 365).

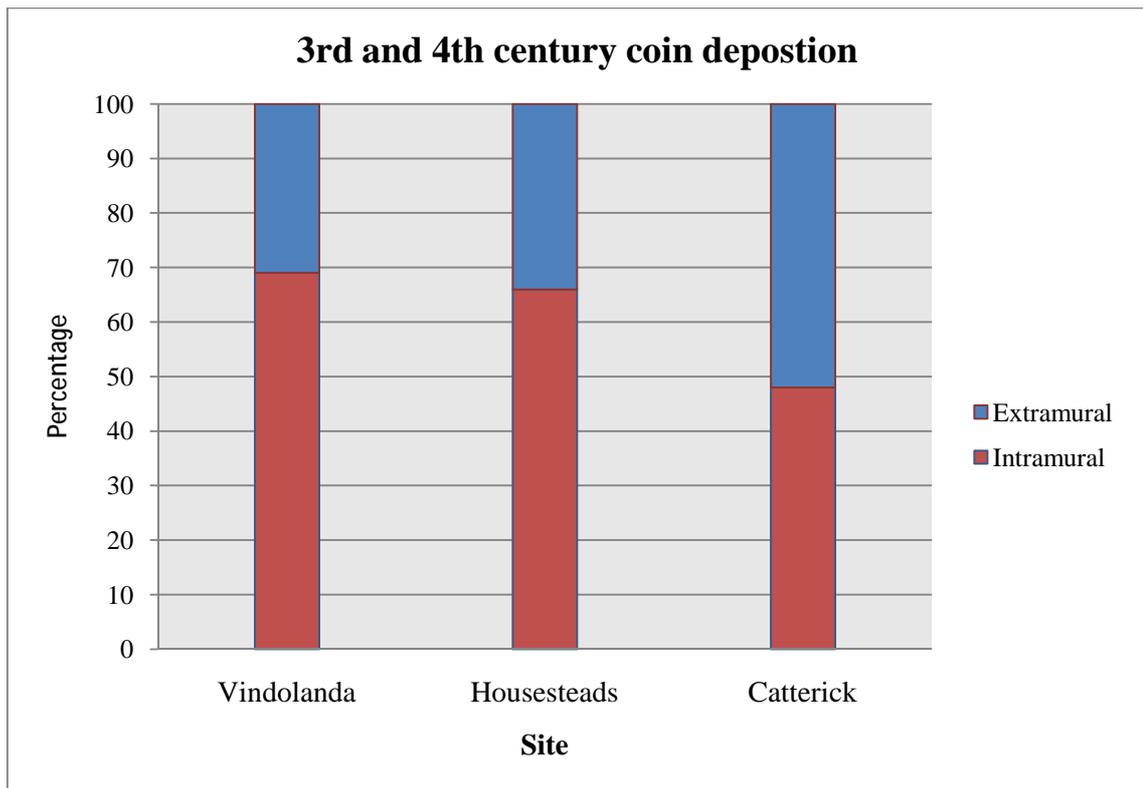


Figure 5.4 the combined 3rd and 4th century sites with intramural and extramural coin deposition given as a percentage.

The coin evidence from the same period at Catterick, although showing a similar intramural pattern, contrasts sharply with the Vindolanda and Housesteads extramural data (figure 5.2). The extramural areas at Catterick appear to flourish in the 4th century with a greater number of coins being deposited in the extramural rather than intramural contexts. The evidence would suggest that while the extramural settlements at Vindolanda and Housesteads suffered a measure of abandonment during this period the reverse was the case at Catterick. Catterick was a different type of site than those on the northern frontier and therefore had a differing pattern of deposition. This could be associated with the fact that the Catterick extramural settlement was defended by a curtain wall in the 4th century while the inhabitants of the extramural settlements at Vindolanda and Housesteads may have been obliged to re-locate inside their adjacent fort walls for a comparable level of protection. It may also reflect the fact that Catterick was well inside the province and was a major centre for both military and civil communications. With this latter point in mind it would have been useful to have been able to include the Carlisle data

for comparative purposes, as this site also had a strong military and civil dynamic. However, as stated before, the delay in the publication of the most recent and comprehensive excavations at Carlisle made it impossible to include this site at this stage. The intramural datasets from the 4th century at South Shields and Birdoswald appear to broadly reflect those from Vindolanda and Housesteads.

The patterns from the study sites show similarities to Reece's baseline curve for the province as a whole (Reece 1995:184, figure 1). In his baseline, in which the coins from the average British site are added up period by period, Reece shows a slow accumulation until after Reece period XIb (AD 238-259) then a sudden rise with the radiate coins, a slackening off and a further steep rise after Reece period XIIIa (AD 317 – 330). The intramural and extramural data from the study sites shows a steep rise starting in Reece period IXb (AD 238-259), figure 5.5, followed by a substantial drop starting at the end of Reece period X (AD 259-275) to period XII (AD 294-317). Another steep rise then occurs from the end of Reece period XII to the end of Reece period XIIIb (AD 330-348). This is followed by a considerable decline leading to a levelling off in Reece period XVb (AD 378-388). The Reece period XI- XIV coins deposited in the extramural settlements at Housesteads and Vindolanda may have been through casual loss. Catterick is the exception showing that as a small town it continues to flourish.

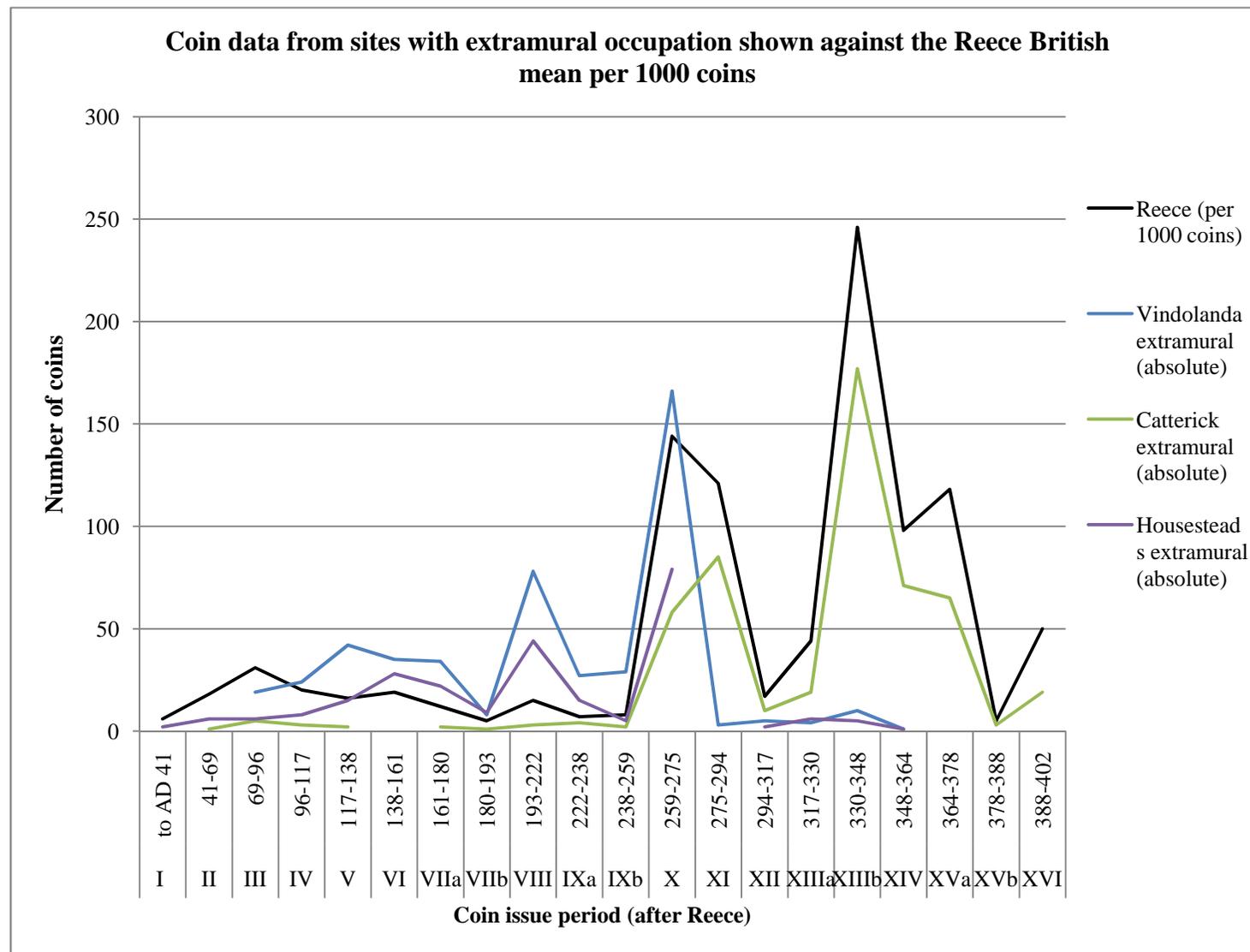


Figure 5.5 A coin histogram showing the numbers of extramural coins from the study sites in relation to the absolute Reece British mean per 1000 coins.

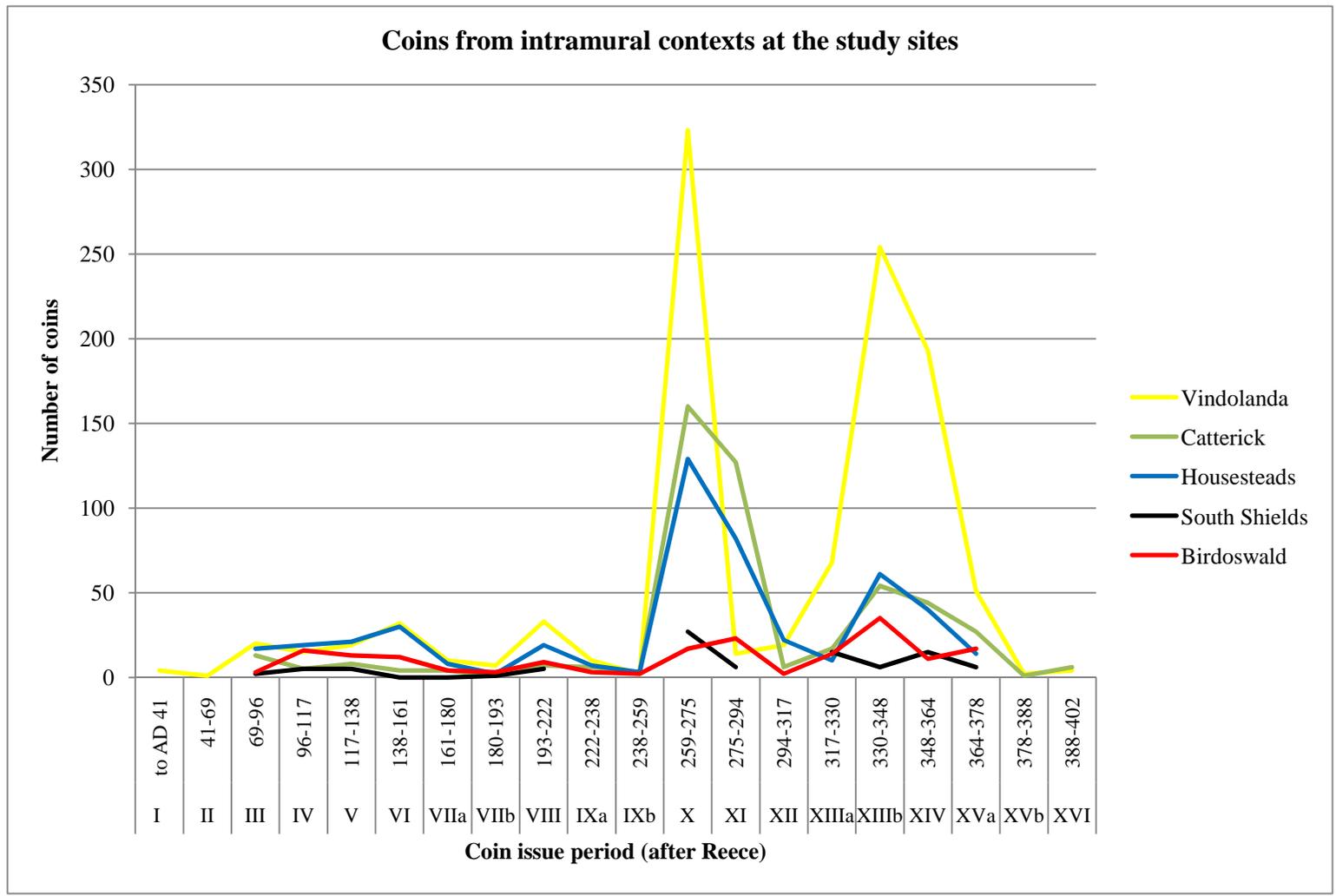


Figure 5.6 A comparator for the coin numbers and issues from the study sites with intramural data.

All of the study sites have a considerable number of radiate coins from Reece periods X and XI, as in line with mean British average shown in figure 5.5 (c AD 259-275). The frequency in the deposition of these coins indicates that a high level of intramural and extramural settlement may have been present on these sites up to the late AD 270's. At both Vindolanda and Housesteads this period of occupation may have been intensive until a definite decision was made to abandon the extramural areas. The intramural data from all of the sites show an increase in the deposition of coins in the 4th century from Reece periods XIIIa- XVa (AD 317-378).

The coins have demonstrated their value as an artefact category for comparison between the sites and the Reece baseline.

5.3.1 Coins as a control

Chapter 4 demonstrated the value of coins as a control at Vindolanda. Their use as a control provided a measure against which the relative deposition of artefacts associated with combatants, non-combatants and shared activities could be assessed.

While it is of interest to note varying numbers of artefacts from intramural and extramural contexts at the comparator sites, it is just as important to look at the data in relation to coin controls where possible. This is because the comparator sites have been subjected to unequal volumes of excavation in intramural and extramural contexts, and have varying methods of excavation and recovery rates. It has only been possible to establish a coin control for the sites of Vindolanda, Catterick and Housesteads as only these sites have comparable intramural and extramural coin data.

There is a variable ratio of 3rd & 4th century combined coins deposited at Vindolanda, Housesteads and Catterick. At Vindolanda 69% (1123 coins) of these coins were recovered from intramural contexts, closely followed by Housesteads with 66% (488 coins) and an almost equal intramural/extramural spread at Catterick with 48% (493 coins) of coins from intramural contexts. The percentage of intramural and extramural artefacts when shown against the

individual coin controls from each site will help to contextualise the ratio of artefacts at each site in the categories of combatant, non-combatant and shared activities.

5.4 Whetstones/hones

The distribution of whetstones/hones from Roman forts and their associated extramural settlement has been included in this study as a secondary control (alongside Roman coins) for the distribution of other artefact types at the site of Vindolanda (chapter 3, section 3.2.3). Their inclusion as a control was based upon the fact that as they are made from stone, and are therefore exceptionally robust artefacts which can survive in most archaeological environmental conditions. Whetstones /hones are recovered from a wide range of sites and contexts which include industrial, commercial and domestic spaces and are found in both intramural and extramural areas. This secondary control at the site of Vindolanda has provided useful data to compare with the primary coin control. Vindolanda has produced 140 whetstones/hones from 3rd and 4th century contexts. However, a lower number of whetstones/hones have been recovered or reported on from the comparative sites and this precludes them from being used as a control (figure 5.7). The reason for the lower numbers of whetstones/hones from these sites is most likely due to poor collection policies. This problem once more highlights the point that a large proportion of the data from the comparative sites has come from excavations conducted in the first half of the twentieth century or earlier.

Whetstones/hones	Intramural	Extramural	Total
Vindolanda	81	59	140
Catterick	14	4	18
Housesteads	49	No data	49
South Shields	19	No data	19
Birdoswald	2	No data	2
Total	165	63	228

Figure 5.7 A chart showing the number of whetstones recovered from 3rd and 4th century contexts at sites on the northern frontier of Roman Britain.

Apart from Vindolanda and Housesteads, the sample numbers are extremely small, making more than inferences difficult. Combining the 3rd and 4th century data from Vindolanda shows that 57% (81) of whetstones/hones were deposited in intramural contexts. This is lower than the nearest comparable dataset from the site of Catterick which has 78% (14) of whetstones/hones deposited in intramural contexts. The very low numbers of extramural whetstones/hones from Catterick (4) may be due to the fact that a significant proportion of the extramural excavations was concerned with examining a bath house (Wilson 2002, volume 1: 40). Bath houses are one of the few places on a site where whetstones/ hones are not found in any great numbers, a fact highlighted by the complete absence of whetstones/hones from the 3rd century Vindolanda baths (chapter 4, figure 4.12). Housesteads has produced 49 whetstones /hones, all of which have come from intramural excavations. The majority of the whetstones /hones known from the site (30) were reported in 1904 (Bosanquet 1904: 285-298) with the remainder being discovered during subsequent barracks excavations in the north eastern quadrant of the fort (Rushworth 2009: 481-482). The large number of intramural whetstones / hones, which are primarily used to sharpen knives and blades, may reflect the presence of an intensive amount of metalworking or industry taking place inside the fort in the 4th century (Dungworth and Starley 2009: 579-588), or the presence of combatants sharpening their weapons.

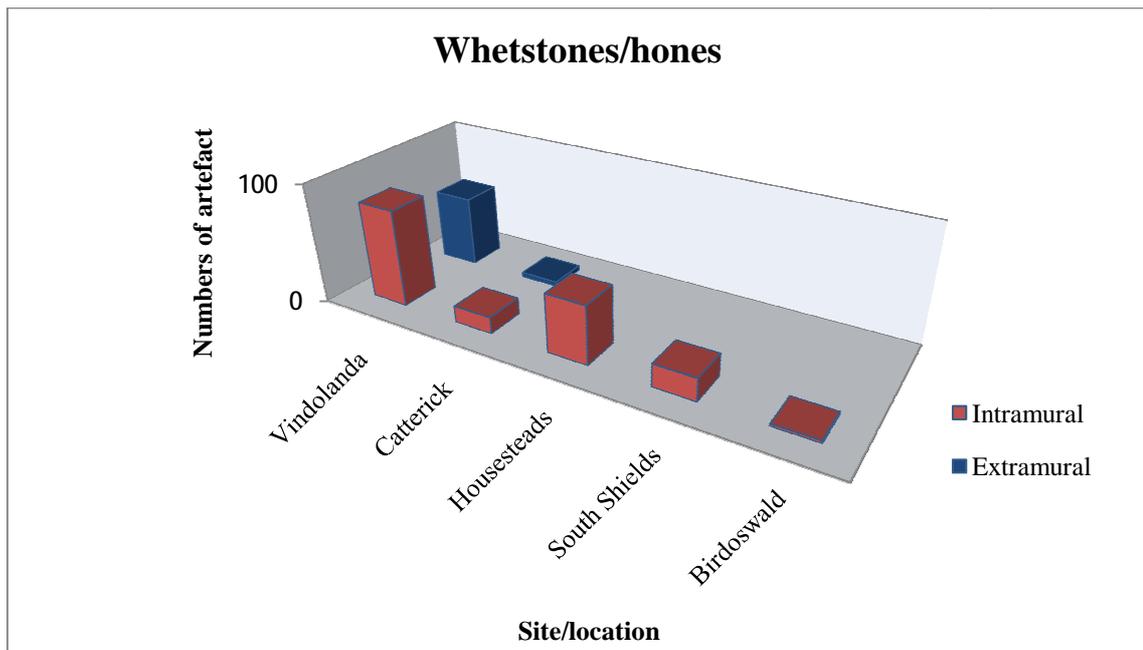


Figure 5.8 A column chart showing the relative numbers of whetstones/hones from each site examined in this study. More whetstones have been recorded from Vindolanda than all other sites combined in this study. There is no extramural data for Housesteads, South Shields or Birdoswald.

The number of whetstones/hones from South Shields (Allason-Jones and Miket 1984: 350-352, Bidwell and Speak 1994: 201) and Birdoswald (Wilmott 1997: 302-303) are low. This may be explained at South Shields by the majority of the excavations having taken place in the 19th century or could be due to the fact that the more recent excavations have included the examination of a large number of granaries (chapter 1 figures 1.10 and 1.11). The modern excavations at Birdoswald were also mainly concerned with the granary area of the fort (Wilmott 1997). The Vindolanda 3rd & 4th century granaries only produced whetstones/ hones from 4th century contexts, when the buildings had effectively ceased to have been used for this purpose. This suggests that the activities associated with the use and deposition of whetstones/hones was not synonymous with Roman granaries when the buildings were in use as such (chapter 4, figure 4.12).

Vindolanda stands out as having a high number of whetstones/ hones from both intramural and extramural areas. This may represent good recovery and recording rates and indicate that there was a great deal of industrial activity taking place at the site, especially in 3rd century extramural

contexts, as supported by the distribution of crucibles from the site (chapter 4, figure 4.54) and the altar set up in the extramural settlement dedicated to the Roman god of smithing, Vulcan (chapter 1, figure 1.1). The above could also represent the higher volume of material excavated at Vindolanda in comparison with the other sites.

In general, if we ignore the imbalances of whetstone/hone recovery rates, the higher number of whetstones/hones recovered from the intramural contexts could be reasonably explained by the need for Roman soldiers to make sharp and keep good the blades and edges of a wide range of weaponry and tools. This view may be supported by the situation at military sites on other frontiers, such as Ellingen, where ‘large quantities of stone and metal working equipment were discovered across the fort with the next most prolific activity being cutting and sharpening’ (Allison 2006: 14). In such a scenario the extramural deposition of whetstones/hones could be seen as an indication of combatant or shared activities rather than a purely non-combatant activity in extramural settlements. The whetstones/ hones data in this chapter has reinforced the value of this Vindolanda intramural and extramural dataset as an important source of information.

5.5 Combatants – introduction

Due to the constraints of time, space and the level of available data from the comparative sites, weapons have been chosen as the most effective basis for comparison between Vindolanda and the other sites. This is based on the data highlighted in section 4.4.9 and shown in figure 4.21 in chapter 4.

5.5.1 Weapons

Although there is no direct evidence to suggest that all of the weapons deposited on military sites may have been solely for military use (chapter 3, section 3.3), one might still expect that there could have been a larger quantity of bladed and socketed weapons deposited within intramural contexts as opposed to extramural contexts. If such a distribution pattern is discerned

this could be used to reinforce the military nature of intramural occupation. An initial examination of the data presented in figures 5.9 and 5.10 could be used to support such a view.

In most cases the overall deposition of weapons in intramural contexts is as high as or higher than the 70% pattern in the distribution of whetstones/hones (figure 5.7). The total number of weapons found and reported from the intramural areas of the sites differs with 58% (51) at Vindolanda, 76% (20) at Catterick (Wilson 2002: 31-34, 131-135, 83-84). At Housesteads (Rushworth 2009: 457), South Shields (Allason-Jones & Miket 1984: 298-299, Bidwell & Speak 1994: 192) and Birdoswald (Wilmott 1997: 230), there is a largely irrelevant 100% from the intramural contexts due to either a lack of extramural excavation or the reporting on extramural artefacts from those sites. Once the data is broken down further than the simple totals presented in figure 5.9 it does become more interesting. For example, at Vindolanda it would appear that a highly significant 42% (36) of weapons from the 3rd and 4th centuries have come from extramural contexts. However, if the category of sling shots is removed from the total numbers of weapons from intramural and extramural data at Vindolanda (26 of which are extramural and 5 intramural) a significantly lower percentage of weapons have been deposited in extramural contexts 18%(10), which is more in line with the data from the other comparative sites, especially Catterick. If we exclude the single sling shot from the site of Catterick, 20% of the weapons (5) recovered came from extramural contexts. Housesteads and Birdoswald have no extramural data to offer, but one might have expected similarly high percentages of intramural versus extramural deposition at those sites based on the evidence from Vindolanda and Catterick.

Apart from Vindolanda, South Shields has the most variation and greatest number of weapons with 14 swords, 4 spears and 14 sling shots from intramural contexts. The 14 sling shots are of great interest as sling shots are more prevalent in extramural areas at sites such as Vindolanda (chapter 4, section 4.4.1). It is perhaps an interpretation too far to suggest these slingshots alone represent the presence of non-combatants inside the fort at South Shields, as soldiers used sling shots in combat, but the fact that they are found in greater numbers in extramural contexts at

Vindolanda makes this a possible interpretation. The differences here may depend on where sling shots were used as opposed to where they were stored (chapter 4, section 4.4). The suggestion that the intramural space at South Shields may have been inhabited by a high proportion of non-combatants is supported by an abundance of evidence from other categories of artefacts from that site, such as spindle whorls (section 4.5), bracelets (section 4.6), hairpins (section 4.7) and beads (section 4.8).

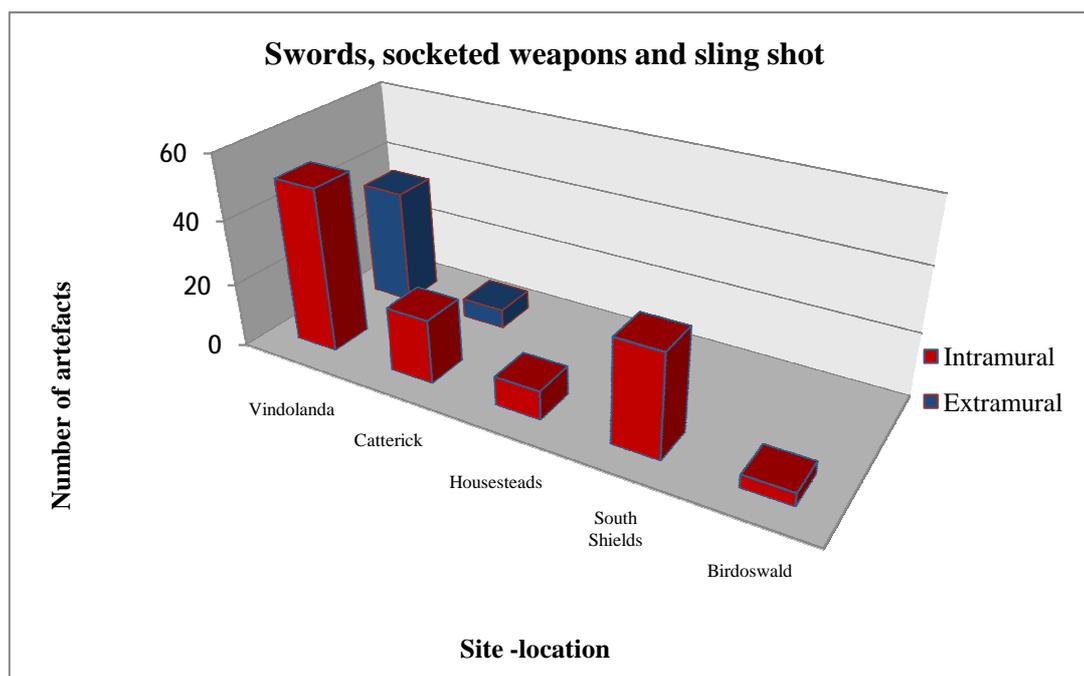


Figure 5.9 the total number of all categories of weapons from 3rd and 4th century contexts at the study sites. Deposition in intramural contexts dominates the assemblages from the northern frontier of Roman Britain. There is no extramural data for Housesteads, South Shields or Birdoswald.

The data presented in figure 5.9 shows the relative distribution of weapons from intramural and extramural contexts on the northern frontier of Roman Britain and suggests that there is a significant evidence for intramural deposition. At sites such as Vindolanda and Catterick, the presence of weapons in extramural contexts may strongly represent depositional practices by combatants.

	Intramural swords	Intramural socketed weapons	Intramural sling shot	Intramural Total	Extramural swords	Extramural weapons	socketed	Extramural sling shot	Extramural Total	Total
Vindolanda	4	42	5	51	3	7		26	36	87
Catterick	No data	20	No data	20	No data	5		1	6	26
Housesteads	No data	9	No data	9	No data	No data		No data	No data	9
South Shields	14	4	14	32	No data	No data		No data	No data	32
Birdoswald	No data	4	No data	4	No data	No data		No data	No data	4
Total	18	79	19	116	3	12		27	42	158

Figure 5.10 swords, socketed weapons and sling shots from 3rd and 4th century contexts at the selected sites.

5.5.2 Assessing the deposition of weapons against the coin controls

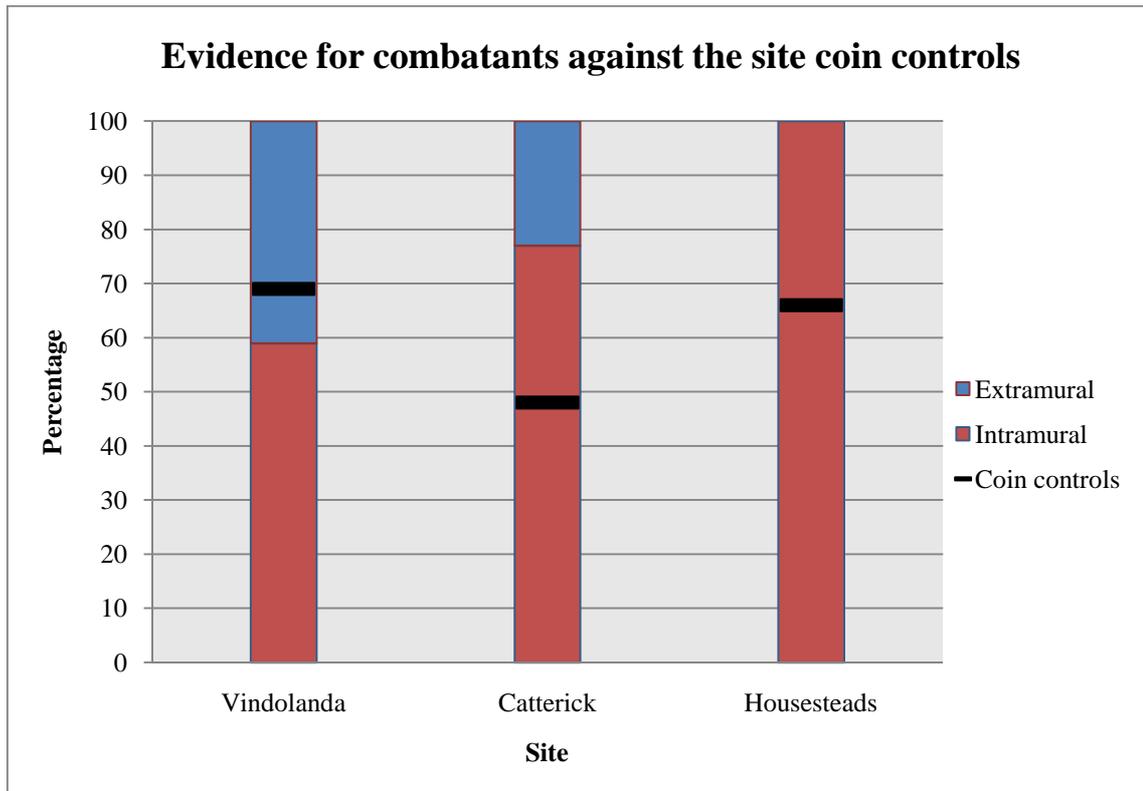


Figure 5.11 weapons from 3rd and 4th century contexts at the comparator sites with coin controls where applicable.

Figure 5.11 above highlights the fact that the deposition of weapons does not match the coin controls at the sites where these are available. The data from Vindolanda shows a smaller deviation from the control than the other sites. Catterick has a greater deposition of weapons in intramural contexts, perhaps indicating a greater degree of separation between intramural and extramural occupation by combatants at this site. However, it must be recognised that this constitutes a very small sample with no data being available for swords or sling shots in the intramural areas and very little data from extramural contexts. Housesteads has no data from extramural contexts, but one might have expected that, as a frontier site, the true deposition would more closely match the Vindolanda control than at Catterick. The lack of coin controls and published extramural data for South Shields and Birdoswald means that there is no

opportunity to answer this aspect of the research question using the combatant data from those sites.

5.5.3 Combatants – discussion

It must be stressed that the evidence for combatants as shown by the deposition of weapons in extramural settlements on the northern frontier of Roman Britain is on the whole extremely limited. A chronic lack of data from extramural occupation at key military sites such as Housesteads, Birdoswald and South Shields lessens the impact of the evidence from those sites. Only at Vindolanda and Catterick is it possible to make any meaningful intramural versus extramural comparisons through artefacts associated with combatants based on published sources. At Catterick the overall number of weapons recovered is low, 26, compared to 87 from Vindolanda which highlights the importance of the Vindolanda dataset.

A comparison of the data from these two sites would suggest that a greater number of combatants were present in the extramural settlements on the frontier than at sites further behind the front lines.

This would indicate that, from a combatant's perspective, there was less of a divide between intramural and extramural occupation on the frontier than can be demonstrated at a site such as Catterick where the town was not just for the fort, which was one of Catterick's elements, but was also a vibrant entity in its own right. The data could be used to argue that extramural settlements such as Vindolanda, on the northern frontier of Roman Britain were entirely different in that they were more heavily influenced by the military occupation rather than catering mainly for a civilian population. This would give the frontier sites a very different character to extramural settlements further from the front line where the needs of non-combatants may have been given a fuller consideration.

5.6 Non-combatants

The main body of evidence for the presence of non-combatants at Vindolanda, as exemplified by adult women, came primarily from the 3rd century extramural settlement with a ratio of almost 9:1 extramural versus intramural deposition, section 4.9 figure 4.41. This changed in the 4th century when the population lived inside the walls of the fort and as a result there is more evidence for adult women in 4th century intramural contexts than in the previous century. The combined 3rd & 4th century evidence from Vindolanda will be set against the comparator sites to see whether or not the Vindolanda non-combatant data can be regarded as representative of the occupation of the frontier as a whole.

5.6.1 Spindle whorls

Spindle whorls are artefacts manufactured from a variety of strong materials including pottery sherds, clay, stone and lead and are a good indication of what may have been one of the most widespread of domestic activities in Roman Britain, spinning and weaving (chapter 3, section 3.4.1). The most common types of whorls from the frontier sites are shown and discussed in chapter 4, figure 4.23.

The data presented in figure 5.12 shows that all of the sites in this study have good evidence for the activity of spinning in intramural contexts with a deposition of 67%(151). The lack of extramural data from the comparator sites is once again an indication of the very low volume of excavated or reported material from these areas. There is a considerable problem when attempting to compare these sites with Vindolanda where extensive extramural excavation has taken place. This explains why only the site of Vindolanda appears to go against the general trend, with 60% (69) of spindle whorls recovered from extramural contexts. The figure increases even further when the 3rd and 4th century data is separated at Vindolanda. Chapter 4, figure 4.25 shows that in the 3rd century 90% of the spindle whorls recovered thus far have

come from extramural contexts. This would seem to place the Vindolanda data at odds with the statistics from the other sites shown in figure 5.12, which may be completely misleading.

Catterick, the only other site with a viable intramural versus extramural comparison (and one which is not on the northern frontier), had a relatively small percentage of spindle whorls from extramural contexts at 19% (7), despite over 24% of the extramural settlement being explored by excavation (Wilson 2002: 458). All of the other sites show that spindle whorls were commonly deposited within intramural contexts, with the same number of spindle whorls coming from South Shields as Catterick, 29 (Allason-Jones & Milet 1984: 312, 320-322, Bidwell & Speak 1994: 200). The total number of spindle whorls from all of the sites, 227, represents a reasonable corpus of evidence to support this activity.

Spindle whorls	Intramural	Extramural	Total
Vindolanda	46	69	115
Catterick	29	7	36
Housesteads	38	No data	38
South Shields	29	No data	29
Birdoswald	9	No data	9
Total	151	76	227

Figure 5.12 Spindle whorls from 3rd and 4th century intramural and extramural contexts at selected sites on the northern frontier of Roman Britain.

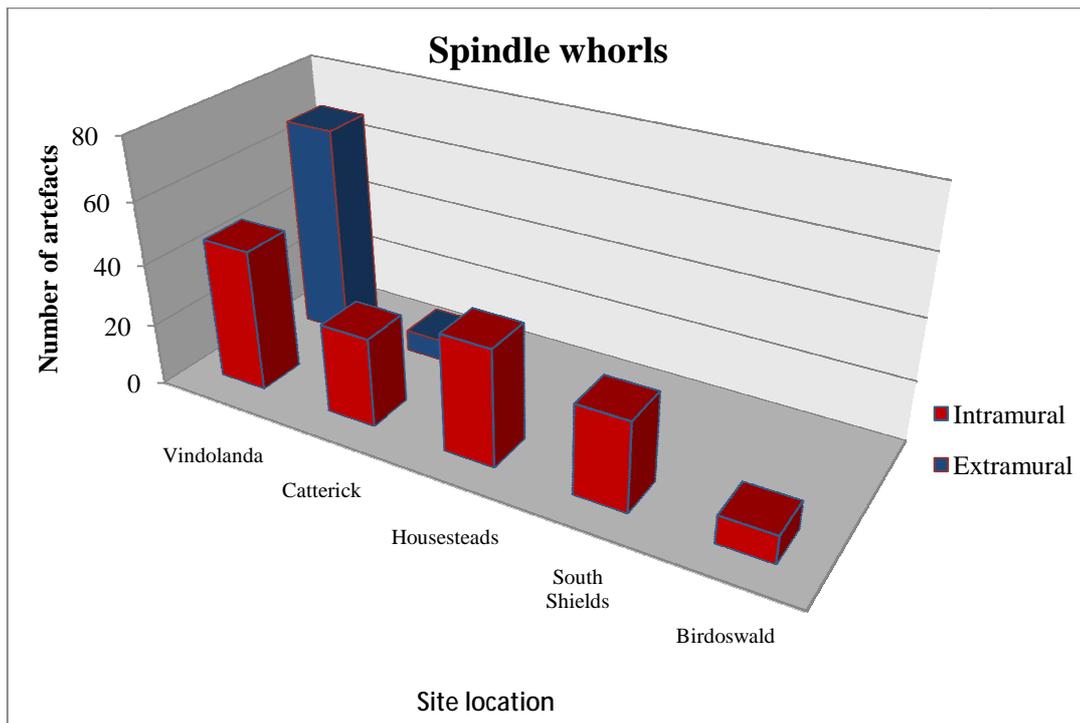


Figure 5.13 Chart showing the relative number of spindle whorls from 3rd and 4th century contexts at the selected sites on the northern frontier of Roman Britain. There is no extramural data for Housesteads, South Shields or Birdoswald.

Although spinning is associated with and attested as a female activity in Roman times (Moeller 1969: 566, Allison *et al* 2004: 8.3), it could have been a practice embraced by other members of the military community, including combatants (chapter 3, section 3.4.1). At Vindolanda, spindle whorls are found in conjunction with large numbers of other artefact categories which have a potential female association, such as bracelets, hairpins and beads. More weight can therefore be added to the argument that their presence is suggestive of female occupation and activities in either intramural or extramural contexts.

The evidence presented by the examination of spindle whorls suggests that their use was widespread in both intramural and extramural areas and that it is only possible to see a significant lean towards extramural deposition of spindle whorls at the site of Vindolanda from 3rd century contexts.

5.6.2 Bracelets

For the purpose of this thesis bracelets have been categorised as being synonymous with female adornment (chapter 3, section 3.4.2). A large number of bracelets have been recovered from the northern frontier of Roman Britain and the sites selected in this study reflect this with the recovery of 348 examples in total. The majority of these, some 287 or 82%, have come from intramural contexts as opposed to a much smaller 58 or 18% from extramural contexts (as seen in figures 5.14 and 5.15). This shows a marked emphasis on the deposition of bracelets in intramural contexts.

Bracelets	Intramural	Extramural	Total
Vindolanda	62	34	96
Catterick	61	23	84
Housesteads	16	No data	16
South Shields	143	3	146
Birdoswald	5	1	6
Total	287	61	348

Figure 5.14 Bracelets from 3rd and 4th century contexts at the selected sites along the northern frontier of Roman Britain.

Figure 5.14 is a combination of the 3rd and 4th century data from Vindolanda and shows that 65% (62) of bracelets were deposited in intramural contexts. This figure is exceeded by Catterick (Cool 2002: 26), where 73% (61) of bracelets were recovered from intramural contexts. Birdoswald has an intramural deposition of 83% (5) (Wilmott 1997: 271-272), which is admittedly from a very small sample. Housesteads and South Shields respectively show a 100 (16) and 96% deposition in intramural contexts (143). The data from Housesteads (Bosanquet 1904: 193-300, Kent 1962: 83-96, Allason-Jones 2009: 436-438) and South Shields (Allason-Jones & Miket 1984: 126-140, 283-284, 312-314, Bidwell and Speak 1994: 184-186) must be viewed in relation to the lack of appropriate recording in the former (from antiquarian excavations) and a focus almost exclusively on intramural in the latter. Due to the very small

amount of extramural data from the other sites, only the data from Catterick can be regarded as comparable to Vindolanda.

If we separate out the 3rd and 4th century data from the chart shown in figure 5.14, then the Vindolanda statistic tells a different story and one which appears to be contrary to that at the other sites. The 3rd century data from Vindolanda (chapter 4, section 4.6) shows that significantly more bracelets were deposited in extramural contexts at 74% (34). This 3rd century extramural depositional pattern is evident in other forms of data from Vindolanda, which includes beads (chapter 4, section 4.8) and spindle whorls (chapter 4, section 4.5) and they may be linked to suggest that the 3rd century extramural settlement has a potentially higher ratio of female-related deposition than intramural contexts.

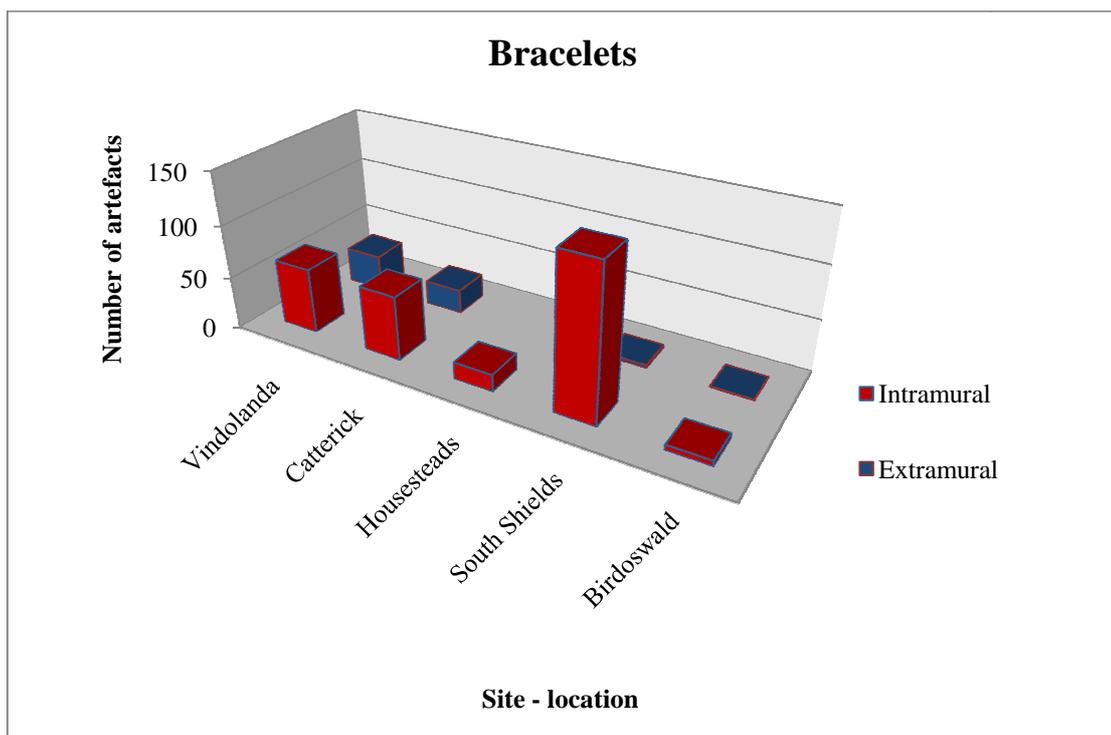


Figure 5.15 the deposition of bracelets from 3rd and 4th century intramural and extramural contexts at site on the northern frontier of Roman Britain. There is no extramural data for Housesteads.

The number of bracelets from South Shields, 146, is conspicuous, and far exceeds those from the other intramural sites. This may be an indication that more adult women lived inside the walls of this fort than any other studied in this thesis. Complementing the bracelets from South

Shields are large quantities of other personal adornments with potential female associations, such as hairpins (section 5.6.3) and beads (section 5.6.4) which would appear to support this argument.

5.6.3 Hairpins

As with bracelets, hairpins are usually considered to be associated with female occupation at Roman sites and are often found in both intramural and extramural contexts along the northern frontier of Roman Britain (Crummy 1979: 157) and on the German *limes* (Allison 2005: 8.2.1.c). Concentrations of hairpins in buildings such as the 3rd and 4th century *praetorium* at Vindolanda (where one might expect there to have been a mixed male-female population) would appear to support this view (chapter 4, figure 4.36).

Hairpins	Intramural	Extramural	Total
Vindolanda	56	69	125
Catterick	83	22	105
Housesteads	9	3	12
South Shields	416	1	417
Birdoswald	8	2	10
Total	572	97	669

Figure 5.16 Hairpins from 3rd and 4th century contexts at the selected sites along the northern frontier of Roman Britain

The combined data from Vindolanda, figure 5.16, shows a slight lean towards deposition in extramural areas at 55% (69). However, the 3rd century data is more dramatic. In the 3rd century 67 hairpins were recovered from the extramural settlement and only 9 from intramural contexts. Of the 9 intramural hairpins, 2 were from the *praetorium*, and the remaining 7 came from the ramparts and defences (chapter 4, section 4.7). At Housesteads the majority of hairpins were also recovered from rampart contexts (Allason-Jones 2009: 431). Allason-Jones suggested that

the material used in rampart construction may have been brought into the fort from extramural rubbish heaps. Her evidence for this appears to rest upon the range of female artefacts found in the rampart dumps of various periods (Allason-Jones 2009: 431). However, it might be the case that the rampart material came from rubbish deposited inside the fort, as the evidence in figures 5.14, 5.15 and 5.17 would suggest that a wide range of possible female-related artefacts, including hairpins, has come from many intramural contexts from the northern frontier of Roman Britain. Therefore deposition of hairpins on and in rampart material does not necessarily prove that these artefacts came from extramural rubbish heaps or occupation. The 4th century deposition of hairpins from the site of Vindolanda shows that hairpins were deposited in a wide range of intramural areas (chapter 4, section 4.7).

The deposition of hairpins from Catterick (Wilson 2002: 26-27) and Housesteads (Charlesworth 1975: 17-42, Allason-Jones 2009: 417, 478) shows a greater emphasis on intramural deposition, at 79% (83) and 75% (9) , and Birdoswald at 80% (8) (Wilmott 1997: 285-286). The site with by far the largest collection of hairpins is South Shields (Allason-Jones 1984: 68-90, 178-184, Bidwell & Speak 1994: 189-190). The number of hairpins recovered, 417, is almost twice as many as the other sites combined. It is a great pity that the large quantity of hairpins from South Shields cannot be seen in the context of extramural data from that site which is unavailable. However, in comparison to intramural contexts from other sites this high number remains significant. The large numbers of hairpins from South Shields are complemented by significant quantities of bracelets (figure 5.15) and beads (figure 5.19) and a discussion of the possible reasons for this is offered in the bracelet section of this chapter.

Although South Shields has a very large quantity of hairpins deposited in intramural contexts, the real anomaly in the data remains the site of Vindolanda, as it is the only site that has a greater number of hairpins deposited in extramural areas. This anomaly can be most likely attributed to the higher volume of extramural excavation at Vindolanda opposed to any other site. The larger number of hairpins deposited in extramural contexts at Vindolanda is also

matched by the deposition of a large number of beads, possibly for the same reasons (section 5.6.4).

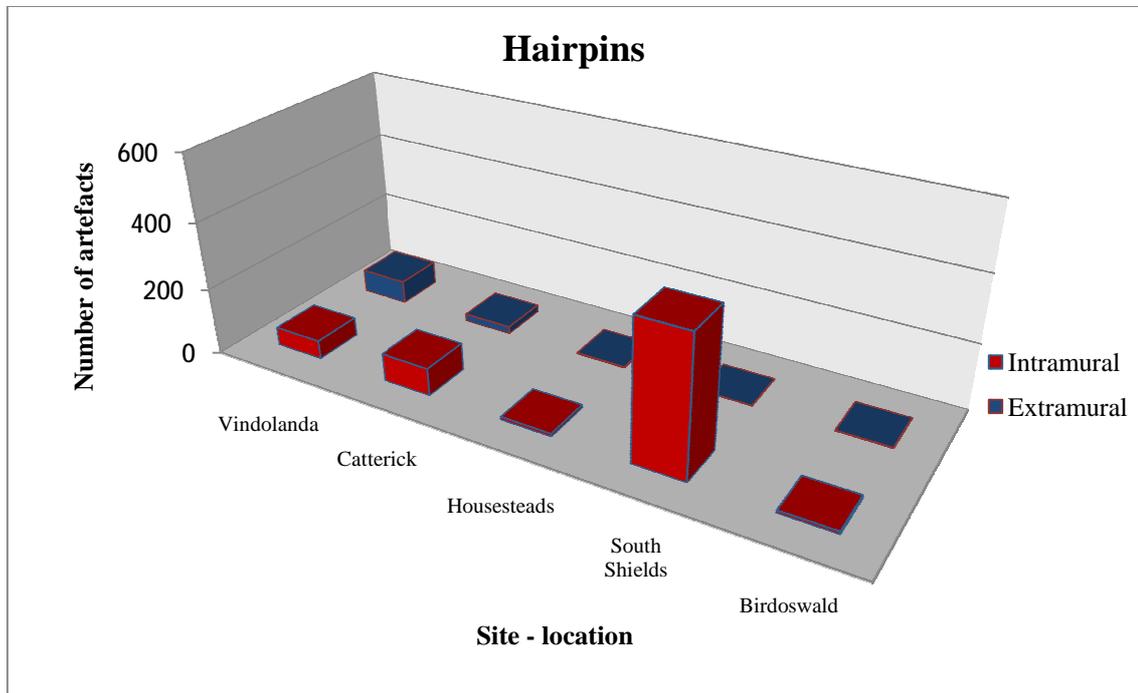


Figure 5.17 a graph showing the relative deposition of hairpins from 3rd and 4th century contexts at comparative sites

The hairpin data from South Shields once again shows a marked contrast to the rest of the sites used in this study. The large number of hairpins deposited in intramural areas at South Shields suggests that the composition of the intramural population at this site may have differed substantially from the other sites considered in this thesis, with potentially a larger female population being present. However the data from South Shields combines at least the 3rd and 4th century occupation and this could influence the dataset to an extent.

5.6.4 Beads

Roman beads can be seen, alongside bracelets and hairpins, as female-related dress items, with the exception perhaps of melon beads (Allason-Jones 1996: 189-199, Allason-Jones 2009: 430), and the arguments for and against this interpretation are offered in chapter 3 section 3.4.4.

The largest single concentration of beads from an individual site on the northern frontier of Roman Britain has come from Vindolanda with 368 beads, of which 279 are from the 3rd century extramural settlement. Figure 5.19 shows that over 76% of beads recovered from this site have come from extramural contexts.

All of the other sites in the study have a significantly higher percentage of beads deposited inside forts including Catterick, with 68% (60) from intramural contexts. The data from Housesteads (Allason-Jones 2009: 430), 75 beads, is comparable with intramural contexts from Vindolanda and Catterick. In her analysis on the deposition of beads at Housesteads, Allason-Jones at first appears to be reluctant to attribute the recovery of beads as an indicator for the presence of women in the chalets. She points out that although 'glass beads, in some circumstances, may be seen as 'female', as beaded necklaces and armlets seem to have been worn solely by women' they cannot always be attributed as female associated artefacts (Allason-Jones 2009: 430). However, she then explains their presence by suggesting that 'as the beads were extremely small they may have been easily trampled into the buildings on the soles of muddy boots' (Allason-Jones 2009: 430). Although Allason-Jones suggests that these beads may once have belonged to women, she is reluctant to place those women inside the chalets, preferring to propose a questionable scenario for their deposition. Such a scenario cannot be used in isolation. If deposition had occurred in this way in intramural contexts the same argument would apply for the deposition of beads across an entire site. The overall figure for intramural and extramural bead deposition from all of the sites explored in this thesis shows an almost even pattern in figure 5.18. It would therefore appear very unlikely that the majority of beads found in intramural occupation on the northern frontier of Roman Britain were deposited on the soles of muddy boots.

At Birdoswald the low number of beads may be attributed to the majority of the modern excavation area being confined to the granaries and parts of the southern rampart and the towers (Wilmott 1997: 273-276). It could be argued that these areas may not have been often frequented by adult women. However, at Vindolanda, as seen in chapter 4 section 4.8.1, the

majority of 4th century beads were deposited on the rampart mounds and in the buildings surrounding the granaries (although very few were recovered from the granaries themselves). This could suggest that there may have been differences in the areas that were accessible to or frequented by non-combatants at different forts. This would help to explain the high numbers of beads recovered from the excavations at South Shields (Bidwell & Speak 1994) in comparison to sites such as Birdoswald.

Beads	Intramural	Extramural	Total
Vindolanda	89	279	368
Catterick	60	28	88
Housesteads	75	No data	75
South Shields	147	No data	147
Birdoswald	21	No data	21
Total	392	307	699

Figure 5.18 the quantity of Roman beads deposited in 3rd and 4th century contexts at Roman military sites.

The high number of potentially female-related artefacts from South Shields intramural contexts is significant; with 147 beads recovered from the site (a similar pattern is shown in the deposition of bracelets in figure 5.14 and hairpins in figure 5.16 found at South Shields). The pattern of intramural deposition at South Shields supports the theory that there is more evidence for female activity inside this fort than at the other sites examined in this study. An alternative possibility is that more intramural excavation has taken place at South Shields than at most other sites, resulting in a larger dataset of material culture.

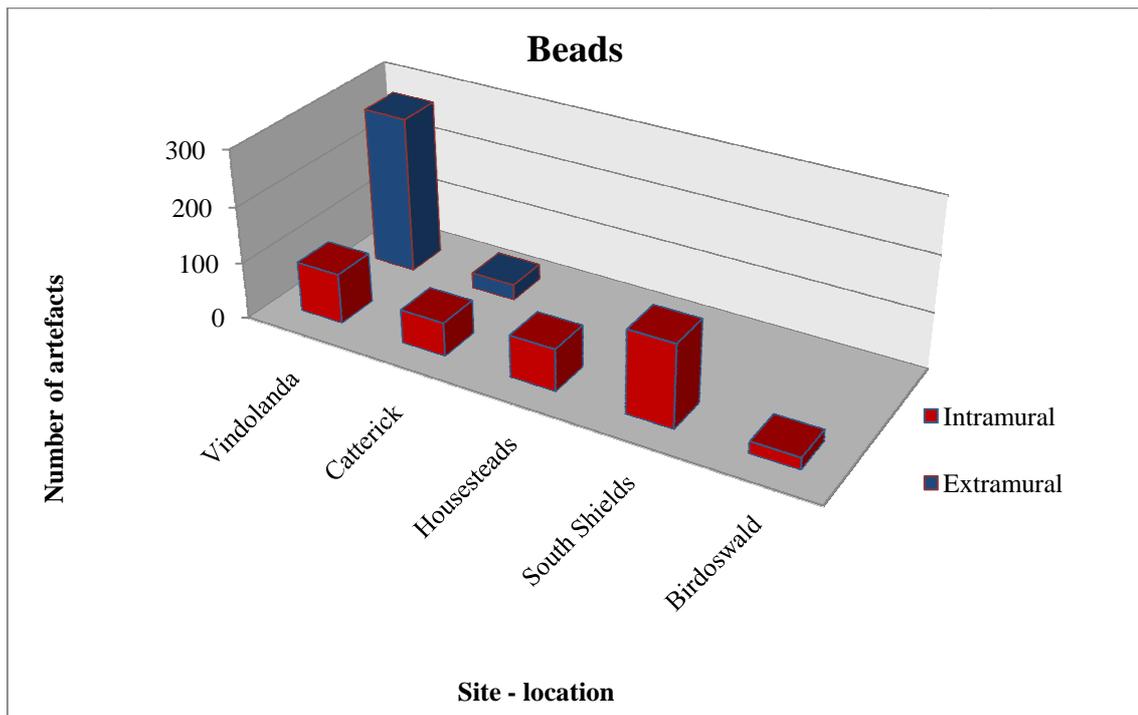


Figure 5.19 a chart showing the relative quantity of beads deposited at Roman military sites on the northern frontier of Roman Britain, highlighting the dominant positions of the Vindolanda extramural data and the South Shields intramural data. There is no extramural data for Housesteads, South Shields or Birdoswald.

It would appear that although beads are found in relatively large numbers from most intramural contexts, these numbers are significantly lower than those found in the 3rd century extramural settlement at Vindolanda where large scale extramural excavation has taken place.

In the 4th century at Vindolanda and Housesteads, where there is evidence to support the theory that the extramural areas were abandoned, we either have to accept that women as well as men inhabited intramural spaces, or presume that these spaces were solely occupied by men who possessed, or inadvertently deposited, female-related artefacts if one supports Allason-Jones (Allason-Jones 2009: 431).

5.6.5 Assessing the deposition of non-combatants artefacts against the coin controls

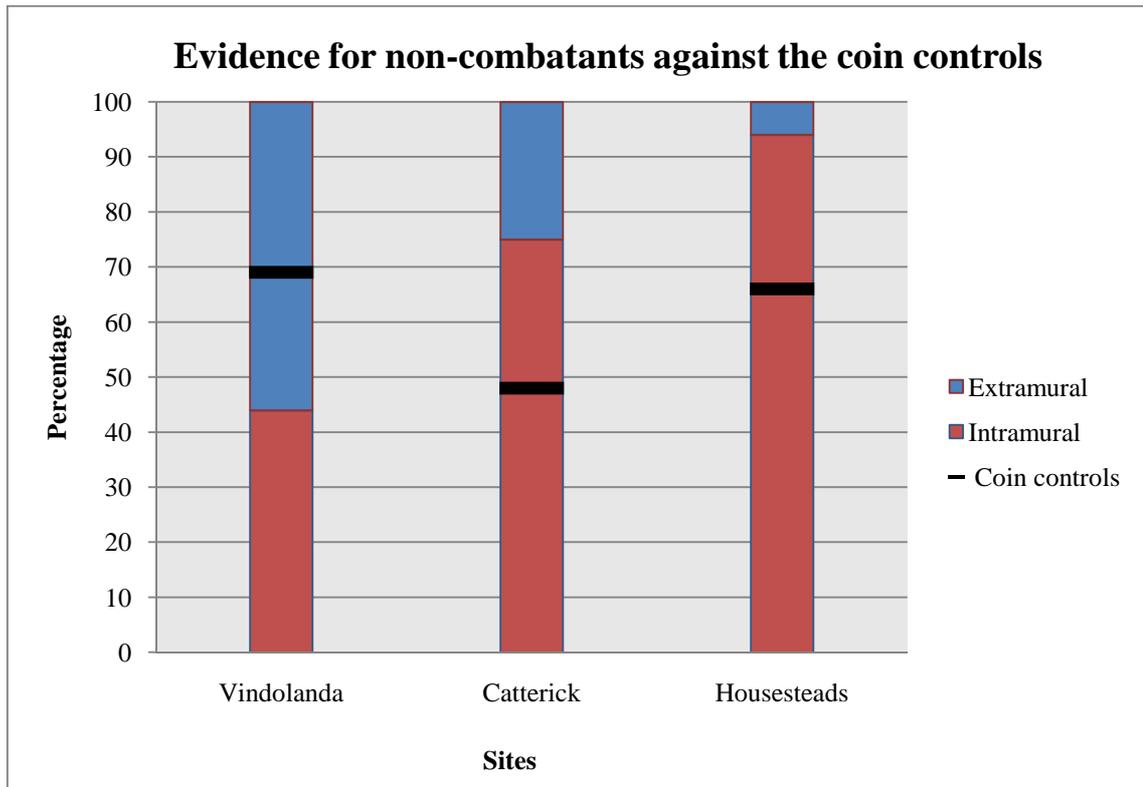


Figure 5.20 the combined deposition of all artefacts associated with the presence of non-combatants from the 3rd & 4th century contexts at the comparator sites.

The chart in figure 5.20 suggests that there is less evidence for the presence of adult women inside the 3rd and 4th century forts at Vindolanda than one might have expected when set against the coin control. The extramural data is entirely from 3rd century contexts and this evidence remains stronger than the combined 3rd and 4th century intramural deposition. This indicated that there may have been a decrease in the overall population of adult women at Vindolanda between the 3rd and 4th centuries despite the evidence suggesting an increase in the ratio of women inside the 4th century fort.

This contrasts sharply with Catterick, where there is significantly more evidence for women in intramural contexts than at Vindolanda over the same period, both generally as a percentage, and even more so when set against the Catterick coin control. The data from the extramural settlement at Housesteads is slight and therefore makes it difficult to compare with Vindolanda

and Catterick. However, as with the deposition of artefacts related to combatants, it is perhaps likely that the deposition pattern at Housesteads would have been more comparable to Vindolanda than Catterick. Without the benefit of relevant coin controls it is not feasible to directly compare the data from South Shields and Birdoswald with the other sites in this way. The unusually large volume of intramural evidence for non-combatants at South Shields (sections 5.6.2 - 5.6.4) may however be taken to suggest that the occupation of this site did differ from the others on the northern frontier.

5.6.6. Non-combatants - discussion

At Vindolanda a higher proportion of spindle whorls and other female related artefacts were deposited in 3rd century extramural contexts than 3rd and 4th century intramural occupation combined, and at the site of Catterick the reverse is shown. At Vindolanda in the 3rd century the presence of combatants in the extramural areas is strongly represented and there is a more limited amount of evidence for women in the intramural areas. As previously demonstrated, this changed in the 4th century as the military community combined within the walls of the fort. At Catterick there the pattern is quite different, with more limited evidence for combatants in extramural contexts and strong evidence through the deposition of spindle whorls, bracelets, hairpins and beads for the presence of women inside the fort. Therefore it would appear that there was less of a divide between intramural and extramural areas for non-combatants at a site such as Catterick than was the situation on the frontier.

At sites such as Vindolanda and Housesteads an increase in the quantity of female-related artefacts found within the walls of 4th century forts is well attested. Taken in isolation, at Housesteads, this change in deposition has been interpreted as secondary deposition, with beads being 'walked' into the fort from the abandoned extramural areas on the soles of soldiers boots, or hairpins and bracelets deposited inside the fort by the recycling of rubbish deposits from extramural context to bolster the defences inside the walls of the fort (Allason-Jones 2009: 431).

Neither of these explanations for the deposition of female-related artefact inside the walls of the 4th century fort at Housesteads can be sustained or supported by an examination of 4th century intramural occupation across a wider number of sites such as Vindolanda, Catterick and probably at South Shields. It would therefore seem extremely unlikely that the majority of potentially female-related artefacts could have found their way into intramural contexts this way.

5.7 Shared Activities

The volume of evidence for shared activities at the comparator sites shows a considerable disparity between the categories. Inscriptions on stone and inscribed portable artefacts, and to a lesser extent stylus pens, form a reasonably robust comparative dataset. The recovery of crucibles and gaming counters demonstrate a greater variation of recovery which may reflect their lower status as artefacts to those engaged in antiquarian excavations and subsequent publication. Despite the above restrictions and, taken as a whole, the evidence for 3rd and 4th century shared activities from the study sites forms a useful basis for comparison.

5.7.1 Inscriptions on stone and inscribed portable artefacts

Evidence of literacy across an entire community could well indicate high levels of communication and integration. Alternatively, if the occupants of one part of a single site could be shown to have been far more literate than another then it could indicate a division between different sections of the community.

One of the most impressive aspects of the military occupation of the northern frontier of Roman Britain has been the corpus of recovered inscribed material. As discussed in detail in chapter 3 section 3.5.1, there are difficulties in attempting to locate the context for many of the inscriptions on stone that have come from sites along the northern frontier of Roman Britain.

The majority of the inscriptions included in *The Roman Inscriptions of Britain* (Collingwood & Wright 1965, 1991 respectively and in the journal *Britannia*) were recovered in antiquity or by early excavation (Vindolanda aside) and as such many have virtually no archaeological records. All of the inscriptions which have been impossible to contextualise have been dismissed from the following analysis, as have tombstones which by law were confined to extramural areas in the Roman period, and could only have to into intramural contexts through secondary use as building materials. What remains are the inscriptions with known locations and a number of inscribed portable artefacts, many of which have come from modern excavation. Their relative numbers are shown in figures 5.21 and 5.22.

The data from Vindolanda and Housesteads show that there was an almost equal distribution of inscribed material between intramural and extramural areas. It is possible that the higher number of intramural inscriptions from South Shields and Birdoswald reflects the level of intramural versus extramural excavations which have taken place at those sites. Catterick stands out as a site where the majority of the inscribed material is associated with extramural settlement. An overwhelming number of inscriptions, 94% (47), were recovered from extramural contexts. One possible explanation for the difference could be that the fort at Catterick, as at Carlisle, was extensively remodelled or re-built several times in the 4th century, and as a consequence many of the fort buildings were cleared and the inscribed material removed to be re-cycled elsewhere (Wilson 2002: 446-475).

Inscriptions and inscribed portable artefacts	Intramural	Extramural	Total
Vindolanda	58	55	113
Catterick	3	47	50
Housesteads	39	33	72
South Shields	41	16	57
Birdoswald	21	7	28
Total	162	158	320

Figure 5.21 inscriptions and inscribed portable artefacts from 3rd and 4th century contexts at selected sites on the northern frontier of Roman Britain.

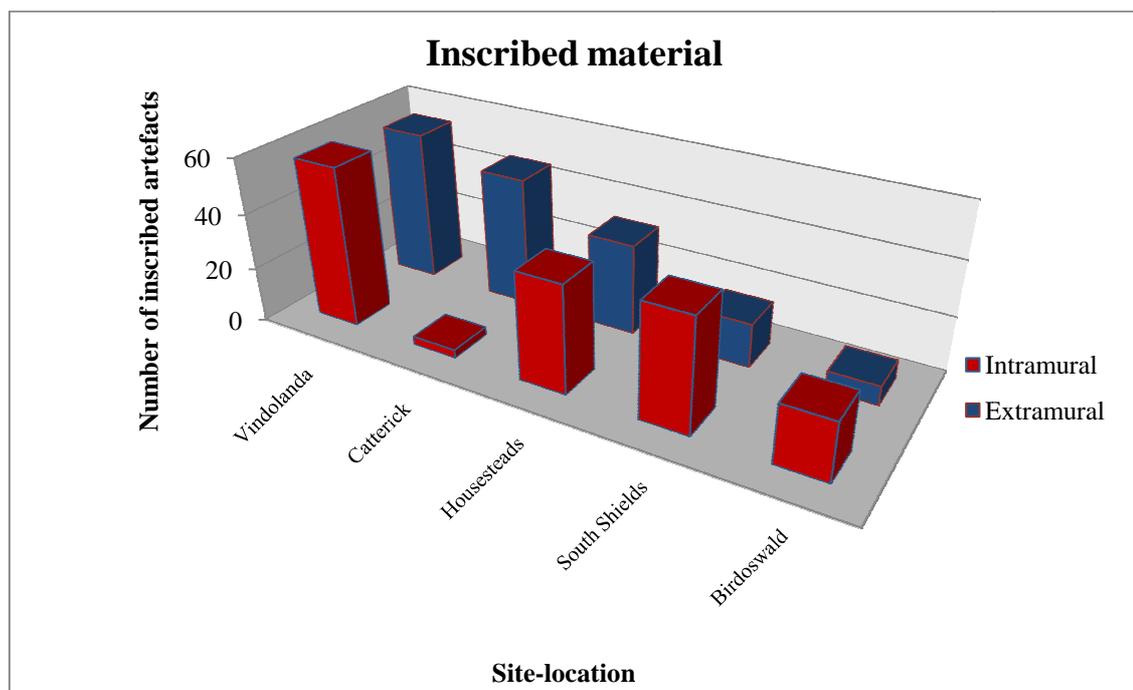


Figure 5.22 inscribed material from 3rd and 4th century contexts at Vindolanda and the comparative sites.

The overall data in figure 5.21 illustrates the connection between the number of inscriptions found from both intramural and extramural spaces at all of the military sites. It is important to highlight this link as military sites and their associated extramural settlements completely dominate the corpus of inscribed stones from Roman Britain. The large quantity of inscribed material from extramural settlements at military sites sets them apart from southern urban or

rural counterparts in the province. It could be argued, based on the evidence provided, that literacy played a vital role in the daily lives of those who lived in both intramural and associated extramural settlements on the northern frontier of Roman Britain. The five dedications set up by the *vicani* in extramural areas, discussed in chapter 1 section 1.3, show how extramural populations used the written word to express themselves. Alternatively, one might suggest that as many of the inscriptions are altars which were clearly set up by military personnel, and they reflect the proximity of extramural settlement to the Roman fort, and as such cannot be used as evidence of literacy in extramural populations, just potential military activity. Both of these conclusions are reasonable and worthy of consideration given the nature of the available evidence. However, supporting material culture in the form of stylus pens, which are considered in the following section, makes a convincing argument for a high level of literacy present in extramural settlements. The inscription data from extramural contexts may then more accurately reflect a community that was united by literacy.

5.7.2 Stylus pens

The examination of the intramural and extramural depositional patterning of stylus pens can be informative, as each pen could be seen potentially as an example of sustained and continuous literary use. An individual pen could be used more than once, where as a monumental dedication/inscription on stone normally represents a single piece of individual literary evidence. An example of this would be the Cerialis archive of letters from Vindolanda, of which there are at least 60 (Bowman & Thomas: 2003), but we can only assume that Cerialis would have ever had one tombstone dedicated to him, and probably not at Vindolanda. Although stylus pens often survive, the wax on wood tablets on which they were used seldom did. Such survival requires stable anaerobic or waterlogged archaeological environments to preserve them. The pens are normally quite robust, most are made from iron or copper alloy composites, and as such they can survive to varying degrees in all of the soil conditions present on the northern

frontier of Roman Britain (Hanson & Connolly 2002: 155). However, it must be acknowledged that in some cases stylus pens can be almost indistinguishable from large Roman nails when heavily corroded, and it is likely that the numbers from all of the sites listed in figures 5.23 and 5.24 reflect a proportion rather than the complete quantity of stylus pens deposited and recovered by subsequent excavation at the study sites. There is no consistent pattern across the study sites, because, with the exception of Vindolanda and Catterick, there has been an insufficient volume of material excavated from extramural contexts to provide meaningful datasets.

Stylus pens	Intramural	Extramural	Total
Vindolanda	8	31	39
Catterick	12	19	31
Housesteads	2	No data	2
South Shields	10	1	11
Birdoswald	1	No data	1
Total	32	50	82

Figure 5.23 stylus pens from Vindolanda and comparative sites from 3rd and 4th century contexts.

As shown in chapter 4 section 4.11, Vindolanda has the largest collection of stylus pens from the northern frontier of Roman Britain with 266 (most of which are from periods I-VI intramural contexts, chapter 2 figure 2.3). Of those 266, it is important to note that only 39 are from 3rd and 4th century contexts and their relative deposition is illustrated in figures 5.23 and 5.24. What is striking is that there are more stylus pens from 3rd century extramural contexts, 31(79%) than 3rd and 4th century intramural contexts combined at Vindolanda. This statistic can be balanced out by the removal of 8 of the extramural stylus pens from the extramural category, as they had been deposited in the fort ditch, a grey area of deposition which could have been utilized by either intramural or extramural populations (chapter 4, section 4.11). A smaller percentage towards deposition in extramural contexts would then be evident, at 59%. Catterick

shows a similar, if less dramatic, trend towards extramural settlement with 19 or 61% of stylus pens deposited in extramural contexts.

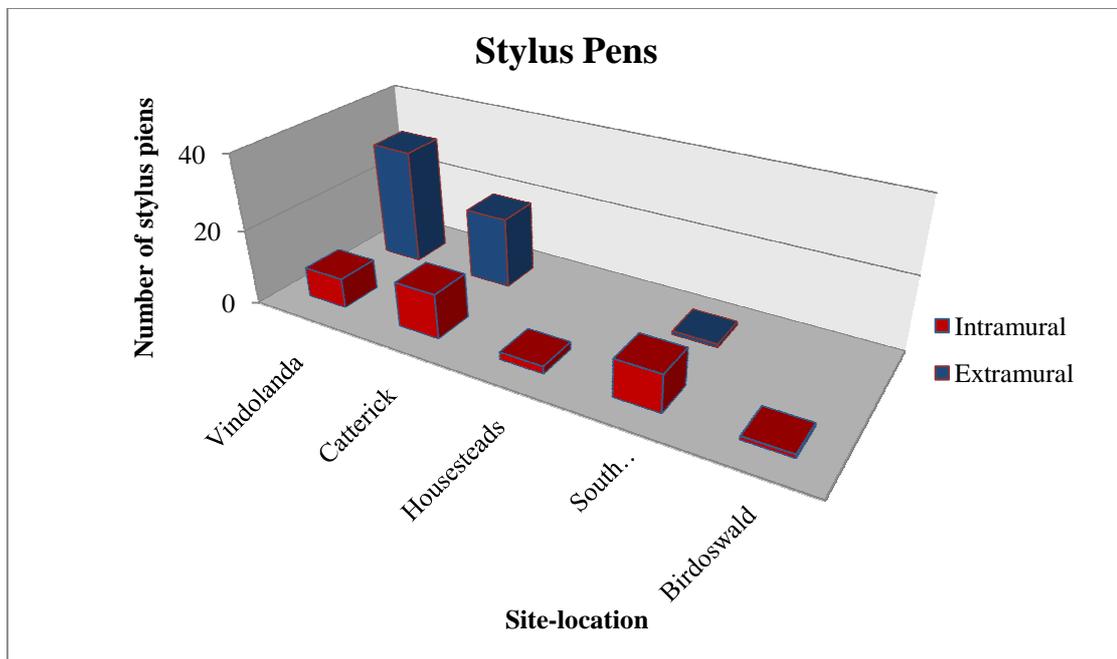


Figure 5.24 relative number of stylus pens from Vindolanda and comparative sites in 3rd and 4th century contexts. There is no extramural data for Housesteads and Birdoswald.

Birdoswald (Wilmott 1997: 299-300) and Housesteads (Rushworth 2009: 461) each have a very small number of reported stylus pens from stratified intramural contexts (1 from Birdoswald and 2 from Housesteads). South Shields (Allason-Jones & Miket 1984: 116, Bidwell & Speak 1994: 186) has 10 intramural and one extramural stylus pen recorded. However, the single extramural stylus pen from South Shields was deposited in a fort ditch and therefore may have been deposited there by an intramural occupant.

The statistics presented in figure 5.23 would seem to support the view that where the evidence is available, literacy extended beyond the walls of forts into extramural settlement on military sites on the northern frontier of Roman Britain.

5.7.3 Crucibles

Although robust, and surviving in most soil conditions, relatively few sites have produced or have reported on the recovery of crucibles on the northern frontier of Roman Britain.

An examination of the data presented in figure 5.25 shows that, at Vindolanda, metalworking activities mainly took place outside the fort and at Housesteads the reverse was the case. The majority of metalworking at Vindolanda appears to have been concentrated outside the walls of the fort in the 3rd century, and the dedication to the god Vulcan by the *vicani Vindolandesses* (figure 1.1) can be seen as significant and representative of this work having taken place. More evidence of metalworking activity in 3rd century extramural contexts at Vindolanda have come to light in the past few years of excavation at the site as reported by Birley & Blake (Birley & Blake 2005: 43-48).

At Housesteads, unlike Vindolanda, the bulk of crucibles deposited were recovered from the rampart mounds (Dungworth & Starley 2009: 579). If the rampart material did indeed originate from extramural rubbish heaps as suggested by Allason-Jones (Allason-Jones 2009: 431), then this would explain the difference in the intramural versus extramural data from Housesteads and Vindolanda. At Vindolanda there is no evidence to suggest that rubbish was collected from the extramural metalworking areas immediately adjacent to the fort, and then re-used in rampart construction given that the majority of the crucibles, 64 (93%) were recovered from extramural contexts.

Crucibles	Intramural	Extramural	Total
Vindolanda	5	64	69
Catterick	No data	No data	0
Housesteads	50	No data	50
South Shields	2	No data	2
Birdoswald	2	No data	2
Total	59	64	123

Figure 5.25 a chart showing the number of crucibles recovered from military sites on the northern frontier of Roman Britain in 3rd and 4th century contexts.

The absence of crucible data from Catterick shows that the evidence for this type of industrial activity is clearly lacking from this site. Although over 20% of the extramural settlement at Catterick has been examined (Wilson 2002: 446) its status as a small town is perhaps highlighted by a greater emphasis on evidence for domestic and commercial rather than industrial activity.

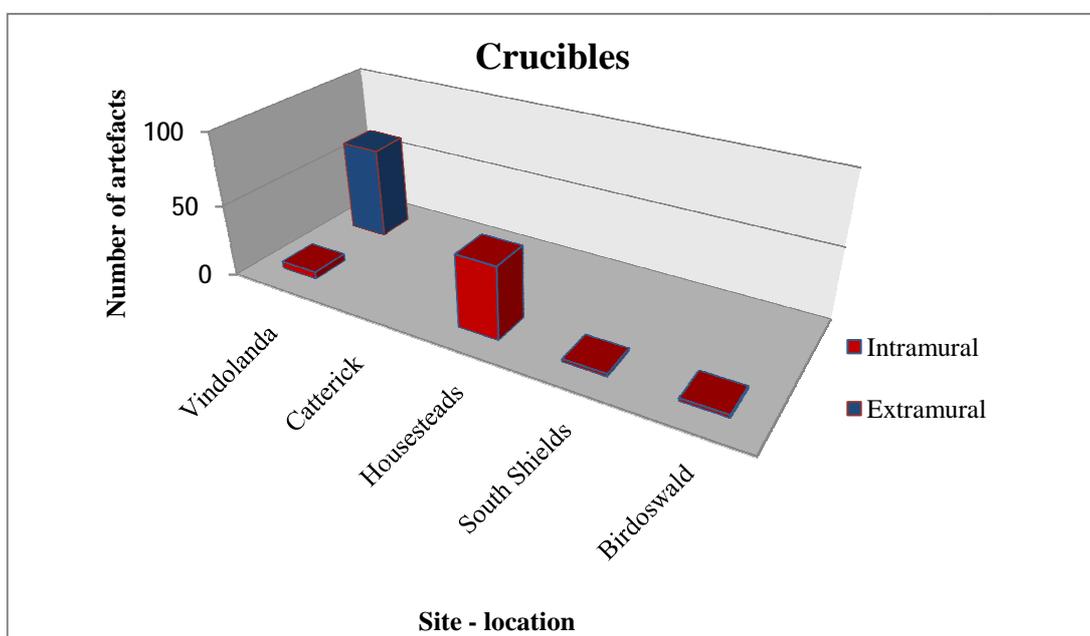


Figure 5.26 a graph showing the dominance of the crucible data from the extramural site of Vindolanda as opposed to other sites included in this study. There is no extramural data for Housesteads, South Shields or Birdoswald and no data at all from Catterick.

Only two small crucible fragments have been recovered from the intramural excavations at both South Shields (Bidwell and Snape 1994) and Birdoswald (Wilmott 1997: 253) rendering this evidence insignificant for the purposes of this study.

Based on the evidence from Vindolanda and Housesteads, the deposition of crucibles and metalworking debris indicated that this type of industrial activity was located on and around the fort defences. This would seem to be a reasonable conclusion given the association of the use of crucibles with fire, smoke pollution and noise, which may have influenced the siting of industrial areas and workshops away from accommodation such as barracks or domestic living areas/commercial premises in extramural settlement (Birley & Blake 2005: 4). However, it must be noted that this conclusion is heavily influenced by both the evidence from the extramural settlement at Vindolanda and intramural deposition at Housesteads. At Vindolanda the majority of crucibles have come from specific locations which appear to have been dedicated to metalworking (chapter 4, figure 4.54) and it may be that similar zones of extramural settlement exist on other sites that have yet to be explored. Both Vindolanda and Housesteads are situated in a geographical area which is rich in iron ore, coal, and lead (chapter 2, figure 2.1) and this presumably led to a concentration of metalworking at those sites.

5.7.4 Gaming counters

There is a great deal of evidence (including that presented in figures 5.27 and 5.28) to suggest that gaming and gambling were very popular pastimes for members of the military communities along the northern frontier of Roman Britain. While it is impossible to say whether or not gaming was more popular with combatants than non-combatants the evidence for this activity may suggest whether or not gaming can be seen to have been a common bond within the military community.

Gaming counters	Intramural	Extramural	Total
Vindolanda	150	163	313
Catterick	56	9	65
Housesteads	21	No data	21
South Shields	117	No data	117
Birdoswald	11	No data	11
Total	355	172	527

Figure 5.27 the relative number of gaming counters from intramural and extramural 3rd and 4th century contexts at selected sites on the northern frontier of Roman Britain.

At Vindolanda the combined 3rd and 4th century data presented in figure 5.27 shows an almost identical spread in the deposition of gaming counters across the site. This would indicate that gaming was universally popular throughout the military community. In chapter 4 section 4.13, the combined figure for all Vindolanda gaming counters is broken down into 3rd and 4th century deposition with 81% (163) of 3rd century counters deposited in the extramural settlement. The limited excavations of 3rd century barracks from Vindolanda give enough evidence to suggest that the numbers of counters may significantly increase inside the fort to eventually mirror the higher concentration of gaming counters from 3rd century extramural contexts.

All of the other sites in this study display a high concentration of gaming counters in intramural contexts including Catterick with 56 or 86% (Cool 2002: 39-40, Isaac & Thompson 2002: 181). Birdoswald has only a few gaming counters from inside the fort, with 11 examples (Summerfield 1997: 294), and the 21 gaming counters from the Housesteads barracks excavations are comparable with barrack room data from Vindolanda (chapter 4, figure 4.57 and figure 4.58). The 117 gaming counters from intramural contexts at South Shields (Allason – Jones & Miket 1984: 56-61, 276-277, 316, 339, 350 & Bidwell & Speak 1994: 189-191) are more directly comparable with the Vindolanda intramural data (appendix A), and represent a

significant body of evidence for leisure activities having taken place inside that fort. The intramural gaming counter data from South Shields highlights.

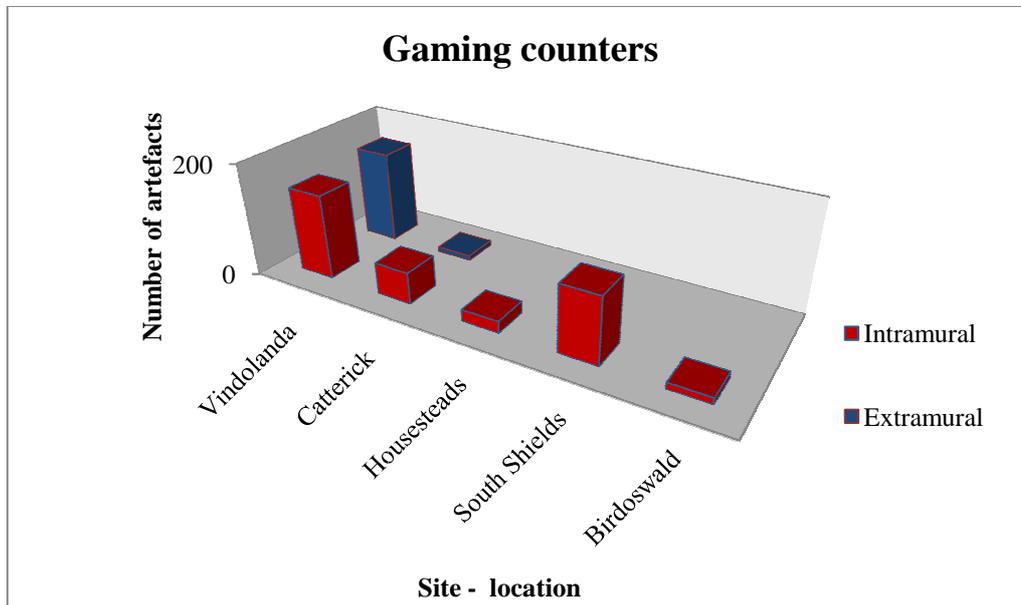


Figure 5.28 a chart showing the relative deposition of 3rd and 4th century gaming counters at military sites on the northern frontier of Roman Britain. There is no extramural data for Housesteads, South Shields or Birdoswald.

The intramural gaming counter datasets support the belief that gaming was a popular military pastime. The Vindolanda and Catterick datasets are interesting for contrasting reasons. At Vindolanda, as shown, there is an almost even intramural/extramural deposition indicating that gaming was common to both areas. Catterick demonstrates the opposite, with a greater number of gaming counters deposited in intramural context. There is very limited extramural gaming counter evidence despite the extent of the excavations which took place in the extramural settlement. Given the lack of either recovery by excavation or reporting of gaming counters from antiquarian excavations at sites such as Housesteads and Birdoswald, the Vindolanda dataset remains the most comprehensive to come from both intramural and extramural contexts at military site on the northern frontier of Roman Britain.

5.7.5 Assessing the deposition of artefacts for shared activities against the coin controls

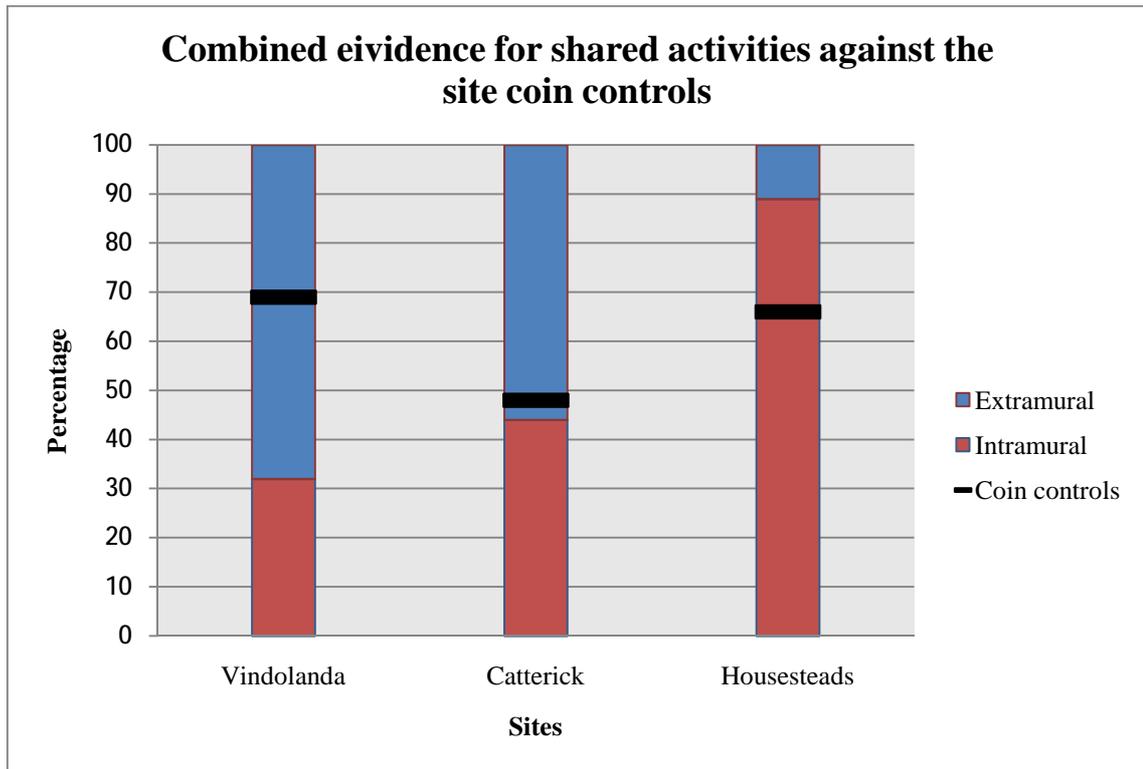


Figure 5.29 evidence for shared activities in 3rd and 4th century contexts from the comparator sites with coin controls where applicable.

The combined evidence for artefacts associated with shared activities at Vindolanda shows that the majority of these activities took place in the extramural settlement. The data from Catterick suggests an almost even spread of shared activities between intramural and extramural contexts, with only a minor variation between the data shown in figure 5.29 and the Catterick coin control. This may be a reflection of the fact that there were possibly more non-combatants inside the fort at Catterick than inside the 3rd century fort at Vindolanda. As with the data for combatants and non-combatants, the extramural evidence from Housesteads is limited by the lack of published data from the extramural excavations. The coin controls for Housesteads and Vindolanda are similar and, as explained in the previous sections, the situation at Housesteads would have been more comparable with Vindolanda than with Catterick.

5.7.6 Shared activities - discussion

As discussed in section 5.7.1, there is strong evidence to suggest that literacy was a common bond between the populations inhabiting both intramural and extramural areas on the northern frontier of Roman Britain, figure 5.22. Leaving the evidence from Catterick aside, where very few intramural inscriptions have been recovered, it would appear that the number of inscriptions on stone and graffiti are almost equally distributed in intramural and extramural contexts, and the deposition of inscribed material is supported by a similar depositional pattern for stylus pens. It is worth noting that the number of stylus pens recovered from the northern frontier of Roman Britain, figure 5.23, almost matches the number of weapons (minus sling shot) that have been found, section 5.5.1 figure 5.10. This archaeological evidence would suggest that the pen was indeed as mighty as the sword on the northern frontier of Roman Britain. A reasonable level of literacy may have been desirable if not essential when dealing with the Roman army, either as a combatant in that army or as a non-combatant servicing the army and occupying space in or surrounding a military environment. As Bowman states when referring to the evidence presented from the Vindolanda writing tablets literacy ‘embraces not merely equestrian officers (including native Batavians) but centurions, decurions, *optiones*, slaves, wives, and perhaps traders, and probably also draws in friends in other postings and families in the homeland. Given the variety, range, and the individuality of the texts and their writers in this corpus of material . . . it is enough that several hundred individuals could do ‘it’ within a framework of convention and expectation which would have rendered their texts easily comprehensible at the other end of the empire’ (Bowman 1996: 125). There is no reason to believe that such a literate environment did not extend into the 3rd century occupation at sites such as Vindolanda.

Only two sites in this study have produced evidence for a large number of crucibles (Vindolanda and Housesteads), and at first glance this data would appear to support a very different view of who may have been engaged in such industrial activity. However, as the majority of the crucible deposition from Vindolanda came from buildings immediately adjacent

to the fort walls, a reasonable argument for the military control/direction and possible active participation in such industrial activities can be made (chapter 4, figure 4.54). A limited number of crucibles were also found in 4th century contexts at Vindolanda (chapter 4, section 4.12.1), suggesting a continuation in the manufacture of copper alloy and iron objects at this site as a military activity, which is supported by the evidence from Housesteads (figure 5.26).

The close relationship between intramural and extramural areas at Vindolanda is once more highlighted in the high numbers of gaming counters deposited across the site. This contrasts sharply with Catterick, where as in the case of female associated artefacts, the majority of gaming counters have come from intramural contexts (figure 5.27).

5.8 Conclusion

The wider analysis of the datasets, linking the data from Vindolanda to other sites on the northern frontier of Roman Britain, has clearly shown that there are both striking similarities and differences in the deposition of material culture in intramural and extramural contexts at the study sites. This is particularly evident between those sites on the frontier such as Vindolanda and Housesteads, and the site of Catterick, further to the south in the frontier zone.

Where extramural coin data is available there is a strong suggestion that most extramural settlement, at sites such as Housesteads and Vindolanda, was abandoned by the end of the 3rd century. This would fit well with the view that there was a general reduction, or in some cases a complete retreat, from the occupation of extramural settlements by the 4th century along the line of Hadrian's Wall (Bidwell & Hodgson 2009: 34). Such a view is supported by evidence from other frontier forts such as Wallsend. Here, although the datasets are extremely limited, there is enough evidence to suggest that the extramural settlement was abandoned at around the same time (Hodgson 2009: 69).

The loss of so many extramural settlements along the line of the northern frontier of Roman Britain in the period of time strongly suggests a high degree of co-ordination or similar causes for the abandonment of such settlements. This may be a direct reflection of the reduction in unit sizes, which may have started at some sites in the mid 3rd century, and was complimented or followed by the introduction of irregular troops (James 1984: 165, Bidwell & Hodgson 2009: 33). Some of these irregular units were made up from tribal areas and included the Frisians, and these units served at Housesteads, Birdoswald (Galestin 2009: 834-846) and possibly at Vindolanda (Birley A 1998: 29-35). At the sites of Vindolanda and Housesteads, where a reasonable amount of 3rd and 4th century data is available, comparisons can be made. There are significant changes in the deposition of artefacts in intramural areas which may be taken as an indication of the changes in garrison that had taken place over this period.

This is likely to have been responsible for the removal or displacement of a very significant percentage of the population from the frontier (Bidwell & Hodgson 2009: 33). Evidence from the study sites datasets for non-combatants (section 5.6) not only supports this supposition but also extends it to a parallel reduction in the numbers of non-combatants. Subsequently, the economy, diversity, nature and function of the surviving 4th century military occupation on the frontier is likely to have changed with smaller units inhabiting the forts, and also fewer non-combatants, combining to become what would have been essentially gated communities. Therefore the abandonment of extramural settlements on the frontier cannot be seen in isolation from adjacent intramural activity. This is a very important point when considering the nature and function of extramural settlements as it shows their dependency on and affiliations with the military.

When we make a direct comparison between Vindolanda and Catterick we find a significant amount of evidence for combatants in the 3rd century extramural settlement at Vindolanda while there is less evidence for combatants in the town at Catterick. The evidence for non-combatants indicates that there were a limited number of adult women inside the 3rd century fort at Vindolanda in comparison to those living in the adjacent extramural settlement which does not

appear to have been the case at Catterick (figure 5.11). The discrepancies between the two sites continue when considering shared activities. With a far greater emphasis on evidence for shared activities in the extramural settlement at Vindolanda than at Catterick where there is an almost equal volume of evidence for shared activities from both intramural and extramural contexts. Therefore the nature and significance of extramural settlement at Vindolanda and Catterick was fundamentally different and this may reflect a wider trend between frontier extramural settlements and those further inside the province. However, whether or not this was truly the case will remain unknown until a more comparable dataset of material culture from an extramural settlement on the frontier of Roman Britain becomes available as a result of continued modern excavation/publication.

Chapter 6

Conclusions

6.1 Conclusions

The aim of this thesis has been to examine the nature and significance of extramural settlement at Vindolanda and other selected sites on the northern frontier of Roman Britain. It has questioned whether or not there was a 'great divide' between different sections of the military community and between intramural and extramural occupation. The thesis has addressed these questions by applying a very different methodology from the studies that have preceded it (Birley & Keeney 1935, Salway 1965, Sommer 1984, 1988, 1999, 2006). This has been undertaken by an examination of the spatial patterning in the deposition of selected datasets of material culture associated with combatants, non-combatants as exemplified by adult women and by shared activities in both extramural and intramural contexts.

The inclusion of intramural data into a study which focuses primarily on the nature and function of extramural occupation has been vital in helping to understand the nature of the complex relationships between members of the military communities and their interaction with the spaces available to them, including extramural occupation. The idea that the Roman army was made up by more than combatants, and was probably a diverse 'community' or groups of 'communities' brought together with a common or shared purpose (Allason-Jones 1999: 41-51, Haynes 1999: 7-15, James 2001: 77-89), has been instrumental to the approach taken in this thesis.

Previous studies on extramural occupation have largely ignored the potential benefits of an examination of material culture, and have mainly studied extramural occupation in isolation from adjacent military activity inside the walls of Roman forts. The separation of extramural occupation from intramural occupation has, in part, been due to the scholarly interpretation of

the term *vicus* in relation to military extramural occupation. The scholars who have used this term have not effectively questioned whether or not all extramural occupation could be regarded as having been *vici* or exactly what they meant by the term itself (Birley 1935 & Keeney, Salway 1965, Sommer 1984,1988, 1999, 2006, Osborne 2006, Hodgson 2009).

Although we know, through inscriptions on stone, that a few of the people of who lived in extramural occupation referred to themselves as *vicani* (RIB 1700, RIB 1616, RIB 899) it remains unclear whether or not they were simply referring to their location (section 1.3), rather than making a statement as members of a collective or community that had a separate or corporate identity distinct from those who dwelt in the nearby fort. Therefore the extent to which privileges or responsibilities were afforded to those living outside a military base, as opposed to those who dwelt in purely ‘civil’ counterparts, remains questionable (section 1.4). It would seem strange to suggest that these people could pass their own local by-laws, police the streets, or have a magistrate who could administer justice to members of the community when the adjacent garrison commander was the immediate higher authority.

The debate on whether or not the continued use of the term *vicus* will help or hinder our understanding of the nature and significance of extramural occupation has been addressed by this thesis. It is not enough to prefix the term *vicus* with ‘military’ or another such idiom if we continue to ascribe all of the civil associations of the term *vicus* without qualification. We must be very clear about the differences between purely civil and other sites, and be more circumspect when trying to apply the scarce ancient literary sources beyond their limited contextual remit.

It would have been impossible to examine the nature and significance of extramural occupation at Vindolanda and other selected sites on the northern frontier through spatial analysis in a meaningful way without a large dataset of material culture on which to base the study. This is perhaps one reason why such a study has not been undertaken, as many of the datasets from the Roman frontier are unprovenanced or have poor records or no contextual information attached

(Allason-Jones & McKay 1985). It is hoped that this situation will improve in the future, as the excavation of the sites on the frontier and especially extramural occupation, has been highlighted in the research agenda in the most recent Research Framework for Hadrian's Wall (Symonds & Mason 2009: 12-15).

Fortunately, at the site of Vindolanda, an extensive dataset resulting from modern excavation does exist, and it is because of this and the scarcity of comparable datasets of a similar size and integrity, that the Vindolanda data has formed the core of this thesis (chapter 4). An important part of the thesis methodology has been an attempt to quantify the volume of excavated material in 3rd and 4th century extramural and intramural contexts at Vindolanda. This is so that the relative frequency of artefacts might be studied in tandem with their two dimensional deposition patterning (section 3.7).

This has been particularly useful in examining the deposition of artefacts, such as coins, where high numbers are present. In the 3rd century, the relative number of coins deposited in extramural areas was almost three times the number of those deposited in intramural contexts. However, when these numbers are rectified by the volume of excavated material, this came out at 1 coin per 40 cubic metres of intramural excavated material as opposed to 1 coin per 24 cubic metres of excavated material from extramural contexts, which is closer to 2:1 than 3:1 (section 4.2). This represents a significant change, but still shows that more coins were deposited in extramural contexts than intramural areas in the 3rd century, perhaps reflecting a higher combination of use and hoarding in extramural contexts. Regrettably, it was not possible to replicate this method for the analysis of excavated areas at the comparator sites, where no record of the depth of deposition over large areas has been available. However, as future excavation takes place, and survey techniques continue to be improved and refined, more of this type of analysis should be possible in the future. An evaluation of the volume of material should be considered as a quantitative counter-check on the spatial patterning of material culture datasets.

6.2 Extramural occupation - separated or integrated? Evidence from material culture

As previously discussed, the focus of this thesis is to see whether or not extramural occupation can be seen as a separate entity to adjacent military occupation or as a different but integrated part of that occupation. This question has been addressed by looking at four separate categories of artefacts. These consist of: controls; coins and whetstones/hones (section 3.2.2 – 3.3.3); evidence for the possible presence of combatants through weapons (section 3.3); evidence for non-combatants (adult women), such as spindle-whorls, loom weights, bracelets, hairpins and beads (section 3.4); and shared activities such as writing, erecting inscriptions, stylus pens, industry and gaming (section 3.5). Each group of artefacts has offered a new perspective on the nature and function of extramural occupation on the northern frontier, both at Vindolanda and at the comparator sites. What has emerged is a tantalising view of a complicated network of interactions between those who used both intramural and extramural occupation at the sites.

6.3 Evidence for the presence and distribution of combatants

One might be forgiven for assuming that the Roman army would leave behind more evidence of weaponry and military kit than would a civil population. For this reason the distribution in the deposition of sling shots, swords and socketed weapons and other items of military kit has been an essential indicator for the presence of combatants in both intramural and extramural contexts.

Although this thesis accepts the view that some weapons may have been deposited in extramural contexts purely for the purpose of hunting and personal protection (section 3.3), a concentration in their presence, such as at Vindolanda, suggests that a significant number of combatants lived outside the walls of the forts and also worked and enjoyed the social opportunities that were present in the extramural settlements in the 3rd century (section 4.4).

If Salway (Salway 1965) and Sommer (1984, 1988, 2006) are to be believed, and extramural occupation was mostly a civil affair, it might be expected that there would be major differences

in the quantities of weapons deposited in both areas, with a heavy emphasis towards the deposition of military kit in intramural occupation reflecting its military nature. The evidence from the 3rd century extramural settlement at Vindolanda does not support this interpretation but the reverse can be said for Catterick which shows a fundamental difference in the deposition of military kit inside a walled town with an attached fort as opposed to a frontier settlement.

The numbers of weapons deposited in Vindolanda extramural and intramural contexts in the 3rd century changes depending upon the type of weapon, but the general trend shows that there are almost as many spears and javelins in extramural contexts as intramural areas (section 4.4.3). The only categories of weapons that stand out strongly in one area or another are sling shots, which show a clear trend towards extramural deposition, at 90% (section 4.4.1). The data from comparable sites, mostly intramural in nature, has little to offer, although at the fort and settlement of Catterick, which was not on the frontier, the combined 3rd and 4th century deposition of weapons favours intramural contexts (section 5.5.1). The same trend of greater intramural deposition is shown at Vindolanda if 3rd and 4th century data is combined (figure 5.10), which may suggest that a similar pattern in the deposition of weapons may be present at Catterick as is found at Vindolanda, but that this trend is hidden by the broader scale of combining 3rd and 4th century data together.

At present, all that can be definitively said on the matter is that there is no less evidence for the population being armed with offensive weapons in the 3rd century extramural settlement at Vindolanda as opposed to intramural occupation and that this may well have been the norm in most extramural settlements on the frontier where a significant number of combatants may have resided outside the walls of their forts.

6.4 Evidence for the presence and distribution of non-combatants

There are substantial differences in the deposition of artefacts that may have belonged to non-combatants as exemplified by adult women in 3rd century extramural contexts as opposed to 3rd

century intramural contexts at Vindolanda. Significantly more loom weights, spindle-whorls, hairpins, bracelets and beads have been recovered from extramural contexts.

The absence of loom weights from 3rd century intramural contexts at Vindolanda (section 4.5.3), and lack of loom weights from any of the intramural contexts at the comparator sites discussed in chapter 5, would suggest that there is at present little evidence for weaving having taken place in intramural contexts on the northern frontier while associated extramural areas of occupation were in use. Looms, which are large and cumbersome, would have required dedicated space which is not the case for spinning. The absence of looms from the intramural areas could indicate that the army was not permitting dedicated space for this type of activity outside the commanding officers and centurions quarters. This does not indicate that women were excluded from intramural spaces but rather that the activity of weaving was largely confined to the extramural areas in the 3rd century for very practical reasons. This situation may well have changed once the extramural settlement at Vindolanda was abandoned in the 4th century, as a lower population would have allowed for more space for such activities in the intramural contexts. This is supported by the single loom weight that was recovered from the south-western interior of the fort, section 4.5.3.

Spindle whorls had a larger extramural deposition at 8.5:1 (section 4.5.4), hairpins 7:1 (section 4.7), bracelets 3:1 (section 4.6) and beads a large 19:1 (section 4.8). The large discrepancy in the numbers of beads and other female related artefacts deposited between the intramural and extramural areas of the site requires an explanation.

The higher number of beads from extramural contexts may well reflect the fact that more women lived in extramural settlements than inside forts on the frontier. An alternative suggestion could be that soldiers wore as many beads as women and that they mostly wore or deposited their beads while in extramural areas, 'out on the town', rather than inside the fort. A further explanation could be that women and non-combatant men both wore beads and that their activities were mostly confined to extramural areas of the site. A final suggestion, and one

which is offered in the Housesteads excavation report by Allason-Jones (Allason-Jones 2009: 430), is that beads may have been ‘walked into Roman forts on soldiers boots’ from extramural areas. This theory of deposition is unpersuasive as it would also apply to the deposition of all beads at any site and in almost any context be it intramural or extramural (section 5.6.4).

It is highly probable, based on the balance of supporting evidence from the other categories discussed here, that the first explanation for the deposition of beads at the site is undoubtedly the most likely. This theory is supported further when examining the 4th century data from the site of Vindolanda, which shows a significant increase in the deposition of beads in 4th century intramural contexts after the abandonment of extramural areas (section 4.8.1). Rather than beads being walked into the fort on soldiers’ boots, they were perhaps walked in to the fort by those who wore them.

A much stronger case can be now made, if not quite irrefutable, for the interpretation of Roman beads as mostly having been female-related artefacts based on the Vindolanda datasets. The beads from intramural contexts, at Vindolanda, and at the comparator sites (section 5.6.4), are present in significant numbers and this supports the conclusions of the studies undertaken by Allison’s sites such as Vetera I (Allison 2004) and Ellingen (Allison 2006) where female-related artefacts have been plotted in intramural contexts. The Vindolanda data places Allison’s conclusions into the context of the whole occupation of a settlement.

It is clear is that, while the 3rd century data suggests that most women worked and probably lived outside the walls of forts, the presence of significant numbers of women in intramural contexts, as shown through an analysis of material culture, can be seen to have gone beyond those traditionally attached to the commanding officers’ households, and centurions’ wives (Allason-Jones 1999: 41-50). This may have been the normal situation throughout the lifetime of the fort at Vindolanda (Driel-Murray 1993: 1-75) and the occupation of the northern frontier of Roman Britain until the 4th century when the most of the frontier population probably moved inside the walls of their forts.

Whether or not these adult women were slaves, family members or other associates of the combatants and whether they had a different status from women in the extramural settlement remains in question.

6.5 Evidence for shared activities – a common bond

The final category studied by this thesis examined a range of artefacts which could have been used by many different sections of the military community, regardless of their status as combatants or non-combatants. The artefacts examined in this category included inscriptions on stone and portable inscribed artefacts, stylus pens, crucibles and gaming counters. These shared activities may help to define the collective corporate identity of the military community as a whole, regardless of them being a combatant or non-combatant.

The first two of the categories, inscriptions on stone and portable inscribed artefacts, plotted in 3rd century contexts at Vindolanda (section 4.10.1), very clearly showed that there was no great discrepancy in the deposition of written material between extramural and intramural contexts, a point which is supported by an examination of inscribed material from the comparator sites (section 5.7.1). This data could be interpreted in number of different ways. It may suggest that literate combatants were fully engaged in extramural activities, leaving their inscriptions and graffiti behind in extramural contexts. Or that all members of military communities (including the non-combatants) living in both intramural and extramural areas of occupation, shared a common bond of literacy, and that the ability to read and write was a fundamental part of being a member of that community.

Another strong indicator of literacy can be found in the deposition of a large number of stylus pens at sites on the northern frontier. 2nd - 4th century deposition at Vindolanda, both in terms of writing tablets (section 2.4) and stylus pens (section 4.11) shows that literacy was a common bond between the different regiments and associated members of the military communities who inhabited the site of Vindolanda. Evidence of literacy is also just as prevalent in the comparator

sites (section 5.7.2) and it must be remembered that each community along the frontier was part of a much wider community of combatants and non-combatants serving and living on the northern frontier of Roman Britain as a whole. Literacy, as shown by the Vindolanda tablets (section 2.4), was an essential bond that helped to maintain the cohesion of this wider community.

In 3rd century contexts at Vindolanda a far greater number of stylus pens were deposited in extramural contexts than intramural contexts, almost 19:1 (section 4.11), similar to the disparity in the number of beads between the two areas (section 4.8). While it is possible that a number of the styli that were found in the western fort ditch were placed there with rubbish from inside the fort, it is equally possible, as with the gladiator glass (section 3.6), that these could have come from extramural contexts and that the 19:1 reflects a true figure of the difference in the deposition between the two areas. However, the deposition of styli in the extramural settlement may represent deposition by combatants rather than non-combatants, as many combatants may have been actively engaged in work related tasks in the adjacent extramural settlement such as metalworking (section 3.5.4).

One possible activity of the combatants in the extramural settlement is shown by the analysis of the distribution of crucibles in 3rd century extramural contexts at Vindolanda (section 4.12) and in the deposition of crucibles in 4th century contexts at Housesteads (section 5.7.3). Metalworking was an important part of the occupation of the northern frontier. It can be seen to have been under the direct influence of the military at sites such as Whitley Castle in Northumberland (Bidwell 1997: 41). It is also likely to have continued to be a vital part of daily life at bases such as Vindolanda, where from the earliest occupation, writing tablets record very large numbers of combatants in the workshops, Tab Vindol **155**, '343 men in the workshops' (Tab Vindol II: 99, cf. Tab Vindol III: 155). In the 3rd century at Vindolanda this activity appears to have largely taken place in extramural areas, both adjacent to the western fort wall and on the periphery of the site. Although it is unlikely that all of those who worked in this industry were combatants, as shown by the dedication to Vulcan set up by the *vicani*

Vindolandesses, RIB 1700, section 1.3), it is very possible that the industry and associated workshops remained under tight military control.

When not engaged in other activities, members of the military communities appear to have spent some of their leisure time playing games. The evidence of these games has survived in a few boards and a great number of gaming counters (section 4.13). These counters were made from a variety of materials, stone, pottery, bone, glass and even jet and shale (figure 4.57). At Vindolanda, where a good volume of intramural and extramural data is available, the evidence indicates an equal amount of gaming activity from both areas.

This extramural gaming activity may have been a more prominent feature of life on the frontier, rather than the norm in settlements further behind the frontier zone where it is possible that a wider range of leisure activities/distractions more distractions may have been available. The evidence from sites as far apart as Catterick (section 5.7.4), in England, and Abu Sha'ar, in Egypt, shows a marked emphasis on this type of activity in military contexts (section 4.13.1).

6.6 The nature and significance of extramural occupation at Vindolanda and selected sites

In light of the research undertaken for this thesis the view that groups of combatants or non-combatants and their activities were confined to certain parts of frontier sites such as Vindolanda, Housesteads and Birdoswald and excluded from other parts can no longer be regarded as tenable.

The walls of the 3rd century fort at Vindolanda had the effect of being a porous demarcation line which enabled various sections of the community to interface and mingle. Women, and not just those connected with the commanding officer or centurions, both lived and worked inside the fort as it would appear that they did through the occupation of the site (Driel-Murray 1993). The extramural settlement at Vindolanda in the 3rd century was clearly military in its nature and its significance is that it was heavily influenced by the requirements of the army rather than having

a purely separate identity as a civilian settlement which operated independently of fort. The evidence suggests that a significant number of soldiers lived and worked in the extramural settlement and there is nothing to suggest that this was not also the case at sites such as Housesteads, South Shields and Birdoswald.

The walls of forts therefore presented no genuine great divide and we can no-longer simply regard extramural settlements as civilian settlements as the balance of evidence presented in this thesis would suggest that such titles are extremely misleading. The demarcation between communities on the frontier may not have been the walls of the forts but the interfaces between the extended military community of each site and the population of the wider civilian hinterland.

6.7 Future research

While it is probable that there are few things which were truly unique about the occupation at Vindolanda in the 3rd and 4th centuries (the temple to Jupiter Dolichenus inside the fort thus far being an exception, Birley Andrew R & Birley A R 2010 forthcoming). It would have been far more preferable to have had several large datasets, resulting from modern excavations, from other extramural settlements on the northern frontier of Roman Britain, or in the north western provinces of the Roman Empire, with which to compare the material culture patterning at Vindolanda. The only site which has provided the quantity and quality of intramural and extramural data that is directly comparable to Vindolanda is that of Catterick. However, this is not comparing like for like and it highlights the shortcomings of the available data from the frontier sites. It is hoped that, in the future, the data from Vindolanda will provide a useful control in its own right as more evidence from relevant sites comes to light.

For this to happen, those who control the future of research on the northern frontier of Roman Britain must consider making the study of extramural settlement more of a priority. However, this research must not be undertaken in isolation. It should not focus purely on extramural settlement as this would repeat the mistakes of the past where one area of occupation was given

preference over another. Due to the current poor nature of the datasets from both intramural and extramural occupation on the northern frontier it would be desirable for excavations of both of these areas to be undertaken in tandem. This would provide a more complete and robust set of data for future comparison and would establish a good spread of material culture to be analysed from both areas and under the same conditions. By pursuing this strategy it may possible to obtain a more objective view of the often complicated nature of the extramural and intramural areas of frontier sites.

The 16 artefact categories selected for study in this thesis represent the start of a project which ideally should be continued, not only by collecting data from a wider area, but also by extending the range of artefacts to be included in its remit. Ceramics, animal remains and environmental data, from previous and future excavations, will have an important role to play alongside the artefacts selected for future spatial analysis. This study has demonstrated without doubt the fundamental value of the analysis of material culture datasets to achieving a more complete understanding of the archaeological record. It would have been impossible to assess the nature and significance of extramural settlement without the contribution that this resource has had to offer to the debate.

At present (in 2010) there are three excavations that are either in progress or being planned which may fulfil the ambition of providing new evidence on the nature and significance of extramural settlements within the immediate future. At Vindolanda the intramural and extramural excavations will examine more of the 3rd and 4th century levels at the site and the dataset will continue to expand (undertaken by The Vindolanda Trust). Excavations at Binchester Roman fort in County Durham started in 2009. This is a ten year project of excavation both inside and outside the fort being undertaken by Durham and Stanford Universities. Birdoswald excavations, which were confined to the cemeteries in 2009, are due to expand to include both intramural and extramural parts of the site from 2011 and are being jointly undertaken by English Heritage and Newcastle University. All of these excavations will offer unprecedented opportunities for the further study of the nature and significance of

extramural occupation and its role for the military community on the northern frontier of Roman Britain.

Appendix A

The Vindolanda datasets

1. Intramural coins from 3rd and 4th century contexts up to 2008

Coin No	Context - site location	Emperor	Date of coin	Date of excavation	Hoard	3rd c	4th c
12	<i>Principia</i>	M. Antonius	32-31BC	1932-1934		X	
83	<i>Principia</i>	Constantine II Caesar	81-96	1932-1934		X	
84	<i>Principia</i>	Domitian	81-96	1932-1934		X	
188	<i>Principia</i>	Trajan	103-117	1932-1934		X	
205	<i>Principia</i>	Hadrian	117-138	1932-1934		X	
315	<i>Principia</i>	Ant. Pius	145-161	1932-1934		X	
316	<i>Principia</i>	Ant. Pius	145-161	1932-1934		X	
325	<i>Principia</i>	Ant. Pius	153-154	1932-1934		X	
333	<i>Principia</i>	Ant. Pius	160-161	1932-1934		X	
370	<i>Principia</i>	M.Aurelius Caesar	155-158	1932-1934		X	
409	<i>Principia</i>	Faustina II	145-161	1932-1934		X	
645	<i>Principia</i>	Gallienus	260-268	1932-1934		X	
656	<i>Principia</i>	Salonina	260-268	1932-1934		X	
661	<i>Principia</i>	Claudius II	268-270	1932-1934		X	
685	<i>Principia</i>	Claudius II posth	270	1932-1934		X	
686	<i>Principia</i>	Claudius II posth	270	1932-1934		X	
692	<i>Principia</i>	Postumus	259-268	1932-1934		X	
694	<i>Principia</i>	Postumus	259-268	1932-1934		X	
709	<i>Principia</i>	Victorinus	268-270	1932-1934		X	
710	<i>Principia</i>	Victorinus	268-270	1932-1934		X	
736	<i>Principia</i>	Tetricus I	270-273	1932-1934		X	
737	<i>Principia</i>	Tetricus I	270-273	1932-1934		X	
738	<i>Principia</i>	Tetricus I	270-273	1932-1934		X	
739	<i>Principia</i>	Tetricus I	270-273	1932-1934		X	
743	<i>Principia</i>	Tetricus	270-273	1932-1934		X	
744	<i>Principia</i>	Tetricus I	270-273	1932-1934		X	
748	<i>Principia</i>	Tetricus	270-273	1932-1934		X	
973	<i>Principia</i>	Helena	324-325	1932-1934			X
787	<i>Principia</i>	Tetricus II Caesar	270-273	1932-1934		X	
786	<i>Principia</i>	Tetricus II Caesar	270-273	1932-1934		X	
788	<i>Principia</i>	Tetricus II Caesar	270-273	1932-1934		X	
804	<i>Principia</i>	Tetricus I	273+	1932-1934		X	
827	<i>Principia</i>	radiate copy	273+	1932-1934		X	

891	<i>Principia</i>	Carausius	286-290	1932-1934			X
893	<i>Principia</i>	Carausius	290-293	1932-1934			X
908	<i>Principia</i>	Constantine I	310	1932-1934			X
914	<i>Principia</i>	Constantine I	313-314	1932-1934			X
915	<i>Principia</i>	Constantine I	315-316	1932-1934			X
924	<i>Principia</i>	Constantine I	323	1932-1934			X
930	<i>Principia</i>	Constantine I	330-335	1932-1934			X
933	<i>Principia</i>	Constantine	330-335	1932-1934			X
945	<i>Principia</i>	Constantine I	330-337	1932-1934			X
946	<i>Principia</i>	Constantine I	330-337	1932-1934			X
947	<i>Principia</i>	Helena	330-337	1932-1934			X
958	<i>Principia</i>	Crispus	321	1932-1934			X
965	<i>Principia</i>	Constantine I	322-337	1932-1934			X
969	<i>Principia</i>	Constantine II Caesar	330-335	1932-1934			X
971	<i>Principia</i>	Constantine II caesar	335-37	1932-1934			X
974	<i>Principia</i>	Domitian	337-341	1932-1934			X
997	<i>Principia</i>	Constantius II	353+	1932-1934			X
998	<i>Principia</i>	Constantius II	353+	1932-1934			X
1020	<i>Principia</i>	Magnentius	350-351	1932-1934			X
1032	<i>Principia</i>	Valens	367-375	1932-1934			X
1035	<i>Principia</i>	Valentinian II	388-392	1932-1934			X
1164a	<i>Principia</i>	radiate	273+	1932-1934		X	
1164b	<i>Principia</i>	radiate	273+	1932-1934		X	
1164c	<i>Principia</i>	radiate	273+	1932-1934		X	
242	<i>Praetorium</i>	Galba	68-69	1997			X
279	<i>Praetorium</i>	Vespasian	69-79	1997			X
281	<i>Praetorium</i>	Vespasian	69-79	1997			X
237	<i>Praetorium</i>	Trajan	98-117	1997		X	
238	<i>Praetorium</i>	Hadrian	117-138	1997		X	
245	<i>Praetorium</i>	Hadrian	117-138	1997		X	
235	<i>Praetorium</i>	Faustina I	138-141+	1997			X
158	<i>Praetorium</i>	Ant. Pius	145-161	1997			X
152	<i>Praetorium</i>	Ant. Pius	145-161	1997			X
247	<i>Praetorium</i>	Caracalla	207	1997		X	
255	<i>Praetorium</i>	Plautilla	202-205	1997	*		X
206	<i>Praetorium</i>	Geta Caesar	203-208	1997	*		X
244	<i>Praetorium</i>	Sev. Alexander	229	1997		X	
259	<i>Praetorium</i>	Gordian III	238-244	1997		X	
154	<i>Praetorium</i>	Gallienus	260-268	1997			X
207	<i>Praetorium</i>	Gallienus	260-268	1997		X	
239	<i>Praetorium</i>	Gallienus	260-268	1997		X	
308	<i>Praetorium</i>	Gallienus	260-268	1997		X	
184	<i>Praetorium</i>	radiate	260-273+	1997			X

232	<i>Praetorium</i>	radiate	260-273+	1997			X
251	<i>Praetorium</i>	radiate	260-273+	1997		X	
252	<i>Praetorium</i>	radiate	260-273+	1997		X	
294	<i>Praetorium</i>	radiate	260-273+	1997			X
275	<i>Praetorium</i>	radiate	260-273+	1997			X
307	<i>Praetorium</i>	radiate	260-273+	1997			X
183	<i>Praetorium</i>	radiate	260-273+	1997			X
150	<i>Praetorium</i>	Claudius II	268-270	1997			X
160	<i>Praetorium</i>	Claudius II	268-270	1997	*		X
228	<i>Praetorium</i>	Claudius II	268-270	1997		X	
230	<i>Praetorium</i>	Claudius II	268-270	1997		X	
236	<i>Praetorium</i>	Claudius II	268-270	1997			X
241	<i>Praetorium</i>	Claudius II	268-270	1997		X	
270	<i>Praetorium</i>	Claudius II	268-270	1997	*	X	
208	<i>Praetorium</i>	Victorinus/Tetricus I	268-270	1997			X
297	<i>Praetorium</i>	Victorinus/Tetricus I	268-270	1997			X
260	<i>Praetorium</i>	Radiate	268-73	1997		X	
275	<i>Praetorium</i>	Tetricus I	270-273	1997			X
277	<i>Praetorium</i>	Tetricus I	270-273	1997			X
157	<i>Praetorium</i>	Tetricus II Caesar	270-273	1997			X
167	<i>Praetorium</i>	Tetricus II Caesar	270-273	1997	*	X	
248	<i>Praetorium</i>	Tetricus II Caesar	270-273	1997			X
269	<i>Praetorium</i>	Tetricus II Caesar	270-273	1997	*	X	
275	<i>Praetorium</i>	Tetricus II Caesar	270-273	1997			X
287	<i>Praetorium</i>	Carausius	287-290	1997			X
295	<i>Praetorium</i>	Carausius	287-290	1997			X
159	<i>Praetorium</i>	Victorinus	273+	1997		X	
224	<i>Praetorium</i>	Victorinus	273+	1997		X	
278	<i>Praetorium</i>	Victorinus/Tetricus I	273+ 1	1997			X
151	<i>Praetorium</i>	Tetricus II caesar	273+ 2	1997			X
240	<i>Praetorium</i>	Tetricus II caesar	273+ 2	1997			X
162	<i>Praetorium</i>	radiate copy	273+	1997	*		X
229	<i>Praetorium</i>	radiate copy	273+	1997		X	
231	<i>Praetorium</i>	radiate copy	273+	1997			X
271	<i>Praetorium</i>	radiate copy	273+	1997	*		X
304	<i>Praetorium</i>	radiate copy	273+	1997			X
246	<i>Praetorium</i>	radiate copy	273+	1997		X	
295	<i>Praetorium</i>	Carausius	287-90	1997		X	
210	<i>Praetorium</i>	Carausius for Diocletian	292	1997		X	
285	<i>Praetorium</i>	Galerius Caesar	296-297	1997			X
153	<i>Praetorium</i>	Constantine I	309-324	1997			X
302	<i>Praetorium</i>	Constantine I	309-324	1997			X

268	<i>Praetorium</i>	Licinius I	313-314	1997	*		X
168	<i>Praetorium</i>	Constantine I	309-324	1997			X
156	<i>Praetorium</i>	Constantine I	309-324	1997			X
164	<i>Praetorium</i>	Constantine I	309-324	1997	*		X
187	<i>Praetorium</i>	Constantine I	309-324	1997			X
254	<i>Praetorium</i>	Constantine I	309-324	1997			X
309	<i>Praetorium</i>	Constantine I	309-324	1997			X
253	<i>Praetorium</i>	Constantine I	309-324	1997			X
289	<i>Praetorium</i>	Crispus Caesar	323-324	1997			X
223	<i>Praetorium</i>	Constantine I	309-324	1997			X
273	<i>Praetorium</i>	Constantine I	309-324	1997	*		X
293	<i>Praetorium</i>	Constantine II , Caesar	330-331	1997			X
276	<i>Praetorium</i>	House of Constantine	330-335	1997			X
265	<i>Praetorium</i>	Constantine I	309-324	1997			X
215	<i>Praetorium</i>	Constantine II Caesar	330-331	1997	*		X
201	<i>Praetorium</i>	Constantine II Caesar	330-331	1997	*		X
178	<i>Praetorium</i>	House of Constantine	330-335	1997			X
186	<i>Praetorium</i>	Helena	337-340	1997	*		X
203	<i>Praetorium</i>	Helena	337-340	1997	*		X
194	<i>Praetorium</i>	Theodora	337-340	1997	*		X
199	<i>Praetorium</i>	House of Constantine	330-335	1997	*		X
266	<i>Praetorium</i>	House of Constantine	330-335	1997	*		X
303	<i>Praetorium</i>	House of Constantine	330-335	1997			X
151	<i>Praetorium</i>	Constantius II	340-341	1997	*		X
171	<i>Praetorium</i>	Constans	340-350	1997	*		X
188	<i>Praetorium</i>	Constans	340-350	1997	*		X
216	<i>Praetorium</i>	Constantine I	341-346	1997	*		X
192	<i>Praetorium</i>	Constantius II, Caesar	341-346	1997	*		X
218	<i>Praetorium</i>	Constantius II, Caesar	341-346	1997	*		X
172	<i>Praetorium</i>	Constantius II	346-348	1997	*		X
197	<i>Praetorium</i>	Constantius II	346-348	1997	*		X
220	<i>Praetorium</i>	Constantius II	346-348	1997	*		X
222	<i>Praetorium</i>	Constantius II	346-348	1997	*		X
272	<i>Praetorium</i>	Constantius II	346-348	1997	*		X
174	<i>Praetorium</i>	Constans	340-350	1997	*		X
179	<i>Praetorium</i>	Constans	340-350	1997			X
185	<i>Praetorium</i>	Constans	340-350	1997	*		X
205	<i>Praetorium</i>	Constans	340-350	1997	*		X
213	<i>Praetorium</i>	Constans	340-350	1997	*		X
221	<i>Praetorium</i>	Constans	340-350	1997	*		X
226	<i>Praetorium</i>	Constans	340-350	1997	*		X
292	<i>Praetorium</i>	Constans	340-350	1997			X
299	<i>Praetorium</i>	Constans	340-350	1997			X

300	<i>Praetorium</i>	Constans	340-350	1997			X
202	<i>Praetorium</i>	Constantius II/Constans	346-348	1997	*		X
217	<i>Praetorium</i>	Constantius II/Constans	346-348	1997	*		X
196	<i>Praetorium</i>	Constantius II/Constans	346-348	1997	*		X
173	<i>Praetorium</i>	Constantius II	348-350	1997	*		X
264	<i>Praetorium</i>	Constantius II	348-350	1997	*		X
267	<i>Praetorium</i>	Constantius II	348-350	1997	*		X
161	<i>Praetorium</i>	Constans	340-350	1997	*		X
163	<i>Praetorium</i>	Constans	340-350	1997	*		X
165	<i>Praetorium</i>	Constans	340-350	1997	*		X
166	<i>Praetorium</i>	Constans	340-350	1997	*		X
169	<i>Praetorium</i>	Constans	340-350	1997	*		X
170	<i>Praetorium</i>	Constans	340-350	1997	*		X
176	<i>Praetorium</i>	Constans	340-350	1997	*		X
189	<i>Praetorium</i>	Constans	340-350	1997	*		X
191	<i>Praetorium</i>	Constans	340-350	1997	*		X
193	<i>Praetorium</i>	Constans	340-350	1997	*		X
200	<i>Praetorium</i>	Constans	340-350	1997	*		X
204	<i>Praetorium</i>	Constans	340-350	1997	*		X
212	<i>Praetorium</i>	Constans	340-350	1997	*		X
214	<i>Praetorium</i>	Constans	340-350	1997	*		X
227	<i>Praetorium</i>	Constans	340-350	1997	*		X
255	<i>Praetorium</i>	Constans	340-350	1997			X
258	<i>Praetorium</i>	Constans	340-350	1997	*		X
261	<i>Praetorium</i>	Constans	340-350	1997	*		X
262	<i>Praetorium</i>	Constans	340-350	1997	*		X
263	<i>Praetorium</i>	Constans	340-350	1997	*		X
284	<i>Praetorium</i>	Constans	340-350	1997			X
296	<i>Praetorium</i>	Constantius II/Constans	346-348	1997			X
301	<i>Praetorium</i>	Constantius II/Constans	346-348	1997			X
249	<i>Praetorium</i>	Magentius	351-352	1997			X
256	<i>Praetorium</i>	Magentius	351-352	1997			X
198	<i>Praetorium</i>	Constantius II	353	1997	*		X
283	<i>Praetorium</i>	Constantius II	353	1997			X
298	<i>Praetorium</i>	Constantius II	353	1997			X
181	<i>Praetorium</i>	Constantius II	353	1997			X
219	<i>Praetorium</i>	Constantius II	353	1997	*		X
211	<i>Praetorium</i>	Constantius II	353+	1997			X
282	<i>Praetorium</i>	Constantius II	353+	1997			X
306	<i>Praetorium</i>	Constantius II	353+	1997			X
175	<i>Praetorium</i>	Valentinian I	364-375	1997	*		X

155	<i>Praetorium</i>	Valens	364-375	1997			X
177	<i>Praetorium</i>	Valens	364-375	1997			X
195	<i>Praetorium</i>	Valens	364-375	1997			X
209	<i>Praetorium</i>	Valens	364-375	1997			X
233	<i>Praetorium</i>	Valens	364-375	1997			X
180	<i>Praetorium</i>	Valens	364-378	1997			X
233	<i>Praetorium</i>	Valens	364-378	1997			X
290	<i>Praetorium</i>	Gratian	367-375	1997			X
396	<i>Praetorium</i>	Domitian	86-96	1998		X	
354	<i>Praetorium</i>	M.Aurelius	147-167	1998		X	
359	<i>Praetorium</i>	M.Aurelius	147-167	1998			X
358	<i>Praetorium</i>	Sept. Severus	195-196	1998		X	
368	<i>Praetorium</i>	Sept. Severus	195-196	1998			X
379	<i>Praetorium</i>	Caracalla	207	1998		X	
380	<i>Praetorium</i>	Postumus	259-268	1998			X
348	<i>Praetorium</i>	Gallienus	260-268	1998			X
401	<i>Praetorium</i>	Gallienus	260-268	1998		X	
400	<i>Praetorium</i>	Gallienus	260-268	1998		X	
363	<i>Praetorium</i>	Salonina	260-268	1998		X	
375	<i>Praetorium</i>	radiate	260-273+	1998		X	
364	<i>Praetorium</i>	radiate	260-273+	1998		X	
409	<i>Praetorium</i>	radiate	260-273+	1998			X
329	<i>Praetorium</i>	radiate	260-273+	1998			X
394	<i>Praetorium</i>	radiate	260-273+	1998			X
338	<i>Praetorium</i>	radiate	260-273+	1998		X	
382	<i>Praetorium</i>	Claudius II	268-270	1998			X
327	<i>Praetorium</i>	Claudius II	268-270	1998			X
370	<i>Praetorium</i>	Claudius II	268-270	1998			X
366	<i>Praetorium</i>	Claudius II	268-270	1998			X
324	<i>Praetorium</i>	Victorinus/Tetricus I	268-273	1998			X
376	<i>Praetorium</i>	Victorinus/Tetricus I	268-273	1998			X
378	<i>Praetorium</i>	Claudius II posth	270+	1998		X	
336	<i>Praetorium</i>	Tetricus I	270-273	1998		X	
335	<i>Praetorium</i>	Tetricus I	270-273	1998		X	
390	<i>Praetorium</i>	Tetricus I	270-273	1998		X	
320	<i>Praetorium</i>	Tetricus II caesar	270-273	1998			X
399	<i>Praetorium</i>	Tetricus I	273+	1998			X
402b	<i>Praetorium</i>	Tetricus II	273+	1998		X	
402a	<i>Praetorium</i>	radiate copy	273+	1998		X	
402e	<i>Praetorium</i>	radiate copy	273+	1998		X	
391	<i>Praetorium</i>	radiate copy	273+	1998			X
402h	<i>Praetorium</i>	radiate copy	273+	1998		X	
353	<i>Praetorium</i>	radiate copy	273+	1998		X	

350	<i>Praetorium</i>	radiate copy	273+	1998			X
377	<i>Praetorium</i>	radiate copy	273+	1998		X	
386	<i>Praetorium</i>	radiate copy	273+	1998			X
402d	<i>Praetorium</i>	radiate copy	273+	1998		X	
365	<i>Praetorium</i>	radiate copy	273+	1998		X	
402g	<i>Praetorium</i>	radiate copy	273+	1998		X	
402c	<i>Praetorium</i>	radiate copy	273+	1998		X	
402f	<i>Praetorium</i>	radiate copy	273+	1998		X	
389	<i>Praetorium</i>	radiate copy	273+	1998		X	
355	<i>Praetorium</i>	radiate copy	273+	1998		X	
367	<i>Praetorium</i>	Aurelian	270-275	1998			X
361	<i>Praetorium</i>	Probus	276-282	1998		X	
403	<i>Praetorium</i>	Probus	276-282	1998		X	
362	<i>Praetorium</i>	Tetrarchic	296-305	1998			X
393	<i>Praetorium</i>	Tetrarchic	296-305	1998			X
408	<i>Praetorium</i>	Tetrarchic	296-305	1998			X
332	<i>Praetorium</i>	Constantine I	310-335	1998			X
319	<i>Praetorium</i>	Constantine I	310-335	1998			X
311	<i>Praetorium</i>	Constantine I	310-335	1998			X
383	<i>Praetorium</i>	Constantine I	310-335	1998			X
398	<i>Praetorium</i>	Constantine I	310-335	1998			X
312	<i>Praetorium</i>	Constantine I	310-335	1998			X
384	<i>Praetorium</i>	Constantine II Caesar	319-324	1998			X
314	<i>Praetorium</i>	Constantine II Caesar	319-324	1998			X
340	<i>Praetorium</i>	Constantine II Caesar	319-324	1998			X
349	<i>Praetorium</i>	Constantine II Caesar	319-324	1998			X
315	<i>Praetorium</i>	Constantine I	310-335	1998			X
317	<i>Praetorium</i>	House of Constantine	330-348	1998			X
360	<i>Praetorium</i>	House of Constantine	330-348	1998			X
411	<i>Praetorium</i>	House of Constantine	330-348	1998			X
334	<i>Praetorium</i>	House of Constantine	330-348	1998			X
331	<i>Praetorium</i>	House of Constantine	330-348	1998			X
322	<i>Praetorium</i>	House of Constantine	330-348	1998			X
321	<i>Praetorium</i>	House of Constantine	330-348	1998			X
341	<i>Praetorium</i>	House of Constantine	330-348	1998			X
328	<i>Praetorium</i>	Constantine I deified	337-340	1998			X
326	<i>Praetorium</i>	Constantius II/Constans	340-341	1998			X
372	<i>Praetorium</i>	Constantius II	346-348	1998			X
357	<i>Praetorium</i>	Constantius II	346-348	1998			X
397	<i>Praetorium</i>	Constans	346-350	1998			X
347	<i>Praetorium</i>	Constans	346-350	1998			X
333	<i>Praetorium</i>	Constans	346-350	1998			X

356	<i>Praetorium</i>	Constans	346-350	1998			X
374	<i>Praetorium</i>	Constans	346-350	1998			X
369	<i>Praetorium</i>	Constans	346-350	1998			X
313	<i>Praetorium</i>	Constans	346-350	1998			X
310	<i>Praetorium</i>	Constans	346-350	1998			X
342	<i>Praetorium</i>	Constantius II	350+	1998			X
404	<i>Praetorium</i>	Magnentius	350+	1998			X
392	<i>Praetorium</i>	Magnentius	350+	1998			X
346	<i>Praetorium</i>	Constantius II	353	1998			X
345	<i>Praetorium</i>	Constantius II	353	1998			X
406	<i>Praetorium</i>	Constantius II	353	1998			X
405	<i>Praetorium</i>	Constantius II	353	1998			X
381	<i>Praetorium</i>	Constantius II	353	1998			X
343	<i>Praetorium</i>	Constantius II	353	1998			X
352	<i>Praetorium</i>	Constantius II	353	1998			X
344	<i>Praetorium</i>	Constantius II	353	1998			X
339	<i>Praetorium</i>	Constantius II	353	1998			X
395	<i>Praetorium</i>	Constantius II	353	1998			X
351	<i>Praetorium</i>	Valentinian I	364-367	1998			X
316	<i>Praetorium</i>	Valens	364-375	1998			X
330	<i>Praetorium</i>	Valentinian I/Valens	364-375	1998			X
325	<i>Praetorium</i>	Valentinian I/Valens	364-375	1998			X
337	<i>Praetorium</i>	House of Valentinian	364-375	1998			X
371	<i>Praetorium</i>	House of Valentinian	364-375	1998			X
412	<i>Praetorium</i>	Gratian	367-375	1998			X
410	<i>Praetorium</i>	Gratian	367-375	1998			X
385	<i>Praetorium</i>	Gratian	367-375	1998			X
387	<i>Praetorium</i>	illegible 1st/2nd century	1st/2nd	1998			X
323	<i>Praetorium</i>	illegible 2nd/3rd century	2nd/3rd	1998			X
388	<i>Praetorium</i>	illegible 3rd/4th century	3rd/4th	1998			X
318	<i>Praetorium</i>	illegible 4th century	4th	1998			X
825	EB barracks	radiate copy	273+	1932-1934		X	
1007	EB barracks	Constans/Constantius II	346-348	1932-1934			X
662	EB barracks	Claudius II	268-270	1932-1934		X	
663	EB barracks	Claudius II	268-270	1932-1934		X	
1169a	EB barracks	Constantius II	346-348	1932-1934			X
1169b	EB barracks	Constantius II	346-348	1932-1934			X
1169c	EB barracks	Constantius II	346-348	1932-1934			X
1169d	EB barracks	Constantius II	346-348	1932-1934			X
1169e	EB barracks	Constantius II	346-348	1932-1934			X
1169f	EB barracks	Constantius II	346-348	1932-1934			X

1169g	EB barracks	Constantius II	346-348	1932-1934			X
1166	EB barracks	Trajan	103-111	1932-1934		X	
1167	EB barracks	Hadrian	117-138	1932-1934		X	
1168	EB barracks	Domitian	81-96	1932-1934		X	
1165	EB barracks	Domitian	81-96	1932-1934		X	
453	EB barracks	Commodus	188-189	1932-1934		X	
823	EB barracks	radiate copy	273+	1932-1934		X	
916	EB barracks	Constantine I	318	1932-1934			X
959	EB barracks	Constantine II Caesar	320-321	1932-1934			X
826	EB barracks	radiate copy	273+	1932-1934		X	
747	EB barracks	Tetricus I	270-273	1932-1934		X	
88	EB barracks	Domitian	84-96	1932-1934		X	
2680	Bidwell Barracks	M.Antonius	32-31BC	1981		X	
3047	Bidwell Barracks	Vespasian	71-78	1981		X	
2430	Bidwell Barracks	Vespasian/Titus	69-81	1981			X
2636	Bidwell Barracks	Vespasian/Titus	69-81	1981		X	
3009	Bidwell Barracks	Titus/Domitian	69-81	1981		X	
2905	Bidwell Barracks	Domitian Caesar	79	1981			X
2839	Bidwell Barracks	Domitian	81-98	1981			X
2973	Bidwell Barracks	Trajan	98-117	1981		X	
3045	Bidwell Barracks	Trajan	98-117	1981		X	
3049	Bidwell Barracks	Trajan	98-117	1981		X	
2304	Bidwell Barracks	Trajan	98-117	1981		X	
3046	Bidwell Barracks	Trajan	98-117	1981			X
2703	Bidwell Barracks	Hadrian	117-138	1981		X	
3053	Bidwell Barracks	Hadrian	117-138	1981		X	
3052	Bidwell Barracks	Hadrian	117-138	1981		X	
2452	Bidwell Barracks	Hadrian	117-138	1981			X
2779	Bidwell Barracks	Ant. Pius	138-161	1981			X
2450	Bidwell Barracks	Ant. Pius	138-161	1981		X	
2328	Bidwell Barracks	Ant. Pius	138-161	1981			X
2967	Bidwell Barracks	Ant. Pius	138-161	1981			X
2596	Bidwell Barracks	Faustina I deified	141-161	1981			X
3050	Bidwell Barracks	Faustina I deified	141-161	1981		X	
3011	Bidwell Barracks	Faustina II	145-161	1981		X	
2674	Bidwell Barracks	M.Aurelius	161-166	1981		X	
2867	Bidwell Barracks	M.Aurelius	161-166	1981		X	
2809	Bidwell Barracks	Commodus	187-189	1981			X
3051	Bidwell Barracks	Commodus	187-189	1981		X	
2371	Bidwell Barracks	Commodus	187-189	1981			X
2475	Bidwell Barracks	Sept. Severus	197-211	1981			X
2443	Bidwell Barracks	Sept. Severus	197-211	1981			X
2847	Bidwell Barracks	Sept. Severus	197-211	1981			X

2397	Bidwell Barracks	Sept. Severus	197-211	1981			X
2397	Bidwell Barracks	Sept. Severus	197-211	1981			X
2410	Bidwell Barracks	Sept. Severus	197-211	1981		X	
2735	Bidwell Barracks	Caracalla	212	1981			X
2771	Bidwell Barracks	Caracalla/Geta	196-211	1981			X
2718	Bidwell Barracks	Geta	200-202	1981		X	
3048	Bidwell Barracks	Elagabalus	218-222	1981		X	
3010	Bidwell Barracks	Julia Maesa	218-222	1981		X	
2506	Bidwell Barracks	Severus Alexander	228-235	1981			X
2899	Bidwell Barracks	Severus Alexander	228-235	1981		X	
2704	Bidwell Barracks	Severus Alexander	228-235	1981		X	
2582	Bidwell Barracks	Severus Alexander	228-235	1981			X
2747	Bidwell Barracks	Gallienus	258-268	1981			X
2607	Bidwell Barracks	Gallienus	258-268	1981			X
2815	Bidwell Barracks	Claudius II	268-270	1981			X
2931	Bidwell Barracks	Claudius II	268-270	1981		X	
2781	Bidwell Barracks	Claudius II	268-270	1981			X
2700	Bidwell Barracks	Claudius II	268-270	1981			X
2500	Bidwell Barracks	Claudius II	268-270	1981			X
2705	Bidwell Barracks	Claudius II	268-270	1981		X	
2830	Bidwell Barracks	Claudius II	268-270	1981			X
2694	Bidwell Barracks	Claudius II	268-270	1981		X	
2762	Bidwell Barracks	Postumus	259-268	1981			X
2802	Bidwell Barracks	Postumus	259-268	1981			X
2819	Bidwell Barracks	Victorinus	268-270	1981			X
2606	Bidwell Barracks	Victorinus	268-270	1981			X
2711	Bidwell Barracks	Victorinus	268-270	1981		X	
2324	Bidwell Barracks	Victorinus	268-270	1981			X
2972	Bidwell Barracks	Victorinus	268-270	1981		X	
2381	Bidwell Barracks	Victorinus/Tetricus I	268-273	1981			X
2709	Bidwell Barracks	Tetricus I	270-273	1981		X	
2792	Bidwell Barracks	Tetricus I	270-273	1981			X
2706	Bidwell Barracks	Tetricus II	270-273	1981		X	
2453	Bidwell Barracks	Tetricus II	270-273	1981			X
2837	Bidwell Barracks	Tetricus II	270-273	1981			X
2571	Bidwell Barracks	Tetricus II	270-273	1981		X	
2807	Bidwell Barracks	Gallic empire	268-273	1981			X
2828	Bidwell Barracks	Gallic empire	268-273	1981			X
2836	Bidwell Barracks	Gallic empire	268-273	1981			X
2814	Bidwell Barracks	Tetricus I	273+	1981			X
2683	Bidwell Barracks	Tetricus I	273+	1981			X
2681	Bidwell Barracks	Tetricus I	273+	1981			X
2387	Bidwell Barracks	Tetricus I	273+	1981			X

2798	Bidwell Barracks	Tetricus I	273+	1981			X
2305	Bidwell Barracks	Tetricus I	273+	1981			X
2708	Bidwell Barracks	Tetricus I	273+	1981		X	
2800	Bidwell Barracks	Tetricus I	273+	1981			X
3018	Bidwell Barracks	Tetricus I	273+	1981			X
2684	Bidwell Barracks	Tetricus II	273+	1981			X
2319	Bidwell Barracks	radiate copies	273+	1981			X
2486	Bidwell Barracks	radiate copies	273+	1981			X
2657	Bidwell Barracks	radiate copies	273+	1981			X
2608	Bidwell Barracks	radiate copies	273+	1981			X
2352	Bidwell Barracks	radiate copies	273+	1981			X
2318	Bidwell Barracks	radiate copies	273+	1981			X
2494	Bidwell Barracks	radiate copies	273+	1981			X
2821	Bidwell Barracks	radiate copies	273+	1981			X
2361	Bidwell Barracks	radiate copies	273+	1981			X
2845	Bidwell Barracks	radiate copies	273+	1981			X
2846	Bidwell Barracks	radiate copies	273+	1981			X
2610	Bidwell Barracks	radiate copies	273+	1981			X
2288	Bidwell Barracks	radiate copies	273+	1981			X
2717	Bidwell Barracks	radiate copies	273+	1981			X
2364	Bidwell Barracks	radiate copies	273+	1981		X	
2365	Bidwell Barracks	radiate copies	273+	1981			X
2701	Bidwell Barracks	radiate copies	273+	1981			X
2789	Bidwell Barracks	radiate copies	273+	1981		X	
2595	Bidwell Barracks	radiate copies	273+	1981			X
2642	Bidwell Barracks	radiate copies	273+	1981			X
3083	Bidwell Barracks	radiate copies	273+	1981			X
2766	Bidwell Barracks	radiate copies	273+	1981			X
2932	Bidwell Barracks	radiate copies	273+	1981		X	
2309	Bidwell Barracks	Carausius	286/293	1981			X
2796	Bidwell Barracks	Allectus	293-296	1981			X
2317	Bidwell Barracks	Diocletian	302-307	1981			X
2284	Bidwell Barracks	Diocletian	302-307	1981			X
2337	Bidwell Barracks	Maximianus Herculeus	307	1981			X
2759	Bidwell Barracks	Constantine I Caesar	296-303	1981			X
2353	Bidwell Barracks	Constantine I Caesar	296-303	1981			X
2877	Bidwell Barracks	Constantine I	310-335	1981			X
2300	Bidwell Barracks	Constantine I	310-335	1981			X
2412	Bidwell Barracks	Constantine I	310-335	1981			X
2390	Bidwell Barracks	Constantine I	310-335	1981			X
3054	Bidwell Barracks	Constantine I	310-335	1981			X
2145	Bidwell Barracks	Constantine I	310-335	1981			X

2712	Bidwell Barracks	Constantine I	310-335	1981			X
2774	Bidwell Barracks	Constantine I	310-335	1981			X
2804	Bidwell Barracks	Constantine I	310-335	1981			X
2332	Bidwell Barracks	Constantine I	310-335	1981			X
2415	Bidwell Barracks	Constantine I	310-335	1981			X
2655	Bidwell Barracks	House of Constantine	321-348	1981			X
2584	Bidwell Barracks	House of Constantine	321-348	1981			X
2310	Bidwell Barracks	House of Constantine	321-348	1981			X
2485	Bidwell Barracks	House of Constantine	321-348	1981			X
2756	Bidwell Barracks	House of Constantine	321-348	1981			X
2783	Bidwell Barracks	House of Constantine	321-348	1981			X
2757	Bidwell Barracks	'Constantine I'	341-346	1981			X
2429	Bidwell Barracks	'Constantine I'	341-346	1981			X
2411	Bidwell Barracks	'Constantine I'	341-346	1981			X
2376	Bidwell Barracks	'Constantine I'	341-346	1981			X
2943	Bidwell Barracks	'Constantine I'	341-346	1981			X
2316	Bidwell Barracks	'Constantine I'	341-346	1981			X
2599	Bidwell Barracks	'Constantine I'	341-346	1981			X
2813	Bidwell Barracks	'Constantine I'	341-346	1981			X
2316	Bidwell Barracks	'Constantine I'	341-346	1981			X
2797	Bidwell Barracks	Licinius II Caesar	320-321	1981			X
2408	Bidwell Barracks	Constantine II Caesar	321-335	1981			X
2359	Bidwell Barracks	Constantine II Caesar	321-335	1981			X
2335	Bidwell Barracks	Constantine II Caesar	321-335	1981			X
2326	Bidwell Barracks	Constantine II Caesar	321-335	1981			X
2406	Bidwell Barracks	Constans	330-350	1981			X
2306	Bidwell Barracks	Constans	330-350	1981			X
2385	Bidwell Barracks	Constans	330-350	1981			X
2612	Bidwell Barracks	Constans	330-350	1981			X
2799	Bidwell Barracks	Constans	330-350	1981			X
2303	Bidwell Barracks	Constans	330-350	1981			X
2368	Bidwell Barracks	Constans	330-350	1981			X
2327	Bidwell Barracks	Constans	330-350	1981			X
2818	Bidwell Barracks	Constans	330-350	1981			X
2855	Bidwell Barracks	Constans	330-350	1981			X
2389	Bidwell Barracks	Constans	348-350	1981			X
2391	Bidwell Barracks	Constans	348-350	1981			X
2426	Bidwell Barracks	Theodora	337-341	1981			X
2786	Bidwell Barracks	Theodora	337-341	1981			X
2794	Bidwell Barracks	Constantius II	330-354	1981			X
2330	Bidwell Barracks	Constantius II	330-354	1981			X
2296	Bidwell Barracks	Constantius II	330-354	1981			X
2498	Bidwell Barracks	Constantius II	330-354	1981			X

2746	Bidwell Barracks	Constantius II	330-354	1981			X
2810	Bidwell Barracks	Constantius II	330-354	1981			X
2812	Bidwell Barracks	Constantius II	330-354	1981			X
2842	Bidwell Barracks	Constantius II	330-354	1981			X
3015	Bidwell Barracks	Constantius II	330-354	1981			X
2811	Bidwell Barracks	Magnentius	350-353	1981			X
2778	Bidwell Barracks	Magnentius	350-353	1981			X
2763	Bidwell Barracks	Magnentius	350-353	1981			X
2347	Bidwell Barracks	Magnentius	350-353	1981			X
2635	Bidwell Barracks	Julian	360-363	1981			X
2697	Bidwell Barracks	Valentinian I/Valens	354-378	1981			X
2602	Bidwell Barracks	Valens	367-375	1981			X
2891	Bidwell Barracks	Valens	367-375	1981			X
2816	Bidwell Barracks	Valens	367-375	1981			X
2297	Bidwell Barracks	Valentinian House	364-378	1981			X
2380	Bidwell Barracks	Theodosius I house	388-402	1981			X
746	East Gate (unpublished)	Tetricus I	270-273	1932		X	
762	East Gate (unpublished)	Tetricus I	270-273	1932		X	
763	East Gate (unpublished)	Tetricus I	270-273	1932		X	
33	North Gate (unpublished)	Vespasian	69-79	1932		X	
229	North Gate (unpublished)	Hadrian	118	1932		X	
742	North Gate (unpublished)	Tetricus I	270-273	1932		X	
992	North Gate (unpublished)	Constantius II	346-348	1932			X
904	N of East Gate (Site C) EB	Maximinus II Daza	310-313	1932			X
907	N of East Gate (Site C) EB	Constantine I	310	1932			X
979	N of East Gate (Site C) EB	Constans	346-348	1932			X
1021	NW angle (Site D) unpublished EB	Magnentius	350-351	1932			X
330	NW angle (Site D) unpublished EB	Ant. Pius	155-156	1932		X	
604	NW angle (Site D) unpublished EB	Severus Alexander	226	1932		X	
803	NW angle (Site D) unpublished EB	Tetricus II	273+	1932		X	
160	NW angle (Site D) unpublished EB	Trajan	103-117	1932		X	
996	West Gate	Constantius II	353+	1970			X
980	West Gate	Constans	346-348	1970			X
693	South Gate (REB 1969)	Postumus	259-268	1969		X	
655	South Gate (REB 1969)	Gallienus	265-268	1969		X	
740	South Gate (REB 1969)	Tetricus I	270-273	1969		X	
741	South Gate (REB 1969)	Tetricus I	270-273	1969			X
824	South Gate (REB 1969)	radiate copy	273+	1969		X	
922	South Gate (REB 1969)	Constantine I	322-323	1969			X
931	South Gate (REB 1969)	Constantine I	322-323	1969			X
929	South Gate (REB 1969)	Constantine I	322-323	1969			X

928	South Gate (REB 1969)	Constantine I	322-323	1969			X
1029	South Gate (REB 1969)	Valens	364-375	1969			X
975	NE corner latrine (REB)	Theodora	337-341	1972			X
439	South rampart	M. Antonius	32-31BC	1999		X	
442	South rampart	M. Antonius	32-31BC	1999		X	
425	South rampart	Vespasian	77-78	1999		X	
420	South rampart	Domitian	75-96	1999		X	
428	South rampart	Domitian	75-96	1999		X	
451	South rampart	Domitian	75-96	1999		X	
445	South rampart	Trajan	114-117	1999		X	
424	South rampart	Hadrian	117-138	1999			X
435	South rampart	Hadrian	117-138	1999			X
453	South rampart	Hadrian	117-138	1999		X	
431	South rampart	Ant. Pius	139-161	1999		X	
433	South rampart	Ant. Pius	139-161	1999		X	
446	South rampart	Ant. Pius	139-161	1999		X	
454	South rampart	Ant. Pius	139-161	1999		X	
432	South rampart	Faustina II	147-161	1999		X	
427	South rampart	Sept. Severus	201-204	1999		X	
452	South rampart	Sept. Severus	201-204	1999		X	
440	South rampart	Elagabalus	218-222	1999		X	
419	South rampart	Gallienus	260-268	1999		X	
416	South rampart	Postumus	260-268	1999		X	
414	South rampart	Claudius II	268-270	1999			X
418	South rampart	Victorinus/Tetricus I	268-270	1999			X
413	South rampart	Claudius II posth	270	1999		X	
435	South rampart	radiate copy	273+	1999		X	
437	South rampart	Galerius Caesar	303-305	1999			X
421	South rampart	Constantine I	310-319	1999			X
443	South rampart	Constantine I	310-319	1999			X
442	South rampart	Constans	337-350	1999			X
415	South rampart	Constans	337-350	1999			X
491	South rampart	Constans	337-350	1999			X
448	South rampart	Magnentius	350-351	1999			X
417	South rampart	Julian	360-361	1999			X
423	South rampart	Valentinian I	364-375	1999			X
447	South rampart	Valentinian I	364-375	1999			X
444	South rampart	Arcadius	393-394	1999			X
463	South Gate	Julian	360-361	2000			X
456	South Gate	Constantine II Caesar	330-337	2000			X
457	South Gate	Constantine II Caesar	330-337	2000			X
464	South Gate	radiate copy	273+	2000		X	
457	South Gate	radiate	260-273	2000		X	

594	west rampart - V05-17A	Trajan	98-117	2005/2006			X
608	west rampart - V05-20A	Trajan	98-117	2005/2006		X	
642	west rampart - V05-20A	Trajan	98-117	2005/2006		X	
596	west rampart - V05 -17A	Hadrian	117-138	2005/2006			X
665	west rampart - V06-07A	Hadrian	117-138	2005/2006		X	
685	west rampart -V06 -11A	Hadrian	117-138	2005/2006			X
686	west rampart - V06-08A	Hadrian	117-138	2005/2006			X
695	west rampart - V06-33A	Hadrian	117-138	2005/2006			X
698	west rampart - V06-37A	Hadrian	117-138	2005/2006			X
672	west rampart - V06-06A	Ant. Pius	138-161	2005/2006			X
680	west rampart - V06-11A	Ant. Pius	138-161	2005/2006			X
631	west rampart - V06-17A	Ant. Pius	138-161	2005/2006			X
681	west rampart - V06-05A	Ant. Pius	138-161	2005/2006			X
690	west rampart - V06-03A	Ant. Pius	138-161	2005/2006			X
629	west rampart- V06-17A	Faustina I	141-161	2005/2006			X
688	west rampart - V06-03A	Faustina I	141-161	2005/2006			X
696	west rampart - V06-18A	Faustina I	141-161	2005/2006		X	
607	west rampart - V06-20A	Lucius Verus	161-162	2005/2006			X
702	west rampart - V06-64A	Sept. Severus	200-201	2005/2006			X
655	west rampart - V06-02A	Caracalla	206-211	2005/2006			X
669	west rampart - V06-06A	Caracalla	206-211	2005/2006			X
614	west rampart - V06-20A	Severus Alexander	223	2005/2006			X
668	west rampart - V06-11A	Tetricus I	273	2005/2006			X
635	west rampart - V06-17A	radiate	260-273	2005/2006			X
636	west rampart - V06-17A	radiate copy	273+	2005/2006			X
660	west rampart - V06-06A	Constantine I	306-320	2005/2006			X
661	west rampart - V06-06A	Constantine I	306-320	2005/2006			X
667	west rampart - V06-11A	Constantine I	306-320	2005/2006			X
689	west rampart - V06-03A	Constantius II Caesar	326	2005/2006			X
646	west rampart - V06-02A	House of Constantine	330-358	2005/2006			X
664	west rampart - V06-06A	House of Constantine	330-358	2005/2006			X
653	west rampart - V06-02A	House of Constantine	330-358	2005/2006			X
648	west rampart - V06-02A	House of Constantine	330-358	2005/2006			X
658	west rampart - V06-02A	Helena	337-340	2005/2006			X
659	west rampart - V06-06A	Constans	346-348	2005/2006			X
650	west rampart - V06-02A	Constantius II/Constans	346-350	2005/2006			X
707	west rampart - V06-77A	Constantius II/Constans	346-350	2005/2006			X
699	west rampart - V06-03A	Magnentius	351-352	2005/2006			X
662	west rampart - V06-06A	'Magnentius'	351-352	2005/2006			X
663	west rampart - V06-08A	'Magnentius'	351-352	2005/2006			X
652	west rampart - V06-02A	'Constantius II'	353-358	2005/2006			X
651	west rampart - V06-02A	Constantius II	353-358	2005/2006			X

654	west rampart - V06-02A	Constantius II	353-358	2005/2006			X
647	west rampart - V06-02A	Constantius II	353-358	2005/2006			X
656	west rampart - V06-02A	Constantius II	353-358	2005/2006			X
679	west rampart - V06-08A	Constantius II	353-358	2005/2006			X
649	west rampart - V06-02A	Constantius II	353-358	2005/2006			X
678	west rampart - V06-17A	Constantius II	353-358	2005/2006			X
657	west rampart - V06-02A	Valens	364-378	2005/2006			X
811	V08-04A	Constantius I	330-335	2008			X
812	V08-02A	Illegible	260-400	2008			X
813	V08-02A	Constans	346-348	2008			X
814	V08-02A	Constantius II copy	353-358	2008			X
815	V08-07A	Elegabalus	220	2008		X	
816	V08-03A	Constantius I	330-335	2008			X
817	V08-08A	Magnentius	350-351	2008			X
818	V08-02A	Constantius II copy	353-358	2008			X
820	V08-03A	Constantius II/Constans	346-348	2008			X
821	V08-02A	Radiate	260-273	2008			X
822	V08-06A	Constantius II copy	353-358	2008			X
823	V08-03A	Illegible	260-378	2008			X
824	V08-02A	Constantius II copy	353-358	2008			X
825	V08-02A	Commodus Sest	180-192	2008			X
826	V08-02A	Helena PAX	337-341	2008			X
827	V08-02A	Illegible	4th century	2008			X
828	V08-02A	Radiate copy	260-273	2008			X
829	V08-04A	Trajan Dec	244-260	2008			X
830	V08-11A	Constantine II Caesar	320	2008			X
831	V08-12A	Illegible	260-402	2008			X
832	V08-12A	Illegible	260-378	2008			X
833	V08-13A	House of constantine	335-341	2008			X
835	V08-12A	Radiate copy	260-273	2008			X
836	V08-12A	Victorius / Tetricus	268-273	2008			X
837	V08-12A	Constantius/Constans	346-348	2008			X
838	V08-09A	Constantius/Constans	346-348	2008			X
839	V08-15A	Radiate copy	260-273	2008			X
840	V08-12A	House of Constantine	335-341	2008			X
841	V08-12A	Constantius II copy	353-358	2008			X
842	V08-17A	Constantius II copy	353-358	2008			X
843	V08-17A	House of Constantine	335-341	2008			X
844	V08-17A	Constantine I	330-335	2008			X
845	V08-06A	House of Constantine	330-335	2008			X
846	V08-17A	Constantius II	353-358	2008			X
847	V08-17A	Constantius II	353-358	2008			X

848	V08-17A	House of Constantine	330-335	2008			X
849	V08-17A	Valentinian	364-378	2008			X
850	V08-17A	Constantius II copy	353-358	2008			X
851	V08-12A	Illegible	330-378	2008			X
852	V08-13A	Valentinian	364-378	2008			X
853	V08-17A	Magnentius	353	2008			X
854	V08-17A	House of Constantine	330-335	2008			X
855	V08-17A	House of Constantine	330-335	2008			X
856	V08-17A	Radiate - Claudius II	268-270	2008			X
857	V08-17A	Radiate	260-273	2008			X
858	V08-17A	Magnentius	350-351	2008			X
859	V08-17A	House of Constantine	330-335	2008			X
860	V08-17A	Magnentius	350-351	2008			X
861	V08-12A	Radiate copy	260-273	2008			X
862	V08-12A	Constantius II copy	353-358	2008			X
863	V08-17A	Illegible	330-378	2008			X
864	V08-17A	Constantius II copy	353-358	2008			X
865	V08-17A	Constantius II copy	353-358	2008			X
866	V08-17A	Magnentius	350-353	2008			X
867	V08-16A	Claudius II	268-270	2008			X
868	V08-17A	Commodus Sest	180-192	2008			X
869	V08-17A	Constantius II copy	353-358	2008			X
870	V08-17A	Constantius II copy	353-358	2008			X
871	V08-17A	Constantius II copy	353-358	2008			X
873	V08-09A	Constantius II/Constans	346-348	2008			X
874	V08-17A	Illegible	330-402	2008			X
875	V08-04A	Gallienus	260-268	2008			X
878	V08-16A	Gratian	367-378	2008			X
879	V08-17A	House of Constantine	335-341	2008			X
880	V08-17A	Valens	364-367	2008			X
881	V08-17A	House of Constantine	335-341	2008			X
882	V08-17A	Illegible	330-378	2008			X
883	V08-17A	UNIDENTIFIABLE	?	2008			X
884	V08-17A	Radiate	260-273	2008			X
885	V08-17A	Radiate	260-273	2008			X
886	V08-17A	Constantius II	353-358	2008			X
887	V08-14A	Antonius Pius Sest	138-161	2008			X
888	V08-16A	Valentinian	364-378	2008			X
889	V08-17A	Constantius II	353-358	2008			X
890	V08-17A	Constantius II	353-358	2008			X
891	V08-17A	Gallienus/Claudius II	260-270	2008			X
892	V08-17A	Illegible	260-278	2008			X

893	V08-17A	Constantius II	353-358	2008			X
894	V08-17A	Constantius II/Constans	346-348	2008			X
895	V08-17A	Illegible	260-378	2008			X
896	V08-17A	Magnentius	350-353	2008			X
897	V08-17A	House of Constantine	335-335	2008			X
898	V08-17A	Radiate	260-273	2008			X
899	V08-17A	Gallienus	260-268	2008			X
900	V08-17A	Constans	343-348	2008			X
901	V08-17A	Constans	343-348	2008			X
902	V08-17A	Constantius II	343-348	2008			X
903	V08-17A	House of Constantine	335-341	2008			X
904	V08-17A	Radiate	260-273	2008			X
905	V08-21A	House of Constantine	335-335	2008			X
906	V08-04A	Gratian	367-375	2008			X
907	V08-04A	Constantius II	353-358	2008			X
908	V08-04A	House of Constantine	320's	2008			X
909	V08-04A	Constantius II	353-358	2008			X
910	V08-20A	Constantius II/constans	343-348	2008			X
911	V08-20A	4th century illegible	330-378	2008			X
912	V08-20A	House of Constantine	330-335	2008			X
913	V08-17A	Magnentius	351-353	2008			X
914	V08-17A	Illegible	260-402	2008			X
915	V08-06A	Constantius II	353-358	2008			X
916	V08-17A	Radiate	260-273	2008			X
917	V08-17A	Constantius II	353-358	2008			X
918	V08-17A	House of Constantine	335-341	2008			X
919	V08-17A	Constantine I	330-335	2008			X
920	V08-17A	Constantius II/Constans	346-348	2008			X
921	V08-17A	Valens	364-378	2008			X
922	V08-17A	Constantine I	330-335	2008			X
923	V08-17A	Illegible	260-378	2008			X
924	V08-17A	Illegible	260-378	2008			X
925	V08-17A	Illegible	260-378	2008			X
926	V08-17A	Constantine I	330-335	2008			X
927	V08-17A	House of Constantine	330-335	2008			X
928	V08-17A	Illegible	260-378	2008			X
929	V08-17A	Constantius II/Constans	346-348	2008			X
930	V08-17A	Constantine I	330-335	2008			X
931	V08-04A	Illegible	260-402	2008			X
932	V08-04A	Radiate	260-273	2008			X
933	V08-04A	Constantius II Caesar	330-335	2008			X

934	V08-04A	Radiate	260-273	2008			X
935	V08-04A	Illegible	260-378	2008			X
936	V08-04A	Radiate	260-273	2008			X
937	V08-04A	House of Constantine	330-335	2008			X
938	V08-04A	Radiate	253-273	2008			X
939	V08-04A	Constantius II/Constans	346-348	2008			X
940	V08-16A	Constantius II/Constans	346-348	2008			X
941	V08-21A	Constantine I	330-335	2008			X
942	V08-12A	Julia Maesa	218-222	2008			X
943	V08-04A	Illegible	260-378	2008			X
944	V08-04A	Illegible	260-378	2008			X
945	V08-17A	Constantine I	320	2008			X
946	V08-17A	Illegible	260-378	2008			X
950	V08-18A	House of Constantine	330-335	2008			X
951	V08-18A	Constantius II	353-358	2008			X
952	V08-04A	Illegible	330-402	2008			X
953	V08-04A	Illegible	330-402	2008			X
954	V08-17A	Constantius II	353-358	2008			X
955	V08-12A	Illegible	260-378	2008			X
956	V08-04A	Illegible	260-378	2008			X
957	V08-22A	Septimus Severus	193-211	2008			X
958	V08-02A	Constantius II	353-358	2008			X
959	V08-12A	Radiate	260-273	2008			X
960	V08-18A	Illegible	260-378	2008			X
961	V08-18A	Radiate	260-273	2008			X
962	V08-16A	House of Constantine	330-335	2008			X
963	V08-12A	House of Constantine	320	2008			X
964	V08-12A	Radiate	260-273	2008			X
965	V08-17A	Constantine I	330-335	2008			X
966	V08-12A	Septimus Severus	193-211	2008			X
967	V08-16A	Valentinian	364-378	2008			X
968	V08-17A	Constantine I	330-335	2008			X
972	V08-17A	Gallienus	260-268	2008			X
973	V08-17A	House of Constantine	330-358	2008			X
974	V08-17A	House of Constantine	330-348	2008			X
975	V08-17A	House of Constantine	330-335	2008			X
976	V08-17A	House of Constantine	335-344	2008			X
977	V08-17A	House of Constantine	330-335	2008			X
978	V08-17A	Radiate	260-273	2008			X
979	V08-17A	House of Constantine	320	2008			X
980	V08-17A	Constantius II/Constans	346-348	2008			X
981	V08-17A	Constantine I	330-335	2008			X

982	V08-17A	House of Constantine	330-335	2008			X
983	V08-17A	House of Constantine	330-348	2008			X
984	V08-17A	Valentinian	364-378	2008			X
985	V08-17A	House of Constantine	335-341	2008			X
986	V08-17A	Constantine I	320	2008			X
987	V08-17A	Constantius II	353-358	2008			X
988	V08-17A	Constantius II	353-358	2008			X
989	V08-04A	Tetricus	270-273	2008			X
990	V08-04A	Severus Alexander	226	2008			X
991	V08-04A	Constantius II	353-358	2008			X
992	V08-04A	Illegible	193-235	2008			X
993	V08-04A	Illegible	260-402	2008			X
994	V08-04A	Valentinian	364-378	2008			X
995	V08-04A	Salonina	253-268	2008			X
996	V08-12A	Constantius II	353-358	2008			X
997	V08-12A	Radiate	260-273	2008			X
998	V08-12A	Radiate	260-273	2008			X
999	V08-26A	Antonius Pius	138-61	2008			X
1000	V08-04A	Marcus Aurelius	161-180	2008			X
1001	V08-25A	Marcus Aurelius	161-180	2008			X
1002	V08-18A	Victorinus	268-270	2008			X
1003	V08-18A	Constantine II Caesar	320's	2008			X
1004	V08 - East granary level 1 channel A2.5m	Constantine I	330-335	2008			X
1005	V08- East granary level 1 channel A3.0m	Claudius II	270	2008			X
1006	V08- East granary level 1 channel A3.5m	Valens	364-378	2008			X
1007	V08- East granary level 1 channel A4.0m	Constantius II	353-358	2008			X
1008	V08- East granary level 1 channel A4.0m	Constantius II	353-358	2008			X
1009	V08-04A	Constantius II	353-358	2008			X
1010	V08-27A	Radiate copy	260-273	2008			X
1011	V08-12A	Valens	364-378	2008			X
1012	V08-04A	Constantius II/Constans	348-350	2008			X
1013	V08-31A	Radiate	260-273	2008			X
1014	V08-31A	Illegible	260-378	2008			X
1015	V08-30A	Constantine II Caesar	320's	2008			X
1016	V08-30A	Radiate	253-68	2008			X
1017	V08-17A	Constantine I	330-335	2008			X
1018	V08-17A	Radiate	260-273	2008			X
1019	V08-17A	Illegible	260-378	2008			X
1020	V08-02A	Victorian half penny	1900	2008			X
1021	V08-02A	Constantius II	353-358	2008			X
1022	V08-Level 1 channel A4.5m	Constantine I	306-318	2008			X

1023	V08-Level 1 channel A4.5m	Magnentius	350-353	2008			X
1024	V08-Level 1 channel A5.0m	Illegible	330-58	2008			X
1025	V08-Level 1 channel A3.0m	Constantine I	330-335	2008			X
1026	V08-Level 1 channel B2.5m	Constantius II	353-358	2008			X
1027	V08-29A	Constantine I	306-318	2008			X
1028	V08-29A	House of Constantine	335-341	2008			X
1029	V08-29A	Constantius II/Constans	346-348	2008			X
1030	V08-29A	Constantine I Post	337-341	2008			X
1031	V08-29A	Constantine I	330-335	2008			X
1032	V08-29A	Theodora	337-341	2008			X
1033	V08-29A	Allectus	293-296	2008			X
1034	V08-29A	Constans	337-40	2008			X
1035	V08-29A	House of Constantine	320's	2008			X
1036	V08-29A	Tetricus	270-273	2008			X
1037	V08-29A	Radiate copy	260-273	2008			X
1038	V08-29A	House of Constantine	318-324	2008			X
1039	V08-29A	Helena	337-341	2008			X
1040	V08-29A	Radiate	260-273	2008			X
1041	V08-29A	Radiate	260-273	2008			X
1042	V08-29A	Radiate	260-273	2008			X
1043	V08-29A	Radiate copy	260-273	2008			X
1044	V08-29A	Claudius II	269-270	2008			X
1045	V08-29A	Radiate	270	2008			X
1046	V08-29A	Radiate	260-273	2008			X
1047	V08-29A	Illegible	260-402	2008			X
1048	V08-29A	Constantine I	330-335	2008			X
1049	V08-29A	Constantius II	348-350	2008			X
1050	V08-29A	Maximianus	294-306	2008			X
1051	V08-29A	Radiate	260-273	2008			X
1052	V08-29A	Radiate	260-273	2008			X
1054	V08-Level 1 channel B1.5	Radiate	260-273	2008	X		X
1055	V08-Level 1 channel B1.5	Illegible	200-220	2008	X		X
1056	V08-Level 1 channel B1.5	Radiate copy	260-273	2008	X		X
1057	V08-Level 1 channel B1.5	Radiate copy	260-273	2008	X		X
1058	V08-Level 1 channel B1.5	Radiate copy	260-273	2008	X		X
1059	V08-Level 1 channel B1.5	Radiate copy	260-273	2008	X		X
1060	V08-Level 1 channel B1.5	Radiate copy	260-273	2008	X		X
1061	V08-Level 1 channel B1.5	Radiate copy	260-273	2008	X		X
1062	V08-Level 1 channel B1.5	Radiate copy	260-273	2008	X		X
1063	V08-Level 1 channel B1.5	Radiate copy	260-273	2008	X		X
1064	V08-Level 1 channel B1.5	Radiate copy	260-273	2008	X		X
1065	V08-Level 1 channel B1.5	Radiate copy	260-273	2008	X		X

1066	V08-Level 1 channel B1.5	Radiate copy	260-273	2008	X		X
1067	V08-Level 1 channel B1.5	Radiate copy	260-273	2008	X		X
1068	V08-Level 1 channel B1.5	Radiate copy	260-273	2008	X		X
1069	V08-Level 1 channel B1.5	Radiate copy	260-273	2008	X		X
1070	V08-Level 1 channel B1.5	Tetricus II	270-273	2008	X		X
1071	V08-Level 1 channel B1.5	Radiate copy	260-273	2008	X		X
1072	V08-29A	House of Constantine	330-335	2008			X
1073	V08-29A	Constantine I	330-335	2008			X
1074	V08-17A	Illegible	c3/4th	2008			X
1075	V08-17A	Radiate	260-273	2008			X
1076	V08-17A	Radiate	260-273	2008			X
1077	V08-17A	Radiate copy	260-273	2008			X
1078	V08-17A	Illegible	c3/4th	2008			X
1079	V08-17A	Constantine I copy	330-335	2008			X
1080	V08-17A	Radiate	260-273	2008			X
1081	V08-17A	Illegible	c3/4th	2008			X
1082	V08-17A	House of Constantine	320-335	2008			X
1083	V08-17A	Radiate copy	260-273	2008			X
1084	V08-17A	Constantius II/Constans	346-348	2008			X
1085	V08-17A	Illegible	c3/4th	2008			X
1086	V08-17A	Illegible	c4th	2008			X
1087	V08-17A	House of Constantine	330-335	2008			X
1088	V08-17A	Constantine	320	2008			X
1089	V08-17A	Illegible	c3/4th	2008			X
1090	V08-17A	House of Constantine	320	2008			X
1091	V08-17A	Illegible	c3/4th	2008			X
1092	V08-31A	Radiate copy	260-273	2008			X
1093	V08-04A	Constans	346-348	2008			X
1094	V08-04A	Probus	276-282	2008			X
1095	V08-29A	Constantius II/Constans	346-348	2008			X
1096	V08-29A	Radiate	260-273	2008			X
1097	V08-29A	Radiate copy	260-273	2008			X
1098	V08-29A	Constantine I/II	335-341	2008			X
1099	V08-Level 1 channel B2.5m	Claudius II post	270	2008			X
1100	V08-Level 1 channel B2.5m	Constantine I	330-335	2008			X
1101	V08-Level 1 channel B2.5m	Radiate copy	260-273	2008			X
1102	V08-Level 1 channel B2.5m	Radiate copy	260-273	2008			X
1103	V08-29A	Constans	337-50	2008			X
1104	V08-17A	Illegible	c3/4th	2008			X
1109	V08-17A	Radiate copy	260-273	2008			X
1110	V08-17A	House of Constantine	335-341	2008			X
1111	V08-17A	Illegible	c3/4th	2008			X

1112	V08-17A	House of Constantine	335-348	2008			X
1113	V08-17A	Julia Domna	193-211	2008			X
1114	V08-17A	Illegible	c3/4th	2008			X
1115	V08-17A	Illegible	c3/4th	2008			X
1116	V08-16A	Radiate copy	260-273	2008			X
1117	V08-18A	Helena	324-330	2008			X
1118	V08-32A	Constantine I	330-335	2008			X
1119	V08-32A	Radiate copy	260-273	2008			X
1120	V08-32A	Radiate copy	260-273	2008			X
1121	V08-33A	Constantine I	330-335	2008			X
1122	V08-Level 1 Channel A9.5m	Illegible	c3/4th	2008			X
1123	V08- Level 1 channel A10.0m	Claudius II post	270	2008			X
1124	V08- level 1 channel A8.0m	Claudius II post	270	2008			X
1125	V08- Level 1 channel A7.0m	House of Constantine	330-335	2008			X
1126	V08- level 1 channel A8.0m	Radiate	260-273	2008			X
1127	V08- Level 1 channel A10.0m	Constantius II	353-358	2008			X
1128	V08-Level 1 Channel A9.5m	Gratian	367-378	2008			X
1129	V08-17A	Illegible	c3/4th	2008			X
1130	V08-17A	Illegible	c3/4th	2008			X
1131	V08-17A	Illegible	c3/4th	2008			X
1132	V08-16A	Valentinian	364-378	2008			X
1133	V08-32A	Theodora	337-341	2008			X
1134	V08-32A	Constans	346-348	2008			X
1135	V08-Level 1 Channel A9.0m	Radiate	260-273	2008			X
1138	V08-02A	Constantius II/Constans	346-348	2008			X
1139	V08-02A	Tetricus I	270-273	2008			X
1140	V08-32A	Theodosius	388-402	2008			X
1141	V08-32A	Carausius	286-293	2008			X
1142	V08-32A	Constantius II/Constans	346-348	2008			X
1143	V08-02A	House of Constantine	320	2008			X
1144	V08-36A	Valentinian	364-378	2008			X
1145	V08-36A	Magnentius	351-353	2008			X
1146	V08-36A	Illegible	c3/4th	2008			X
1147	V08-36A	Radiate	260-273	2008			X
1148	V08-36A	Illegible	c3/4th	2008			X
1149	V08-39A	House of Constantine	318-324	2008			X
1150	V08-39A	Constans	346-348	2008			X
1151	V08-39A	Illegible	c3/4th	2008			X
1152	V08-39A	Illegible	c2nd	2008			X
1153	V08-39A	Radiate copy	260-273	2008			X
1154	V08-39A	Radiate copy	260-273	2008			X
1155	V08-41A	Radiate	260-273	2008			X

1156	V08-41A	Radiate	260-273	2008			X
1157	V08-36A	Illegible	260-378	2008			X
1158	V08-36A	Radiate copy	260-273	2008			X
1159	V08 -Level 1 channel B6.5m	Radiate	260-273	2008			X
1162	V08-10	Constantine	330-335	2008			X
1163	V08-44	Vespasian	69-79	2008			X
1164	V08-40	Faustina	141-175	2008			X
1165	V08-02A	House of Constantine	335-341	2008			X
1166	V08-02A	Constantius II/Magnentius	348-353	2008			X
1167	V08-02A	Radiate	260-273	2008			X
1168	V08- Level 2 channel B2.5m	Radiate	260-273	2008			X
1169	V08-Level 2 channel B2.0m	Radiate	260-273	2008			X
1170	V08-Level 1 channel B1.0m	Geta	202-212	2008			X
1171	V08-44A	Illegible	C1/C2	2008			X
1172	V08-12A	Illegible	C3	2008			X
1173	V08-10A	Constantine II	320	2008			X
1174	V08-Level 1 channel B11.5m	Illegible	C3	2008			X
1175	V08-Level 1 channel B12.0m	Valentinian	364-378	2008			X
1176	V08- Level 1 channel C3.0m	Illegible	260-353	2008			X
1177	V08-48A	Radiate	260-273	2008			X
1178	V08B-48	Vespasian/Titus	69-81	2008			X
1179	V08B-52	Antonius Pius	138-161	2008			X
1180	V08-50A	Constantine I	330-335	2008			X
1181	V08-26A	House of Constantine	335-341	2008			X
1182	V08-26A	Gratian	375-78	2008			X
1183	V08-26A	Theodora	337-341	2008			X
1184	V08-49A	Constans	346-348	2008			X
1185	V08-52A	House of Constantine	330-335	2008			X
1186	V08-52A	Constantine I	318-324	2008			X
1187	V08-49A	Constantine I	330-335	2008			X
1188	V08-52A	Constantius II	353-358	2008			X
1189	V08-49A	Theodora	337-341	2008			X
1190	V08-26A	Constantius II	353	2008			X
1191	V08-49A	Constans	346-348	2008			X
1192	V08-49A	Illegible	260-353	2008			X
1193	V08-49A	Constantine II, Caesar	318-324	2008			X
1194	V08-49A	Constantine I	330-335	2008			X
1195	V08-02A	Constantius II/Constans	348-350	2008			X
1196	V08-49A	House of Constantine	330-335	2008			X
1197	V08-Level 2 channel A18.5m	Illegible	260-402	2008		X	
1198	V08-50A	Illegible	260-402	2008			X
1199	V08-49A	Constantine II, Caesar	318-324	2008			X

1200	V08-49A	Constantius II/Constans	348-350	2008			X
1201	V08-49A	Constans Augustus	337-340	2008			X
1202	V08-49A	House of Constantine	330-335	2008			X
1203	V08-49A	House of Constantine	335-341	2008			X
1204	V08-02A	Constantius II/Constans	348-350	2008			X
1205	V08-49A	Illegible	318-378	2008			X
1206	V08-49A	House of Constantine	335-341	2008			X
1207	V08-49A	Constantius II	353-358	2008			X
1208	V08-26A	Illegible	C2	2008			X
1209	V08-49A	Theodora	337-341	2008			X
1210	V08-17A	Illegible	260-402	2008			X
1211	V08-40A	Illegible	C2	2008			X
1212	V08-52A	Claudius II	268-270	2008			X
1213	V08-52A	Helena	337-341	2008			X
1214	V08-26A	Constantine II Caesar	335-37	2008			X
1215	V08-26A	Magentius	350-353	2008			X
1216	V08-54A	Valentinian	364-378	2008			X
1217	V08-50A	Constantius II	353-358	2008			X
1218	V08-04A	Radiate copy	260-273	2008			X
1219	V08-12A	Illegible	330-378	2008			X
1220	V08-02A	Radiate	260-273	2008			X
1221	V08-02A	Radiate copy	260-273	2008			X
1222	V08-12A	Radiate copy	260-273	2008			X
1223	V08-12A	Illegible	C3/C4	2008			X
1224	V08-02A	Illegible	330-402	2008			X
1228	V08-58A	Trajan	98-117	2008			X
1229	V08-54A	Valens	364-378	2008			X
1230	V08-54A	Tetriachic	294-312	2008			X
1231	V08-57A	Constans	337-348	2008			X
1232	V08-59A	Constantius II/Constans	348-350	2008			X
1233	V08-49A	Constantius II	330-335	2008			X
1234	V08-49A	Constantine I	330-335	2008			X
1235	V08 -Level 1 Channel B15.0m	Antonius Pius	138-161	2008			X
1237	V08- Level 1 channel C20.5m	Constantine I	318-324	2008			X
1238	V08- Level 1 channel C20.0m	Illegible	330-402	2008			X
1239	V08-62A	House of Constantine	335-341	2008			X
1240	V08-61A	Magentius	350-351	2008			X
1241	V08-56A	Carausius	286-296	2008			X
1242	V08-62A	Illegible	C2	2008			X
1243	V08-02A	Illegible	C2	2008			X
1244	V08-63A	Illegible	330-378	2008			X
1245	V08-50A	Constantine I	330-335	2008			X

1246a	V08-62A	Julia Domna	193-211	2008			X
1246b	V08-62A	Illegible	260-378	2008			X
1247	V08-31A	Valentinian	364-378	2008			X
1248	V08-31A	Hadrain	117-138	2008			X
1249	V08-Flue VI.6 external	Valentinian	364-378	2008			X
1250	V08-level 1 channel D10.5m	Claudius II	268-270	2008			X
1250	V08-62A	Radiate	260-273	2008			X
1252	V08-31A	Radiate	260-273	2008			X
1253	V08-31A	Radiate copy	260-273	2008			X
1257	V08-57A	Illegible	260-378	2008			X
1258	V08-56A	House of Constantine	330-348	2008			X
1259	V08-59A	Illegible	260-402	2008			X
1260	V08-02A	House of Constantine	330-335	2008			X
1261	V08-59A	Magentius	350-353	2008			X
1262	V08-66A	Radiate	260-273	2008			X
1263	V08-59A	Tetricus I	268-273	2008			X
1264	V08-52A	House of Constantine	318-320	2008			X
1265	V08-59A	Constantius I, Caesar	294-305	2008			X
1266	V08-52A	Radiate	260-273	2008			X
1267	V08-59A	Radiate	260-273	2008			X
1268	V08-52A	Claudius II	268-270	2008			X
1269	V08-57A	House of Constantine	330-335	2008			X
1270	V08- level 1 channel E1.0m	Radiate	260-273	2008			X
1271	V08-level 1 channel E4.0m	Radiate	260-273	2008			X
1272	V08- Flue III.6 east level 1	Radiate	260-273	2008			X
1273	V08-level 1 channel E9.5m	Radiate	260-273	2008			X
1274	V08 Flue V.2 level 1	Radiate	260-273	2008			X
1275	V08- Level 1 channel D17.5m	Constantine I	330-335	2008			X
1276	V08- Level 1 channel D22.5m	Radiate	260-273	2008			X
1277	V08-59A	Julia Domna	193-211	2008			X
1278	V08-62A	Constantine I	318-324	2008			X
1279	V08- Level 1 channel E8.0m	Tetricus I	270-273	2008			X
1280	V08-12A	Constantius II/Constans	346-348	2008			X
1281	V08-Level 1 channel E11.5m	Valentinian	364-378	2008			X
1282	V08-12A	House of Constantine	318-324	2008			X
1283	V08-71A	Constantius II	353-358	2008			X
1284	V08-12A	Valentinian	364-378	2008			X
1285	V08-71A	Helena	337-341	2008			X
1286	V08-71A	House of Constantine	330-335	2008			X
1287	V08-55A	Constantine II	335-341	2008			X
1288	V08-Level 1 channel E16.5m	Constans	346-348	2008			X
1289	V08-51A	House of Constantine	330-348	2008			X

1290	V08-55A	Constantius II	353-358	2008			X
1291	V08-Level 2 channel E6.0m	Tetricus II, Caesar	270-273	2008			X
1292	V08-55A	Constantius II	353-358	2008			X
1293	V08-21A	Radiate	260-273	2008			X
1294	V08-74A	Illegible	C2	2008			X
1296	V08-49A	Radiate	260-273	2008			X
1297	V08-49A	Radiate	260-273	2008			X
1298	V08-49A	Radiate copy	260-273	2008			X
1299	V08-49A	Radiate	260-273	2008			X
1300	V08-49A	Constantine I	330-335	2008			X
1301	V08-49A	Constantius II	353-358	2008			X
1302	V08-49A	Constantius II, Caesar	330-335	2008			X
1303	V08-49A	Radiate	260-273	2008			X
1304	V08-49A	House of Constantine	330-335	2008			X
1305	V08-12A	Constantius II	353-358	2008			X
1306	V08-49A	Helena	337-341	2008			X
1307	V08-49A	Illegible	260-378	2008			X
1308	V08-49A	Illegible	260-378	2008			X
1309	V08-49A	Constantine I	330-335	2008			X
1310	V08-49A	Illegible	C2	2008			X
1311	V08-49A	Constans	346-348	2008			X
1312	V08-49A	Constantine II	335-341	2008			X
1313	V08-49A	Constantine II	335-341	2008			X
1314	V08-49A	Constantius II	353-358	2008			X
1315	V08-49A	Tetricus I	270-273	2008			X
1316	V08-49A	House of Constantine	320	2008			X
1317	V08-49A	Radiate copy	260-273	2008			X
1318	V08-49A	Radiate copy	260-273	2008			X
1319	V08-49A	House of Constantine	330-335	2008			X
1320	V08-49A	Licinius	312-318	2008			X
1322	V08-49A	Constantine I/II	335-41	2008			X
1323	V08-49A	Radiate	260-273	2008			X
1324	V08-49A	Radiate	260-273	2008			X
1325	V08-49A	Constantine I	330-335	2008			X
1326	V08-49A	Constantius II/Constans	346-348	2008			X
1327	V08-49A	Tetricus II	260-273	2008			X
1328	V08-49A	Constantius II/Constans	346-348	2008			X
1329	V08-49A	Radiate copy	260-273	2008			X

2. Extramural coins from 3rd and 4th century contexts up to 2008

Coin Number Vindolanda database	Context - site location	Emperor	Date of coin	Date of excavation	Hoard	3rd c	4th c
13	Bath House	M. Antonius	32-31BC	1970		X	
27	Bath House	Vespasian	68-78	1970		X	
109	Bath House	Nerva	96	1970		X	
208	Bath House	Hadrian	117-138	1970		X	
209	Bath House	Hadrian	117-138	1970		X	
236	Bath House	Hadrian	120-138	1970		X	
247	Bath House	Hadrian	125-138	1970		X	
251	Bath House	Hadrian	128-138	1970		X	
252	Bath House	Hadrian	132-134	1970		X	
255	Bath House	Hadrian	134-138	1970		X	
256	Bath House	Hadrian	134-138	1970		X	
263	Bath House	Hadrian	134-138	1970		X	
276	Bath House	Sabina	128-138	1970		X	
331	Bath House	Antoninus Pius	157-158	1970		X	
360	Bath House	M.Aurelius Caesar	145-147	1970		X	
363	Bath House	M. Aurelius Caesar	152-153	1970		X	
368	Bath House	M. Aurelius Caesar	155-156	1970		X	
377	Bath House	M. Aurelius	161-180	1970		X	
402	Bath House	M. Aurelius	173-174	1970		X	
429	Bath House	Lucilla	164-169	1970		X	
459	Bath House	Sept. Severus	193-211	1970		X	
461	Bath House	Sept. Severus	193-211	1970		X	
481	Bath House	Sept. Severus	196-197	1970		X	
489	Bath House	Sept. Severus	197-198	1970		X	
490	Bath House	Sept. Severus	197-198	1970		X	
515	Bath House	Sept Severus	201-211	1970		X	
520	Bath House	Julia Domna	193-211	1970		X	
524	Bath House	Julia Domna	196-211	1970		X	
527	Bath House	Julia Domna	196-211	1970		X	
538	Bath House	Caracalla	198	1970		X	
539	Bath House	Caracalla	199-200	1970		X	
566	Bath House	Elagabalus	218-222	1970		X	
567	Bath House	Elagabalus	218-222	1970		X	
581	Bath House	Julia Paula	218-222	1970		X	
582	Bath House	Julia Maesa	218-222	1970		X	
593	Bath House	Severus Alexander	222-228	1970		X	
606	Bath House	Severus Alexander	222-228	1970		X	
608	Bath House	Severus Alexander	222-228	1970		X	
628	Bath House	Maximinus	235-236	1970		X	
696	Bath House	Postumus	259-268	1970		X	

1170	Bath House	Julia Soamias	218-222	1970		X	
1171	Bath House	Severus Alexander	223-235	1970		X	
1172	Bath House	Severus Alexander	228-231	1970		X	
1173	Bath House	Severus Alexander	230+	1970		X	
7	'MANSIO' site	M. Antonius	30's BC	1970-1974		X	
9	'MANSIO' site	M. Antonius	30's BC	1970-1974		X	
66	'MANSIO' site	Vespasian/Titus	69-81	1970-1974		X	
127	'MANSIO' site	Trajan	98-117	1970-1974		X	
129	'MANSIO' site	Nerva	96-98	1970-1974		X	
207	'MANSIO' site	Hadrian	117-138	1970-1974		X	
253	'MANSIO' site	Hadrian	134-138	1970-1974		X	
290	'MANSIO' site	Antoninus Pius	138-161	1970-1974		X	
388	'MANSIO' site	M. Aurelius	163-172	1970-1974		X	
430	'MANSIO' site	Lucilla	164-169	1970-1974		X	
457	'MANSIO' site	Sept. Severus	193	1970-1974		X	
509	'MANSIO' site	Sept. Severus	193-210	1970-1974		X	
516	'MANSIO' site	Sept. Severus	202-210	1970-1974		X	
537	'MANSIO' site	Caracalla Caesar	196	1970-1974		X	
545	'MANSIO' site	Caracalla	211-218	1970-1974		X	
586	'MANSIO' site	Severus Alexander	222-224	1970-1974		X	
592	'MANSIO' site	Severus Alexander	222-228	1970-1974		X	
644	'MANSIO' site	Gallienus	260-268	1970-1974		X	
658	'MANSIO' site	Claudius II	268-270	1970-1974		X	
659	'MANSIO' site	Claudius II	268-270	1970-1974		X	
699	'MANSIO' site	Postumus	259-268	1970-1974		X	
968	'MANSIO' site	Constantine II Caesar	330-335	1970-1974			X
1020	'MANSIO' site	Julian	360-363	1970-1974			X
637	road to the east of sites LXXIII-LXX	Valerian	253-258	1975/1979		X	
638	road to the east of sites LXXIII-LXX	Valerian	253-258	1975/1979		X	
653	road to the east of sites LXXIII-LXX	Gallienus	260-268	1975/1979		X	
772	road to the east of sites LXXIII-LXX	Tetricus I	273+	1975/1976		X	
790	road to the east of sites LXXIII-LXX	Tetricus II Caesar	270-273	1975/1979		X	
813	road to the east of sites LXXIII-LXX	radiate	260-273	1975/1979		X	
869	road to the east of sites LXXIII-LXX	radiate copy	273+	1975/1979		X	
943	road to the east of sites LXXIII-LXX	Constantine I	330-335	1975/1976			X
961	road to the east of sites LXXIII-LXX	Constantine II Caesar	321	1975/1976			X
816	Grave 3	radiate	273+	1972		X	
147	IV	Trajan	98-117	1970-1974		X	
148	IV	Trajan	98-117	1970-1974		X	
228	IV	Hadrian	117-138	1970-1974		X	
665	IV	Claudius II	268-270	1970-1974		X	
925	IV	Constantine I	324-325	1970-1974			X

944	IV	Constantine I	330-335	1970-1974			X
303	IX/XXX alley	Antoninus Pius	139	1970-1974		X	
667	LXIV	Claudius II	268-270	1975/1979		X	
289	LXX	Antoninus Pius	138-161	1975/1979		X	
435	LXX	Lucilla	164-160	1975/1979		X	
442	LXX	Commodus	180-182	1975/1979		X	
757	LXX	Tetricus I	270-273	1975/1979		X	
846	LXX/LXXI	radiate copy	273+	1975/1979		X	
46	LXXII	Vespasian	69-79	1975/1979		X	
438	LXXII	Commodus	180-192	1975/1979		X	
354	LXXIII	Faustina I posth	145+	1975/1976		X	
467	LXXIII	Sept. Severus	193-211	1975/1979		X	
572	LXXIII	Elagabalus	218-222	1975/1979		X	
599	LXXIII	Severus Alexander	222-235	1975/1976		X	
616	LXXIII	Severus Alexander	222-228	1975/1979		X	
624	LXXIII	Julia Mamaea	222-235	1975/1976		X	
636	LXXIII	Trajan Decius	249-251	1975/1976		X	
618	LXXIX	Orbiana	222-235	1975/1979		X	
318	LXXV	Antoninus Pius	145-161	1975/1979		X	
531	LXXV	Julia Domna	211-217	1975/1979		X	
703	LXXV	Postumus	259-268	1975/1979		X	
776	LXXV	Tetricus I	273+	1975/1979		X	
812	LXXV	radiate	260-273	1975/1979		X	
860	LXXV	radiate copy	273+	1975/1979		X	
724	LXXXVI	Victorinus/Tetricus I	268-273	1975/1979		X	
726	LXXXVI	Victorinus/Tetricus I	268-273	1975/1979		X	
729	LXXXVI	Victorinus/Tetricus I	268-273	1975/1979		X	
734	LXXXVI	Victorinus/Tetricus I	268-273	1975/1979		X	
810	LXXXVI	Tetricus II	273	1975/1979		X	
519	LXXXVII	Sept. Severus	209	1975/1979		X	
576	LXXX-LXXXIX	Faustina II posth	176-180	1975/1979		X	
579	LXXX-LXXXIX	Valerian	253-258	1975/1979		X	
581	LXXX-LXXXIX	CI/early	C3 den.	1975/1979		X	
582	LXXX-LXXXIX	Vespasian	70-71	1975/1979		X	
584	LXXX-LXXXIX	Sabina	128-138	1975/1979		X	
585	LXXX-LXXXIX	Trajan	114-117	1975/1979		X	
586	LXXX-LXXXIX	Severus	193-211	1975/1979		X	
587	LXXX-LXXXIX	Hadrian	117-138	1975/1979		X	
588	LXXX-LXXXIX	Caracalla Caesar	196-198	1975/1979		X	
590	LXXX-LXXXIX	radiate copy	273+	1975/1979		X	
591	LXXX-LXXXIX	M. Aurelius	170-171	1975/1979		X	
592	LXXX-LXXXIX	M. Aurelius	161-180	1975/1979		X	
594	LXXX-LXXXIX	M.Antony/M.Barbat .Q.P.	41BC	1975/1979		X	
595	LXXX-LXXXIX	M.Aurelius	171-172	1975/1979		X	

597	LXXX-LXXXIX	Hadrian	117-138	1975/1979		X	
598	LXXX-LXXXIX	Julia Domna	211-217	1975/1979		X	
601	LXXX-LXXXIX	Sept. Severus	200-201	1975/1979		X	
603	LXXX-LXXXIX	Faustina I posth	141+	1975/1979		X	
605	LXXX-LXXXIX	Tetricus II Caesar	270-273	1975/1979		X	
606	LXXX-LXXXIX	Commodus	180-192	1975/1979		X	
608	LXXX-LXXXIX	Salonina	260-268	1975/1979		X	
609	LXXX-LXXXIX	Victorinus/Tetricus I	268-273	1975/1979		X	
611	LXXX-LXXXIX	Claudius II	268-270	1975/1979		X	
612	LXXX-LXXXIX	Hadrian	117-138	1975/1979		X	
613	LXXX-LXXXIX	Victorinus/Tetricus I	268-273	1975/1979		X	
614	LXXX-LXXXIX	Sept. Severus	194-195	1975/1979		X	
615	LXXX-LXXXIX	Victorinus/Tetricus I	268-273	1975/1979		X	
616	LXXX-LXXXIX	Commodus	183-190	1975/1979		X	
617	LXXX-LXXXIX	Victorinus/Tetricus I	268-273	1975/1979		X	
618	LXXX-LXXXIX	radiate	260-273	1975/1979		X	
620	LXXX-LXXXIX	Sept. Severus	193-211	1975/1979		X	
621	LXXX-LXXXIX	Gordian III	243-244	1975/1979		X	
622	LXXX-LXXXIX	M. Aurelius	164-166	1975/1979		X	
623	LXXX-LXXXIX	Hadrian	117-138	1975/1979		X	
624	LXXX-LXXXIX	Hadrian	117-138	1975/1979		X	
625	LXXX-LXXXIX	radiate	260-273	1975/1979		X	
626	LXXX-LXXXIX	Claudius II posth	270	1975/1979		X	
627	LXXX-LXXXIX	Hadrian	117-138	1975/1979		X	
628	LXXX-LXXXIX	Tetricus I	273+	1975/1979		X	
630	LXXX-LXXXIX	Hadrian	117-138	1975/1979		X	
632	LXXX-LXXXIX	radiate	260-273	1975/1979		X	
635	LXXX-LXXXIX	Faustina I	138-141	1975/1979		X	
637	LXXX-LXXXIX	radiate copy	273+	1975/1979		X	
638	LXXX-LXXXIX	Postumus	259-268	1975/1979		X	
641	LXXX-LXXXIX	Antoninus Pius	140-144	1975/1979		X	
642	LXXX-LXXXIX	Vespasian	69-79	1975/1979		X	
643	LXXX-LXXXIX	Severus Alexander	223-224	1975/1979		X	
645	LXXX-LXXXIX	Republican	C1 BC	1975/1979		X	
647	LXXX-LXXXIX	Elagabalus	218-222	1975/1979		X	
648	LXXX-LXXXIX	Hadrian	117-138	1975/1979		X	
649	LXXX-LXXXIX	Faustina II	161-175	1975/1979		X	
650	LXXX-LXXXIX	Severus Alexander	223-224	1975/1979		X	
651	LXXX-LXXXIX	Geta, Caesar	200-202	1975/1979		X	
652	LXXX-LXXXIX	Hadrian	117-138	1975/1979		X	
655	LXXX-LXXXIX	Trajan	98-117	1975/1979		X	
656	LXXX-LXXXIX	Caracalla	200	1975/1979		X	
657	LXXX-LXXXIX	Sept. Severus	193-194	1975/1979		X	
663	LXXX-LXXXIX	Sept. Severus	202-210	1975/1979		X	
664	LXXX-LXXXIX	Lucilla	164-169	1975/1979		X	

665	LXXX-LXXXIX	Nerva	96-98	1975/1979		X	
666	LXXX-LXXXIX	Sept. Severus	193-211	1975/1979		X	
667	LXXX-LXXXIX	Elagabalus	218-222	1975/1979		X	
668	LXXX-LXXXIX	Claudius II	268-270	1975/1979		X	
672	LXXX-LXXXIX	Caracalla Caesar	196	1975/1979		X	
786	LXXX-LXXXIX	Hadrian	117-138	1975/1979		X	
787	LXXX-LXXXIX	Sept. Severus	193-211	1975/1979		X	
788	LXXX-LXXXIX	Julia Domna 1	196-211	1975/1979		X	
789	LXXX-LXXXIX	Commodus	180-192	1975/1979		X	
791	LXXX-LXXXIX	Faustina II	161-175+	1975/1979		X	
792	LXXX-LXXXIX	Caracalla Caesar	196-198	1975/1979		X	
794	LXXX-LXXXIX	Vespasian	69-79	1975/1979		X	
795	LXXX-LXXXIX	Faustina I posth	141+	1975/1979		X	
797	LXXX-LXXXIX	Nerva	97	1975/1979		X	
798	LXXX-LXXXIX	Vespasian	68-79	1975/1979		X	
799	LXXX-LXXXIX	Vespasian	69-71	1975/1979		X	
800	LXXX-LXXXIX	radiate copy	273+	1975/1979		X	
801	LXXX-LXXXIX	Geta Caesar	200-202	1975/1979		X	
802	LXXX-LXXXIX	Faustina II	161-175	1975/1979		X	
803	LXXX-LXXXIX	radiate copy	273+	1975/1979		X	
804	LXXX-LXXXIX	Victorinus/Tetricus I	268-273	1975/1979		X	
805	LXXX-LXXXIX	M.Aurelius Caesar	148-149	1975/1979		X	
806	LXXX-LXXXIX	Sept. Severus	193-211	1975/1979		X	
807	LXXX-LXXXIX	Antoninus Pius	138-161	1975/1979		X	
808	LXXX-LXXXIX	Commodus	180-192	1975/1979		X	
810	LXXX-LXXXIX	Faustina I posth	141+	1975/1979		X	
811	LXXX-LXXXIX	Trajan	103-117	1975/1979		X	
813	LXXX-LXXXIX	Vespasian	69-79	1975/1979		X	
901	LXXX-LXXXIX	Antoninus Pius	138-161	1975/1979		X	
902	LXXX-LXXXIX	M.Aurelius	161-180	1975/1979		X	
903	LXXX-LXXXIX	Sept. Severus	193-194	1975/1979		X	
904	LXXX-LXXXIX	Severus Alexander	224	1975/1979		X	
905	LXXX-LXXXIX	Vespasian	69-79	1975/1979		X	
906	LXXX-LXXXIX	Hadrian	117-138	1975/1979		X	
907	LXXX-LXXXIX	Antoninus Pius	140-144	1975/1979		X	
908	LXXX-LXXXIX	Claudius II	268-270	1975/1979		X	
910	LXXX-LXXXIX	M. Aurelius	171-172	1975/1979		X	
911	LXXX-LXXXIX	M. Aurelius	165	1975/1979		X	
914	LXXX-LXXXIX	Maximianus	305-307	1975/1979			X
916	LXXX-LXXXIX	Faustina II	161-175	1975/1979		X	
918	LXXX-LXXXIX	Julia Domna	196-211	1975/1979		X	
919	LXXX-LXXXIX	Valerian	253-259	1975/1979		X	
920	LXXX-LXXXIX	M. Aurelius	171-172	1975/1979		X	
922	LXXX-LXXXIX	radiate copy	273+	1975/1979		X	
598	Main vicus road from west gate	Severus Alexander	222-228	1972		X	

620	Main vicus road from west gate	Julia Mamaea	222-235	1972		X	
632	Main vicus road from west gate	Gordian III	242-243	1972		X	
642	Main vicus road from west gate	Gallienus	258-259	1972		X	
669	Main vicus road from west gate	Claudius II	268-270	1972		X	
690	Main vicus road from west gate	Claudius II posth	270+	1972		X	
934	Main vicus road from west gate	Constantine I	330-335	1972			X
709	NW corner of south room of XXVIII V07-05A	Ant. Pius	151-52	2007		X	
715	NW corner of south room of XXVIII V07-05A	Trajan	112-14	2007		X	
717	NW corner of south room of XXVIII V07-05A	Aurelius Caesar	137	2007		X	
728	NW corner of south room of XXVIII V07-05A	Faustina II	161-76	2007		X	
729	NW corner of south room of XXVIII V07-05A	illeg	C1/C2	2007		X	
734	Road between XXVIII and XXIX, N/S drain V07-13A	illeg	C1/C2	2007		X	
735	Road between XXVIII and XXIX, N/S drain V07-13A	Vespasian	69-79	2007		X	
737	Road between XXVIII and XXIX, N/S drain V07-13A	Hadrian	117-38	2007		X	
292	V	Antoninus Pius	138-161	1970-1974		X	
821	V	radiate	260-273	1970-1974		X	
480	V01-01A	Lucilla	164-169	2001		X	
502	V01-22A	Hadrian	117-139	2001		X	
486	V01B-1	Marcus Aurelius	170-1	2001		X	
492	V01B12	illeg counterfit	200-38	2001		X	
494	V01B12	illeg counterfit	200-38	2001		X	
530	V02-35A	Domitian	87	2002		X	
517	V02B-24	C1/2	69-138	2002		X	
536	V03-01A	illegible	3rd/4th	2003			X
537	V03-01A	illegible	1st/2nd	2003		X	
539	V03-02A	Ant. Pius	157-158	2003		X	
540	V03-02A	illegible	1st/2nd	2003		X	
571	V03-17A	Trajan	103-117	2003		X	
551	V03B-14	M.Aurelius	161-180	2003		X	
544	V03B-20	Hadrian	119-122	2003		X	
559	V03B-39	Republican	late C2/C1 BC	2003		X	
584	V04-01A	Gallienus	253-59	2004		X	
592	V04-12A	Caracalla	207	2004		X	
596	V04-12A	Gallienus	253-59	2004		X	
600	V04-14A	Marcus Aurelius	166-167	2004		X	
617	V04-53A	illegible		2004		X	
593	V04B-12	Hadrian	117-138	2004		X	
603	V04B-25	Q.Titus	90 BC	2004		X	
585	V04B-3	Trajan	98-117	2004		X	
613	V04B-33	Vespasian	70-72	2004		X	
619	V04B-39	Hadrian	117-138	2004		X	
589	V04B-4	Hadrian	117-138	2004		X	

596	V05-017A	2nd century (illegible)	C1/C2	2005		X	
592	V05-05A	Caracalla	207	2005		X	
592	V05-05A	Hadrian	119-122	2005		X	
600	V05B-18	M.Aurelius	166-167	2005		X	
617	V05B-19	Trajan	98-117	2005		X	
628	V05B-37	Hadrian	134-138	2005		X	
630	V05B-48	Trajan	98-117	2005		X	
632	V05B-48	Domitian	88-89	2005		X	
674	V06B-27	Hadrian	117-138	2006		X	
676	V06B-29	Faustina II	161-175	2006		X	
683	V06B-41	Hadrian	117-138	2006		X	
700	V06B-57	Trajan	98-117	2006		X	
819	V08B-04	2nd century Dupondius	2nd century	2008		X	
877	V08B-14	Illegible	260-378	2008		X	
947	V08B-29	Vespasian	69-79	2008		X	
949	V08B-29	Illegible	2nd century	2008		X	
969	V08B-29	Illegible	296-312	2008		X	
970	V08B-29	Carausius	286-293	2008		X	
971	V08B-29	Radiate	244-273	2008		X	
1226	V08B-33	Counterfit Denarius	C2	2008		X	
1256	V08B-33	Septimus Severus	193-211	2008		X	
1106	V08B-39	Severus Alexander	222-235	2008		X	
1108	V08B-42	Antonius Pius	138-161	2008		X	
1254	V08B-43	Vespasian	69-79	2008		X	
1105	V08B-47	Illegible	c3/4th	2008		X	
1107	V08B-48	Claudius II	268-270	2008		X	
1136	V08B-48	Septimus Severus	193-211	2008		X	
1178	V08B-48	Vespasian/Titus	69-81	2008		X	
1161a	V08B-48	Plautilla	202-217	2008		X	
1161b	V08B-48	Radiate copy	260-273	2008		X	
876	V08B-5	Radiate	260-273	2008		X	
1137	V08B-50	Trajan	98-117	2008		X	
1255	V08B-50	Gallienus	260-268	2008		X	
1160	V08B-51	Claudius II post	270	2008		X	
1179	V08B-52	Antonius Pius	138-161	2008		X	
1225	V08B-52	Illegible	C2	2008		X	
834	V08B-7	Geta	200-215	2008		X	
189	VII	Trajan	103-117	1970-1974		X	
189	VII	Caracalla	211-212	1970-1974		X	
551	VII	Caracalla	211-212	1970-1974		X	
640	Well surround (west)	Valerian	254-256	1972		X	
287	XI	Antoninus Pius	138-161	1970-1974		X	
307	XI	Antoninus Pius	140-143	1970-1974		X	
483	XI	Sept. Severus	196-197	1970-1974		X	

494	XI	Sept. Severus	200-201	1970-1974		X	
585	XI	Severus Alexander	222	1970-1974		X	
588	XI	Severus Alexander	222-228	1970-1974		X	
623	XIV	Julia Mamaea	218-222	1970-1974		X	
464	XLI	Sept. Severus	193-211	1975/1979		X	
936	XLI	Constantine I	330-335	1975/1976			X
928	XV/XVI	Constantine I	330-335	1970-1974			X
570	XXI	Elagabalus	218-222	1970-1974		X	
212	XXIII-XXV	Hadrian	117-138	1970-1974		X	
248	XXIII-XXV	Hadrian	125-138	1970-1974		X	
257	XXIII-XXV	Hadrian	134-138	1970-1974		X	
282	XXIII-XXV	Antoninus Pius	138-161	1970-1974		X	
376	XXIII-XXV	Marcus Aurelius	161-180	1970-1974		X	
462	XXIII-XXV	Sept. Severus	193-211	1970-1974		X	
525	XXIII-XXV	Julia Domna	196-211	1970-1974		X	
664	XXIII-XXV	Claudius II	268-270	1970-1974		X	
697	XXIII-XXV	Postumus	259-265	1970-1974		X	
829	XXIII-XXV	radiate copy	273+	1970-1974		X	
258	XXIX	Hadrian	134-138	1975/1979		X	
463	XXIX	Sept. Severus	193-211	1975/1979		X	
597	XXIX	Severus Alexander	222-228	1975/1979		X	
614	XXIX	Severus Alexander	222-228	1975/1979		X	
673	XXIX	Volusian	251-253	1975/1979	X	X	
674	XXIX	Valerian	253-259	1975/1979	X	X	
675	XXIX	Valerian	253-259	1975/1979	X	X	
676	XXIX	Valerian	253-259	1975/1979	X	X	
677	XXIX	Valerian	253-259	1975/1979	X	X	
678	XXIX	Valerian	253-259	1975/1979	X	X	
679	XXIX	Valerian	253-259	1975/1979	X	X	
680	XXIX	Mariniana	254	1975/1979	X	X	
681	XXIX	Gallienus	258-259	1975/1979	X	X	
682	XXIX	Gallienus	258-259	1975/1979	X	X	
683	XXIX	Gallienus	258-259	1975/1979	X	X	
684	XXIX	Gallienus	258-259	1975/1979	X	X	
685	XXIX	Gallienus	258-259	1975/1979	X	X	
686	XXIX	Salonina	257-259	1975/1979	X	X	
687	XXIX	Salonina	257-259	1975/1979	X	X	
688	XXIX	Salonina	257-259	1975/1979	X	X	
689	XXIX	Salonius	256	1975/1979	X	X	
690	XXIX	Salonius	256	1975/1979	X	X	
691	XXIX	Gallienus	259-260	1975/1979	X	X	
692	XXIX	Gallienus	259-260	1975/1979	X	X	
693	XXIX	Gallienus	259-260	1975/1979	X	X	
694	XXIX	Gallienus	259-260	1975/1979	X	X	
695	XXIX	Gallienus	259-260	1975/1979	X	X	

696	XXIX	Gallienus	259-260	1975/1979	X	X	
697	XXIX	Gallienus	259-260	1975/1979	X	X	
698	XXIX	Gallienus	259-260	1975/1979	X	X	
699	XXIX	Gallienus	259-260	1975/1979	X	X	
700	XXIX	Gallienus	259-260	1975/1979	X	X	
701	XXIX	Gallienus	259-260	1975/1979	X	X	
702	XXIX	Gallienus	259-260	1975/1979	X	X	
703	XXIX	Gallienus	259-260	1975/1979	X	X	
704	XXIX	Gallienus	259-260	1975/1979	X	X	
705	XXIX	Gallienus	259-260	1975/1979	X	X	
706	XXIX	Gallienus	259-260	1975/1979	X	X	
707	XXIX	Gallienus	259-260	1975/1979	X	X	
708	XXIX	Salonina	259-268	1975/1979	X	X	
709	XXIX	Claudius II	268-270	1975/1979	X	X	
710	XXIX	Claudius II	268-270	1975/1979	X	X	
711	XXIX	Claudius II	268-270	1975/1979	X	X	
712	XXIX	Claudius II	268-270	1975/1979	X	X	
713	XXIX	Claudius II	268-270	1975/1979	X	X	
714	XXIX	Claudius II	268-270	1975/1979	X	X	
715	XXIX	Claudius II	268-270	1975/1979	X	X	
716	XXIX	Claudius II	268-270	1975/1979	X	X	
717	XXIX	Postumus	263-268	1975/1979	X	X	
718	XXIX	Postumus	263-268	1975/1979	X	X	
719	XXIX	Postumus	263-268	1975/1979	X	X	
720	XXIX	Postumus	263-268	1975/1979	X	X	
721	XXIX	Postumus	263-268	1975/1979	X	X	
722	XXIX	Postumus	263-268	1975/1979	X	X	
723	XXIX	Postumus	263-268	1975/1979	X	X	
724	XXIX	Postumus	263-268	1975/1979	X	X	
725	XXIX	Postumus	263-268	1975/1979	X	X	
726	XXIX	Postumus	263-268	1975/1979	X	X	
727	XXIX	Postumus	263-268	1975/1979	X	X	
728	XXIX	Postumus	263-268	1975/1979	X	X	
729	XXIX	Postumus	263-268	1975/1979	X	X	
730	XXIX	Postumus	263-268	1975/1979	X	X	
731	XXIX	Postumus	263-268	1975/1979	X	X	
732	XXIX	Postumus	263-268	1975/1979	X	X	
733	XXIX	Postumus	263-268	1975/1979	X	X	
734	XXIX	Postumus	263-268	1975/1979	X	X	
735	XXIX	Postumus	263-268	1975/1979	X	X	
736	XXIX	Postumus	263-268	1975/1979	X	X	
737	XXIX	Postumus	263-268	1975/1979	X	X	
738	XXIX	Postumus	263-268	1975/1979	X	X	
739	XXIX	Postumus	263-268	1975/1979	X	X	
740	XXIX	Postumus	263-268	1975/1979	X	X	

741	XXIX	Postumus	263-268	1975/1979	X	X	
742	XXIX	Postumus	263-268	1975/1979	X	X	
743	XXIX	Postumus	263-268	1975/1979	X	X	
744	XXIX	Postumus	263-268	1975/1979	X	X	
745	XXIX	Postumus	263-268	1975/1979	X	X	
746	XXIX	Postumus	263-268	1975/1979	X	X	
747	XXIX	Postumus	263-268	1975/1979	X	X	
748	XXIX	Postumus	263-268	1975/1979	X	X	
749	XXIX	Postumus	263-268	1975/1979	X	X	
750	XXIX	Laelianus	268	1975/1979	X	X	
751	XXIX	Marius	268	1975/1979	X	X	
752	XXIX	Marius	268	1975/1979	X	X	
753	XXIX	Victorinus	267-270	1975/1979	X	X	
754	XXIX	Victorinus	267-270	1975/1979	X	X	
755	XXIX	Victorinus	267-270	1975/1979	X	X	
756	XXIX	Victorinus	267-270	1975/1979	X	X	
757	XXIX	Victorinus	267-270	1975/1979	X	X	
758	XXIX	Victorinus	267-270	1975/1979	X	X	
759	XXIX	Victorinus	267-270	1975/1979	X	X	
760	XXIX	Victorinus	267-270	1975/1979	X	X	
761	XXIX	Victorinus	267-270	1975/1979	X	X	
762	XXIX	Victorinus	267-270	1975/1979	X	X	
763	XXIX	Victorinus	267-270	1975/1979	X	X	
764	XXIX	Victorinus	267-270	1975/1979	X	X	
765	XXIX	Victorinus	267-270	1975/1979	X	X	
766	XXIX	Victorinus	267-270	1975/1979	X	X	
767	XXIX	Victorinus	267-270	1975/1979	X	X	
768	XXIX	Victorinus	267-270	1975/1979	X	X	
769	XXIX	Victorinus	267-270	1975/1979	X	X	
770	XXIX	Victorinus	267-270	1975/1979	X	X	
771	XXIX	Victorinus	267-270	1975/1979	X	X	
772	XXIX	Victorinus	267-270	1975/1979	X	X	
773	XXIX	Victorinus	267-270	1975/1979	X	X	
774	XXIX	Victorinus	267-270	1975/1979	X	X	
775	XXIX	Victorinus	267-270	1975/1979	X	X	
776	XXIX	Victorinus	267-270	1975/1979	X	X	
777	XXIX	Victorinus	267-270	1975/1979	X	X	
778	XXIX	Victorinus	267-270	1975/1979	X	X	
779	XXIX	Victorinus	267-270	1975/1979	X	X	
780	XXIX	Victorinus	267-270	1975/1979	X	X	
781	XXIX	Victorinus	267-270	1975/1979	X	X	
782	XXIX	Victorinus	267-270	1975/1979	X	X	
783	XXIX	Victorinus	267-270	1975/1979	X	X	
793	XXIX	Tetricus II Caesar	270-273	1975/1979		X	
736	XXIX contents of a drain (E/W)	Faustina II	161-76	2007		X	

	V07-18A						
738	XXIX contents of a drain (E/W) V07-18A	Trajan	103-11	2007		X	
739	XXIX contents of a drain (E/W) V07-18A	Faustina I (pos)	141-61	2007		X	
741	XXIX contents of a drain (E/W) V07-18A	Trajan	98-117	2007		X	
742	XXIX contents of a drain (E/W) V07-18A	Sept. Severus	202-10	2007		X	
779	XXIX contents of a drain (E/W) V07-18A	illeg	C1/C2	2007		X	
786	XXIX contents of a drain (E/W) V07-18A	Hadrian	117-38	2007		X	
751	XXIX NE corner V07-30A	M.Aurelius (deified)	180	2007		X	
752	XXIX NE corner V07-30A	Sev. Alexander	222-228	2007		X	
776	XXIX NE corner V07-30A	Faustina I pos.	141-61	2007		X	
777	XXIX NE corner V07-30A	Trajan	101-02	2007		X	
747	XXIX central room V07-25A	Victorinus/Tetricus 1	268-273	2007		X	
806	XXIX to E: material on the roadway V070-83A	M.Aurelius Sest	176-77	2007		X	
743	XXIX V07-16A	Hadrian	137	2007		X	
772	XXIX V07-16A	M. Aurelius Caesar	140-44	2007		X	
773	XXIX V07-16A	illeg	C1/C2	2007		X	
781	XXIX V07-16A	Trajan	103-11	2007		X	
782	XXIX V07-16A	illeg	C1/C2	2007		X	
783	XXIX V07-16A	Trajan	98-117	2007		X	
787	XXIX V07-16A	Ant. Pius	138-61	2007		X	
788	XXIX V07-16A	Hadrian	119-22	2007		X	
790	XXIX V07-16A	M. Aurelius	168-69	2007		X	
778	XXIX, 3rd room from N V07- 52A	illeg	C1/C2	2007		X	
803	XXIX, to E: material above an earlier roadway V07-82A	Domitian	82	2007		X	
807	XXIX, to E: material above an earlier roadway V07-82A	Gallienus	260-68	2007		X	
808	XXIX, to E: material above an earlier roadway V07-82A	Gallienus	260-73	2007		X	
809	XXIX, to E: material above an earlier roadway V07-82A	Sev. Alexander	228-31	2007		X	
810	XXIX, to E: material above an earlier roadway V07-82A	illeg.	C1/C2	2007		X	
285	XXVI/XXVII	Antoninus Pius	138-161	1970-1974		X	
493	XXVI/XXVII	Sept. Severus	198-210	1970-1974		X	
500	XXVI/XXVII	Sept. Severus	202-210	1970-1974		X	
613	XXVI/XXVII	Severus Alexander	222-228	1970-1974		X	
710	XXVII central room V07-01A	Ant. Pius	138-61	2007		X	
730	XXVIII flagged area in SE corner V07-11A	Ant. Pius	154-55	2007		X	
711	XXVIII floor surface of primary level V07-03A	illeg.	C1/C2	2007		X	
797	XXVIII N room: V07-58A	Faustina 1 pos	141-61	2007		X	
794	XXVIII W edge: V07-72A	Ant. Pius	138-44	2007		X	
795	XXVIII W edge: V07-72A	Trajan	98-117	2007		X	
796	XXVIII W edge: V07-72A	Faustina 1 pos	141-61	2007		X	
712	XXVIII-roadway: roadside drain V07-04A	Ant. Pius	138-61	2007		X	
87	XXX	Domitian	81-98	1970-1974		X	

128	XXX	Trajan	98-117	1970-1974		X	
131	XXX	Trajan	98-117	1970-1974		X	
135	XXX	Trajan	98-117	1970-1974		X	
237	XXX	Hadrian	120-138	1970-1974		X	
357	XXX	Faustina I posth	141-161	1970-1974		X	
358	XXX	Marcus Aurelius Caesar	140-144	1970-1974		X	
403	XXX	Marcus Aurelius	173-174	1970-1974		X	
408	XXX	Faustina II	145-146	1970-1974		X	
458	XXX	Sept. Severus	193	1970-1974		X	
502	XXX	Sept. Severus	202-210	1970-1974		X	
564	XXX	Diadumenian Caesar	217-218	1970-1974		X	
580	XXX	Elagabalus	220	1970-1974		X	
590	XXX	Severus Alexander	222-228	1970-1974		X	
632	XXX	Gordian III	243-244	1970-1974		X	
647	XXX	Gallienus	260-268	1970-1974		X	
650	XXX	Gallienus	260-268	1970-1974		X	
698	XXX	Postumus	259-268	1970-1974		X	
701	XXX	Postumus	259-268	1970-1974		X	
704	XXX	Postumus	259-268	1970-1974		X	
795	XXX	Tetricus II Caesar	270-273	1970-1974		X	
939	XXX	Constantine I	330-336	1970-1974			X
586	XXX/XL	Severus Alexander	222-224	1970-1974		X	
213	XXXI	Hadrian	117-138	1970-1974		X	
380	XXXI	Marcus Aurelius	161-180	1970-1974		X	
445	XXXI	Commodus	181-182	1970-1974		X	
491	XXXI	Sept. Severus	197-198	1970-1974		X	
510	XXXI	Sept. Severus	193-211	1970-1974		X	
708	XXXI	Postumus	263	1970-1974		X	
102	XXXII	Domitian	82-93	1970-1974		X	
130	XXXII	Trajan	98-117	1970-1974		X	
137	XXXII	Trajan	98-117	1970-1974		X	
294	XXXII	Antoninus Pius	138-161	1970-1974		X	
348	XXXII	Faustina I posth	141+	1970-1974		X	
404	XXXII	Lucius Verus	161	1970-1974		X	
413	XXXII	Faustina II	145-175	1970-1974		X	
428	XXXII	Lucilla	164-169	1970-1974		X	
565	XXXII	Diadumenian	217-218	1970-1974		X	
758	XXXII	Tetricus I	270-273	1970-1974		X	
850	XXXII	radiate copy	273+	1970-1974		X	
854	XXXII	radiate copy	273+	1970-1974		X	
14	XXXII/XXXIII alley	M. Antonius	32-31BC	1970-1974		X	
35	XXXII/XXXIII alley	Vespasian	69-79	1970-1974		X	
572	XXXII/XXXIII alley	Elagabalus	218-222	1970-1974		X	
701	XXXII/XXXIII alley	Postumus	259-268	1970-1974		X	

938	XXXII/XXXIII alley	Constantine I	330-333	1970-1974			X
8	XXXIII	M. Antonius	30's BC	1970-1974		X	
240	XXXIII	Hadrian	122-138	1970-1974		X	
302	XXXIII	Antoninus Pius	139	1970-1974		X	
312	XXXIII	Antoninus Pius	140-144	1970-1974		X	
345	XXXIII	Faustina I posth	141+	1970-1974		X	
432	XXXIII	Lucilla	164-169	1970-1974		X	
521	XXXIII	Julia Domna	193-211	1970-1974		X	
570	XXXIII	Elagabalus	218-222	1970-1974		X	
588	XXXIII	Severus Alexander	222-228	1970-1974		X	
589	XXXIII	Severus Alexander	222-228	1970-1974		X	
648	XXXIII	Gallienus	260-268	1970-1974		X	
663	XXXIII	Claudius II	268-270	1970-1974		X	
683	XXXIII	Claudius II	268-270	1970-1974		X	
937	XXXIII	Constantine I	330-333	1970-1974			X
340	XXXIII/XXXIV alley	Antonine Pius posth	161 +	1970-1974		X	
386	XXXIII/XXXIV alley	Marcus Aurelius	163-164	1970-1974		X	
416	XXXIII/XXXIV alley	Faustina II	161-175	1970-1974		X	
136	XXXIV	Trajan	98-117	1970-1974		X	
138	XXXIV	Trajan	98-117	1970-1974		X	
346	XXXIV	Faustina I posth	141+	1970-1974		X	
417	XXXIV	Faustina II	161-175	1970-1974		X	
478	XXXIV	Sept. Severus	195-196	1970-1974		X	
552	XXXIV	Plautilla	192-217	1970-1974		X	
571	XXXIV	Elagabalus	218-222	1970-1974		X	
624	XXXIV	Julia Mamaea	218-222	1970-1974		X	
649	XXXIV	Gallienus	260-268	1970-1974		X	
700	XXXIV	Postumus	259-268	1970-1974		X	
927	XXXIV	Constantine I	326	1970-1974			X
961	XXXIV	Constantine II Caesar	321	1970-1974			X
238	XXXIX	Hadrian	120-138	1970-1974		X	
221	XXXV	Hadrian	117-138	1970-1974		X	
980	XXXV	Constans	346-348	1970-1974			X
626	XXXVI	Julia Mamaea	218-222	1970-1974		X	
129	XXXVII	Trajan	98-117	1970-1974		X	
890	XXXVII	Carinus	283-285	1970-1974		X	

3. Whetstones/hones

Small find number	Context- site location	Date of excavation	3rd c	4th c	Intra	Extra
SF231	XXX	Pre 1972	X			X
SF770	LXXVIII	1972-1974	X			X
SF784	LXXIV	1972-1974	X			X
SF1115	XI	1972-1972	X			X
SF1142	VI	1972-1974	X			X
SF1143	LXXV on flagged floor	1972-1974	X			X
SF1154	Maus I E side	1972-1974	X			X
SF1162	V126 Maus	1972-1974	X			X
SF1354	A4 stratified Ext E (LXXV)	1972-1974	X			X
SF1539	A4/79 packing	1972-1974	X			X
SF1552	VJI E site III	1972-1974	X			X
SF1553	VH I 14 - alley between XXXII/XXXIII	1972-1974	X			X
SF1756	KCI-76-5 level I AX6'7" BX10'9"	1975-1976	X			X
SF1787	KAA3(4) KBI/2 baulk Level I BX8'2" AX8'1"	1975-1976	X			X
SF1847	KAA4(20) level III AX9'9" BX14'11"	1975-1976	X			X
SF1913	KAAI (2) (inside grave) AX9'8" BX5'11"	1975-1976	X			X
SF1916	KC5 level III above vicus II wall	1975-1976	X			X
SF1918	KC8/9 (16) Lev I AX7'5" BX26'1"	1975-1976	X			X
SF1923	KB2 (9) level III (KCI) BX25'7" (KCI) CX32'3"	1975-1976	X			X
SF1982	KB8/9 (31) level III BX11'4" CX9'3"	1975-1976	X			X
SF1985	KD8/9 (4) Level I CX25'4" DX25'0"	1975-1976	X			X
SF1986	KB (6) (15) level III (KA6) AX25' (KC6) DX20'10"	1975-1976	X			X
SF2005	KB5/6 (3) Level II (KC5) CX 20'8" (KC6) DX24'11 Level III	1975-1976	X			X
SF2060	VLI level I	1975-1976	X			X
SF2086	Site A (5) Level I MX22'9" LX26'0" S	1977-1978	X			X
SF2276	Latrine in NW corner	1979		X		X
SF2370	Vicus I floor B (PSB/80/18)	1980-1984	X			X
SF2399	Context 10 VPS10	1981		X	X	
SF2481	Vicus floor clearance	1980-1984	X			X
SF2502	Vicus I floor (B) PSB/80/21	1980-1984	X			X
SF2663	Context 158 VPS 181	1981	X		X	
SF2724	Context 158 VPS 19	1981	X		X	
SF2741	Vicus floor PSB/80/7	1980-1984		X		X
SF2959	Context 173 VPS22	1981	X		X	
SF3032	Context 184 VPS 25	1981		X	X	
SF3036	Context 184 VPS 28	1981		X	X	
SF3133	Context VP51 I VPS 32	1981		X	X	
SF3326	11/85/E level 7A	1985	X			X
SF3445	LXXVI EC2 6B	1986	X			X
SF3446	LXXVI E A1 6C	1986	X			X

SF4298	LXXIII XVIII VII-VIII	1988	X			X
SF4424	LXXIII XVIII VII	1988	X			X
SF6238	V III	1992	X			X
SF6296	LXXE 11	1993	X			X
SF7036	V97-1	1997		X	X	
SF7066	V97-1	1997		X	X	
SF7067	V97-1	1997		X	X	
SF7078	V97-1	1997		X	X	
SF7121	V97-28	1997		X	X	
SF7157	V97-48	1997	X		X	
SF7164	V97-1	1997		X	X	
SF7266	V97-1	1997		X	X	
SF7269	V97-98	1997		X	X	
SF7279	V97-1	1997		X	X	
SF7345	V98-109	1998		X	X	
SF7347	V98-108	1998	X		X	
SF7351	V98-108	1998	X		X	
SF7388	V98-108	1998	X		X	
SF7390	V98-130	1998		X	X	
SF7406	V98-154	1998		X	X	
SF7413	V98-136	1998		X	X	
SF7437	V98- 169	1998	X		X	
SF7452	V98- 168	1998		X	X	
SF7469	V98-168	1998		X	X	
SF7476	V98-168	1998		X	X	
SF7719	V99-47	1999		X	X	
SF8115	V01-01A	2001	X			X
SF9288	V04-07A	2004	X			X
SF9502	V04-47A	2004	X			X
SF9503	V04-47A	2004	X			X
SF9504	V04-15A	2004	X			X
SF9518	V04-16A	2004	X			X
SF9574	V04-54A	2004	X			X
SF10419	V06-03A	2006		X	X	
SF10430	V06-06A	2006		X	X	
SF10455	V06-06A	2006		X	X	
SF10461	V06-08A	2006	X		X	
SF10523	V06-05A	2006		X	X	
SF10706	V06-41A	2006	X		X	
SF10708	V06-52A	2006	X		X	
SF10733	V06-44A	2006	X		X	
SF11050	V07-04A	2007	X			X
SF11124	V07-04A	2007	X			X
SF11314	V07-48A	2007	X			X
SF11408	V07-16A	2007	X			X

SF11429	V07-16A	2007	X			X
SF11489	V07-82A	2007	X			X
SF11498	V07-82A	2007	X			X
SF11499	V07-83A	2007	X			X
SF11734	V07-83A	2007	X			X
SF11736	V08-1A	2008		X	X	
SF11747	V08-1A	2008		X	X	
SF11787	V08-2A	2008		X	X	
SF11790	V08-2A	2008		X	X	
SF12278	V08-2A	2008		X	X	
SF12471	V08-2A	2008		X	X	
SF11759	V08-3A	2008		X	X	
SF11760	V08-3A	2008		X	X	
SF11954	V08-3A	2008		X	X	
SF11757	V08-4A	2008		X	X	
SF11758	V08-4A	2008		X	X	
SF11908	V08-4A	2008		X	X	
SF12351	V08-4A	2008		X	X	
SF12352	V08-4A	2008		X	X	
SF12353	V08-4A	2008		X	X	
SF11744	V08-6A	2008		X	X	
SF11907	V08-6A	2008		X	X	
SF11825	V08-9A	2008		X	X	
SF11826	V08-9A	2008		X	X	
SF11795	V08-12A	2008		X	X	
SF12029	V08-12A	2008		X	X	
SF11861	V08-14A	2008		X	X	
SF11827	V08-14A	2008		X	X	
SF11858	V08-16A	2008		X	X	
SF11872	V08-16A	2008		X	X	
SF11873	V08-16A	2008		X	X	
SF11874	V08-16A	2008		X	X	
SF11875	V08-16A	2008		X	X	
SF11876	V08-16A	2008		X	X	
SF11856	V08-16A	2008		X	X	
SF11857	V08-17A	2008		X	X	
SF11882	V08-17A	2008		X	X	
SF11884	V08-17A	2008		X	X	
SF11885	V08-17A	2008		X	X	
SF11909	V08-17A	2008		X	X	
SF11910	V08-17A	2008		X	X	
SF11942	V08-17A	2008		X	X	
SF11943	V08-17A	2008		X	X	
SF12031	V08-17A	2008		X	X	
SF12479	V08-21A	2008		X	X	

SF12490	V08-21A	2008		X	X	
SF12514	V08-21A	2008		X	X	
SF12349	V08-49A	2008		X	X	
SF12350	V08-50A	2008		X	X	
SF12539	V08-51A	2008		X	X	
SF12417	V08-62A	2008		X	X	
SF12025	East granary channel A 14.00 level 1	2008		X	X	
SF10927	V18B-08	2008	X			X
SF10936	V21B-08	2008	X			X
SF10991	V42B-08	2008	X			X

4. Weapons – lead sling shots

Small Finds Number	Context - site location	Material	Date of excavation	3rd c	4th c	Intra	Extra
SF302	XXX	Lead	1970-1972	X			
SF303	XXX	Lead	1970-1972	X			
SF304	XXX	Lead	1970-1972	X			
SF305	XXX	Lead	1970-1972	X			
SF306	XXX	Lead	1970-1972	X			
SF307	XXX	Lead	1970-1972	X			
SF308	XXX	Lead	1970-1972	X			
SF309	XXX	Lead	1970-1972	X			
SF310	XXX	Lead	1970-1972	X			
SF311	XXX	Lead	1970-1972	X			
SF405	XXX to east of ventilation	Lead	1970-1972	X			
SF406	XXX to east of ventilation	Lead	1970-1972	X			
SF419	XXX to east of ventilation	Lead	1970-1972	X			
SF437	XXX	Lead	1970-1972	X			
SF442	XXX to east of ventilation	Lead	1970-1972	X			
SF548	XXXII	Lead	1970-1972	X			
SF1753	KCI-76-4 level AX17'6"	Lead	1974-1976	X			
SF3822	LXXIV	Lead	1987	X			
SF7185	V97-57 Praetorium	Lead	1997	X			
SF9290	V04-08A CXII	Lead	2004	X			

5.1 Sling shots – from other materials

Small Finds Number	Context - site location	Material	Date of excavation	3rd c	4th c	Intra	Extra
SF102	Bath House changing room	Stone	1970	X			X
SF294	Bath House changing room	Sandstone	1970	X			X
SF373	XXXVI road surface	Pottery	1970-1972	X			X
SF509	Opposite XXIX	Stone	1970-1972	X			X
SF540	XIV	Stone	1970-1972	X			X
SF1172	XXVI	Stone	1972-1974	X			X
SF1543	XXVII	Stone	1972-1974	X			X
SF1545	XXXVII	Stone	1972-1974	X			X
SF1770 x 3	Level 2 KA4-4 AX9'1"	Stone	1975-1976	X			X
SF1780	KAA3(3) Level I AX0'0"	Stone	1975-1976	X			X
SF1789	K03/4 Level I AX0'0"	Stone	1975-1975	X			X
SF1793	KC3(12) Level I KC3/4	Stone	1975-1976	X			X
SF1895a	KC8/9 (2) BX5'9" CXX12'5"	Stone	1975-1976	X			X
SF1956	KB8/9 (15)	Stone	1975-1976	X			X
SF2085	Site A (4) MX27' LX31'9"	Stone	1977-1978	X			X
SF5071	XXI-VII	Stone	1989-1990	X			X
SF5294	A VII	Stone	1991	X			X
SF7322	V97-104 Praetorium room 4	Stone	1997		X	X	
SF7669	V99-47	Stone	1999		X	X	
SF8205	V01B-1 Temple	Sandstone	2001	X			X
SF8927	V03B-17	Stone	2003	X			X
SF8959	V03B-34	Stone	2003	X			X
SF9265	V04-06A	Stone	2004	X			X
SF9289	V04-14A CXIV	Stone	2004	X			X
SF9295	V04-08A CVIV	Stone	2004	X			X
SF9710	V04B-50	Stone	2004	X			X
SF9790	V05B-1	Sandstone	2005	X			X
SF10865	V07B-79	stone	2007	X			X
SF11992	V08-4A	Stone	2008		X	X	
SF12028	V08-17A	stone	2008		X	X	
SF12389	East granary channel C 5.00 level 2	stone	2008	X		X	

5.2 Swords

Small Finds Number	Context - site location	Date of excavation	3rd c	4th c	Intramural	Extramural
SF2221b	AX2.85m BX6.17m level 2 area 2 SEE 3398	1979		X		X
SF7248	V97-95	1997		X	X	

SF7501	V99- 3	1999		X	X	
SF8138	V01-02A	2001	X			X
SF8588	V02-02A	2002	X			X
SF10325	V05-20A	2005		X	X	
SF10209	V05-17A	2005		X	X	

5.3 Socketed weapons

Small Finds Number	Context - site location	Date of excavation	3rd c	4th c	Intramural	Extramural
SF497	XXVII north room burnt layer	Pre-1972	X			X
SF661	XXXIVB strat above flags	1972-1974	X			X
SF1977	KB8/9 (28) level IV DX10'1" CX13'4"	1975-1976	X			X
SF2250	area 3-79 level (latrine)	1979		X	X	
SF2267	latrine N/W level 2	1979		X	X	
SF2301	context I VP16	1980-1984		X	X	
SF2336	context I VP18	1980-1984		X	X	
SF2379	context I VP159	1980-1984		X	X	
SF2401	context 14 VP1160	1980-1984	X		X	
SF2455	context I VP137	1980-1984		X	X	
SF2456	context I VP134	1980-1984		X	X	
SF2514	context 25* VP174	1980-1984		X	X	
SF2520	context I VP125	1980-1984		X	X	
SF2533	context I VP131	1980-1984		X	X	
SF2542	context I VP153	1980-1984		X	X	
SF2666	context 158 VP1115	1980-1984	X		X	
SF2732	context 123 VPI91	1980-1984		X	X	
SF2862	context 196 VP1162	1980-1984	X		X	
SF2987	context 173 VP1144	1980-1984	X		X	
SF2991	context 91 VP131	1980-1984	X		X	
SF3091	context 328 VP1258	1980-1984	X		X	
SF7105	V97-1	1997		X	X	
SF7181	V97-37	1997		X	X	
SF7322	V97-1	1997		X	X	
SF7396	V98-145	1998		X	X	
SF7564	V99-40	1999		X	X	
SF7600	V99-44	1999		X	X	
SF7687	V99-47	1999		X	X	
SF7800	V00-17	2000	X		X	
SF8098	V00-fort ditch	2000	X			X
SF9002	V03-01A	2003	X			X

SF9999	V05-20A	2005		X	X	
SF10420	V06-03A	2006		X	X	
SF10490	V06-11A	2006		X	X	
SF10501	V06-10A	2006		X	X	
SF10606	V06-05A	2006	X		X	
SF10731	V06-18A	2006		X	X	
SF11023	V07-05A	2007	X		X	X
SF11091	V07-27A	2007	X			X
SF11986	V08-12A	2008		X	X	
SF11989	V08-12A	2008		X	X	
SF12263	V08-41A	2008	X		X	
SF12404	V08-56A	2008		X	X	
SF12438	V08-62A	2008		X	X	
SF12529	V08-74A	2008		X	X	
SF11779	V08-3A	2008	X		X	
SF12001	V08-12A	2008		X	X	
SF12003	V08-12A	2008		X	X	
SF11831	V08-17A	2008		X	X	

5.4 Scabbard fittings

Small find number	Context- site location	Date of excavation	3rd c	4th c	Intra	Extra
SF1926b	KC8/9 level 11 no spot	1975-1976	X			X
SF2	clay fill outside NE corner bath house changing room	Pre 1972	X			X
SF3	U/S in lobby of bath house	Pre 1972	X			X
SF30	lobby bath house floor in rubble	Pre 1972	X			X
SF486	XXXVII north end	Pre 1972	X			X
SF628	main road from W gate strat sand/gravel	Pre 1972	X			X
SF662	XXXIVA above flags	1972-1974	X			X
SF672	XXXII/III alley U/S	1972-1974	X			X
SF817	XXXIII penult (beneath C4 floor)	1972-1974	X			X
SF971	site 100	1972-1974	X			X
SF989	LXXXVI C4th ditch	1972-1974	X			X
SF1678	VKA25 KAI level 3 U/S	1975-1976	X			X
SF1705	KB2 VKB29	1975-1976	X			X
SF1967	KB8/9(22) level IV BX13'2" CX9'8"	1975-1976	X			X
SF2488	context I VPB75	1980-1984		X	X	
SF2699	context 91 VPB110	1980-1984		X	X	
SF6251	U/S Mansio WNW	1993	X			X

SF7198	V97-82	1997		X	X	
SF1926b	KC8/9 level 11 no spot	1975-1976	X			X
2861	4A/B	1981	X		X	

5.5 Shield boss fragments

Small find number	Context- site location	Date of excavation	3rd c	4th c	Intra	Extra
SF8211	V01B-4	2001	X			X
SF401	XXX ventilation channels	Pre 1972	X			X
SF2175	site A trench one level 3c found with 2173/74(36) FX23'0" GX25'4"	1977-1978	X			X
SF3127	context 183 VP1173	1980-1984	X		X	
SF6141	IVN above VIB floor, in packing	1993	X			X
SF2174	site A trench I level 3c(38)	1977-1978	X			X
SF3127	context 183 VP1173	1980-1984		X	X	

5.6 Helmet fragments

Small find number	Context- site location	Date of excavation	3rd c	4th c	Intra	Extra
SF3077	context VP555 VPB173	1980-1984	X		X	
SF8714	V02B-11	2002	X			X
SF3415	LXXVI E A2 level 5	1986	X			X
SF3505	LXXVI E B2 above V flags	1986	X			X

5.7 Armour fragments

Small find number	Context- site location	Date of excavation	3rd c	4th c	Intra	Extra	Type
SF3540	LXXVIE C2 near structure 2	1986	X			X	Iron lorica plate
SF3638	LXXVE below roadway black silt	1987	X			X	Copper alloy plate
SF3782	LXXVB E bottom VIII ditch	1987	X			X	Copper alloy plate
SF5000	(XX) Side of road VII/VIII	1989-1990	X			X	Iron lorica plate

SF5028	XXII VI/VII	1989-1990	X			X	Iron lorica plate
SF6264	Mansio WNW VI	1993	X			X	Copper alloy scale
SF6265	VI Mansio WNW	1993	X			X	Copper alloy armour fitment
SF7608	V99-15	1999	X		X		Iron chain mail links
SF8714	V02B-11		X			X	Iron lorica plate

5.8 Crossbow brooches

Small find number	Context- site location	Date of excavation	3rd c	4th c	Intra	Extra	Type
SF725	below packing above original road flags LXXIII	1972-1974	X			X	Light crossbow
SF1021	dio ditch	1972-1974	X			X	crossbow
SF7678	V99-49	1999	X				crossbow
SF11523	V07-82A	2007	X			X	Light crossbow
SF11881	V08-17A	2008		X	X		Developed crossbow
SF12593	V09--13A	2009	X		X		crossbow

6.1 Spindle whorls

Small Finds Number	Context - site location	Material	Date of excavation	3rd c	4th c	Intra	Extra
SF154	South of Bath House cold Plunge	Ceramic	1970	X			X
SF155	South of Bath House cold Plunge	Ceramic	1970	X			X
SF190	S end of cold plunge Bath	Ceramic	1970	X			X
SF226	XXXIII B	Ceramic	1970	X			X
SF281	Mansio Courtyard	Ceramic	1970	X			X
SF343	XXVII	Ceramic	1970	X			X
SF350	NW 2B NW corner	Ceramic	1970	X			X
SF379	IV alley	Ceramic	1970	X			X
SF461	XXI north	Ceramic	1972-1974	X			X
SF470	XXX (S) pressed into floor	Ceramic	1972-1974	X			X
SF513	XI	Ceramic	1972-1974	X			X
SF552	XI	Ceramic	1972-1974	X			X
SF583	XXXVIII	Ceramic	1972-1974	X			X
SF584	XXXVIII	Ceramic	1972-1974	X			X
SF649	XI	Ceramic	1972-1974	X			X
SF756	N road ditch fill	Ceramic	1972-1974	X			X
SF761	XXXII	Ceramic	1972-1974	X			X
SF766	XXXII	Ceramic	1972-1974	X			X

SF866	E of XXXIII flagged	Ceramic	1972-1974	X			X
SF919	LXXVI Ditch lip	Ceramic	1972-1974	X			X
SF924	XXX (S) pressed into floor	Ceramic	1972-1974	X			X
SF1067	Dio Ditch west	Ceramic	1972-1974	X			X
SF1078	Dio Ditch west	Ceramic	1972-1974	X			X
SF1081	Dio Ditch west	Ceramic	1972-1974	X			X
SF1117	XXX S	Ceramic	1972-1974	X			X
SF1145	S of II pressed in to the clay floor	Ceramic	1972-1974	X			X
SF1234	A4	Ceramic	1974-1976	X			X
SF1241	A4	Ceramic	1974-1976	X			X
SF1544	XXVII	Ceramic	1974-1976	X			X
SF1691	VKA21 VA2 level 2	Ceramic	1974-1976	X			X
SF1711	KC2	Ceramic	1974-1976	X			X
SF1721	KC3-76-(3) AX18'8" BX12'2"	Ceramic	1974-1976	X			X
SF1749	LXXXV	Ceramic	1974-1976	X			X
SF1771	KA4-1 level 1 AX18'8" BX12'2"	Ceramic	1974-1976	X			X
SF1799	KA3 (14) level 1 AX15'6" BX18'7"	Ceramic	1974-1976	X			X
SF1831	KA5/6	Ceramic	1974-1976	X			X
SF1860	(KAI) BX22'6" (KBI) CX 22'9"	Ceramic	1974-1976	X			X
SF1897a	KB7	Ceramic	1974-1976	X			X
SF1936	KD3/4	Ceramic	1974-1976	X			X
SF1946	KD3/4	Ceramic	1974-1976	X			X
SF1953	KB8/9	Ceramic	1974-1976	X			X
SF1980	KBI	Ceramic	1974-1976	X			X
SF2003	XXIXB	Ceramic	1974-1976	X			X
SF2022	XXIXB	Ceramic	1974-1976	X			X
SF2050	KD8/9	Ceramic	1974-1976	X			X
SF2054	KC4/5	Ceramic	1974-1976	X			X
SF2079	Site A (2) LX37' GX35' E	Ceramic	1974-1976	X			X
SF2087	XXIX	Ceramic	1974-1976	X			X
SF2275	Latrine NE	Ceramic	1981-1985		X	X	
SF2283	Context I VPMI barracks	Ceramic	1981-1985		X	X	
SF2345	Context I VPM5 barracks	Ceramic	1981-1985		X	X	
SF2383	Context VPM20 barracks	Ceramic	1981-1985		X	X	
SF2445	Context VPM15 barracks	Ceramic	1981-1985		X	X	
SF2478	Context 25 VPM26 barracks	Ceramic	1981-1985		X	X	
SF2588	Context 63 VPM27 barracks	Ceramic	1981-1985		X	X	
SF2603	Context 134 VPM41 barracks	Ceramic	1981-1985	X		X	
SF2622	Context 107 VPM37 barracks	Ceramic	1981-1985	X		X	
SF2626	Context I VPM32	Ceramic	1981-1985		X	X	
SF2627	Context I VPM33	Ceramic	1981-1985		X	X	
SF2637	Context I VPM30	Ceramic	1981-1985		X	X	
SF2638	Context I VPM29	Ceramic	1981-1985		X	X	
SF2651	Context 91 VPM91	Ceramic	1981-1985	X		X	

SF2743	Context I VPM10	Ceramic	1981-1985		X	X	
SF2950	VPM52	Ceramic	1981-1985		X	X	
SF3129	Context I VP555 VPM61	Ceramic	1986-1991		X	X	
SF3547	LXXVE	Ceramic	1986-1991	X			X
SF3807	LXXIV VI	Ceramic	1986-1991	X			X
SF4080	LXXIV	Ceramic	1986-1991	X			X
SF4118	LXXIV E	Ceramic	1986-1991	X			X
SF7068	V97-1	Ceramic	1997		X	X	
SF7129	V97-32	Ceramic	1997	X		X	
SF7214	V97-71	Ceramic	1997	X		X	
SF7315	V97-1	Ceramic	1997		X	X	
SF7360	V98-117	Ceramic	1998		X	X	
SF7566	V99-6	Ceramic	1999		X	X	
SF11589	V99-47	Ceramic	1999		X	X	
SF7760	V00-1	Ceramic	2000		X	X	
SF7768	V00-2	Ceramic	2000		X	X	
SF11707	V00-2	Ceramic	2000		X	X	
SF8253	V01B-18	Ceramic	2001	X			X
SF8787	V02B-4	Ceramic	2002	X			X
SF8844	V02-06A	Ceramic	2002	X			X
SF8900	V02B-41	Ceramic	2002	X			X
SF8911	V03B10	Ceramic	2003	X			X
SF8973	V03B-32	Ceramic	2003	X			X
SF8986	V03B-42	Ceramic	2003	X			X
SF9736	V03B-54	Ceramic	2003	X			X
SF9829	V03B-16	Ceramic	2003	X			X
SF9918	LXXXVI	Ceramic	2005	X			X
SF10093	V05-33A Fort wall	Ceramic	2005	X		X	
SF10466	V06-11A South west corner of fort	Ceramic	2006		X	X	
SF10571	V06-11A South west corner of fort	Ceramic	2006		X	X	
SF10588	V06-28A Western rampart	Ceramic	2006		X	X	
SF11106	V07-28A	Ceramic	2007	X			X
SF11172	V07-24A	Ceramic	2007	X			X
SF11173	V07-24A	Ceramic	2007	X			X
SF11214	V07-49A	Ceramic	2007	X			X
SF11224	V07-18A	Ceramic	2007	X			X
SF11253	V07-51A	Ceramic	2007	X			X
SF11404	V07-72A	Ceramic	2007	X			X
SF11901	V08-4A	Ceramic	2008		X	X	
SF11903	V08-4A	Ceramic	2008		X	X	
SF12041	V08-4A	Ceramic	2008		X	X	
SF11956	V08-7A	Ceramic	2008	X		X	
SF11834	V08-16A	Ceramic	2008		X	X	
SF11956	V08-7A	Shale	2008	X		X	
SF11981	V08-18A	Ceramic	2008		X	X	

SF12318	V08-50A	Stone	2008		X	X	
SF12488	V08-51A	Shale	2008		X	X	
SF12544	V08-51A	Ceramic	2008		X	X	
SF12507	V08-62A	Ceramic	2008		X	X	
SF12440	V08-68A	Ceramic	2008		X	X	
SF12537	V08-68A	Ceramic	2008		X	X	
SF12356	East Granary channel C 4.00 level 1	Ceramic	2008		X	X	
SF12469	East Granary channel E 10.00 level 1	Ceramic	2008		X	X	

6.2 Lead loom weights

Small Finds Number	Context - site location	Material	Date of excavation	3rd c	4th c	Intra	Extra
SF340	XXVII	Lead	1970	X			X
SF516	XXXVII south room	Lead	1972-1974	X			X
SF554	XXXIII	Lead	1972-1974	X			X
SF582	XXXVIII	Lead	1972-1974	X			X
SF1801	KAA4 (14)	Lead	1974-1976	X			X
SF1884	KA3 (27)	Lead	1974-1976	X			X
SF1906	KC8/9	Lead	1974-1976	X			X
SF1951	KD3/4	Lead	1974-1976	X			X
SF2076	LXXXIXB	Lead	1974-1976	X			X
SF10602	V06-30A	Lead	2006		X	X	

7. Bracelets

Small Finds Number	Context - site location	Material	Date of excavation	3rd c	4th c	Intra	Extra
SF98	IX-XXXII road	Copper alloy	1971	X			X
SF136	S of BH cold plunge	Copper alloy	1971	X			X
SF205	XXIIIC	Copper alloy	1971	X			X
SF270	XXII	Copper alloy	1971	X			X
SF376	XXX S	Jet	1971	X			X
SF503	XI	Green glass	1971	X			X
SF515	XXVII north room	Jet	1971	X			X
SF560	IV	Copper alloy	1971	X			X
SF562	XLV	Bone	1971	X			X
SF572	XXXVII	Copper alloy	1971	X			X
SF573	XXXV	White glass	1971	X			X
SF638	IV/XXXIV	Copper alloy	1972	X			X
SF656	XXXI B	Copper alloy	1972	X			X
SF665	XXX S	Jet	1972	X			X

SF735	XXXIII S	Copper alloy	1972	X			X
SF765	XXXIV S	Shale	1972	X			X
SF829	XXXIII	Copper alloy	1972	X			X
SF1038	road opp.IX	Coloured glass	1972	X			X
SF1160	V138	Copper alloy	1972	X			X
SF1191	V	Copper alloy	1972	X			X
SF1740	XXVIII	Copper alloy	1976	X			X
SF1820	XXVIII	Jet	1976	X			X
SF2059	VLI	Jet	1976	X			X
SF2099	XXVIII	White glass	1976	X			X
SF2271	u/s NE latrine	Silver	1979		X	X	
SF2290	Bidwell context 1	Shale	1980		X	X	
SF2343	Bidwell context 1	Copper alloy	1980		X	X	
SF2394	Bidwell context 1	Jet	1980		X	X	
SF2483	vicus 3 floor clearance PSB/80/27	White glass	1980	X		X	
SF2509	Bidwell context 25	Copper alloy	1980		X	X	
SF2624	Bidwell Context 1	shale	1980		X	X	
SF2791	Bidwell context 1	shale	1980		X	X	
SF2822	Bidwell context 1	Copper alloy	1980		X	X	
SF2971	Bidwell context 190	Copper alloy	1980	X		X	
SF3055	Bidwell context 360	Copper alloy	1980	X		X	
SF6166	LXX	Copper alloy	1993	X			X
SF6595	LXXII	Bone	1994	X			X
SF7064	V97-1 Praetorium	Copper alloy	1997		X	X	
SF7115	V97-28 Praetorium	Jet	1997		X	X	
SF7188	V97-70 Praetorium	Copper alloy	1997	X		X	
SF7231	V97-95 Praetorium	Copper alloy	1997	X		X	
SF7268	V97-98 Praetorium	Copper alloy	1997		X	X	
SF7324	V97-104 Praetorium	Jet	1997		X	X	
SF7338	V98-109 Praetorium	Copper alloy	1998	X		X	
SF7370	V98-111 Praetorium	Copper alloy	1998	X		X	
SF7380	V98-133 Praetorium	Bone	1998		X	X	
SF7414	V98-158 Praetorium	Bone	1998	X		X	
SF7433	V98-168 Praetorium	Copper alloy	1998		X	X	
SF7447	V98-168 Praetorium	Jet	1998		X	X	
SF7493	V98-186 Praetorium	Copper alloy	1998	X		X	
SF7684	V99-47 S rampart	Copper alloy	1999		X	X	
SF7981	V00-43	White glass	2000			X	
SF8010	V00-41	Jet	2000			X	
SF8100	V00-35	Copper alloy	2000			X	
SF9998	V05-22A	Copper alloy	2005		X	X	
SF10014	V05-17A	Copper alloy	2005		X	X	
SF10030	V05-20A	Copper alloy	2005	X		X	
SF10360	V05B-23	Copper alloy	2005	X			X

SF10417	V06-03A	Copper alloy	2006		X	X	X
SF10428	V06-06A	Copper alloy	2006		X	X	X
SF10438	V06-07A	Copper alloy	2006	X		X	X
SF10440	V06-06A	Copper alloy	2006		X	X	X
SF10453	V06-06A	Copper alloy	2006		X	X	
SF10478	V06-11A	Copper alloy	2006		X	X	
SF10488	V06-13A	Copper alloy	2006	X		X	
SF10620	V06-05A	Copper alloy	2006	X		X	
SF10649	V06-01A	White glass	2006		X	X	
SF11088	V07-24A	Copper alloy	2007	X			X
SF11532	V07-83A	Copper alloy	2007	X			X
SF11958	V08-2A	White glass	2008		X	X	
SF11749	V08-3A	Copper alloy	2008		X	X	
SF11969	V08-4A	Copper alloy	2008		X	X	
SF11863	V08-16A	Copper alloy	2008		X	X	
SF11818	V08-17A	Copper alloy	2008		X	X	
SF11847	V08-17A	Black glass	2008		X	X	
SF11848	V08-17A	Copper alloy	2008		X	X	
SF11852	V08-17A	Copper alloy	2008		X	X	
SF11864	V08-17A	Copper alloy	2008		X	X	
SF11920	V08-17A	Copper alloy	2008		X	X	
SF11958	V08-2A	White glass	2008		X	X	
SF11969	V08-4A	Copper alloy	2008		X	X	
SF11971	V08-17A	Shale	2008		X	X	
SF12226	V08-17A	Copper alloy	2008		X	X	
SF12247	V08-17A	Copper alloy	2008		X	X	
SF12210	V08-32A	Copper alloy	2008		X	X	
SF12274	V08-44A	Copper alloy	2008		X	X	
SF12530	V08-76A	Copper alloy	2008		X	X	
SF12215	East Granary channel A 7.50 level 1	Shale	2008		X	X	
SF12231	East granary Channel A 9.00 level 1	Shale	2008		X	X	
SF12498	East granary channel D level 1 17.50	Copper alloy	2008		X	X	
SF12486	East granary channel E level 1 11.50	Copper alloy	2008		X	X	
SF10998	V48B-08	Inlaid glass	2008	X			X
SF12107	V51B-08	White glass	2008	X			X
SF10938	V22B-08	White glass	2008	X			X
SF12146	V59B-08	White glass	2008	X			X
SF12148	V56B-08	White glass	2008	X			X

8. Hairpins

Small Finds Number	Context - site location	Material	Date of excavation	3rd c	4th c	Intra	Extra
80	South of the Bath House Cold Plunge	Bone	1970	X			X
101	South of Caldarium- Bath House	Bone	1970	X			X
106	Bath House - stoke hole	Bone	1970	X			X
119	Bath House changing room	Copper alloy	1970	X			X
120	Bath House changing room	Iron	1970	X			X
173	Bath House - Latrine drain	Bone	1970	X			X
358	Near western fort gate - ditch	Bone	1972-1974	X			X
424	XXX south	Bone	1972-1974	X			X
633	NE fort wall near Latrine	Bone	1972-1974	X		X	X
637	NE fort wall near Latrine	Bone	1972-1974	X		X	X
651	XXXIV SW corner	Jet	1970	X			X
657	XXXII/XXXIII corridor	Jet	1970	X			X
668	XXXI	Copper alloy	1970	X			X
752	XXXIII S	Jet	1970	X			X
991	Opposite LXXVI - fort ditch	Copper alloy	1972-1974	X			X
992	Opposite LXXVI	Bone	1972-1974	X			X
1072	Opposite LXXVIII	Bone	1972-1974	X			X
1179	Bath House	Bone	1972-1974	X			X
1596	Opposite LXXVIII - fort ditch	Copper alloy	1972-1974	X			X
1604	Opposite LXXVIII - fort ditch	Jet	1972-1974	X			X
1746	East of BH	Jet	1972-1974	X			X
1769	East of Bath House	Bone	1972-1974	X			X
1788	East of Bath House	Jet	1972-1974	X			X
1855	East of Bath House	Copper alloy	1972-1974	X			X
2139	LXXVI	Copper alloy	1972-1974	X			X
2157	LXXVI	Bone	1972-1974	X			X
2217	North of North Fort Wall	Bone	1972-1974	X			X
2329	Bidwell - context 25* VPB79	Jet	1981		X	X	X
2409	Bidwell context 10 - barracks	Copper alloy	1981		X	X	X
3128	Bidwell - context 314 VPN6	Copper alloy	1981	X		X	X
3128	Context 10 Bidwell	Bone	1981		X	X	X
3372	Bath House	Bone	1970	X		X	X
3373	Bath House	Bone	1970	X		X	X
3374	Bath House	Bone	1970	X		X	X
3375	Bath House	Bone	1970	X		X	X
3376	Bath House	Bone	1970	X		X	X
3378	Bath House	Bone	1970	X		X	X
3379	Bath House	Bone	1970	X		X	X
3380	Bath House	Bone	1970	X		X	X
3381	Bath House	Bone	1970	X		X	X
3382	Bath House	Bone	1970	X		X	X

3489	Berm of western ditch - opposite LVXVIII	Bone	1986	X			X
3490	Berm of western ditch - opposite LVXVIII	Bone	1986	X			X
3501	Berm of western ditch - opposite LVXVIII	Bone	1986	X			X
3514	Berm of western ditch - opposite LVXVIII	Bone	1986	X			X
3718	LXXV	Bone	1986	X			X
3829	Opposite LXXIV	Bone	1986	X			X
3870	Oposite LXXIV - fort ditch	Copper alloy	1981	X			X
3871	Opposite LXXIV	Bone	1986	X			X
3880	Opposite LXXIV	Bone	1986	X			X
3880	Oposite LXXIV - fort ditch	Iron	1986	X			X
3972	Opposite LXXIV	Bone	1986	X			X
4133	LXXIII	Bone	1988	X			X
4296	LXXIII	Copper alloy	1986	X			X
4390	LXXIII	Bone	1988	X			X
4454	LXXIII	Bone	1988	X			X
5224	Opposite site LXX	Bone	1991	X			X
5225	Opposite site LXX	Bone	1991	X			X
5226	Opposite site LXX	Bone	1991	X			X
5235	Opposite site LXX	Bone	1991	X			X
5456	Opposite V	Bone	1991	X			X
5639	Opposite VI	Iron	1991	X			X
5714	V	Bone	1991	X			X
5807	Opposite V	Bone	1991	X			X
7003	Praetorium 1997 V97-1	Bone	1997		X	X	X
7004	Praetorium 1997 V97-1	Bone	1997		X	X	X
7007	Praetorium 1997 V97-1	Bone	1997		X	X	X
7012	Praetorium V97-1	Jet	1997		X	X	
7019	Praetorium 1997 V97-7	Bone	1997		X	X	X
7021	Praetorium 1997 V97-7	Bone	1997		X	X	X
7032	Praetorium 1997 V97-1	Bone	1997		X	X	X
7043	Praetorium V97-1	Jet	1997		X	X	
7070	Praetorium 1997 V97-1	Bone	1997		X	X	X
7079	Praetorium V97-1	Jet	1997		X	X	
7083	Praetorium 1997 V97- 24	Bone	1997		X	X	X
7084	Praetorium 1997 V97-24	Bone	1997		X	X	X
7101	Praetorium 1997 V97-28	Bone	1997		X	X	X
7102	Praetorium 1997 V97- 15	Bone	1997		X	X	X
7117	Praetorium 1997 V97-28	Bone	1997		X	X	X
7145	Praetorium 1997 V97- 46	Bone	1997	X		X	X
7226	Praetorium V97-91	Jet	1997		X	X	
7229	Praetorium 1997 V97- 91	Bone	1997		X	X	X
7230	Praetorium 1997 V97-95	Bone	1997		X	X	X
7238	Praetorium 1997 V97-83	Bone	1997		X	X	X
7246	Praetorium 1997 V97-95	Bone	1997		X	X	X

7263	Praetorium 1997 V97-98	Bone	1997		X	X	X
7270	Praetorium 1997 V97-92	Bone	1997	X		X	X
7276	Praetorium 1997 V97-1	Bone	1997		X	X	X
7304	Praetorium V97-1	Jet	1997		X	X	
7306	Praetorium V97-1	Jet	1997		X	X	
7392	Praetorium 1998 V98-141	Bone	1998		X	X	X
7393	Praetorium V98-141	Copper alloy	1997		X	X	
7394	Praetorium 1998 V98- 142	Bone	1998	X		X	X
7418	Praetorium 1998 V98-159	Bone	1998		X	X	X
7467	Praetorium 1998 V98-168	Bone	1998		X	X	X
7500	South Rampart V99-2	Jet	1999		X	X	
7518	Southern Rampart V99-15	Bone	1999	X		X	X
7625	Southern Rampart (SE CORNER) V99-46	Bone	1999	X		X	X
7734	Southern Rampart (SW CORNER) V99-57	Bone	1999	X		X	X
10008	V05-20A- western fort rampart	Bone	2005		X	X	X
10025	V05-25A - western ditch burm	Bone	2005	X			X
10105	V05-29A top of western ditch	Bone	2005	X			X
10201	V05-25A - western ditch burm	Bone	2005	X			X
10413	V06-02A - western fort rampart	Bone	2006		X	X	
10524	V06-05A - western fort rampart	Bone	2006		X	X	
10622	V06-11A - south western corner of fort	Bone	2006		X	X	
10628	V06-11A - south western corner of fort	Bone	2006		X	X	
10647	V06-01A - Western fort rampart mound	Bone	2006		X	X	
10658	V06-05A - western fort rampart	Bone	2006		X	X	
11075	V07-14A	Copper alloy	2007	X		X	
11137	V07-24A	Iron	2007	X		X	
11413	V07-70A	Copper alloy	2007	X		X	
SF10905	V08B-5	Jet	2008	X		X	X
11997	V08-18A granary	Copper alloy	2008		X	X	
12010	V08-12A - granaries	Bone	2008		X	X	
12093	V08-32A -granaries	Bone	2008		X	X	
12222	V08-25A -granaries	Bone	2008		X	X	
12242	V08-32A -granaries	Bone	2008		X	X	
12244	V08-25A -granaries	Bone	2008		X	X	
12245	V08-17A granary	copper alloy	2008		X	X	
12249	V08-25A granary	Copper alloy	2008		X	X	
115a	Bath House - Changing room	Bone	1970	X			X
115b	Bath House	Bone	1970	X			X
116a	Bath House	Bone	1970	X			X
3995a	LXXIII	Copper alloy	1986	X			X
SF1073	Opposite LXXVIII	Bone	1972-1974	X			X

9. Beads

Small Finds Number	Context	Material	Type of bead	Date of excavation	3rd c	4th c	Intra	Extra
SF61	BH stoke hole	Blue glass	Long blue biconical or square section beads	1970	X			X
SF96	South of BH	Blue glass	Melon Bead	1970	X			X
SF112	BH caldarium floor	Copper alloy	Copper alloy	1970	X			X
SF113	BH changing room floor	Blue glass	Spherical	1970	X			X
SF121	BH changing room floor	Blue glass	Spherical	1970	X			X
SF125	XXIV	Blue glass	Spherical	1970	X			X
SF135	BH Latrine drain	Blue glass	Square sectioned	1970	X			X
SF140	BH Tepidarium floor	Blue glass	Square sectioned	1970	X			X
SF142	BH latrine drain	Amber	Amber	1970	X			X
SF158	BH latrine drain	Gold in Glass	Gold in Glass	1970	X			X
SF160	BH latrine drain	Amber	Amber	1970	X			X
SF170	BH latrine drain	Jet	Spherical	1970	X			X
SF171	BH latrine drain	Blue glass	Long biconical	1970	X			X
SF174	Latrine drain BH	Blue glass	Segmented	1970	X			X
SF183	South of cold plunge bath	Blue glass	Square sectioned	1970	X			X
SF185	BH	Yellow glass	Yellow glass beads	1970	X			X
SF186	BH latrine drain	Jet	Spherical	1970	X			X
SF191	XXIV	Copper alloy	Copper alloy	1970	X			X
SF201	XXIIIC	Copper alloy	Copper alloy	1970	X			X
SF215	W of site XIV	Blue glass	Long biconical	1970	X			X
SF221	XXIIIC	Green glass	Long polygonal	1970	X			X
SF247	XXI	Gold in Glass	Gold in Glass	1970-1972	X			X
SF251	XXIIIC	Copper alloy	Copper alloy	1970-1972	X			X
SF252	XXVII SE Corner	Jet	Spherical	1970-1972	X			X
SF256	XXVII	Blue glass	Long biconical	1970-1972	X			X
SF260	XXII road drain	Specialist Glass	Specialist glass	1970-1972	X			X
SF264	XXVI - on roadway to the south	Blue glass	Small biconical	1970-1972	X			X
SF283	XXI	Blue glass	Segmented	1970-1972	X			X
SF318	XXV floor	Jet	Cylindrical	1970-1972	X			X
SF367	On flags to the north of the west gate	Jet	Specialist	1970-1972	X			X
SF371	West of West gate above ditch	Jet	Cylindrical	1970-1972	X			X
SF390	W of hot plunge BH	Faience	Melon Bead	1970-1972	X			X
SF396	XXX east of vent channels	Specialist Glass	Specialist glass	1970-1972	X			X
SF423	XXX furnace to the south	Yellow glass	Yellow glass	1970-1972	X			X
SF425	XXX centre	Blue glass	Square sectioned	1970-1972	X			X
SF478	Road outside west gate	Blue glass	Long biconical	1970-1972	X			X
SF508	XXVII north room	Jet	Fragmented	1970-1972	X			X
SF522	XLII	Blue glass	Square sectioned	1970-	X			X

				1972			
SF523	XXVIII C	Jet	Spherical	1970-1972	X		X
SF527	XIV	Green glass	Tear drop	1970-1972	X		X
SF537	XLII	Blue glass	Square sectioned	1970-1972	X		X
SF576	XXXV north	Jet	Biconical	1970-1972	X		X
SF586	XXXVIII	Blue glass	Diamond faceted	1970-1972	X		X
SF598	XXIV	Blue glass	Spherical	1970-1972	X		X
SF599	XXX	Green glass	Cylinder	1970-1972	X		X
SF603	XXIX drain in W wall	Yellow glass	Yellow glass	1970-1972	X		X
SF621	XXIX	Blue glass	Small biconical	1970-1972	X		X
SF639	XXXIV north end	Blue glass	Square sectioned	1970-1972	X		X
SF651	XXX S	Blue glass	Long blue biconical	1970-1972	X		X
SF677	XXXIVA	Blue glass	Small biconical	1970-1972	X		X
SF679	XXXIV B	Faience	Melon Bead	1970-1972	X		X
SF690	XXXII	Blue glass	Square sectioned	1970-1972	X		X
SF693	LXXXVIII - road to east	Blue glass	Square sectioned	1970-1972	X		X
SF695	XXXII	Blue glass	Long biconical	1970-1972	X		X
SF697	XXXII	Gold in Glass	Gold in Glass	1970-1972	X		X
SF712	XXXII	Blue glass	Long biconical	1970-1972	X		X
SF734	XXX	Blue glass	Spherical	1970-1972	X		X
SF757	XXXI	Blue glass	Long biconical	1970-1972	X		X
SF763	V	Green glass	Cylinder	1970-1972	X		X
SF771	XXXII	Green glass	Long polygonal	1970-1972	X		X
SF772	XXXII	Gold in Glass	Gold in Glass	1970-1972	X		X
SF782	LXXV	Blue glass	Square sectioned	1970-1972	X		X
SF783	LXXIV	Terracotta glass	Terracotta glass	1970-1972	X		X
SF794	LXXIV	Green glass	Square sectioned	1970-1972	X		X
SF795	LXXIV	Copper alloy	Copper alloy	1970-1972	X		X
SF801	LXXV	Blue glass	Square sectioned	1970-1972	X		X
SF810	LXXIV last floor	Jet	Cylindrical	1970-1972	X		X
SF812	XXXIII	Jet	Spherical	1970-1972	X		X
SF830	XXXI	Specialist Glass	Specialist glass	1970-1972	X		X
SF854	XXXII	Blue glass	Long blue biconical	1970-1972	X		X
SF892	LXXVI	Jet	Melon Bead	1970-1972	X		X
SF905	LXXVI	Blue glass	Diamond faceted	1970-1972	X		X
SF923	XXX S	Specialist Glass	Specialist glass	1970-1972	X		X
SF945	Amongst rubble in the mausoleum	Jet	Specialist	1970-1972	X		X

SF1044	W fort ditch	Gold in Glass	Gold in Glass	1970-1972	X			X
SF1173	XXXII centre	Green glass	Cylinder	1972-1974	X			X
SF1176	IX/XXX alleyway	Gold in Glass	Gold in Glass	1972-1974	X			X
SF1216	LXXVIII - to east	Green glass	Cylinder	1972-1974	X			X
SF1218	LXXV	Green glass	Square sectioned	1972-1974	X			X
SF1229	LXXV	Blue glass	Spherical	1972-1974	X			X
SF1269	LXXVII	Blue glass	Cylinder	1972-1974	X			X
SF1273	LXXVIII - to east	Green glass	Cylinder	1972-1974	X			X
SF1284	LXXV	Blue glass	Long biconical	1972-1974	X			X
SF1331	BH <i>Tepidarium</i> floor	Blue glass	Square sectioned	1972-1974	X			X
SF1340	BH Changing room	Terracotta glass	Terracotta glass	1972-1974	X			X
SF1352	LXXVIII	Gold in Glass	Gold in Glass	1972-1974	X			X
SF1368	LXXV on roadway to the east	Blue glass	Small biconical	1972-1974	X			X
SF1381	LXXVIII	Blue glass	Spherical	1972-1974	X			X
SF1390	LXXV	Faience	Melon Bead	1972-1974	X			X
SF1396	LXXV	Gold in Glass	Gold in Glass	1972-1974	X			X
SF1397	LXXV	Green glass	Long polygonal	1972-1974	X			X
SF1398	LXXV on floor	Blue glass	Small biconical	1972-1974	X			X
SF1465	LXXXII	Blue glass	Long blue biconical	1972-1974	X			X
SF1473	XXXIV S	Faience	Melon Bead	1972-1974	X			X
SF1486	LXXV	Blue glass	Segmented	1972-1974	X			X
SF1503	LXXIV	Terracotta glass	Terracotta glass	1972-1974	X			X
SF1509	LXXIV	Jet	Cylindrical	1972-1974	X			X
SF1510	LXXIX foundation	Green glass	Cylinder	1972-1974	X			X
SF1512	LXXV	Faience	Melon Bead	1972-1974	X			X
SF1526	LXXVIII	Terracotta glass	Terracotta glass	1972-1974	X			X
SF1567	XXXIV S	Faience	Melon Bead	1974-1976	X			X
SF1687	LXXX	Green glass	Square sectioned	1974-1976	X			X
SF1703	LXXX	Green glass	Square sectioned	1974-1976	X			X
SF1704	XXVIII	Green glass	Long polygonal	1974-1976	X			X
SF1743	LXXXII	Blue glass	Square sectioned	1974-1976	X			X
SF1747	LXXX	Specialist Glass	Specialist	1974-1976	X			X
SF1761	LXXX	Jet	Cylindrical	1974-1976	X			X
SF1779	LXXXII	Blue glass	Square sectioned	1974-1976	X			X
SF1785	N of LXXXVI	Yellow glass	Yellow glass	1974-1976	X			X
SF1795	LXXXIV	Green glass	Cylinder	1974-1976	X			X
SF1803	LXXXVII	Blue glass	Long blue biconical	1974-1976	X			X

SF1805	E of XXIXB	Blue glass	Spherical	1974-1976	X			X
SF1830	LXXXIV	Blue glass	Long biconical	1974-1976	X			X
SF1866	LXXXVI	Gold in Glass	Gold in Glass	1974-1976	X			X
SF1875	LXXX	Green glass	Long Biconical	1974-1976	X			X
SF1886	East of XXIXB	Jet	Cylindrical	1974-1976	X			X
SF1887	LXXXII	Blue glass	Small biconical	1974-1976	X			X
SF1889	LXXXV	Blue glass	Square sectioned	1974-1976	X			X
SF1901	LXXXV	Green glass	Long polygonal	1974-1976	X			X
SF1912	East of XXIXB	Green glass	Square sectioned	1974-1976	X			X
SF1931	XXIXB	Jet	Specialist	1974-1976	X			X
SF1937	LXXXVII	Blue glass	Long polygonal	1974-1976	X			X
SF1942	LXXXIV	Yellow glass	Yellow glass	1974-1976	X			X
SF1943	LXXXIV	Blue glass	Long blue biconical	1974-1976	X			X
SF1957	XXIXB	Blue glass	Square sectioned	1974-1976	X			X
SF1990	LXXXIV	Specialist Glass	Specialist glass	1974-1976	X			X
SF1993	LXXXIV	Gold in Glass	Gold in Glass	1974-1976	X			X
SF1994	XXIX	Green glass	Spherical	1974-1976	X			X
SF1996	XXIXB to the east	Blue glass	Long blue biconical	1974-1976	X			X
SF1999	XXIXB to the east	Blue glass	Long blue biconical	1974-1976	X			X
SF2012	XXIXB	Blue glass	Long polygonal	1974-1976	X			X
SF2018	XXIXB	Specialist Glass	Specialist glass	1974-1976	X			X
SF2019	XXIXB to east	Gold in Glass	Gold in Glass	1974-1976	X			X
SF2065	XXIXB west side	Green glass	Square sectioned	1974-1976	X			X
SF2072	LXXXV	Green glass	Square sectioned	1974-1976	X			X
SF2077	XXIXB	Green glass	Cylinder	1974-1976	X			X
SF2082	XXVIII	Yellow glass	Yellow glass	1974-1976	X			X
SF2084	XXIXB	Blue glass	Spherical	1974-1976	X			X
SF2088	XXIXB	Green glass	Long polygonal	1974-1976	X			X
SF2091	LXXXVIII/LXXXV I drain	Gold in Glass	Gold in Glass	1974-1976	X			X
SF2098	LXXXII	Blue glass	Square sectioned	1974-1976	X			X
SF2101	LXXXVI	Terracotta glass	Terracotta glass	1974-1976	X			X
SF2106	XXVIII in drain	Blue glass	Small biconical	1974-1976	X			X
SF2109	LXXXV	Specialist Glass	Specialist glass	1974-1976	X			X
SF2117	LXXXIV	Blue glass	Long blue biconical	1974-1976	X			X
SF2125	XXVIII	Blue glass	Cylinder	1974-1976	X			X
SF2126	XXVIII	Green glass	Annular	1974-1976	X			X
SF2134	LXXXI	Blue glass	Long blue biconical	1976-1978	X			X

SF2136	LXXXVI	Green glass	Cylinder	1976-1978	X			X
SF2137	LXXXVI	Blue glass	Square sectioned	1976-1978	X			X
SF2143	LXXXVI	Blue glass	Square sectioned	1976-1978	X			X
SF2145	LXXXVI	Gold in Glass	Gold in Glass	1976-1978	X			X
SF2151	XXVIII B	Blue glass	Square sectioned	1976-1978	X			X
SF2159	XXVIII	Yellow glass	Yellow glass	1976-1978	X			X
SF2161	XXIX	Blue glass	Square sectioned	1976-1978	X			X
SF2164	LXXXIV	Blue glass	Square sectioned	1976-1978	X			X
SF2172	XXVIII B	Gold in Glass	Gold in Glass	1976-1978	X			X
SF2201	LXXX	Faince	Melon Bead	1976-1978	X			X
SF2205	XXVIII	Green glass	Segmented	1976-1978	X			X
SF2206	XXVIII	Blue glass	Spherical	1979	X			X
SF2207	XXVIII	Gold in Glass	Gold in Glass	1979	X			X
SF2208	XXVIII	Blue glass	Long blue biconical	1979	X			X
SF2216	LXXX	Faience	Melon Bead	1979	X			X
SF2223	LXXX	Faience	Melon Bead	1979	X			X
SF2287	Bidwell context I VPG2	Green glass	Long polygonal	1981		X	X	
SF2339	Bidwell context I VPJs6	Jet	Cylindrical	1981		X	X	
SF2340	Bidwell context I VPJs5	Jet	Diamond faceted	1981		X	X	
SF2342	Bidwell context I VPJs4	Jet	Fragmented	1981		X	X	
SF2349	N of fort wall - PSB/80/10 vicus	Jet	Melon Bead	1981		X	X	
SF2457	Bidwell context I VPG29	Copper alloy	Copper alloy	1981		X	X	
SF2477	Bidwell context 25* VPB77	Copper alloy	Copper alloy	1981		X	X	
SF2482	Bidwell context 25 VPJs13	Jet	Cylindrical	1981		X	X	
SF2493	Bidwell context 25 VPJs1	Jet	Cylindrical	1981		X	X	
SF2497	Bidwell context 25* VPJs12	Jet	Cylindrical	1981		X	X	
SF2503	N road out of fort gate -vicus 2 floor PSB/80/23	Blue glass	Square sectioned	1981		X	X	
SF2598	Bidwell context 83 VPM31	Faience	Melon Bead	1981	X		X	
SF2619	Bidwell context 114 VPG31	Gold in Glass	Gold in Glass	1981			X	
SF2749	Bidwell context I VPBIO	Copper alloy	Copper alloy	1981		X	X	
SF2790	Bidwell context I VPM 11	Faience	Melon Bead	1981		X	X	
SF2840	Road way outside North gate of fort- level vicus 2 PSB/80/13 floor clearance	Terracotta glass	Terracotta glass	1981		X	X	
SF2849	Bidwell context I VPJs9	Jet	Specialist	1981		X	X	
SF2853	Roadway to the north of the fort	Specialist Glass	Specialist glass	1981		X		X
SF2854	Road leading out of north fort gate	Blue glass	Long blue biconical or square section beads	1981		X		X
SF2912	Bidwell context 232 VPJs19	Jet	Specialist	1981	X	X	X	

SF3300	South of II	Green glass	Annular	1985	X			X
SF3383	BH	Blue glass	Spherical	1985	X			X
SF3462	LXXVIII	Amber	Amber	1985	X			X
SF3465	LXXVIII	Amber	Amber	1986	X			X
SF3466	LXXVIII	Amber	Amber	1986	X			X
SF3566	LXXVIII on road to the east	Blue glass	Long biconical	1986	X			X
SF5109	LXXV	Specialist Glass	Specialist glass	1989-1990	X			X
SF5223	LXXIII - west lip of fort ditch	Blue glass	Small biconical	1989-1990	X			X
SF6095	E of XXIXB	Blue glass	Segmented	1989-1990	X			X
SF6168	LXX	Green glass	Segmented	1992	X			X
SF6414	LXXIV	Gold in Glass	Gold in Glass	1993	X			X
SF7005	Praetorium V97-1	Jet	Squared sectioned	1997		X	X	X
SF7020	Praetorium V97-7	Amber	Amber	1997		X	X	
SF7085	Praetorium V97-1	Jet	Specialist	1997		X	X	
SF7210	Praetorium 97 -84	Green glass	Segmented	1997		X	X	
SF7479	Praetorium V98-168	Green glass	Long polygonal	1998		X	X	
SF7483	Praetorium V98-180	Copper alloy	Copper alloy	1998	X		X	
SF7496	Praetorium V98-186	Copper alloy	Copper alloy	1998	X		X	
SF7578	Fort wall south V99-41	Faience	Melon Bead	1999		X	X	
SF7606	S fort rampart V99-40	Copper alloy	Copper alloy	1999		X	X	
SF7615	South of fort, between wall and ditch V99-44	Specialist Glass	Specialist glass	1999	X			X
SF7674	South of fort, between wall and ditch V99-47	Specialist Glass	Specialist glass	1999	X			X
SF7694	South of fort, between wall and ditch V99-47	Copper alloy	Copper alloy	1999	X			X
SF7752	Fort wall south	Faience	Melon Bead	1999	X		X	
SF7755	Southern fort defences	Yellow glass	Yellow glass	2000	X		X	
SF7761	S fort rampart	Copper alloy	Copper alloy	2000	X		X	
SF8048	SW corner of SFII	Blue glass	Diamond faceted	2000	X		X	
SF8273	Far western vicus roadway (B) west of XLIX- V01B-25	Green glass	Diamond faceted	2001	X			X
SF8274	Roadway outside XLIX V01B-25	Green glass	Spherical	2001	X			X
SF8585	XXXVIII V02-09A	Blue glass	Small biconical	2002	X			X
SF8759	West of XLIX V02B-23	Green glass	Long polygonal	2002	X			X
SF8793	XLIX - context V02B-36	Blue glass	Long biconical	2002	X			X
SF8907	South of BH	Faience	Melon Bead	2002	X			X
SF8919	outside CXXIII	Green glass	Cylinder	2003	X			X
SF8929	CXX/CXXI roadway	Faience	Melon Bead	2003	X			X
SF9008	CXI V03-01A	Blue glass	Spherical	2003	X			X
SF9267	CXIV	Yellow glass	Yellow glass	2003	X			X
SF9272	CXII	Blue glass	Square sectioned	2003-4	X			X
SF9277	CXIV foundations	Faience	Melon Bead	2003-4	X			X
SF9314	Roadway north of CXXIII, far west	Blue glass	Long biconical	2003-4	X			X

SF9329	CXXII	Gold in Glass	Gold in Glass	2003-4	X			X
SF9333	CXXII	Blue glass	Small biconical	2003-4	X			X
SF9347	On road outside CXXII	Blue glass	Small biconical	2003-4	X			X
SF9371	West of workshop building CXXII	Blue glass	Long biconical	2003-4	X			X
SF9407	CXI	Faience	Melon Bead	2003-4	X			X
SF9419	CXIV	Yellow glass	Yellow glass	2004	X			X
SF9543	CXIV	Blue glass	Long blue biconical or square section beads	2004	X			X
SF9583	Context V04-57 CXIII	Green glass	Square sectioned	2004	X			X
SF9618	East of Mausoleum	Blue glass	Long blue biconical or square section beads	2004	X			X
SF9706	CXXI floor	Green glass	Cylinder	2004	X			X
SF9713	CXXIII floor	Green glass	Cylinder	2004	X			X
SF9729	CXXIII	Faience	Melon Bead	2004	X			X
SF9731	Late drain N of CXXII	Blue glass	Long polygonal	2004	X			X
SF9806	V05B-14	Blue glass	Opaque square sectioned	2005	X			X
SF9807	V05B-14	Green glass	Pentagonal	2005	X			X
SF9808	V05B-14	Green glass	Segmented	2005	X			X
SF9810	V05B-10	Terracotta glass	Terracotta glass	2005	X			X
SF9814	V05B-18	Yellow glass	Annular yellow	2005	X			X
SF9815	V05B-20	Blue glass	Melon bead	2005	X			X
SF9816	V05B-20	Blue glass	Melon bead	2005	X			X
SF9819	V05B-19	Terracotta glass	Terracotta glass	2005	X			X
SF9834	V05B-16	Blue glass	Opaque square sectioned	2005	X			X
SF9847	V05B-48	Faience	Melon bead	2005	X			X
SF9895	V06B-18	Green glass	Hexagonal	2006	X			X
SF9960	V05-17A	Faience	Melon bead	2005		X	X	
SF10181	V05-17A	Jet	Square sectioned	2005		X	X	
SF10194	V05-29A - Western fort ditch burm - next to fort wall	Jet	Square sectioned	2005	X		X	X
SF10200	V05-30A - re-built outer face of fort wall south west side	Blue glass	Spherical	2005		X		X
SF10308	V05-20A	Faience	Melon bead	2005	X		X	
SF10391	V06B-58	Faience	Melon bead	2006	X			X
SF11096	V07-27A	Specialist Glass	Gold in glass	2007	X			X
SF11099	V07-27A	Specialist Glass	Gold in glass	2007	X			X
SF11101	V07-27A	Green glass	Flattened cylindrical	2007	X			X
SF11102	V07-27A	Terracotta glass	Spherical	2007	X			X
SF11113	V07-25A	Faience	Melon bead	2007	X			X
SF11116	V07-28A	Blue glass	Long biconical	2007	X			X
SF11117	V07-28A	Blue glass	Hexagonal bead	2007	X			X
SF11144	V07-26A	Green glass	Flattened cylindrical	2007	X			X
SF176a	BH latrine drain	Jet	Barrel-shaped	1970	X			X
SF176B	BH Latrine drain	Yellow glass	Yellow glass	1970	X			X
SF176c	BH latrine drain	Green glass	Tear drop	1970	X			X
SF179a	BH latrine drain	Blue glass	Square sectioned	1970	X			X
SF179b	BH Latrine drain	Blue glass	Square sectioned	1970	X			X

SF179c	BH latrine drain	Blue glass	Long biconical	1970	X			X
SF179D	BH latrine drain	Terracotta glass	Terracotta glass	1970	X			X
SF184a	South of cold plunge bath	Blue glass	Square sectioned	1970	X			X
SF184B	S of BH cold plunge bath	Gold in Glass	Gold in Glass	1970	X			X
SF2138a	LXXXVI	Blue glass	Square sectioned	1974-1976	X			X
SF2138b	LXXXVI	Blue glass	Square sectioned	1974-1976	X			X
SF2138c	LXXXVI	Blue glass	Square sectioned	1974-1976	X			X
SF2138c	LXXXVI	Green glass	Square sectioned	1974-1976	X			X
SF2138d	LXXXVI	Blue glass	Square sectioned	1974-1976	X			X
SF2138e	LXXXVI	Blue glass	Square sectioned	1974-1976	X			X
SF317A	XXV C	Gold in Glass	Gold in Glass	1970-1972	X			X
SF317B	XXV C	Gold in Glass	Gold in Glass	1970-1972	X			X
SF636a	XXIV	Blue glass	Long biconical	1970-1972	X			X
SF636b	XXIV	Blue glass	Long biconical	1970-1972	X			X
SF636c	XXIV	Blue glass	Long biconical	1970-1972	X			X
SF636d	XXIV	Blue glass	Long biconical	1970-1972	X			X
SF636e	XXIV	Faience	Melon Bead	1970-1972	X			X
SF636f	XXIV	Blue glass	Square sectioned	1970-1972	X			X
SF636h	XXIV	Blue glass	Small biconical	1970-1972	X			X
SF721a	LXXIV	Green glass	Spherical	1970-1972	X			X
SF721b	LXXIV	Green glass	Long polygonal	1970-1972	X			X
SF811a	LXXVI	Green glass	Square sectioned	1970-1972	X			X
SF811b	LXXVI	Blue glass	Long blue biconical or square section beads	1970-1972	X			X
SF8A	BH Changing room	Terracotta glass	Terracotta glass	1970	X			X
SF8b	BH	Blue glass	Square sectioned	1970	X			X
SF8c	BH	Blue glass	Spherical	1970	X			X
SF8d	BH	Blue glass	Spherical	1970	X			X
SF966a	West of XIV	Blue glass	Long blue biconical or square section beads	1970-1972	X			X
SF966b	W of <i>mansio</i> in clay	Green glass	Spherical	1970-1972	X			X
SF966c	XV	Blue glass	Square sectioned	1970-1972	X			X
SF966c	W of XIV	Specialist Glass	Specialist glass	1970-1972	X			X
SF966d	XIV	Blue glass	Long biconical	1970-1972	X			X
SF10404	V06-01A	Blue glass	Opaque square sectioned	2006		X	X	X
SF10533	V06-22A	Blue glass	Opaque square sectioned	2006			X	X
SF10717	V06-58A	Blue glass	Biconical	2006	X		X	X
SF10538	V06-12A	Terracotta glass	opaque cylinder	2006		X	X	X
SF10403	V06-01A	Bone	Specialist	2006		X	X	X
SF10551	V06-05A	Shell	Specialist	2006	X		X	X
SF10443	V06-06A	Clear glass	Specialist	2006		X	X	X

SF10410	V06-03A	Green glass	opaque annular	2006		X	X	X
SF10505	V06-07A	Green glass	Biconical	2006	X		X	X
SF10614	V06-01A	Green glass	opaque annular	2006		X	X	X
SF10901	V08B-4	Red glass	small biconical	2008	X			X
SF10937	V08B-21	Blue, white and red glass	square sectioned	2008	X			X
SF10939	V08B-22	Green glass	square sectioned	2008	X			X
SF10956	V08B-29	Green glass	pentagonal	2008	X			X
SF10968	V08B-39	Blue glass	spherical	2008	X			X
SF10972	V08B-22	jet	annular	2008	X			X
SF10973	V08B-22	Green glass	hexagonal	2008	X			X
SF10978	V08B-5	Blue glass	spherical	2008	X			X
SF11731	V08-01A	Blue glass	spherical	2008		X	X	X
SF11775	V08-07A	Green glass	pentagonal	2008	X		X	X
SF11782	V08-12A	faience	melon	2008		X	X	
SF11799	V08-10A	Green glass	annular	2008		X	X	
SF11808	V08-17A	Green glass	annular	2008		X	X	
SF11809	V08-17A	Blue glass	small biconical	2008		X	X	
SF11810	V08-17A	Green glass	annular	2008		X	X	
SF11812	V08-12A	Blue glass	small biconical	2008		X	X	
SF11813	V08-12A	Green glass	square sectioned	2008		X	X	
SF11814	V08-17A	Blue glass	small biconical	2008		X	X	
SF11835	V08-12A	Green glass	annular	2008		X	X	
SF11850	V08-17A	Green glass	annular	2008		X	X	
SF11851	V08-17A	Green glass	annular	2008		X	X	
SF11853	V08-17A	Green glass	spherical	2008		X	X	
SF11879	V08-14A	Green glass	annular	2008		X	X	
SF11892	V08-17A	Blue glass	small biconical	2008		X	X	
SF11893	V08-17A	Green glass	long biconical	2008		X	X	
SF11899	V08-17A	Specialist Glass	spherical	2008		X	X	
SF11904	V08-21A	Blue glass	square section	2008		X	X	
SF11915	V08-04A	Green glass	spherical	2008		X	X	
SF11963	V08-04A	Blue glass	small biconical	2008		X	X	
SF11980	V08-04A	Blue glass	small biconical	2008		X	X	
SF12012	V08-17A	Blue glass	small biconical	2008		X	X	
SF12018	V08-12A	Blue glass	square sectioned	2008		X	X	
SF12024	V08-04A	Green glass	cylinder	2008		X	X	
SF12100	V08B-51	Green glass	spherical	2008	X		X	X
SF12117	V08B-51	Yellow glass	annular	2008	X			X
SF12118	V08B-48	Green glass	annular	2008	X			X
SF12155	V08B-48	Yellow glass	annular	2008	X			X
SF12156	V08B-64	Specialist Glass	spherical	2008	X			X
SF12167	V08B-43	Blue glass	spherical	2008	X			X
SF12213	V08-32A	Blue glass	spherical	2008		X	X	
SF12264	V08-41A	Blue glass	small biconical	2008		X	X	
SF12269	V08-15A	faience	melon	2008		X	X	
SF12284	V08-10A	Green glass	cylinder	2008		X	X	
SF12285	East granary channel B13.00	Blue glass	annular	2008		X	X	

	level 1							
SF12305	V08-50A	faience	melon	2008		X	X	
SF12311	V08-12A	Blue glass	small biconical	2008		X	X	
SF12317	V08-50A	jet	cylinder	2008		X	X	
SF12376	V08-54A	Green glass	annular	2008		X	X	
SF12391	East granary FLUE I.4 level 2	bone	annular	2008	X		X	
SF12392	V08-54A	Green glass	annular	2008		X	X	
SF12414	V08-62A	Green glass	cylinder	2008		X	X	
SF12441	V08-68A	jet	cylinder	2008		X	X	
SF12451	V08-12A	faience	melon	2008		X	X	
SF12455	V08-66A	Green glass	square sectioned	2008		X	X	
SF12493	V08-51A	Blue glass	square sectioned	2008		X	X	
SF12505	East granary channel E6.50 level 2	faience	melon	2008	X		X	
SF12506	V08-12A	faience	melon	2008		X	X	
SF12525	V08-68A	Blue, white and red glass	long biconical	2008		X	X	
SF12541	V08-49A	Green glass	cylinder	2008		X	X	

10. Stylus pens

Small Finds Number	Context - site location	Material	Date of excavation	3rd c	4th c	Intra	Extra
SF1062	Western fort Ditch	Iron	1972-1974	X			X
SF1065	Western fort Ditch	Iron	1972-1974	X			X
SF1139	XXX north	Iron	1972-1974	X			X
SF1209	Road next to western ditch	Iron	1972-1974	X			X
SF1350	B3 in clay layer	Iron	1972-1974	X			X
SF1669	SA 50/50	Iron	1974-1976	X			X
SF1782	KBI (7) KBI/2 baulk I BX4'7" AX4'10"	Iron	1975-1976	X			X
SF1792	KBI (2) level I KBI/2 bulk	Iron	1975-1976	X			X
SF1961	KD3/4 (33)	Iron	1975-1976	X			X
SF2722	Barracks Bidwell context 110 VP1109	Iron	1980-1984		X	X	
SF3304	11/8S/E level 7	Iron	1985	X			X
SF3324	11/8S/E level 7	Iron	1985	X			X
SF3341	NIIIW level 10	Iron	1985	X			X
SF3348	LXXVI	Iron	1985	X			X
SF3362	II/85/E level 7	Iron	1985	X			X
SF3412	Level 7 A N wall 2	Iron	1986		X		X
SF3439	LXXVI E	Iron	1986	X			X
SF3454	LXXVI (E)	Iron	1986	X			X
SF3483	LXXVIII	Iron	1986	X			X
SF3615	LXXVIII E	Iron	1986	X			X
SF3708	LXXVB	Iron	1987	X			X

SF3710	LXXVB	Iron	1987	X			X
SF3785	LXXVB (E)	Iron	1987	X			X
SF3828	LXXIV	Iron	1987	X			X
SF3837	LXXIV	Iron	1987	X			X
SF3840	LXXIV	Iron	1987	X			X
SF3996	LXXIII	Iron	1987	X			X
SF4295	LXXIII E	Iron	1988	X			X
SF5377	C VI/VII	Iron	1991	X			X
SF5401	C1 VIII	Iron	1991	X			X
SF5571	C1 VI/VIII S	Iron	1991	X			X
SF7409	V98-130 Praetorium	Iron	1998		X	X	
SF7471	V98-168 Praetorium	Iron	1998		X	X	
SF7773	V00-01	Iron	2000		X	X	
SF10042	V05-25A - western rampart mound	Iron	2005	X		X	
SF10553	V06-24A - western rampart mound	Iron	2006	X		X	
SF11743	V08-2A - granaries	Iron	2008		X	X	
SF11800	V08-12A	Iron	2008		X	X	

11. Inscriptions on stone and portable artefacts

Inscription text	Context / Location	3rd C	4th c	Intra	Extra	Publication	On Stone	Other material
FORTUNAE POPULI ROMANI GAIUS JULIUS RAETICUS CENTURIO LEGIONIS VI VICTRICIS <i>To the Fortune of the Roman People Julius Raeticus centurion of Leg VI Vic (set this up)</i>	<i>Praetorium</i>	X		X		RIB 1684	X	
GENIO PRAETORI SACRUM PITUANIUS SECUNDUS PRAEFECTUS COHORTIS IIII GALLORUM <i>Sacred to the Genius of the Commanding Officer's Residence, Pituanus Secundus prefect of the Fourth Cohort of Gauls, (set this up)</i>	<i>Praetorium</i>	X		X		RIB 1685	X	
IOVI OPTIMO MAXIMO CETERISQUE DIIS IMMORTALIBUS ET GENIO PRAETORI QUINTUS PETRONIUS URBICUS FILIUS FABIA TRIBU URBICUS PRAEFECTUS COHORTIS IIII GALLORUM.....EX ITALIA DOMO BRIXIA VOTUM SOLUIT PRO SE AC SUIS. <i>To Jupiter, Best and Greatest, and the other immortal gods, and to the Genius of the Commanding Officer's Residence, Quintus Petronius Urbicus, of the Fabian voting tribe, prefect of the Fourth Cohort of Gauls, from Brixia in Italy, fulfilled his vow on behalf of himself and his family</i>	<i>Praetorium</i>	X		X		RIB 1686	X	
IOVI OPTIMO MAXIMO ET GENIO DIISQUE CUSTODIBUS COHORS IIII GALLORUM ET VE.... CAECILIUS.....OP CELER <i>To Jupiter, Best and Greatest, and to the Genius and Guardian-gods, the Fourth Cohort of Gauls and Ve....Caecilius Celer</i>	<i>Praetorium</i>	X		X		RIB 1687	X	
IOM / GENIO PRAET	<i>Praetorium</i>	X		X		Birley R. & Birley Andrew R. & Blake J. 1999	X	
MATRIBUS ET NUMINI DOMINI NOSTRI.... To the Mother Goddesses and to the Deity of our (Emperor.....)	NW rampart	X		X		RIB 1692	X	
DEO VETERI <i>To the God Veteris</i>	NW rampart	X		X		RIB 1697	X	
VETERI.....To Veteris	West gate	X		X		RIB 1698	X	
VETERIBUS POSUIT SENACULUS <i>To the Veteres, Senaculus set this up.</i>	East gate	X		X		RIB 1699	X	
IMPERATORI CAESARI MARCO AURELIO ANTONIO PIO FELICI AUGUSTO PERTHICO MAXIMO BRITANNICO MAXIMO PONTIFICI MAXIMO TRIBUNICIAE POTESTATE XVI IMPERATORI II CONSULI IIII PATRI PATRIAE PROCONSULI PRO PIETATE AC DEVOTIONE COMMUNI <i>COHORS IIII GALLORUM CUI</i>	<i>Principia</i>	X		X		RIB 1705	X	

PRAEEST (plus 2 frags from 2008) <i>For the Emperor Caesar Marcus Aurelius Antoninus Pius Felix Augustus, Most Great conqueror of Parthia , Most Great conqueror of Britain, pontifex maximus, in his sixteenth year of tribunician power, twice acclaimed imperator, four times consul, father of his country, proconsul, out of their joint duty and devotion,the Fourth Cohort of Gauls, which is commanded by</i>								
COHORS IIII GALLORUM SEVERIANAE ALEXANDRIANAE DEVOTAE NUMINI EIUS PORTAM CUM TURRIBUS A FUNDAMENTIS RESTITUERUNT SUB CLAUDIO XENOPHONTE LEGATO AUGUSTI NOSTRI PRO PRAETORI BRITANNIAE INFERIORIS CURANTEthe Fourth Cohort of Gauls, styled Severus Alexander's, devoted to his deity, restored from the foundations this gate with its towers under Claudius Xenophon, our emperor's praetorian legate of Lower Britain, under the charge of	West gate	X		X		RIB 1706	X	
CELER CENTURIAE PRIMI PILI <i>Celer, from the century of the senior centurion.</i>	South of West gate	X		X		RIB 1709	X	
DIS MANIBVS CORNELIVS VICTOR SINGVLARIS CONSVLARIS MILITAVIT ANNOS XXVI CIVIS PANNONIVS FILIVS SATURNINI PRIMI PILARIS VIXIT ANNOS LV DIES XI CONIVNX PROCVRAVI <i>To the spirits of the departed: Cornelius Victor, singularis consularis, served for 26 years, a Pannonian tribesman, son of Saturninus, a senior centurion, and lived for 55 years, 11 days. I, his wife, had this set up.</i>	NW cemetery	X			X	RIB 1713	X	
DEABUS SUIS MATRIBUS.....VSLM <i>To the mother goddesses.....willingly and deservedly fulfilled his vow.</i>	South ramprt	X		X		Britannia 1 1970; AA4 1970, 127 no. 3	X	
TIRONES PROBATIM CVRA <i>Recruits, duly tested, undertook this building.</i>	North wall	X		X		Britannia iii 1972 354 no. 13	X	
DEO VE / [...] N Veteris	South gate	X			X	Britannia vi 1975 no. 7	X	
phallus SESTD	NE corner fort wall	X		X		Britannia x 1979 346, no.9	X	
ARA VITIRUM	NE corner fort wall	X		X		Britannia x 1979, 346 no. 8	X	
HP III	Via Principalis	X		X		Birley R. & Birley Andrew R. & Blake J. 1998	X	
D.....T.ANN.....CENTVR.....TVNGR.....DIORVM....T. INBELL FECTVS FIL ET ARC HE <i>To the spirits of the departed: Titus Annius....centurion of cohort of Tungrians died in the war, killed his son and Arc... had this set up.</i>	Praetorium			X	X	Birley R. & Birley Andrew R. & Blake J. 1998	X	

DEO ...'To the God...'	Romano-celtic temple	X			X	Blake J. 2003	X	
CIVES GALLI DE GALLIAE CONCORDESQUE BRITANNI <i>The Gallic citizens to the Goddess Gallia and, in agreement, the Britons.</i>	Fort wall drain		X		X	Birley Andrew R. 2007	X	
DIPLOMA	NE fort wall pit	X		X		Bidwell 1985, 93 – 102; Britannia xiv 1983, 347-348.		X
RA.F.	NE corner of fort	X		X		Britannia xiii 1982, 418 no. 70	X	
[V] ICTOR.	Outside N wall of fort	X		X		Unpublished	X	
Rim of Dessel 20, inscribed A [...] .	NE barracks		X	X		Bidwell 1985		X
Rim of C2nd mortarium, Graffito [...] IVIVM [...] .	NE barracks	X		X		Bidwell 1985		X
Base of a Dr 31, with graffito: CA [...] .	NE barracks		X	X		Bidwell 1985, 215 no. 7 with fig 79.7; RIB II 2501.134		X
Base of a BB platter, with graffito: FOF.	Principia	X		X		JRS xxii 1932, 228 no 21; Birley 1932, Arch Ae4 ix 1931, 219; RIB II 2501.194		X
Dr 33 with graffito: MA [...] .	NE barracks		X	X		Bidwell 1985 215, no. 8 with fig 79.8; RIB II 2501.321		X
Graffito on BB1: [...] CORI [...] / [...] ACO / F [...] .	NE barracks		X	X		Bidwell 1985 215 no. 2, with fig 79.2; RIB II 2503.497.		X
Graffito on base of Dr 37: APT [...] / M [...] .	NE barracks		X	X		Bidwell 1985 215, no. 6 with fig 79.6; RIB II 2501.66.		X

Base of a Dr 31, with graffito: BER	Outside NE corner of fort	X			X	Britannia v 1974, 467 no. 38. RIB II 2501.99		X
samian with graffito: PRIMI [...].	NE barracks		X	X		Bidwell 1985 215 no. 5 with fig 79.5; RIB II 2501.448		X
Dr 31 with graffito: TALIONIS	NE barracks	X		X		Bidwell 1985 215, no 3 with fig 79.3; RIB II 2501.532.		X
VEXLA / LEG XXV / V FEC	Re-used in east fort wall		X	X		Britannia xii 1981 380 no. 14.	X	
[...] DEM [...]	NE quadrant	X		X		Britannia xii 1981 380 no. 14.	X	
[...] DEM [...]	NE quadrant	X		X		Britannia xii 1981 380 no. 15	X	
D. M. / [..] LIAE / [....] AE / [....] Tombstone	Re-used in east fort wall		X	X		Britannia xii 1981 380 no. 16.	X	
Q. E. F. /M // // // //XX	Re-used in east fort wall		X	X		Britannia xix 1988, 492 no. 11.	X	
White mortarium graffito: [...] INIIO .	South of Granary	X		X		Forthcoming 2009		X
Amphora graffito: [...] ICTIN [...].	Via Principalis	X		X		Forthcoming 2009		X
Side stone of via principalis: RIACVS .	Via Principalis		X	X		Forthcoming 2009	X	
Ventilation stone: LEGVIV .	Granary	X		X		Forthcoming 2009	X	
The calendar/clock: SEPTEMBER / K / N/ ID / AE .	South of Granary	X		X		Forthcoming 2009		X

Samian graffito: ESCVSSI [...]	Southern rampart		X	X		Unpublished		X
Samian graffito: MART	Southern rampart	X		X		Unpublished		X
Samian graffito: MINIO	Southern rampart	X		X		Unpublished		X
Samian graffito: VI	Southern rampart		X	X		Unpublished		X
Graffito on Dr 18/31: [...] VITRI F	Western rampart	X		X		Birley Andrew R. 2007: 114		X
Graffito on 18/31: NAT	Western rampart		X	X		Birley Andrew R. 2007: 114		X
Graffito on Dr 37: SI [...] / ICII [...] .	Western rampart		X	X		Birley Andrew R. 2007: 114		X
Graffito on Dr 18/31: X	Western rampart		X	X		Birley Andrew R. 2007: 114		X
Graffito on Dr 46: MCICIO	Western rampart		X	X		Birley Andrew R. 2007: 114		X
Graffito on Dr 46 SATIS	Western rampart		X	X		Birley Andrew R. 2007: 114		X
Graffito on Dr 33 [...] M [...] .	Western rampart		X	X		Birley Andrew R. 2007: 115		X
Graffito on Dr 18/31: [...] TA [...] .	cobbled area SW SF2		X	X		Birley Andrew R. 2007: 115		X
Graffito on Dr 31: [...] RV	Western rampart ovens		X	X		Birley Andrew R. 2007: 115		X

IOM.....To Jupiter, Best and Greatest	Wells & water tanks	X			X	RIB 1689	X	
PRO DOMU DIVINA ET NUMINIBUS AUGUSTORUM VOLCANO SACRUM VICANI VINDOLANDESSES CURAM AGENTEVOTUM SOLVERUNT LIBENTES MERITO.....For the Divine House and the Deities of the Emperors, the villagers of Vindolanda set up this sacred offering to Volcanus, willingly and deservedly fulfilling their vow, under the charge of	Wells & water tanks	X			X	RIB 1700	X	
tombstone DIS MANIBUS INGENUI VIXIT ANNIS XXIII MEMSES III ET DIES VII To the spirits of the departed and of Ingenuus; he lived 24 years, 4 months, and 7 days	NW cemetert	X			X	RIB 1714	X	
BH voussoir stones with numerals X, XI, XIII, XIII	Bath House	X			X	Birley R.E. 1977	X	
DIBUS VETERIBUS, POSVIT LONGINUS	LXXVIII	X			X	Britannia iv, 329, no. 11.	X	
VETERIBUS, POSVIT SENILIS	LXXVIII	X			X	Britannia iv 1973 329, no. 12.	X	
DEO SANCTI VETIRE POSUIT	Wells & water tanks	X			X	Britannia vi 1975 285, no. 6.	X	
DEO SANCTI VETIRE POSUIT	Wells & water tanks	X			X	Britannia vi 1975 285, no. 6.	X	
DEO HVITIRI V.S.-	LXXXIV	X			X	Britannia viii 1977, 432 no. 22	X	
DEO MOGUNTI ET GENIO LOCI LUPULUS	IV roadway	X			X	Britannia iv 1973 329, no. 10	X	
DEO / MA///// / V ///NO	Temple	X			X	Blake J. 2003	X	
DIBVS/VITIRIB/VS MA/ AMATVS/ FIL	LXXI	X			X	Britannia xxxiv 2003 370, no. 11	X	
V.S.L.M.	LXXI	X			X	Britannia xxxiv 2003 370, no. 12	X	

bronze bezel on silver ring. AVE Hail!	XXIX	X			X	Birley Andrew R. 2007	X
Gold ring with bezel inscribed ANIMA MEA , 'my darling'	XXIV	X			X	Britannia II, 1971, no. 72; AA5, I, 119-120; RIB II Fasc 3, 2423.4.	X
Lead sealing, inscribed CIIP (<i>Cohors II Pannoniorum</i>), and CR on the reverse	XI	X			X	Britannia III 1972, no. 46.	X
Lead sealing, inscribed CVA	XXVIII	X			X	RIB II, Fasc 1, 2411.260, Britannia ix 1978, 480, no. 63.	X
Silver ring, inscribed on bezel MER , for <i>Mercurio</i> .	SW of BH SW corner.	X			X	Britannia iii, 1972, 360 no. 47; RIB II Fasc 3 2422.29	X
Jet ring, inscribed on bezel GATNI / VS , possibly <i>Catinius</i>	Bath House	X			X	Britannia ii 1971, 301 no. 73; RIB II Fasc 3, 2422.79.	X
silver pendant in the form of a crescent, inscribed DEO MAPONO , 'to the god Maponus'	XXII	X			X	Britannia ii 1971, 291 no. 12; RIB II 2431.2	X
Frag amphora, inscribed [...] ABINO [...].	Fort ditch SW corner	X			X	RIB II 2493.59; Britannia v 1974, 467 no. 41	X
graffito MATVGENVS .	SF2 ditch, some 25m N of SW corner	X			X	Britannia xix, 1988, 503 no. 80; VRR NS II, 98.	X
Graffito of samian frag, [...] MICA [...].	SF 2 ditch	X			X	Britannia xx 1989, 342 no. 55; VRR NS II 99.	X
graffito on samian frag [...] MOS [...].	SF 2 ditch	X			X	Britannia xx 342, no. 56.	X
Graffito on BB1 EXVPERATVS .	XXIV	X			X	Britannia ii 1971, 301 no. 74; RIB II 2503.256.	X
Graffito on coarse ware FELIC [...].	SE corner of military bath house	X			X	Britannia ii 1971, 301 no. 74; RIB II 2503.256	X

graffito on grey dish: [...] MARTINV [...].	XXXIII.	X			X	Britannia iv 1973, 332 no. 29; RIB II 2503.327		X
Graffito on grey vessel: MART [...].	XI	X			X	Britannia iii 1972 360 no. 50; RIB II 2503.328.		X
Graffito on black bowl: [...] CVM [...].	XXXIII	X			X	Britannia v 1974, 467 no. 45; RIB II 2503.498.		X
Graffito on base of BB1: [...] FEL [...].	LXXIII	X			X	RIB II 2503.512; Britannia xii 1981 394 no. 102.		X
Graffito on BB1: [...] VCIV [...]	SF2 ditch near SW corner	X			X	Britannia v 1974 468 no. 48; RIB II 2503.601.		X
Inscription on handmill: IAII .	II	X			X	RIB II 2449.30	X	
Samian graffito: ATTO .	LXXX	X			X	Britannia xii 1981, 393 no. 100; RIB II 2501.79.		X
Samian Dr 31 with graffito: AVR .	IX	X			X	JRS lix 1969, 243 no. 45; RIB II 2501.88.		X
Dr 31 with graffito: [...] RCATOR .	XXIX	X			X	Britannia v 1974 467 no. 39; RIB II 2501.381.		X
Dr 31 with graffito: PELI .	XXXVII	X			X	Britannia iii 1972 360 no. 48; RIB II 2501.430.		X
Dr 31 with graffito: [...] ISTAS .	III	X			X	Britannia v 1974 467 no. 40; RIB II 2501.720.		X
Dr 31 with graffito: [...] NII [...].	II	X			X	Britannia iii 1972 360 no. 49; RIB II 2501.759.		X
Graffito on Dr 18/31: ADA .	V03-01A	X			X	Birley Andrew R. & Blake J. 2005.		X

Graffito on base of Dr 37: CELENT [...].	V02	X			X	Birley Andrew R. 2003	X
Graffito on Dr 36: [...] ALACI [...].	V04-19A	X			X	Birley Andrew R. & Blake J. 2005.	X
Graffito on Dr 33: NEVTO .	V04-54A	X			X	Birley Andrew R. & Blake J. 2005.	X
Graffito on Dr 37: [...] CIVS .	V07B-79	X			X	Forthcoming 2009	X
Graffito on Dr 33: [...] ATTO .	XXVIII	X			X	Forthcoming 2009	X
Graffito on Dr 18/31: MII [...].	SW rampart	X		X		Forthcoming 2009	X
Graffito on Dr 33: [...] V FI [...].	XXIX	X			X	Forthcoming 2009	X
Graffito on ring-neck flagon: PRIMI [...].	V07B-37	X			X	Forthcoming 2009	X
Graffito on buff storage vessel: [...] TOTI [...].	XXV	X			X	Forthcoming 2009	X
Graffito on Dressel 20: [...] AVG [...].	Between western temples	X			X	Birley Andrew R & Blake J. 2007	X
Graffito on Dressel 20 : SIMIAG [...].	SF2 Ditch west	X			X	Forthcoming 2009	X
Graffito on samian: C .	SW fort corner		X	X		Blake J. 2001	X
Silver ring inscribed: MATRI / PATRI . <i>To mother and father</i>	V08B-39	X			X	Forthcoming 2009	X

Votive altar: DEHAMI / EBANIIL . <i>To the Syrian God,</i>	V08B-32	X			X	Forthcoming 2009	X	
Graffito on Dr 46: MOXI	CXXI	X			X	Forthcoming 2009		X
Graffito n Dr 18/31: [...]//N / [...] ITVI [...]	East drain of Bath house	X			X	Forthcoming 2009		X
Graffito on Dr 27: XII	CXXI	X			X	Forthcoming 2009		X
Graffito on BB1 XVI	V08B-39	X			X	Forthcoming 2009		X

12. Crucibles

Small Find Number	Context - site location	Date of Excavation	3rd c	4th c	Intra	Extra
SF126	DAI level 111	1975-1976	X			X
SF293	KAA4 ext 5 level I CX21'9" DX21'4"	1975-1976	X			X
SF1161	KA2/3 baulk KA3(24) level I	1975-1976	X			X
SF1700	KD8/9(36) AX15'8" BX11'0" level II	1975-1976	X			X
SF1809	VS84	1988	X			X
SF1811	context vicus 2 PSB/80/15	1980-1984		X		X
SF1862	level vicus 2 PSB/80/6 floor clearance	1980-1984		X		X
SF1871	VKB38 KBI level 2	1975-1976	X			X
SF1872	G (M) Below flags or road	1992	X			X
SF1877	site N of 86 level I (I) GX55'8" JX52'3" W	1977-1978	X			X
SF1895b	KD8/9 (2) level I AX31'2" BX15'8"	1975-1976	X			X
SF1911	KD8/9 (23) level II CX12'9" DX28'10"	1975-1976	X			X
SF1920	KD8/9(1) level I CX20'10" DX30'2"	1975-1976	X			X
SF1921	VL2 KA2/3 level II	1975-1976	X			X
SF1926a	KC8/9 33 level III AX7'5" BX30'5"	1975-1976	X			X
SF1927b	KD8/9(25) CX35'4" DX7'6" level II	1975-1976	X			X
SF1929	G (M) Annexe floor	1992	X			X
SF1940	KC8/9 level 11 AX17'8" BX14'1"	1975-1976	X			X
SF1944	mansio penult period room XIII	Pre 1972	X			X
SF1950	NE corner bath house theo addition on floor	Pre 1972	X			X
SF1955	KD8/9 (17) level II CX17'5" DX24'9"	1975-1976	X			X
SF1960	KD8/9(24) level II CX9'6" DX34'4"	1975-1976	X			X
SF1966	between BH site LXXXVI (11) level II PX7'10" GX59'1"	1977-1978	X			X
SF1976	KD8/9 (14) CX14'10" DX26'10" level II	1975-1976	X			X
SF1989	KC8/9(7) level I CX28'3" DX18'0"	1975-1976	X			X
SF2001	LXXIV	1987	X			X
SF2023	XXI	1989-1990	X			X
SF2027	G (M) In clay below annexe floor	1992	X			X
SF2029	KD8/9(3) level II CX11'4" DX34'0"	1975-1976	X			X
SF2030	LXXIV	1987	X			X
SF2031	LXXIV	1987	X			X
SF2032	KD3/4 23 level III BX17'11" EX 12'8"	1975-1976	X			X
SF2034	KC8/9 29 level III AX12'9" BX28'2"	1975-1976	X			X
SF2095	KC8/9 15 level 111 AX29' BX13'5"	1975-1976	X			X
SF2140	KC8/9 level III	1975-1976	X			X

SF2769	DAA4 (4) ext CX23'6" DX22'11" level I	1975-1976	X			X
SF2777	KB8/9 level I CX3'0" DX13'7"	1975-1976	X			X
SF2851	vicus 2 PSB/80/9 floor clearance	1980-1984	X			X
SF2858	KA2/3 baulk KA3 (21) level 2 AX5'7" CX16'9"	1975-1976	X			X
SF3519	KC8/9 16 level 111 AX30' BX11'II"	1975-1976	X			X
SF3577	context vicus 2 PSB/80/15 vicus 2 floor clearance	1980-1984	X			X
SF3913	KA5/6(13) ton (6) of ? flue	1975-1976	X			X
SF3921	KA2/3 baulk KA3 (23) level 2 AX16'0" CX16'2"	1975-1976	X			X
SF3923	KAA4 ext 6 level I CX22'0" DX21'9"	1975-1976	X			X
SF3924	KAI (3) Level 111 KAI BX12'0" KBI CX27'5"	1975-1976	X			X
SF3965	G (N) Below late annexe flags	1992	X			X
SF3966	G (N) Below late annexe flags	1992	X			X
SF3968	G (M) Below flags of road	1992	X			X
SF3972	V126 Maus I U/S	1972-1974	X			X
SF4271	KC8/9(5) AZ17'0" BX14'6" level I	1980-1984	X			X
SF4421	BW VI +	1991	X			X
SF4855	site LXXV(15) level 111 (removal of walls) FX37'5" GX40'6" W	1977-1978	X			X
SF5078	KC8/9 (13) level 111 AX5'5" BX13'9"	1975-1976	X			X
SF5321	KC8/9 (31) level 111 AX7'5" DX6'6"	1975-1976	X			X
SF5798	DA2(1) level 111 KAI BX26'0" KBI CX25'2"	1975-1976	X			X
SF5974	KC8/9(5) AX17'0" BX14'6" level I SEE 2727	1975-1976	X			X
SF5978	KAI(2) level III (KAI) BX17'8" (KBI) CX20'9"	1975-1976	X			X
SF5979	KD8/9 level III CX34'6" DX8'6" KD8/9 12	1975-1976	X			X
SF5983	KD8/9 level III CX34'6" DX8'6"	1975-1976	X			X
SF5989	KD3/4(31) level VI A AX10'11" BX8'2"	1975-1976	X			X
SF7311	V97-58	1997		X	X	
SF7722	V99-54	1999		X	X	
SF11485	V07-82A	2007	X			X
SF11487	V07-82A	2007	X			X
SF11545	V07-86A	2007	X			X
SF11593	V06-25A	2006	X		X	
SF11596	VO6-11A	2006		X	X	
SF11606	V06-08A	2006	X		X	
SF12141	V08B-61	2008	X			X

13. Gaming counters and boards

Small Finds Number	Context - site location	Material	Date of excavation	3rd c	4th c	Intra	Extra
SF107	NW corner Bath house changing room	Ceramic	1970-1972	X			X
SF118	Bath House changing room drain	Samian pottery	1970-1972	X			X
SF172	XXIV	Samian pottery	1970-1972	X			X
SF194	Above Bath House sewer	Ceramic	1970-1972	X			X
SF230	XXX	Pottery	1970-1972	X			X
SF245	XXX	Samian pottery	1970-1972	X			X
SF260	Opposite XXII in road drain	White glass	1970-1972	X			X
SF266	XXII	White glass	1970-1972	X			X
SF275	SH Bath house	Samian pottery	1970-1972	X			X
SF291	Outside XXII in road drain	White glass	1970-1972	X			X
SF292	XXII	Stone	1970-1972	X			X
SF286	XXVII (south end)	Pottery	1970-1972	X			X
SF287a	XXVII (south end)	Stone	1970-1972	X			X
SF287b	XXVII (south end)	Stone	1970-1972	X			X
SF313	XXVC (below late flagstone)	Castor ware	1970-1972	X			X
SF341	XXVII	Samian pottery	1970-1972	X			X
SF357	NW2B (VG6)	Grey ware pottery	1970-1972	X			X
SF363	NWII A ditch top	Stone	1970-1972	X			X
SF364	XXVII (south end)	Stone	1970-1972	X			X
SF365	XXVII (south end)	Stone	1970-1972	X			X
SF370	NWII A ditch top	Samian pottery	1970-1972	X			X
SF428	XXX (S)	Pottery	1970-1972	X			X
SF472a	Bath House WT below late flags	Pottery	1970-1972	X			X
SF472b	Bath House WT below late flags	Stone	1970-1972	X			X
SF506	XI	Samian pottery	1970-1972	X			X
SF512	To immediate S of XI	Decorated pottery	1970-1972	X			X
SF528a	XI	Stone	1970-1972	X			X
SF528b	XI	Stone	1970-1972	X			X
SF556	XXXII/III	Pottery	1970-1972	X			X
SF575	XXXIII ventilation channel	Black glass	1970-1972	X			X
SF585	XXXVIII	White Glass	1970-1972	X			X
SF593	XXIX	Black glass	1970-1972	X			X
SF702	LXXVIII	Plain pottery	1972-1974	X			X
SF717	XXXII	Stone	1972-1974	X			X
SF753	XXX	Blue glass	1972-1974	X			X
SF815	XXXIX	Samian pottery	1970-1972	X			X
SF922	XXX (S) below c4th floor	Blue glass	1972-1974	X			X
SF942	XXX below c4th floor	Samian pottery	1972-1974	X			X
SF1010	Dio Ditch	Pottery	1972-1974	X			X
SF1050	Dio Ditch	Bone	1972-1974	X			X

SF1070	Dio Ditch	Stone	1972-1974	X			X
SF1079	V184	Pottery	1972-1974	X			X
SF1128a	LXXVI	Stone	1972-1974	X			X
SF1128b	LXXVI	Stone	1972-1974	X			X
SF1133a	VI84 (Wells & water tanks)	Samian pottery	1972-1974	X			X
SF1133b	VI84 (Wells & water tanks)	Samian pottery	1972-1974	X			X
SF1146	VI 103 S of II	Stone	1972-1974	X			X
SF1148	VI84 (Wells & water tanks)	Pottery	1972-1974	X			X
SF1150	S of LXXXI in drain by w wall of III	Black glass	1972-1974	X			X
SF1157	VI62 (Wells & water tanks)	White glass	1972-1974	X			X
SF1174a	XXX front next to street	Black glass	1972-1974	X			X
SF1174b	XXX front next to street	Black glass	1972-1974	X			X
SF1240	A4	Samian pottery	1972-1974	X			X
SF1271	A3	Stone	1972-1974	X			X
SF1312	B3	Samian pottery	1972-1974	X			X
SF1369	A4 upper packing	Plain pottery	1972-1974	X			X
SF1409	A4/75 (b) 14	Bone	1972-1974	X			X
SF1445	B4 in fill below topsoil	Stone	1972-1974	X			X
SF1460	A4/75 rubble beside S wall of LXXV	Grey ware pottery	1972-1974	X			X
SF1483	LXXIII beneath c4th floor	Plain pottery	1972-1974	X			X
SF1513	B3 strat packing below c4th floor	White glass	1972-1974	X			X
SF1690	VKA19 VA2 level 2	Stone	1975-1976	X			X
SF1720	KC3 (76) AX12'4" BX10'8"	Bone	1975-1976	X			X
SF1734	KA-76-5 Level 3	White glass	1975-1976	X			X
SF1778	KC3 (11) AX18'0" CX17'0"	Green Glass	1975-1976	X			X
SF1791	KB4 (10) level 1 AX14'0" BX12'9"	Grey ware pottery	1975-1976	X			X
SF1804	KAA4 (1) AZ3'9" BX11'7"	Plain pottery	1975-1976	X			X
SF1824	AX11'02 BX4'0"	Black burnished pottery	1975-1976	X			X
SF1825	KB6 (6) X10'3 BX4'6"	Stone	1975-1976	X			X
SF1833	KAA4 (25) level 1 CX21'9" DX21'3"	Jet	1975-1976	X			X
SF1841	KA5/6 level 1 AX31'9" CX12'10"	Black glass	1975-1976	X			X
SF1845	KAA5/6 Level I AX20'6" BX9'0"	Samian pottery	1975-1976	X			X
SF1846	KAA5/6 (3) AX8'0" BX16'9"	Grey ware pottery	1975-1976	X			X
SF1882	KAA5/6 (11) level 1 AX17'9" BX24'3"	Black glass	1975-1976	X			X
SF1885a	KA5/6 (19) llevel 2 AX33'9" BX14'6"	Stone	1975-1976	X			X
SF1885b	KA5/6 (19) llevel 2 AX33'9" BX14'6"	Stone	1975-1976	X			X
SF1893a	KAA5/6 (24) AX10'10" BX(BHN) 46'9"	Samian pottery	1975-1976	X			X
SF1900	KC8/9 (7) level 1 AX21'4" BX15'7"	Greyware pottery	1975-1976	X			X
SF2020	KD8/9 (10) level 1 DX11'10" CX3'0"	Samian pottery	1975-1976	X			X
SF2067	Site 39	Samian pottery	1977-1978	X			X
SF2083	Site 36	Samian pottery	1977-1978	X			X
SF2105	LXXXV	Mudstone	1977-1978	X			X

SF2254	Area 3 level 2 - latrine on NW corner	Black glass	1979	X		X	
SF2261	Latrine NW corner	Stone	1979	X		X	
SF2265	Latrine NW corner	Samian pottery	1979	X		X	
SF2266	Latrine NW corner	BB1 pottery	1979	X		X	
SF2270	Latrine NW corner	Black glass	1979	X		X	
SF2307	Context 1 VPM4	Samian pottery	1981		X	X	
SF2348	Vicus 2 floor PSB/80/8	Stone	1981	X			X
SF2375	Context 10 VPM22 - latrine	Stone	1981		X	X	
SF2402	Context 10 VPH19 - latrine	Samian pottery	1981		X	X	
SF2418	Context 1 VPS25	Stone	1981		X	X	
SF2437	Context 1 VPM18	Pottery	1981		X	X	
SF2508	Context 25 VPG28	Green Glass	1981		X	X	
SF2617	Context 1 VPM40	Samian pottery	1981		X	X	
SF2631	Context 25 VPS14	Stone	1981		X	X	
SF2648	Context 91 VPM47	Pottery	1981	X		X	
SF2720	Context 136 VPG33	White glass	1981		X	X	
SF2736	Context 1 VPM13	Pottery	1981		X	X	
SF2752	Context 1 VPM6	Samian pottery	1981		X	X	
SF2829	Context 1 VPM12	Grey ware pottery	1981		X	X	
SF2843	Context 1 VPM	Grey ware pottery	1981		X	X	
SF2852	PSB/80/1	Shale	1981	X			X
SF2856	Context 1 VPM 13	Samian pottery	1981		X	X	
SF2869	Context 178 VPM51	Greyware pottery	1981	X		X	
SF2888a	196 VPS 23	Stone	1981	X		X	
SF2888b	196 VPS 23	Stone	1981	X		X	
SF2888c	196 VPS 23	Stone	1981	X		X	
SF2888d	196 VPS 23	Stone	1981	X		X	
SF2939	Context 258 VPM54	Samian pottery	1981	X		X	
SF2946	Context 258 VPM55	Samian pottery	1981	X		X	
SF3005	Context 284 VPS29	Stone	1981	X		X	
SF3016	Context 223 VPM57	BB ware	1981	X		X	
SF3042	Context 130 VPM56	Samian pottery	1981	X		X	
SF3082	Context 301 VPG38	White glass	1981	X		X	
SF3132	Context VP231 VPM62	Samian pottery	1981	X		X	
SF3134	context VP555 VPG39	White glass	1981	X		X	
SF3385	KC1 (10) level 1 BX16'0" CX17'5"	Black glass	1985	X			X
SF3557	LXXVIII	Grey ware pottery	1986	X			X
SF3637	LXXV	Samian pottery	1987	X			X
SF3648	LXXV E	Black pottery	1987	X			X
SF3716	LXXB E VII	Bone	1987	X			X
SF4350	LXXIII	Stone	1988	X			X
SF4460	LXXIII	Pottery	1988	X			X
SF7022	V97-7	Bone	1997		X	X	
SF7023	V97-7	Bone	1997		X	X	

SF7025	V97-7	Bone	1997		X	X	
SF7028	V97-7	Pottery	1997		X	X	
SF7042	V97-1	Stone	1997		X	X	
SF7071	V97-25	White glass	1997		X	X	
SF7107	V97-28	Stone	1997		X	X	
SF7130	V97-32	Stone	1997	X		X	
SF7182	V97-67	White glass	1997	X		X	
SF7202	V97-80	Bone	1997	X		X	
SF7227	V97-95	Stone	1997		X	X	
SF7258	V97-1	Black glass	1997		X	X	
SF7264	V97-1	Blue glass	1997		X	X	
SF7272	V97-98	Bone	1997		X	X	
SF7273	V97-98	Bone	1997		X	X	
SF7277	V97-1	Stone	1997		X	X	
SF7300	V97-1	Bone	1997		X	X	
SF7341	V98-108	Stone	1998		X	X	
SF7365	V98-120	Stone	1998		X	X	
SF7366	V98-120	Stone	1998		X	X	
SF7367	V98-120	Stone	1998		X	X	
SF7368	V98-120	Stone	1998		X	X	
SF7371	V98-1	Stone	1998		X	X	
SF7384	V98-137	Pottery	1998		X	X	
SF7389	V98-108	Stone	1998		X	X	
SF7420	V98-108	Stone	1998		X	X	
SF7421	V98-108	Calcite grit pottery	1998		X	X	
SF7427	V98-137	Stone	1998		X	X	
SF7436	V98-168	Stone	1998		X	X	
SF7444	V98-168	Stone	1998		X	X	
SF7465	V98-177	Pottery	1998	X		X	
SF7466	V98-181	Stone	1998		X	X	
SF7468	V98-168	Stone	1998		X	X	
SF7473	V98-168	Grey ware pottery	1998		X	X	
SF7499b	V99-1	Pottery	1999		X	X	
SF7519	V99-15	Bone	1999	X		X	
SF7520	V99-15	Stone	1999	X		X	
SF7521	V99-20	Stone	1999		X	X	
SF7577	V99-41	Stone	1999	X		X	
SF7587	V99-40	Bone	1999		X	X	
SF7590	V99-40	Stone	1999		X	X	
SF7591	V99-40	Stone	1999		X	X	
SF7602	V99-44	Stone	1999		X	X	
SF7603	V99-44	Stone	1999		X	X	
SF7604	V99-44	Stone	1999		X	X	
SF7619	V99-45	Stone	1999	X		X	

SF7630	V99-42	Pottery	1999	X		X	
SF7633	V99-44	Pottery	1999		X	X	
SF7635	V99-44	Stone	1999		X	X	
SF7636	V99-44	Stone	1999		X	X	
SF7637	V99-44	Stone	1999		X	X	
SF7641	V99-44	Grey ware pottery	1999		X	X	
SF7652	V99-47	Stone	1999		X	X	
SF7653	V99-47	Stone	1999		X	X	
SF7660	V99-47	Stone	1999		X	X	
SF7661	V99-47	Stone	1999		X	X	
SF7662	V99-47	Stone	1999		X	X	
SF7663	V99-47	Stone	1999		X	X	
SF7670	V99-47	Stone	1999		X	X	
SF7683	V99-47	Stone	1999		X	X	
SF7706	V99-47	Stone	1999		X	X	
SF7707	V99-47	Stone	1999		X	X	
SF7739	V00-3	Stone	2000		X	X	
SF7745	V00-3	Stone	2000		X	X	
SF7769	V00-3	Plain pottery	2000		X	X	
SF7818	V00-3	White glass	2000		X	X	
SF7953	V00-39	Stone	2000	X			X
SF7954	V00-39	Stone	2000	X			X
SF7971	V00-41	White glass	2000		X	X	
SF8011	V00-41	Greyware pottery	2000		X	X	
SF8037	V00-41	Pottery	2000		X	X	
SF8044	SW turret	Bone	2000		X	X	
SF8105	V01-01A	Samian pottery	2001	X			X
SF8207	V01B-7 (inside Keller RBT)	Stone	2001	X			X
SF8208	V01B-7 (just outside Keller)	Stone	2001	X			X
SF8231	V01B-17	Samian pottery	2001	X			X
SF8252	V01B-20	Samian pottery	2001	X			X
SF8848	V02-35A	Samian pottery	2002	X			X
SF8868	V02-02A	Stone	2002	X			X
SF8874	V02-06A	Samian pottery	2002	X			X
SF8905	V03B-1	Samian pottery	2003	X			X
SF8914	V03B-12	Stone	2003	X			X
SF8991	V03B-43	Samian pottery	2003	X			X
SF9003	V03-02A	Plain pottery	2003	X			X
SF9248	V04-01A	Samian pottery	2004	X			X
SF9282	V04-08A	Black glass	2004	X			X
SF9286	V04-14A	Stone	2004	X			X
SF9287	V04-14A	Stone	2004	X			X
SF9306	V04B-4	Samian pottery	2004	X			X
SF9313	V04B-10	Black glass	2004	X			X
SF9363	V04B-27	Samian pottery	2004	X			X

SF9411	V04-22A	White glass	2004	X			X
SF9452	V04-33A	White glass	2004	X			X
SF9470	V04-19A	Plain pottery	2004	X			X
SF9489	V04-45A	White glass	2004	X			X
SF9521	V04-21A	White glass	2004	X			X
SF9522	V04-21A	Black glass	2004	X			X
SF9536	V04-21A	White glass	2004	X			X
SF9542	V04-54A	Samian pottery	2004	X			X
SF9544	V04-54A	Plain pottery	2004	X			X
SF9550	V04-15A	Black glass	2004	X			X
SF9614	V04-60A	Samian pottery	2004	X			X
SF9624	V04-60A	Plain pottery	2004	X			X
SF9625	V04-60A	Samian pottery	2004	X			X
SF9641	V04-60A	Plain pottery	2004	X			X
SF9658	V04-64A	Samian pottery	2004	X			X
SF9913	V05-07A	Stone	2005	X		X	
SF9917	V05-07A	Samian pottery	2005	X		X	
SF9970	V05-21A	Bone	2005		X	X	
SF9971	V05-21A	Stone	2005		X	X	
SF10049	V05-22A	Stone	2005		X	X	
SF10179	V05-17A	Black glass	2005		X	X	
SF10424	V06-02A	Samian pottery	2006	X		X	
SF10463	V06-09A	Pottery	2006	X		X	
SF10537	V06-22A	Samian pottery	2006		X	X	
SF10537	V06-21A	Samian pottery	2006		X	X	
SF10540	V06-05A	Bone	2006	X		X	
SF10541	V06-24A	Pottery	2006	X		X	
SF10542	V06-21A	Pottery	2006		X	X	
SF10543	V06-21A	Pottery	2006		X	X	
SF10544	V06-21A	Pottery	2006		X	X	
SF10546	V06-21A	Pottery	2006		X	X	
SF10547	V06-05A	Pottery	2006	X		X	
SF10623	V06-36A	Pottery	2006	X		X	
SF10624	V06-36A	Pottery	2006	X		X	
SF10644	V06-01A	Pottery	2006		X	X	
SF10645	V06-01A	Pottery	2006		X	X	
SF10646	V06-01A	Pottery	2006		X	X	
SF10702	V06-41A	Black glass	2006	X		X	
SF10705	V06-41A	Stone	2006	X		X	
SF11329	V07-58A	White glass	2007	X			X
SF11422	V07-58A	White glass	2007	X			X
SF11490	V07-82A	pottery	2007	X			X
SF11529	V07-82A	Pottery	2007	X			X
SF11542	V07-82A	Stone	2007	X			X
SF11590	V07-62A	Samian pottery	2007	X			X

SF12272	V08-02A	Pottery	2008		X	X	
SF12354	V08-02A	Stone	2008		X	X	
SF12354	V08-02A	stone counter	2008		X	X	
SF11762	V08-03A	ceramic counter	2008		X	X	
SF11959	V08-04A	stone counter	2008		X	X	
SF12009	V08-04A	white glass counter	2008		X	X	
SF12048	V08-04A	stone counter	2008		X	X	
SF11887	V08-14A	stone counter	2008		X	X	
SF11867	V08-17A	stone counter	2008		X	X	
SF11868	V08-17A	stone counter	2008		X	X	
SF11869	V08-17A	stone counter	2008		X	X	
SF11870	V08-17A	stone counter	2008		X	X	
SF11878	V08-17A	ceramic counter	2008		X	X	
SF11913	V08-17A	stone counter	2008		X	X	
SF11959	V08-04A	stone gaming counter	2008		X	X	
SF12228	V08-32A	Samian counter	2008		X	X	
SF12270	V08-44A	orange ceramic counter	2008		X	X	
SF12548	V08-49A	Samian	2008		X	X	
SF12465	V08-59A	ceramic counter	2008		X	X	
SF12411	V08-62A	ceramic counter	2008		X	X	
SF12032	East granary channel A 3.00 level 1	stone counter	2008		X	X	
SF12061	East granary channel A 18.50 level 1	stone counter	2008		X	X	
SF12425	East granary channel D 4.00 level 1	stone counter	2008		X	X	
SF10897	V3B-08	Samian gaming counter	2008	X			X
SF10899	V3B-08	ceramic gaming counter	2008	X			X
SF10900	V3B-08	ceramic gaming counter	2008	X			X
SF10902	V2B-08	white glass gaming	2008	X			X
SF10903	V3B-08	ceramic	2008	X			X
SF10924	V20B-08	stone	2008	X			X
SF10933	V21B-08	black glass	2008	X			X
SF10943	V25B-08	bone	2008	X			X
SF10961	V35B-08	ceramic	2008	X			X
SF10962	V29B-08	bone	2008	X			X
SF10974	V22B-08	ceramic	2008	X			X
SF10980	V39B-08	ceramic	2008	X			X
SF10981	V35B-08	ceramic	2008	X			X
SF10982	V35B-08	ceramic	2008	X			X
SF10992	V48B-08	ceramic	2008	X			X
SF10996	V48B-08	ceramic	2008	X			X
SF12104	V51B-08	samian	2008	X			X
SF12122	V52B-08	shale	2008	X			X
SF12151	V33B-08	samian	2008	X			X
SF12154	V63B-08	samian	2008	X			X

SF12157	V54B-08	ceramic	2008	X			X
SF12159	V52B-08	white glass	2008	X			X
SF12163	V65B-08	ceramic	2008	X			X
SF12166	V69B-08	blue glass	2008	X			X

13.1 Gaming boards

Small Finds Number	Context - site location	Material	Date of excavation	3rd c	4th c	Intra	Extra
SF202	XXV	Stone	1970-1972	X			X
SF1182	II <i>Mansio</i>	Stone	1972-1974	X			X
SF9551	V04-15A	Stone	2004	X			X
SF11822	V08-12A	Stone	2008		X	X	

Bibliography

Ancient Sources:

- Arrianus *Periplus Maris Euxini*. edited and trans. Liddle A. 2003, Bristol: Classical Press.
- Arrianus *Periplus Maris Euxini* Haverfield F. (ed) 1911. Arrian as legate of Cappadocia. (212-233) *Essays by Henry Francis Pelham: Late President Of Trinity College, Oxford and Camden Professor of Ancient History*. Oxford: Clarendon Press.
- Arrianus *Tactical Handbook and the Expedition Against the Alans*. Trans. J G DeVoto, 1993. Chicago: Ares Publishers Inc.
- 'Aelius Spartianus', Hadrian. *The Augustan History – Lives of the Later Caesars*. Trans. Anthony Birley 1976. London: Penguin Classics. 57-87.
- Caesar, *De bello Gallico*. trans. S A Handford (Penguin Classics) 1951 (1982 edition). London: Penguin Books.
- Caesar, *De bello civili*. trans. J F Gardner (Penguin Classics) 1967. London: Penguin Books.
- The Digest of Justinian. Watson A. (ed) 1998. *The Digest of Justinian: Volume 2*. Philadelphia: University of Pennsylvania Press.
- Festus, Sex. Pompeius. *De verborum significatione (On the meaning of words)* ed. W.M. Lindsay, (*Glossaria Latina* 4) Paris 1931: 93-467.
- Isidorus of Seville, *Etymologiae*, ed. W.M. Lindsay, Oxford, Clarendon Press, 1911
- ST Patrick, *Epistola*. Hood, A. B. E. (1978) *St Patrick, His Writings and Muirchu's Life*. London: Phillimore & Co Ltd.
- Pliny the Elder (C. Plinius Secundus), *Historia Naturalis, (Natural History)* 1938 (1963 reprint) edited and translated by Rackham, Loeb Classical Library. London: Heinemann.
- Valerius Maximus, *Factorum ac dictorum memorabilium libri IX (Nine Books of Memorable Deeds and Sayings)*, ed. and trans. Shackleton Bailey. Cambridge, Mass. & London Harvard University Press, 2000.

Varro M. Terentius, *De lingua Latina*.(On the Latin language) trans. R Kent (1938). Loeb Classical Library. London: Heinemann.

General Bibliography

Allason-Jones. L. & Milet R. F. 1984. *The catalogue of small finds from South Shields Roman Fort*. The Society of Antiquaries of Newcastle-upon-Tyne. Monograph Series No.2. Newcastle-upon-Tyne.

Allason-Jones. L. & McKay B. 1985. *Coventina's Well: A shrine on Hadrian's Wall*. Chesters Museum.

Allason-Jones L. 1995. 'Sexing small finds', in Rush P (ed). *Theoretical Roman Archaeology: Second 7Conference Proceeding* (Aldershot), 21-32.

Allason-Jones L. 1996. *Roman Jet in the Yorkshire Museum*. York.

Allason- Jones. L. 1999. Women and the Roman army in Britain. *The Roman Army As A Community*. Journal of Roman Archaeology Supplementary Series, 34, Goldsworthy & Haynes, eds. Rhode Island: Portsmouth. 41-51.

Allason-Jones L. 2001. Material culture and identity. In *Britons and Romans: advancing an archaeological agenda*. James & Millett, eds. York: Council for British Archaeology Research Report 125. 19-25

Allason-Jones L 2009. The small finds. In *Housesteads Roman Fort – The Grandest Station. Vol II. The Material Assemblages*. Rushworth eds. Swindon: English Heritage. 430-483

Allison P.M. 2004. *Pompeian Households: An analysis of the material culture*. Monograph 42. The Costen Institute of Archaeology, University of California: Los Angeles.

Allison P.M. *et al* 2004. Extracting the social relevance of artefact distribution within Roman military forts. Internet Arch. 17.4, 2004 (<http://intarch.ac.uk>). [accessed on the 5th of November 2007]

Allison P.M. 2006. Artefact distribution within the auxiliary fort at Ellingen: evidence for building use and for the presence of women and children. *Sonderdruck aus Bericht der Romisch-Germanischen Kommission 87, 2006*. Mainz am Rhein. 389-451.

- Allison P.M. 2008. Dealing with legacy data – an introduction. *Internet Arch.* 24, 2008.
 (<http://intarch.ac.uk>). [accessed on the 3rd of June 2009]
- Archer S.N. & Bartoy K.M. & Pearson C.L. 2006. *The life and Death of a Home: House History in a Subsurface Feature*. In *Between Dirt and Discussion: Methods, Methodology, and Interpretation in Historical Archaeology*. Archer & Bartoy Springer, eds: Berkeley.
- Berry J. & Taylor D.J.A. 1997. The Roman Fort at Halton Chesters; a Geophysical Survey. In *Archaeologia Aeliana*. (5), 25. 51-60.
- Blagg T.F.C. & King A.C, eds 1984. *Military and Civilian in Roman Britain: Cultural Relationships in a Frontier Province*. Oxford : BAR British Series 136. BAR.
- Blagg T.F.C. An examination of the connections between military and civilian architecture. In *Military and Civilian in Roman Britain: Cultural Relationships in a Frontier Province*. Blagg T.F.C. & King A.C. (eds) 1984. Oxford. 249-264.
- Bidwell P. 1985. *The Roman Fort of Vindolanda*.. English Heritage Archaeological Report no 1. London: Historic Buildings and Monuments Commission for England.
- Bidwell P. & Speak S. 1994. *Excavations at South Shields Roman Fort: Volume 1*. Newcastle-upon-Tyne: Society of Antiquaries of Newcastle-upon-Tyne with Tyne and Wear Museums.
- Bidwell P. 1997. *Roman Forts in Britain*. London: Batsford.
- Bidwell P, Snape M & Croom A. 1999. *Hardknott Roman fort: Cumbria: including an account of the excavations by the late Dorothy Charlesworth*. Research Series Number 9. Kendal: Cumberland and Westmoreland Antiquarian and Archaeological Society.
- Bidwell P. 1999. *Hadrian's Wall 1989-1999: A summary of recent excavation and research prepared for the Twelfth Pilgrimage of Hadrian's Wall* . Carlisle.
- Bidwell P & Hodgson N. 2009. *The Roman Army In Northern England*. South Shields: Arbeia Society.
- Biggins J.A. & Taylor D.J.A. 1999. A survey of the Roman Fort and settlement at Birdoswald, Cumbria. *Britannia*, 30. 91-146.

- Biggins J.A. & Taylor D.J.A. 2004. Geophysical survey of the vicus at Birdoswald Roman Fort, Cumbria. *Britannia*, 35. 159-178.
- Biggins J.A. & Taylor D.J.A. 2004 A Geophysical Survey at Housesteads Roman Fort, April 2003. *Archaeologia Aeliana*, (5), 33. 52-60.
- Biggins J.A. & Hall S. & Taylor D.J.A. 2004. A geophysical survey of milecastle 73 and Hadrian's Wall at Burgh-by-Sands, Cumbria. *Transactions of the Cumberland and Westmoreland Antiquity and Archaeological Society* (3), 4. 55-70.
- Biggins J.A. & Taylor D.J.A. 2007. The Roman Fort at Castlesteads, Cumbria: a Geophysical Survey of the Vicus. *Transactions of the Cumberland and Westmoreland Antiquarian and Archaeological Society*. (3), 7. 15-30.
- Birley E.B. 1932. Excavations at Chesterholm- Vindolanda, 1931. *Archaeologia Aeliana*, (4), 9. 216
- Birley E.B. & Charlton J & Hedley P. Excavations at Housesteads in 1931. *Archaeologia Aeliana*, (4), 9. 222-237
- Birley E.B. 1932. A New Inscription and a note on the garrisoning of the Wall. *Archaeologia Aeliana*, (4), 9. 205-215.
- Birley E. B. & Keeney G.S. 1935. Fourth report on excavations at Housesteads. *Archaeologia Aeliana*, (4), 12. 204-259
- Birley E.B. & Richmond I.A. & Stanfield J.A. 1936. Excavations at Chesterholm-Vindolanda: third report. *Archaeologia Aeliana*, (4), 13. 218-257.
- Birley E.B. 1936. Anthony Hedley: a centenary memoir. *Archaeologia Aeliana*, (4), 13. 152-169
- Birley E. B. 1961 *Research on Hadrian's Wall*. Kendal: Titus Wilson & Son.
- Birley A. R. 1997 *Hadrian: The Restless Emperor*. London: Routledge.
- Birley A. R. 2002. *Garrison Life At Vindolanda: A Band Of Brothers*. Stroud: Tempus Publishing Ltd.
- Birley A. R. 2005. *The Roman Government of Britain*. Oxford.

- Birley A.R. 2008.. 'Cives Galli de(ae) Galliae concordisque Britanni: a dedication at Vindolanda'. *L'Antiquite Classique*, 77, 171-187.
- Birley R. E. 1961. Housesteads civil settlement, 1960. *Archaeologia Aeliana*, (4), 29. 301-319
- Birley R.E. 1977. *Vindolanda: A Roman frontier post on Hadrian's Wall*. London: Thames & Hudson.
- Birley R.E. 1994. *Vindolanda Research Reports, New Series: Volume I. The Early Wooden Forts*. Greenhead: Roman Army Museum Publications.
- Birley R.E. Blake J. & Birley A.R. 1998. *Vindolanda 1997 excavations: Praetorium site interim report*. Bardon Mill: Vindolanda Trust.
- Birley R.E. 2009. *Vindolanda: A Roman Frontier Fort on Hadrian's Wall*. Stroud: Amberley.
- Birley Andrew R. 2001. *Vindolanda's Military Bath Houses: The excavations of 1970 and 2000*. Bardon Mill: Vindolanda Trust.
- Birley Andrew R. 2003. *The excavations of 2001-2002: Volume 1*. Vindolanda Research report 2003. Bardon Mill: The Vindolanda Trust.
- Birley Andrew R. & Blake J. 2005. *The Vindolanda Excavations of 2003-2004*. Bardon Mill. The Vindolanda Trust.
- Birley Andrew R. & Blake J. 2007. *Vindolanda Research Report 2005/6*. Bardon Mill: The Vindolanda Trust.
- Bishop, M. C. & Dore N.L. *et al.* 1989. *Corbridge: excavations of the Roman fort and town, 1947-1980*. London: Historic Buildings and Monuments Commission for England.
- Bishop M.C. & Coulston J.C.N. 1993. *Roman Military Equipment*. London: Batsford.
- Bishop M.C. & Coulston J.C.N. 2006 (2nd edition) *Roman Military Equipment: From The Punic Wars To The Fall Of Rome*. Oxford. Oxbow Books.
- Bohec Le. Y 1994. *The Imperial Roman Army*. London: Batsford.
- Bosanquet R.C. 1897-1899. Excavations at Housesteads. *Proceedings of the Society of Antiquities Newcastle-upon-Tyne*. (2), 8, 25 – 193-200.
- Bosanquet R.C. 1904. Excavations on the line of the Roman Wall in Northumberland.

Archaeologia Aeliana, (2), 15. 193-300

- Bowman A. K. 1983. *The Roman writing tablets from Vindolanda*. London: British Museum Publications.
- Bowman A. K. 1994. *Life and letters on the Roman frontier: Vindolanda and its people*. London: British Museum Press.
- Bowman A. K. & Thomas J. D. 1994. *The Vindolanda writing-tablets: Tabulae Vindolandenses II*. London: British Museum Press.
- Bowman A.K. & Wolf G (eds). 1996. *Literacy and Power in the Ancient World*. Cambridge. Cambridge University Press.
- Bowman A. K. & Thomas J. D. . 2003. *The Vindolanda writing-tablets: Tabulae Vindolandenses III*. London: British Museum Press.
- Burnham B.C. 2005. I Sites explored. 1 Wales: Roman Britain in 2004. *Britannia*. 36. 383-392.
- Burnham B.C. 2006. Sites explored. 1 Wales. Roman Britain in 2005. *Britannia*. 37. 372-384.
- Buxton K. & Howard–Davis C. 2000. *Bremetennacum: Excavations at Roman Ribchester 1980, 1989-1990*. Lancaster Imprints Series Number 9. Lancaster: Lancaster University archaeological Unit.
- Branigan K. ed. 1981. *Rome and the Brigantes: the impact of Rome on Northern England*. Sheffield: University of Sheffield.
- Breeze D.J & Dobson B. 1969. Fort types on Hadrian's Wall. *Archaeologia Aeliana*, (5) 29. 15-32.
- Breeze D.J. & Dobson B 2004 (4th ed) *Hadrian's Wall*. London: Penguin History.
- Breeze D.J. 2006. *J.Collingwood Bruce's Handbook to the Roman Wall*, 14th ed, Newcastle-upon-Tyne.
- Breeze D.J. & Hodgson N. 2009. Pre-Hadrianic Forts and Frontiers In Britain. In *Limes XX: Estudios Sobre La Frontera Romana*, Volume I. Morillo & Hanel & Martin, eds. Madrid. 85-90
- Camden W. 1722 *Britannia* (ed. E Gibson). London.
- Campbell J.B. 1996 (2nd edition). *The Emperor and the Roman Army*. Oxford: Clarendon Press.

- Casey P.J. 1985. The coins. *The Roman Fort of Vindolanda*. Bidwell P. English Heritage Archaeological Report no 1. London: Historic Buildings and Monuments Commission for England.
- Casey P.J. & Davis J.L. & Evans J. 1993. *Excavations at Segontium (Caernarfon) Roman Fort, 1975-1979*. CBA Research Report 90: CBA. 103-116
- Crummy N. 2007. Six Honest Serving Men: a Basic Methodology for the study of Small Finds. In *Roman Finds: Context and Theory*. Hingley & Willis (eds). Oxford: Oxbow Books. 59-66.
- Cool H.E.M. 2002. Exploring Romano-British Finds Assemblages. In *The Oxford Journal of Archaeology* (21) 4. Oxford. 365-380.
- Cool H.E.M. 2004. *The Roman Cemetery at Brougham: Cumbria: Excavations 1966-67*. Britannia Monograph Series No.21. London: The Society for the Promotion of Roman Studies.
- Cool H.E.M. 2007. Telling stories about Brougham, or the importance of the specialist report. In *Roman Finds: Context and Theory*. Hingley & Willis, eds. Oxford: Oxbow Books. 54-58.
- Cool H.E.M. & Mason D.J.P. (editors) 2008. *Roman Piercebridge: Excavations by D.W. Harding and Peter Scott 1969-1981*. Published by the Architectural and Archaeological Society of Durham and Northumberland Report 7: Durham.
- Cooley A.E (editor) 2002. *Becoming Roman, Writing Latin?*. JRA supplementary Series Number 48. Portsmouth: Rhode Island.
- Collingwood R. G. and R. P. Wright 1965. *The Roman Inscriptions of Britain I: Inscriptions on Stone*. Oxford: Clarendon Press.
- Collingwood R. G. & R. P. Wright, *et al.* 1991. *The Roman inscriptions of Britain II: Instrumentum domesticum*. Oxford: Clarendon Press.

- Collins R. 2006. Late Roman frontier communities in northern Britain: A theoretical context for the 'end' of Hadrian's Wall. *TRAC 2005. Proceedings of the Fifteenth Annual Theoretical Roman Archaeology Conference*. Croxford & Goodchild & Lucas & Ray, eds. Oxford: Oxbow Books. 1-11.
- Davies J.L. 1984. Soldiers, Peasants and markets in Wales and the Marches. *Military and Civilian in Roman Britain: Cultural relationships in a Frontier Province*, Blagg & King, eds. (BAR British Series 136). Oxford: BAR. 93-128.
- Davies R.W. 1989. *Service in the Roman Army*. Edinburgh University Press.
- Driel-Murray C. 1993. The leatherwork. *Vindolanda: Research Reports, New Series. Volume III, The Early Wooden Forts*. Bardon Mill: The Vindolanda Trust. 1-75
- Driel-Murray C. 1999. And Did Those Feet in Ancient Time....Feet and shoes as a material projection of self. *TRAC 98: Proceedings of the Eighth Annual Theoretical Roman Archaeology Conference Leicester 1998*. Baker & Forcey & Jundi & Witcher, eds. Oxford: Oxbow books.
- Driel-Murray C. 2009. Ethnic recruitment and military mobility. In *Limes XX: Estudios Sobre La Frontera Romana*, Volume II. Morillo & Hanel & Martin, eds. Madrid.813-822.
- Ellis S.P. 2000. *Roman Housing*. London: Duckworth.
- Frere S. 1987. *Britannia: A History of Roman Britain*. (3rd edition 1987); London: Routledge.
- Frere S.S. & Wilkes J.J. 1989. *Strageath: Excavations within the Roman fort 1973-86*. Britannia Monograph Series No 9. London: The Society for the Promotion of Roman Studies.
- Galestin M.C. 2009. Frisian Soldiers In the Roman Army. In *Limes XX: Estudios Sobre La Frontera Romana*, Volume II. Morillo & Hanel & Martin, eds. Madrid. 834-846.
- Gardner A. 2003. Seeking a Material Turn: the artefactuality of the Roman Empire. *TRAC 2002. The Proceedings of the Twelfth Annual Theoretical Roman Archaeology Conference Canterbury 2002*. Carr & Swift & Weeks, eds. Oxbow Books: Oxford. 1-13.
- Gardner A. 2007. Artefacts, Contexts and the Archaeology of Social Practices. In *Roman Finds: Context and Theory*. Hingley & Willis, eds. Oxbow Books: Oxford.129-139.

- Glare P.G.W.(ed) 1992. *The Oxford Latin Dictionary*, Combined Edition. Oxford: Clarendon Press.
- Gleba M. 2008. *Textile Production In Pre-Roman Italy*. Ancient Textiles Series 4. Oxbow Books. Oxford.
- Gregory R.A. 2007. *Roman Manchester*. Oxford: Oxbow books.
- Goodburn R. & Bartholomew P. (ed) 1976. *Aspects of the Notitia Dignitatum*. British Archaeological Reports. Supplementary Series 15, Oxford: BAR.
- Hanson W.S. & Keppie L.J.F. (ed.) 1980. *Roman Frontier Studies 1979: Papers presented to the 12th International Congress of Roman Frontier Studies*. British Archaeological Reports International Series 71 (iii). Oxford: BAR
- Hanson W.S. & Conolly R. 2002. Language and literacy in Roman Britain: some archaeological considerations. In *Becoming Roman and writing Latin?*. JRA Supplementary Series 48. Portsmouth, Rhode Island. 151-164
- Hanson W.S. & Peller K. & Yoeman P.A. & Terry J. 2007a *Elginhaugh: A Flavian Fort And It's Annexe*. Volume 1. Britannia Monograph Series N0. 23. The Society For the Promotion Of Roman Studies. London.
- Hanson W.S. & Peller K. & Yoeman P.A. & Terry J. 2007b *Elginhaugh: A Flavian Fort And It's Annexe*. Volume 2. Britannia Monograph Series N0. 23. The Society For the Promotion Of Roman Studies. London.
- Harris E & J R. 1965. *The Oriental Cults in Roman Britain*. Leiden. Netherlands.
- Hassall M. 1976. Aspects of the Notitia Dignitatum. *Britain in the Notitia*. Goodburn & Bartholomew, eds. Oxford: BAR. 103-118
- Hassall M. 1999. Homes for heroes: married quarters for soldiers and veterans. *The Roman Army as a Community*. Goldsworthy & Haynes, eds. JRA, Supplementary Series 34: 35-40
- Hassall, M, 2004. The Defence of Britain in the 4th century in Le Bohec & Wolff eds. *L'Armée Romaine de Dioclétien et Valentinien Ier Actes du Cogres de Lyon*, 179-89
- Haynes I. 1999. Military service and cultural identity in the *auxilia*. *The Roman Army as a*

- Community*. Goldsworthy & Haynes, eds. JRA, Supplementary Series 34: 165-174
- Hayworth M. 1993. In *Excavations at Segontium (Caernarfon) Roman Fort, 1975-1979*.
CBA Research Report 90: Council for British Archaeology. 211-213.
- Henry P.A. 1999. Development and change in late Saxon textile production: an analysis of the evidence. In *Durham Archaeological Journal*. Volumes 14-15. Transactions of the Architectural and Archaeological Society of Durham and Northumberland. 69-81.
- Hedley A. 1822. An Account of a sepulchral Inscription, discovered at Little Chesters, in the County of Northumberland, by the Rev. Anthony Hedley. *Archaeologia Aeliana*, (1), 1. 208-212
- Hill J.D. 2001. Romanisation, gender and class: recent approaches to identity in Britain and their possible consequences. In *Britons and Romans: advancing an archaeological agenda*. Simon James and Martin Millet, eds. York: Council for British Archaeology Research Report. 12-19.
- Hill P. 2006. *The construction of Hadrian's Wall*. Tempus: Stroud.
- Hingley R. 2006. The deposition of iron objects in Britain during the later prehistoric and Roman periods: contextual analysis and the significance of iron. *Britannia*, 27. 213-258.
- Hingley R. & Willis S. 2007. *Roman Finds: Context and Theory*. Oxbow Books: Oxford.
- Hodgson J. 1822. Observations on the Roman Station of Housesteads, In *Archaeologia Aeliana*, (1), 1. 263-330
- Hodgson J. 1840. *History of Northumberland*. Part 2, Volume 2. Newcastle-upon-Tyne
- Hodgson N. 2003. *The Roman Fort at Wallsend (Segedunum) Excavations in 1997-98*. Tyne and Wear Museums Archaeological Monograph 2. Newcastle-upon-Tyne.
- Hodgson N. & Bidwell P.T. 2004. Auxiliary barracks in a new light: recent discoveries on Hadrian's Wall. *Britannia*. 35. 121-158.
- Hopewell D 2005. Roman Fort environs in North-West Wales. *Britannia*. 36. 225-270
- Hornblower S & Spawforth A (ed) 1996. *The Oxford Classical Dictionary*. 3rd Edition. Oxford: Oxford University Press.
- Huckle T & Charlton B & Biggins J.A. 2004. A Geophysical Survey at High Rochester Roman

- Fort. *Archaeologia Aeliana*. (5), 33. 35-50.
- Hunter C. 1702. (letter in) *Philosophical Transactions of the Royal Society*, 23, no278. 1131
- James S.J. 1984. Britain and the late Roman Army. *Military and Civilian in Roman Britain: Cultural relationships in a Frontier Province*. Blagg & King, eds. Oxford: British Archaeological Reports, British Series 136, 161-186.
- James S.J. 1999. The Community of the Soldiers: a major identity and centre of power in the Roman Empire. *TRAC 98. Proceedings of the Eighth Annual Theoretical Roman Archaeology Conference. Leicester 1998*. Barker & Forcey & Jundi & Witcher, eds. Oxford: Oxbow Books. 14-24.
- James S.J. 2001. Soldiers and civilians: identity and interaction in Roman Britain. *Britons and Romans: advancing an archaeological agenda*. James & Millett, eds. York: Council for British Archaeology Research Report 125. 77-89.
- Jackson K.H. 1982 Brigomaglos and St Briog. *Archaeologia Aeliana*, (5), 10. 61-65
- James S.J. 2001. 'Romanization' and the peoples of Britain. *Italy and the West: Comparative Issues in The Romanization*. Keay & Terrenato, eds. Oxford: Oxbow Books. 187-209.
- Jilek S. & Breeze D. 2007. The Detrius of Life: the Contribution of Small Finds to Understanding Smaller Military Installations. *Roman Finds: Context and Theory*. Hingley & Willis, eds. Oxbow Books: Oxford. 199-213.
- Jones G.D.B. 1984. Becoming Different without Knowing it: The role of the development of *vici*. *Military and Civilian in Roman Britain: Cultural relationships in a Frontier Province*. Blagg & King, eds. Oxford: British Archaeological Reports, British Series 136, 75-92.
- Jones G.D.B. & Mattingly D. 1990. *An atlas of Roman Britain*. Oxford: Blackwell Reference.
- Jones G.D.B. 1997. From Brittunculi to Wounded Knee: a study in the development of ideas. *Dialogues in Roman Imperialism: Power, discourse, and discrepant experience in the Roman Empire*. Mattingly, eds. International Roman Archaeology Conference Series. Journal of Roman Archaeology Supplementary Series, no 23. Rhode Island: Portsmouth. 185-200.

- Lawrence R. & Berry J. 1998. *Cultural identity and the Roman Empire*. London and New York. Routledge
- Mann J. C. 1976. Aspects of the Notitia Dignitatum. *What was the Notitia Dignitatum for?* Goodburn & Bartholomew, eds. Oxford: BAR 1-9.
- Mattingly D.J. 1997. Dialogues of power and experience in the Roman Empire. *Dialogues in Roman Imperialism: Power, discourse, and discrepant experience in the Roman Empire*. Mattingly eds. International Roman Archaeology Conference Series. Journal of Roman Archaeology Supplementary Series, no 23. Rhode Island: Portsmouth. 7-26.
- Mattingly D. 2004. Being Roman: expressing identity in a provincial setting. *Journal of Roman Archaeology*. 17. Rhode Island: Portsmouth. 5-25.
- Mattingly D. 2007. *An Imperial Possession: Britain In The Roman Empire*. London. Penguin Books.
- Merrifield R. 1965. *London City of the Romans*. London. Guild Publishing.
- Millett M. 1984. Forts and the origins of towns: cause or effect? *Military and Civilian in Roman Britain: Cultural relationships in a frontier province*. Blagg and King, eds. BAR British Series 136. Oxford: British Archaeological Reports. 65-74.
- Millet M. 1990. *The Romanization of Britain: An essay in archaeological interpretation*. Cambridge: Cambridge University Press.
- Moreland J. 2001. *Archaeology and Text*. London: Duckworth.
- Mulvin L. & Sidebotham S.E. 2004. Roman Game Boards from Abu Sha'ar (Red Sea Coast, Egypt). *Antiquity*, 2004, vol. 78, n°301. 602-618
- Nicolay J. 2007. *Armed Batavians: Use and significance of weaponry and horse gear form non-military contexts in the Rhine delta (50BC-AD 450)*. Netherlands: Amsterdam University Press.
- Oleson J.P. ed. 2008. *The Oxford Handbook of Engineering and Technology In The Classical World*. Oxford: Oxford University Press.
- Peddie J. (forthcoming April 2005). *The Roman War Machine*. Third edition. Stroud: Sutton Publishing.

- Perring D. *The Roman House in Britain*. London and New York: Routledge.
- Petrikovits H. von 1980. Lixae. *Roman Frontier Studies 1979: Papers presented to the 12th International Congress of Roman frontier Studies*. Hanson & Keppie, eds. British Archaeological Reports International Series 71 (iii). Oxford: BAR
- Puttock S. 2002. *Ritual Significance of Personal Ornament in Roman Britain*. BAR British Series 327. Oxford: Archaeopress.
- Reece R. 1984. Mints, markets and the military. *Military and Civilian in Roman Britain: Cultural Relationships in a Frontier Province*. Blagg & King, eds. BAR British Series 136. Oxford. 143-160.
- Reece R. 2002. *The coinage of Roman Britain*. Stroud: Tempus
- Revell L. 2009. *Roman Imperialism and Local Identities*. Cambridge: Cambridge University Press.
- Richmond I. A. 1929. Excavations on Hadrian's Wall in the Birdoswald – Pike Hill sector, 1928. *Transactions of the Cumberland and Westmoreland Antiquarian Society*. New Series, 29. 303-315.
- Richmond I. A. & Birley E.B. 1930. Excavations on Hadrian's Wall in the Birdoswald – Pike Hill sector, 1929. *Transactions of the Cumberland and Westmoreland Antiquarian Society*. New Series, 30. 169-205.
- Rivet A. L. F. & Smith C. 1979. *The place names of Roman Britain*. British Archaeological Reports International Series 781. Oxford: BAR.
- Rivet A.L.F. 1980. Celtic Names and Roman Places. *Britannia*. 11. 1-20.
- Robinson, O.F. 1992. *Ancient Rome: City Planning and Administration*. London and New York: Routledge (1996 edition).
- Robinson J. & J. A. Biggins *et al.* 2000. *Carvoran, Geophysical Survey of The Fort and Vicus*. Newcastle: Timescape Archaeological Surveys.
- Rorison M. 2001. *Vici in Roman Gaul*. British Archaeological Reports, International Series 933. Oxford: Archaeopress.

- Roymans N. 2004. *Ethnic Identity and Imperial Power: The Batavians in the Early Roman Empire*. Amsterdam: Amsterdam University Press.
- Rushworth A. 2009a. *Housesteads Roman Fort – The Grandest Station. Vol I. Structural Report and Discussion*. Swindon: English Heritage.
- Rushworth A. 2009a. *Housesteads Roman Fort – The Grandest Station. Vol II. The Material Assemblages*. Swindon: English Heritage
- Saddington D.B. 2009. How Roman Did Auxiliaries Become? In *Limes XX: Estudios Sobre La Frontera Romana*, Volume II. Morillo & Hanel & Martin, eds. Madrid. 1016-1024.
- Salway P. 1965. *The Frontier People of Roman Britain*. Cambridge: Cambridge University Press.
- Salway P. 1994. *Roman Britain*. Oxford: Oxford University Press.
- Saur E. 2003. *The Archaeology of Religious Hatred: In The Roman And Early Medieval World*. Stroud: Tempus.
- Scott P & Large S. 2008. The northern Vicus: In *Roman Piercebridge: Excavations by D.W. Harding and Peter Scott 1969-1981*. Cool & Mason, eds. Architectural and Archaeological Society of Durham and Northumberland Report 7: Durham
- Shotter D. 2004. (4th edition). *Romans and Britons in North-West England*. (first edition 1993). Lancaster: Centre for North-West Regional Studies, University of Lancaster.
- Shotter D. 2004. (2nd edition). *Roman Britain*. New York: Routledge.
- Snape M. & Bidwell P.T. 2002. The Roman Fort At Newcastle Upon Tyne. *Archaeologia Aeliana*, (5), 31.
- Simm D. & Ridge I. 2002. *Iron For The Eagles: The Iron Industry Of Roman Britain*. Stroud: Tempus.
- Simpson F.G. 1928. Excavations on Hadrian's Wall in the Gilsland- Birdoswald-Pike Hill sector, 1927. *Transactions of the Cumberland and Westmoreland Antiquarian Society*. New Series 28: 377-88

- Simpson F.G. & Richmond I.A. 1934. Birdoswald, in Report of the Cumberland and Westmoreland Excavation Committee for 1933: Excavations on Hadrian's Wall. *Transactions of the Cumberland and Westmoreland Antiquarian Society*. New Series, 34. 120-30.
- Sommer C. S. 1984. *The Military Vici in Roman Britain: Aspects of their Origins, their Location and Layout, Administration, Function and End*. Oxford: British Archaeological Reports, British Series 129.
- Sommer C.S. 1988. *Kastellvicus und Kastell: Untersuchungen zum Zugmantel im Taunus und zu den Kastellvici in Obergermanien und Rätien*. Fundberichte Aus Baden-Württemberg. 458-705.
- Sommer C.S. 1997. Der Saalburg – vicus. Neue Ideen zu alten Plänen, *Hundert Jahre Saalburg. Vom Römischen Grenzposten zum Europäischen Museum*, E.Schallmayer, Verlag Philipp von Zabern (eds), Mainz Am Rhein. 155-165.
- Sommer C.S. 1999. The Roman Army in SW Germany as an instrument of colonisation: the relationship of forts to military and civilian *vici*. *The Roman Army as a Community*. Goldsworthy & Haynes, eds. JRS, Supplementary Series 34: 81-93.
- Sommer C.S. 2006. 'Military *vici* in Roman Britain revisited'. In Wilson, R.J.A.(ed.). *Romanitas : essays on Roman archaeology in honour of Sheppard Frere on the occasion of his ninetieth birthday*. Oxford: Oxbow Books. 95-146
- Speidel M 1992. *Roman Army Studies II*. Stuttgart.
- Symonds F.A. & Mason. 2009. *Frontiers of Knowledge: A Research Framework for Hadrian's Wall, Part of the Frontiers of the Roman Empire World Heritage Site*. Durham: Durham University
- Tarpin, M. 2002. *Vici et pagi dans l'Occident romain*. Collection de l'École française de Rome-299. Rome: Ecole Francaise de Rome.
- Tarpin, M. 2002. *Vici et pagi dans l'Occident romain*. Collection de l'École française de Rome-299. Rome: Ecole Francaise de Rome. Reviewed by M Peachin, JRS 94 (2004) 271

- Taylor D.J.A. & Robinson J. & Biggins J.A. 2000. A Report on a Geophysical Survey of the Roman Fort and Vicus at Halton Chesters. *Archaeologia Aeliana*. (5), 28. 37-46.
- Taylor J.A. 2000. *The Forts on Hadrian's Wall: A comparative analysis of the form of construction of some buildings*. BAR British Series 305. Oxford: British Archaeological Reports.
- Terrenato N. 2001. Introduction. In *Italy and the West: Comparative Issues in The Romanization*. Keay S. & Terrenato N. (eds). Oxford: Oxbow Books. 1-7
- Thomas, C. 1971. *Britain and Ireland in Early Christian Times AD400-800*. London: Thames and Hudson.
- Tomlin R.S.O. 1995. *Addenda and corrigenda to Roman Inscriptions of Britain volume I* (first edition published in 1965). Oxford: Clarendon Press.
- Turcan R 1996. *The Cults Of The Roman Empire*. Oxford: Blackwell.
- Van Buren, A. W. 1958. Vicus. *Realencyclopädie der classischen Alterumswissenschaft VIII.A* 2, columns 2090-2094. Stuttgart: Alfred Druckenmüller.
- Vogt, J. 1967. *The Decline Of Rome*. (1993 reprint) London: Weidenfeld.
- Wacher J. S. 1969. *Excavations at Brough – on – Humber: 1958-1961*. Report of the Research Committee of the Society of Antiquaries of London. London.
- Wacher J. S. 1975. *The towns of Roman Britain*. London: Batsford.
- Wallis J. 1769. *The Natural History and Antiquities of Northumberland*. London.
- Warburton 1753. *Vallum Romanum or, The History and Antiquities of the Roman Wall, Commonly Called the Picts Wall, in Cumberland and Northumberland, Built by Hadrian and Severus*. London.
- Webster J. April 2001. Creolization of Roman Britain. *American Journal of Archaeology: The Journal of the Archaeological Institute of America*. 105, 2. Boston Mass: Archaeological Institute of America. 209-225
- Welles C.B. & Fink R.O. & Gilliam J.F. 1959. *Excavations at Dura – Europos, Final Report Volume 5, Part 1 The Parchments and Papyri*. New Haven, Yale University Press.

- Wild J.P. 1970. *Textile manufacture in northern Roman provinces*. Cambridge: Cambridge University Press.
- Wilmott T. 1997. *Birdoswald: Excavations of a Roman fort on Hadrian's Wall and its successor settlements: 1987-92*. English Heritage Archaeological Report 14. London: English Heritage
- Wilmott T & Wilson P (eds) 2000. *The late Roman transition in the North: papers from the Roman Archaeology Conference, Durham, 1999*. (BAR Brit Ser 299). Oxford.
- Wilmott T. 2001. *Birdoswald Roman Fort: 1800 years on Hadrian's Wall*. Stroud: Tempus.
- Wilson P.R. 2002. *Cataractonium: Roman Catterick and its Hinterland. Excavations and research, 1958-1997, part 1*. English Heritage. Council for British Archaeology, Research Report 128. York: Council for British Archaeology.
- Wilson P.R. 2002. *Cataractonium: Pt. 1: Roman Catterick and Its Hinterland - Excavations and Research, 1958-1997*. Council for British Archaeology: York.
- Wilson P.R. 2002. *Cataractonium: Pt. 2: Roman Catterick and Its Hinterland - Excavations and Research, 1958-1997*. Council for British Archaeology: York.
- Whittaker C.R. 1997. Imperialism and culture: the Roman initiative. *Dialogues in Roman Imperialism: Power, discourse, and discrepant experience in the Roman Empire*. Mattingly, eds. International Roman Archaeology Conference Series. Journal of Roman Archaeology Supplementary Series, no 23. Rhode Island: Portsmouth. 165-184.
- Whittaker C.R. . 2004. *Rome and its Frontiers: The Dynamic of Empire*. London and New York: Routledge.
- Wooliscroft D.J. & Hoffmann B. 2006. *Rome's First Frontier: The Flavian Occupation of Northern Scotland*. Stroud: Tempus