

# EXCAVATIONS IN THE ROMAN LEGIONARY FORTRESS AT CAERLEON THE PRIORY FIELD STORE BUILDING

Peter Guest and Andrew Gardner





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# Excavations in the Roman Legionary Fortress at Caerleon

## The Priory Field Store Building, 2007-2010

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Cover: Room 1 being cleaned for final photography (front) and Soil Block 1 from Room 2 prior to lifting (back)



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## Summary

This report describes the results of the excavation, carried out between 2007 and 2010, of a large masonry store building in the legionary fortress at Caerleon. Pioneering geophysical surveys carried out in Priory Field prior to the excavation had identified at least thirteen previously unknown Roman buildings, including barracks, granaries and one range of a large courtyard structure. These belonged to Caerleon's Roman past 1,900 years ago, when the town was the site of the legionary fortress known as *Isca* and the base of the Second Augustan Legion (one of only three Roman legions stationed permanently in Britain).

Some Roman military buildings have characteristic plans reflecting the activities that took place in them (for example, granaries, barracks, baths and headquarters), but courtyard buildings are thought to have fulfilled a range of functions in legionary fortresses, including stores, hospitals and workshops. The Priory Field example was almost square in plan and covered an area of approximately 60 m by 64 m. Four ranges, at least two of which were subdivided into smaller rooms, enclosed the large central courtyard, around which ran a covered (probably colonnaded) portico. The main entrance appears to have been located in the centre of the southwestern range, leading out onto an extensive yard between the building and three granaries close to the fortress's west gate. The excavation discovered what Priory Field's courtyard building was for, when it was built, when it ceased to be used, and what happened to it during and after the later Roman period.

The Priory Field excavation was a research, training and engagement project. Remarkably, it was the first occasion in Caerleon's long archaeological history that an excavation trench had been positioned to answer specific research questions about the interior of the fortress. It was also the first time that an archaeological excavation in Caerleon had been organised and led by a university-based team and it was, therefore, the first opportunity for undergraduate and postgraduate archaeologists to gain practical fieldwork experience at this internationally important site.

Following a small evaluation season in 2007, a large trench was positioned over the courtyard building's southwestern range, which 138 people spent ten weeks excavating during two seasons in 2008 and 2010. About two-thirds of the range was investigated and the excavation recorded one of the few complete archaeological sequences for a Roman building in Caerleon. The trench exposed the building's main entranceway and its adjoining guard chamber, a

possible stairwell, four small square rooms with beaten earth floors and white-washed plastered walls, and a length of the colonnaded portico around the courtyard.

The building's architecture indicates that it had a utilitarian function and a store seems highly likely, where items that were not required by their owners were kept until they might be needed again, or moved elsewhere. Carts and other traffic passed into the building's courtyard on robust and durable surfaces in the entranceway and courtyard, from where military equipment and other goods would have been unloaded onto the portico and into the store rooms. The store's very solid foundations were intended to support a considerable weight and the extra-width of the front wall's foundations suggests that the building's façade could have been several storeys high (the portico might have supported a balcony for the upper floors, perhaps of timber, accessed via the stairwell next to the entranceway). This was the first legionary store excavated to modern standards in the Roman Empire.

Like all archaeological excavations in Caerleon, the Priory Field trench generated a very large and diverse finds assemblage, including over 1,800 Registered Artefacts, 2,800 nails, 5,000 sherds of pottery, 110 kg of animal bone and almost 6 tonnes of broken roof tile and brick. These finds tell us what the store looked like, what was kept there and who might have used it, but the coins and pottery also provide an excellent chronological sequence for the building. This shows it was constructed around AD 90-110 and also that the store was the first Roman occupation on the site (*Isca* was founded c. 75, so the plot must have lain empty for 15-35 years). Large assemblages of Roman pottery and animal bone from deposits associated with the store's construction are rare insights into the material culture of *Isca*'s earliest garrison. It is likely that this material was brought to the building site with large quantities of other rubbish and rubble, which was used to raise and level the store's interior before the floors were laid. The pottery and bone indicate a domestic source for this material, such as a kitchen or a place where food and drink were consumed, perhaps a neighbouring barrack or, more likely perhaps, an officer's house. A ground-breaking archaeological science project has subjected some of the Priory Field bone to stable isotope analysis (strontium), which has shown that at least 25% of the cattle, sheep, goats and pigs consumed at *Isca* and deposited in the make-up layers of the store, were reared beyond the local region, with some brought from at least as far as the chalklands of Wessex.

The store building seems to have been in use until the end of the third century, after which it fell into a derelict state before the excavated part of the range, including the superstructure above the entranceway, was partially demolished and levelled by around 350. Debris from the derelict building sealed the floors of two store rooms, one of which seems to have been used to keep household and personal items, including furniture, glass bottles and jugs, as well as brooches, a finger ring and a mirror fragment, some of which might have been kept in boxes or caskets. The floor of the second sealed store-room was littered with military finds, many of which survived in a very fragile condition (particularly the iron artefacts that had not survived well in Priory Field's damp aerated soils). These artefacts were carefully removed and conserved, which in 38 instances involved their lifting in soil blocks that were later excavated under laboratory conditions. Although the iron was often almost entirely mineralised, nevertheless it soon became clear that the soil blocks contained the highly fragmentary remains of at least one set of dismantled *lorica segmentata* body armour that had been scattered across the room's floor, as well as another set of scale armour and an elaborately decorated horse's headpiece.

The *lorica segmentata* was of the Newstead type, which had been dismantled and partially recycled by the time the roof collapsed (the armour was probably of some antiquity when this happened). The horse's headpiece is a very rare example of a leather chamfron covered with hundreds of round copper pins, studs and other decorative plaques, that was probably used by cavalrymen or officers for parades and official ceremonies. The chamfron's leather mask had long since decayed and only the copper fittings survived in a jumbled mass within the largest soil block. It is similar to other chamfrons from Vindolanda and Newstead in northern Britain (where the leather survived in waterlogged deposits), although the Priory Field find is unique as it included panels of overlapping pins that must have glistened in the sun.

Two new buildings were constructed among the ruins of the old and partially demolished legionary store. The

store's façade seems to have remained partially standing and it was reused by at least one three room cottage-like building that had been very poorly constructed and fell down. A stone-lined pit in its central room contained numerous fills of burnt plant material, including wood charcoal, cereal grains and other seeds. Several samples were sent for radiocarbon dating, which demonstrate that this building was constructed and in use between 430 and 600. This is the first new structure at a Roman site definitively dated to the post-Roman fifth and sixth centuries from Wales and, arguably, from Britain, and it has an important story to tell about life in the old legionary fortress after the ending of *Britannia*, c. 410.

The Priory Field excavation was also a training and engagement project and a total of 138 archaeologists, students and volunteers worked on site during the two seasons (many other students also contributed to the post-excavation work, particularly on the finds conservation). Almost 7,000 people visited the excavation, either joining daily tours or attending one of the Open Days when visitors could take part in a range of archaeological activities, such as wet and dry sieving, making pots, tasting Roman cookery, a colouring competition, or trying on a Roman helmet. This was the first time a research excavation in Wales had opened its doors to the general public in this way, and it proved to be extremely popular with people from Caerleon and far beyond.

This report is the formal account of the Priory Field excavation and it contains the technical descriptions of the stratigraphy encountered in the trench and the finds recovered, as well as the work involved during and after the excavation that led to this monograph. After the Introduction, Chapter 2 presents detailed discussions of the project's key research questions, before the evidence is described in chapters dealing with the stratigraphic stratigraphic sequence (Chapter 3) and finds (Chapter 4). While the discussion covers a wide range of themes, we hope that others in the future will want to use the data presented in this report (also available digitally through the Archaeology Data Service website), to explore other topics in Caerleon's extraordinary Roman past.

## Crynodeb

Mae'r adroddiad hwn yn disgrifio canlyniadau cloddiadau a wnaed mewn adeilad mawr a oedd yn stordy gwaith maen yn lleng-gaer Caerllion rhwng 2007 a 2010. Roedd arolygon geoffisegol arloesol a oedd wedi eu gwneud ym Maes y Priordy cyn y cloddio wedi canfod o leiaf dri ar ddeg o adeiladau Rhufeinig nad oedd neb yn gwybod amdanynt cynt, gan gynnwys barics, ydlofftydd ac un amrediad ar ffurf strwythur cwrt mawr. Roedd y rhain yn perthyn i orffennol Rhufeinig Caerllion 1,900 o flynyddoedd yn ôl, pan oedd y dref yn lleoliad lleng-gaer a oedd yn cael ei galw'n Isca ac yn ganolfan i'r Ail Leng Awgwstaidd (un o ddim ond tair lleng Rufeinig a oedd wedi'i lleoli yn barhaol ym Mhrydain).

Mae gan rai adeiladau milwrol Rhufeinig gynlluniau nodweddiadol sy'n adlewyrchu'r gweithgareddau a fyddai'n digwydd ynddynt (er enghraifft, ydlofftydd, barics, baddonau a chadlysoedd) ond credir bod yr adeiladau cwrt yn cyflawni amryw o swyddogaethau mewn lleng-gaer, gan gynnwys stordai, ysbytai a gweithdai. Roedd Maes y Priordy, er enghraifft, bron yn sgwâr ei gynllun ac yn gorchuddio arwynebedd o tua 60 m wrth 64 m. Roedd pedwar amrediad, dau ohonynt o leiaf wedi'u hisrannu'n ystafelloedd llai, yn amgáu'r cwrt canolog mawr, a oedd â phortico gorchuddiedig (colofnresog o bosib) yn ei gwmpasu. Mae'n ymddangos bod y brif fynedfa wedi'i lleoli yng nghanol yr amrediad de-orllewinol, yn arwain allan i iard eang rhwng yr adeilad a'r tair ydlofft yn agos i borth gorllewinol y lleng-gaer. Bwriad y cloddiaid oedd darganfod pwrpas adeilad cwrt Maes y Priordy, pryd yr adeiladwyd ef, pryd y rhoddwyd y gorau i'w ddefnyddio, a beth ddigwyddodd iddo yn ystod ac yn dilyn y cyfnod Rhufeinig diweddarach.

Prosiect ymchwil, hyfforddi ac ymgysylltu oedd cloddiaid Maes y Priordy. Yn rhyfeddol, dyma'r tro cyntaf yn hanes archeolegol Caerllion i ffos gloddio gael ei lleoli i ateb cwestiynau penodol am du mewn y lleng-gaer. A'r tro cyntaf hefyd i gloddiaid archeolegol yng Nghaerllion gael ei threfnu a'i harwain gan dîm seiliedig yn y brifysgol a dyma felly oedd y cyfle cyntaf i archeolegwyr israddedig ac ôl-raddedig gael profiad gwaith maes ymarferol yn y safle rhyngwladol bwysig hwn.

Yn dilyn tymor byr o werthuso yn 2007, gosodwyd ffos fawr dros amrediad de-orllewinol adeilad y cwrt, a threuliodd 138 o bobl ddeg wythnos yn cloddio yn ystod dau dymor yn 2008 a 2010. Cafodd rhyw 66% o'r amrediad ei archwilio a chofnododd y cloddio y dilyniant archeolegol llawn cyntaf ar gyfer adeilad Rhufeinig

yng Nghaerllion. Datgelodd y ffos brif ffordd fynediad yr adeilad a'r siambr gwyliwr nesaf ati, twll grisiau o bosib, pedair ystafell fach sgwâr gyda lloriau o bridd cywasgedig a waliau wedi'u plastro a'u gwyngalchu, a rhywfaint o'r portico colofnresog o gwmpas y cwrt.

Mae pensaerniaeth yr adeilad yn dangos fod iddo swyddogaeth ddefnyddiol, fel stordy fwy na thebyg, lle'r oedd eitemau nad oedd eu hangen ar eu perchnogion yn cael eu cadw tan y byddai eu hangen drachefn neu'n cael eu symud i rywle arall. Roedd certi a mathau eraill o drafnidiaeth yn pasio i mewn i gwrth yr adeilad ar arwynebau cadarn hirbarhaol yn y ffordd fynediad; oddi yno y byddai cyfarpar milwrol a nwyddau eraill yn cael eu llwytho i ben y portico ac i mewn i'r ystafelloedd storio. Bwriadwyd i sylfeini gwirioneddol gadarn y stordy gynnal pwysau sylweddol ac mae lled ychwanegol sylfeini'r wal flaen yn awgrymu y gallai ffasâd yr adeilad fod wedi bod yn sawl llawr (gallai'r portico fod wedi cynnal balconi ar gyfer y lloriau uchaf, o bren efallai, i'w gyrraedd trwy ddefnyddio'r twll grisiau gerllaw'r ffordd fynediad. Dyma'r stordy lleng-gaer cyntaf yn yr Ymerodraeth Rufeinig i gael ei gloddio yn unol â safonau modern.

Fel pob cloddiaid archeolegol yng Nghaerllion, cynhyrchodd ffos Maes y Priordy gasgliad mawr iawn a chymysg o ddarganfyddiadau, gan gynnwys dros 1,800 o Arteffactau Cofrestredig, 2,800 o hoelion, 5,000 o ddarnau o grochenwaith, 110 kg o esgyrn anifeiliaid a bron i 6 thunnell o deils to drylliedig a brics. Gall y darganfyddiadau hyn ddweud wrthym pwy oedd yn ymweld â'r stordy a beth oedd yn cael ei gadw yno, ond mae'r darnau arian a'r crochenwaith yn rhoi i ni ddilyniant cronolegol ardderchog ar gyfer yr adeilad. Mae'n dangos iddo gael ei adeiladu tua 90-110 OC a hefyd mai'r stordy oedd yr anheddiad Rhufeinig cyntaf ar y safle (sefydlwyd Isca tua 75, felly mae'n rhaid fod y plot wedi gorwedd yn wag am 15-35 o flynyddoedd). Mae'r casgliadau mawr o grochenwaith ac esgyrn anifeiliaid Rhufeinig o'r dyddodion cysylltiedig ag adeiladwaith y stordy yn rhoi cipolwg prin i ni ar ddiwylliant materol garsiwn gynharaf Isca. Mae'n bosib i'r deunydd hwn gael ei gario i'r safle adeiladu gyda llawer iawn o sbwriel a rwbwl arall, a oedd yn cael eu defnyddio i godi a lefelu tu mewn y stordy cyn gosod y lloriau. Mae'r crochenwaith a'r esgyrn yn awgrymu ffynhonnell ddomestig megis cegin neu fan yr oedd bwyd a diod yn cael eu gweini, barics cyfagos o bosib neu, yn fwy tebygol, tŷ swyddog. Mae prosiect gwyddonol archeolegol sy'n torri tir newydd wedi dadansoddi rhai o esgyrn Maes y Priordy am isotop sefydlog (strontium), ac mae wedi dangos fod o leiaf 25% o'r gwartheg, y defaid, y geifr a'r moch

a gafodd eu bwyta yn Isca a'u dyddodi yn yr haenau a oedd yn ffurfio'r stordy, wedi eu magu y tu hwnt i'r ardal leol, gyda rhai ohonynt yn tarddu mor bell i ffwrdd â thiroedd calchog Wessex.

Ymddengys fod y stordy wedi cael ei ddefnyddio tan ddiwedd y drydedd ganrif; wedi hynny dadfeiliodd cyn i ran ganol yr amrediad a gloddiwyd, gan gynnwys y strwythur uwchben y ffordd fynediad, gael ei difrodi a'i lefelu tua 350. Teilchion o'r adeilad dadfeiliedig a seliodd loriau'r ddwy ystafell storio. Ymddengys i un gael ei defnyddio i gadw eitemau tŷ a phersonol, gan gynnwys dodrefn, poteli gwydr a jygiau, yn ogystal â thlysau, modrwy bys a darn o ddrych, rhai ohonynt o bosib yn cael eu cadw mewn blychau neu flychau gemau. Roedd llawr yr ail ystafell storio a oedd dan sêl wedi'i orchuddio gan eitemau milwrol, llawer ohonynt wedi goroesi mewn cyflwr bregus iawn (yn arbennig yr arteffactau haearn nad oeddent wedi goroesi'n dda ym mhriddoedd llaith Maes y Priordy). Symudwyd yr arteffactau hyn yn ofalus a'u rhoi i'w cadw; mewn 38 achos golygodd hyn eu codi mewn blociau o bridd a'u dad-gloddio yn ddiweddarach dan amodau labordy. Er bod y platiau haearn bron wedi llwyr fwyneiddio, daeth yn amlwg yn fuan iawn fod y blociau pridd yn cynnwys gweddillion tameidiog iawn o ddwy set, o leiaf, o arfwisg corff *lorica segmentata* wedi'u datgymalu ac wedi'u gwasgaru dros lawr yr ystafell, yn ogystal â phenwisg ceffyl wedi'i addurno'n gywrain.

Roedd yr arfwisg o fath Newstead o *lorica segmentata*, ac wedi'i datgymalu ac wedi'i hailgylchu'n rhannol erbyn i'r to ddymchwel (roedd yr arfwisg fwy na thebyg o beth hynafiaeth pan ddigwyddodd hyn). Mae'r penwisg ceffyl yn enghraifft brin iawn o siamffron lledr wedi'i orchuddio â channoedd o binnau copr, stydiau a phlaciau addurnol eraill, ac mae'n debyg iddo gael ei ddefnyddio gan farchfilwyr neu swyddogion mewn gorymdeithiau a seremonïau swyddogol. Mae masg lledr y siamffron wedi hen bydru a dim ond y taclau copr sydd wedi goroesi a hynny mewn màs cymysg o fewn y bloc pridd mwyaf. Mae'n debyg i siamffronau eraill o Vindolanda a Newstead yng ngogledd Prydain (lle y goroesodd y lledr mewn gwaddodion dyfrlawn), er bod y darganfyddiad ym Maes y Priordy yn unigryw am ei fod yn cynnwys paneli o binnau sy'n gorgyffwrdd a fyddai'n sicr wedi disgleirio yn yr haul.

Codwyd dau adeilad newydd ymhlith adfeilion hen stordy'r leng-gaer a oedd wedi'i ddinistrio'n rhannol.

Ymddengys fod rhan o ffasâd y stordy wedi parhau i sefyll a chafodd ei ail-ddefnyddio gan o leiaf un adeilad tebyg i fwthyn tair ystafell a oedd wedi'i adeiladu'n wael iawn ac wedi dymchwel. Roedd pwll wedi'i leinio â cherrig yn ei ystafell ganol yn cynnwys sawl llenwad o ddeunydd planhigion wedi'u llosgi, gan gynnwys golosg coed, gronynnau o rawn a hadau eraill. Anfonwyd sawl sampl fel rhan o broses dyddio radiocarbon, a dangosodd hynny fod yr adeilad wedi ei godi ac yn cael ei ddefnyddio rhwng 430 a 600. Dyma'r strwythur newydd cyntaf i gael ei ddyddio'n bendant i'r bumed a'r chweched ganrif ôl-Rufeinig yng Nghymru a, gellir dadlau, ym Mhrydain, ac mae ganddo stori ddiddorol i'w hadrodd am fywyd yn yr hen leng-gaer ar ddiwedd y Britannia Rufeinig a ddaeth i ben tua 410.

Roedd cloddio Maes y Priordy hefyd yn brosiect hyfforddi ac ymgysylltu a bu cynifer â 138 o archeolegwyr, myfyrwyr a gwirfoddolwyr yn gweithio ar y safle yn ystod y ddau gyfnod (cyfrannodd llawer o fyfyrwyr eraill at y gwaith ôl-gloddio, yn arbennig cadwraeth y darganfyddiadau). Ymwelodd bron i 7,000 o bobl yn ystod y cloddio, naill ai trwy ymuno â'r teithiau dyddiol neu drwy fynychu un o'r Dyddiau Agored pan allent gymryd rhan mewn amrediad o weithgareddau archeolegol, megis hidlo gwlyb a sych, gwneud potiau, blasu coginio Rhufeinig, cymryd rhan mewn cystadleuaeth lliwio, neu wisgo helmed Rufeinig. Dyma'r tro cyntaf i gloddiad ymchwil yng Nghymru agor ei ddrws i'r cyhoedd yn y ffordd hon, a phrofodd yn boblogaidd iawn gan bobl Caerllion a thu hwnt.

Adroddiad ffurfiol am gloddiad Maes y Priordy yw'r cofnod hwn ac mae'n cynnwys disgrifiadau technegol o'r stratigraffeg y daethpwyd ar ei thraws yn y ffos a'r darganfyddiadau a wnaed, yn ogystal â'r gwaith cysylltiedig yn ystod ac ar ôl y cloddio a arweiniodd at y monograff hwn. Yn dilyn y Cyflwyniad, mae Pennod 2 yn cyflwyno trafodaethau manwl ynghylch cwestiynau ymchwil allweddol y prosiect, cyn i'r dystiolaeth gael ei disgrifio mewn penodau yn delio â'r naratif stratigraffig (Pennod 3) a Darganfyddiadau (Pennod 4). Er bod y trafodaethau yn cwmpasu ystod eang o themâu, gobeithiwn y bydd eraill yn y dyfodol am ddefnyddio'r data a gyflwynir yn yr adroddiad hwn (hefyd ar gael yn ddigidol trwy wefan y Gwasanaeth Data Archeoleg) i archwilio pynciau eraill yng ngorffennol Rhufeinig anhygoel Caerllion.

## Résumé

Ce rapport décrit les résultats de la fouille d'un grand entrepôt maçonné du camp fortifié de Caerleon conduite entre 2007 et 2010. Des prospections géophysiques pionnières, menées à Priory Field avant la fouille, ont permis d'identifier au moins treize bâtiments inconnus jusqu'alors, y compris des baraquements, des greniers et une structure composée de plusieurs rangées de pièces et d'une grande cour intérieure. Ces bâtiments, datés d'il y a 1900 ans, appartiennent au passé romain de Caerleon, lorsque la ville alors connue sous le nom d'Isca était le camp fortifié de la seconde légion augustéenne (l'une des trois seules légions romaines stationnées en permanence en Grande-Bretagne).

Certains bâtiments militaires romains ont des plans caractéristiques reflétant les activités qui s'y déroulaient (par exemple, les greniers, les casernes, les bains et les quartiers généraux), mais les bâtiments à cour peuvent remplir de multiples fonctions dans les camps de légionnaires, comme servir d'entrepôts, d'hôpitaux ou d'ateliers. Le bâtiment à cour découvert à Priory Field a un plan presque carré de 60 sur 64 mètres. Quatre rangées de pièces, dont au moins deux subdivisées en pièces plus petites, entourent une grande cour centrale et son portique couvert (probablement à colonnades). L'entrée principale probablement située au centre de la travée sud-ouest donne sur une vaste place séparant le bâtiment et les trois greniers situés près de la porte ouest du camp. La fouille de ce bâtiment a eu pour but de déterminer sa fonction, sa date de fondation et sa période d'activité ainsi que d'éclairer sur son histoire, pendant et après la fin de la période romaine.

Les fouilles du Priory Field ont été l'opportunité de mener conjointement un projet de recherche, la formation de nouvelles générations de chercheurs, et des activités de médiation avec le public. Fait notable, c'est la première fois dans l'histoire archéologique de Caerleon qu'une tranchée de fouille a été creusée pour répondre à des questions de recherche spécifiques sur l'organisation spatiale de l'intérieur du camp. C'est également la première fois qu'une fouille archéologique à Caerleon a été organisée et dirigée par une équipe universitaire et donc la première occasion pour des archéologues de premier et de troisième cycle d'acquérir une expérience pratique du travail de terrain sur ce site d'importance internationale.

Après une petite saison de prospection en 2007, une grande tranchée a été positionnée sur la rangée sud-

ouest du bâtiment à cour, que 138 personnes ont passé dix semaines à fouiller au cours de deux saisons en 2008 et 2010. Environ 66% de la rangée a été étudiée et les fouilles ont permis d'enregistrer la première séquence archéologique complète pour un bâtiment romain à Caerleon. La tranchée a mis au jour l'entrée principale du bâtiment et sa salle de garde attenante, une possible cage d'escalier, quatre petites pièces carrées avec des sols en terre battue et des murs enduits à la chaux blanche, ainsi qu'une partie du portique à colonnades entourant la cour.

L'architecture du bâtiment indique qu'il avait une fonction utilitaire et il est fort probable qu'il s'agissait d'un entrepôt où les objets dont les propriétaires n'avaient pas besoin étaient conservés jusqu'à ce qu'ils soient de nouveau utiles ou déplacés ailleurs. Les charrettes et autres véhicules pénétraient dans la cour du bâtiment grâce à des surfaces robustes et durables dans l'entrée puis le matériel militaire et les autres marchandises étaient déchargés sur le portique et dans les salles de stockage. Les fondations très solides de l'entrepôt étaient destinées à supporter un poids considérable et la sur largeur des fondations du mur frontal laisse supposer que la façade du bâtiment pouvait être haute de plusieurs étages (le portique aurait pu supporter un balcon pour les étages supérieurs, peut-être en bois, accessible par la cage d'escalier située à côté de l'entrée). Il s'agit du premier entrepôt appartenant à un camp de légionnaire fouillé selon les normes modernes dans l'Empire romain.

Comme toutes les fouilles archéologiques à Caerleon, la fouille de la tranchée du Priory Field a généré un ensemble de trouvailles très important et diversifié. Plus de 1 800 artefacts ont été enregistrés, 2 800 clous, 5 000 tessons de poterie, 110 kg d'os d'animaux et près de 6 tonnes de tuiles et de briques cassées. Ces découvertes nous renseignent sur les personnes qui fréquentaient le magasin et sur ce qui y était conservé, mais les pièces de monnaie et les poteries fournissent également une excellente séquence chronologique pour le bâtiment. Il a ainsi été construit vers 90-110 apr. J.-C. et représente la première occupation romaine sur le site de Priory Field (Isca a été fondée vers 75, le terrain a donc dû rester vide pendant 15-35 ans). Les importants assemblages de céramiques romaines et d'ossements d'animaux provenant de dépôts associés à la phase de construction de l'entrepôt constituent un rare aperçu de la culture matérielle de la première garnison d'Isca. Il est probable que ces dépôts ont été apportés sur le chantier avec de grandes quantités

d'autres déchets et gravats, qui ont été utilisés pour élever et niveler l'intérieur du bâtiment avant la pose des planchers. La céramique et les os sont des rejets de consommations et proviennent d'une cuisine ou d'un lieu où l'on consommait de la nourriture et des boissons, peut-être une caserne voisine ou, plus vraisemblablement, une maison d'officier. Un projet scientifique archéologique novateur a soumis certains des os découverts lors de la fouille à une analyse des isotopes stables (strontium). Cette étude a montré qu'au moins 25 % des bovins, ovins, caprins et porcins consommés à Isca puis rejetés dans les couches de construction de l'entrepôt, ont été élevés en dehors de la région locale, certains ayant vécu aussi loin que les terrains calcaires du Wessex.

L'entrepôt semble avoir été utilisé jusqu'à la fin du troisième siècle, après quoi, il tombe en ruine avant que la partie centrale de l'ensemble fouillée, y compris la structure au-dessus de l'entrée, ne soit partiellement démolie et nivelée vers 350. Les débris du bâtiment abandonné ont scellé les sols des deux étages. L'un d'eux semble avoir été utilisé pour conserver des objets domestiques et personnels, y compris des meubles, des bouteilles et des cruches en verre, ainsi que des broches, une bague et un fragment de miroir, dont certains pourraient avoir été conservés dans des boîtes ou des coffres. Le sol de la deuxième salle de stockage scellée, était jonché d'objets militaires, dont beaucoup très fragiles (en particulier des objets en fer qui n'ont pas bien survécu dans les sols humides et aérés du Priory Field). Ces objets ont été soigneusement retirés et conservés, ce qui, dans 38 cas, a impliqué de les soulever dans des blocs de terre qui ont ensuite été fouillés dans des conditions de laboratoire. Bien que les plaques de fer des armures soient souvent presque entièrement minéralisées, il est rapidement apparu que les blocs de terre contenaient les restes très fragmentaires d'au moins deux ensembles d'armures de *lorica segmentata* démontées qui avaient été dispersées sur le sol de la pièce, ainsi qu'un chanfrein décoré de manière très élaborée.

L'armure était une *lorica segmentata* du type Newstead, qui avait été démontée et partiellement recyclée au moment de l'effondrement du toit (l'armure était probablement assez ancienne au moment de l'effondrement). Le chanfrein, pièce d'armure recouvrant l'avant de la tête d'un cheval, est un exemple très rare en cuir recouvert de centaines d'épingles rondes en cuivre, de clous et d'autres plaques décoratives, qui était probablement utilisé par les cavaliers ou les officiers lors des défilés et des cérémonies officielles. Le masque de cuir du chanfrein s'est décomposé depuis longtemps et seules les ferrures

en cuivre ont survécu dans une masse désordonnée à l'intérieur du plus grand bloc de terre. Il est similaire à d'autres chanfreins provenant de Vindolanda et de Newstead dans le nord de la Grande-Bretagne (où le cuir a survécu dans des dépôts gorgés d'eau), bien que la découverte de Priory Field soit unique, car elle comprend des panneaux d'épingles superposées qui ont dû scintiller au soleil.

Deux nouveaux bâtiments ont été construits parmi les ruines de l'ancien entrepôt légionnaire partiellement démolé. La façade du magasin semble être restée partiellement debout et elle a été réutilisée par au moins un bâtiment de trois pièces ressemblant à un chalet, qui avait été très mal construit et qui s'est écroulé. Une fosse empierrée située dans la pièce centrale contenait plusieurs remplissages de matériel végétal brûlé, dont du charbon de bois, des grains de céréales et d'autres graines. Plusieurs échantillons ont été envoyés pour une datation au radiocarbone, qui démontre que ce bâtiment a été construit et utilisé entre 430 et 600. Il s'agit de la première nouvelle structure post-romaine définitivement datée des cinquième et sixième siècles au Pays de Galles et, sans doute, en Grande-Bretagne, et elle a une histoire importante à raconter sur la vie dans l'ancien camp fortifié de légionnaires après la fin de la Britannia romaine, vers 410.

Les fouilles de Priory Field ont également permis de former un total de 138 archéologues, étudiants et bénévoles, qui ont travaillé sur le site au cours des deux saisons (de nombreux autres étudiants ont également contribué aux travaux post-fouilles, en particulier à la conservation des trouvailles). Pour ce qui est des activités de médiation, près de 7 000 personnes ont visité les fouilles, soit en participant aux visites quotidiennes, soit en assistant à l'une des journées portes ouvertes au cours desquelles les visiteurs pouvaient prendre part à une série d'activités archéologiques, telles que le tamisage humide et sec, la fabrication de pots, la dégustation de plats romains, un concours de coloriage ou l'essayage d'un casque romain. C'était la première fois qu'une fouille programmée du Pays de Galles ouvrait ses portes au grand public de cette manière, et cela s'est avéré extrêmement populaire auprès des habitants de Caerleon et d'ailleurs.

Ce rapport est le compte-rendu formel de la fouille du Priory Field et il contient les descriptions techniques de la stratigraphie rencontrée dans la tranchée et des trouvailles récupérées, ainsi que le travail effectué pendant et après la fouille qui a conduit à cette monographie. Après l'introduction, le chapitre 2 présente des discussions détaillées des principales

questions de recherche du projet, avant que les découvertes ne soient décrites dans les chapitres traitant du récit stratigraphique (chapitre 3) et des artefacts (chapitre 4). Bien que la discussion couvre un large éventail de thèmes, nous espérons que

d'autres personnes à l'avenir utiliseront les données présentées dans ce rapport (également disponible sous forme numérique sur le site Web de l'Archaeology Data Service), pour explorer d'autres sujets liés à l'extraordinaire passé romain de Caerleon.

## Zusammenfassung

Dieser Bericht beschreibt die Ergebnisse der Ausgrabung (zwischen 2007 und 2010), eines großen Lagerhauses in dem Legionslager bei Caerleon. Die vor der Ausgrabung erstmalig durchgeführten geophysikalischen Untersuchungen in Priory Field hatten mindestens dreizehn bisher unbekannte römische Gebäude identifiziert, einschließlich Kasernen, Kornspeicher und einen Flügel eines großen Gebäudes um einen Hof. All das gehörte zur römischen Vergangenheit Caerleon's von vor 1900 Jahren, als die Stadt die Stätte des Legionslagers *Isca* war und der Standort der Zweiten Augusteischen Legion (eine von nur drei römischen Legionen, die permanent in Britannien stationiert waren).

Manche römischen Militärbauwerke haben einen charakteristischen Grundriss, der zeigte welche Aktivitäten dort stattfanden (z.B. Getreidespeicher, Kasernen, Bäder und Hauptquartiere), aber Gebäude um einen Hof innerhalb eines Legionslagers haben möglicherweise verschiedenste Funktionen erfüllt, wie Lager, Spitäler und Werkstätten. Das Beispiel Priory Field hatte einen fast quadratischen Grundriss und erstreckte sich über eine Fläche von ca. 60 m x 64 m. Vier Flügel, von denen mindestens zwei in kleinen Räume unterteilt waren, umgaben den großen, zentralen Hof, um den ein überdachtes Portikus führte, der wahrscheinlich mit einer Kolonnade versehen war. Der Haupteingang war scheinbar in der Mitte des südwestlichen Flügels, führte dann in einen großen breiten Hof, der sich zwischen dem Gebäude und den drei Getreidespeichern in der Nähe von dem westlichen Tor der Befestigung befand. Mit der Grabung wurde beabsichtigt herauszufinden, welchem Zweck das Priory Field Hofgebäude diente, wann es gebaut worden war, ab wann es nicht mehr benützt wurde und was damit während und nach der spätrömischen Zeit geschah.

Die Priory Field Ausgrabung war ein Forschungs-, -Ausbildungs-, und -Engagement Projekt. Es ist auch bemerkenswert, dass es in der langen archäologischen Geschichte von Caerleon das erste Mal war, dass ein Ausgrabungsgraben benützt wurde, um besondere Forschungsfragen über das Innere des Lagers beantworten zu können. Es war auch das erste Mal, dass eine archäologische Ausgrabung in Caerleon von einem Universitätsteam organisiert und geleitet wurde und war daher die erste Gelegenheit für studierende und graduierte Archäologen praktische Erfahrung in der Feldforschung auf dieser international wichtigen Stätte zu sammeln.

Nach einer kurzen Evaluierungssaison im Jahre 2007 wurde ein großer Graben über den südwestlichen Teil des Hofgebäudes gelegt, wofür 138 Mitarbeiter zehn Wochen lang während zwei Kampagnen in den Jahren 2008 und 2010 arbeiteten. Circa 66% des Traktes wurden untersucht und die Ausgrabung dokumentierte die erste vollständige archäologische Sequenz für ein römisches Gebäude in Caerleon. Der Graben legte den Haupteingang und die angrenzende Wachstube daneben frei, ein mögliches Treppenhaus, sowie vier kleine quadratische Räume mit festgetretenen Erdböden und getünchten, verputzten Wänden, und auch einen Teil des Portikus um den Hof herum.

Die Architektur des Gebäudes zeigt, dass es ein nützliche Funktion hatte und es ist höchstwahrscheinlich, dass es ein Lagerhaus war, wo etwas, was die Besitzer nicht benötigten, aufgehoben wurde, bis man es wieder gebraucht oder sonstwohin befördert hat. Wagen usw. kamen in den Hof des Gebäudes auf einer festen, haltbaren Einfahrt im Eingangsbereich, wo militärische und andere Güter in den Portikus und von dort in die Lagerräume geladen wurden. Die sehr starken Fundamente des Lagerhauses waren für schwere Lasten geplant und die extra breiten Fundamente deuten darauf hin, dass die Gebäudenfassade vielleicht mehrere Stockwerke hoch gewesen wäre (der Portikus hätte eventuell einen Balkon für die oberen, möglicherweise hölzernen Stockwerke gestützt, zu dem man über ein Treppenhaus neben dem Eingang kam). Das war das erste Lagerhaus einer Legion im römischen Reich, das mit modernen Methoden ausgegraben wurde.

So wie alle archäologischen Ausgrabungen in Caerleon brachte der Priory Field Graben eine sehr große und vielfältige Sammlung von Funden zu Tage, darunter über 1.800 gemeldete Artefakte, 2.800 Nägel, 5.000 Tonscherben, 110 kg Tierknochen und fast 6 Tonnen von zerbrochenen Dachziegeln und Backsteinen. Diese Funde können uns sagen, wer das Lagerhaus besuchte und was dort aufbewahrt wurde, aber die Münzen und die Keramik geben uns eine ausgezeichnete chronologische Zeitenfolge für das Gebäude. Es beweist, dass es um 90-110 n. Chr. errichtet wurde und auch, dass das Lagerhaus an dieser Stelle das erste römische Bauwerk war (*Isca* wurde um 75 gegründet, also muss dieses Gelände 15-35 Jahren leer gewesen sein). Eine große Menge von römischer Keramik und Tierknochen von den Fundschichten, die mit der Errichtung des Lagerhauses zusammenhängen, ermöglichen einen seltenen Einblick in die Materialkultur von der

frühesten Garnison in *Isca*. Möglicherweise war dieses Material mit großen Massen von anderem Müll und Schutt zu der Baustelle gebracht worden, um damit die Innenräume des Lagerhauses anzuheben und zu planieren, bevor die Böden gelegt wurden. Die Keramik und Knochen deuten auf eine eher häusliche Quelle hin, eine Küche oder einen Ort, wo gegessen und getrunken wurde, vielleicht eine Kaserne in der Nähe oder aber das Haus eines Offiziers. Mit einem bahnbrechenden archäologischen Wissenschaftsprojekt wurden einige der Priory Field Knochen auf stabile Isotopen (Strontium) analysiert, was zeigte, dass mindestens 25% von Vieh, Schafen, Ziegen und Schweinen, die in *Isca* verzehrt worden waren, und in den Nivellierungsschichten des Lagerhauses abgelagert waren, weit entfernt von der näheren Umgebung aufgezogen wurden, manche sogar im Kalksteingebiet von Wessex.

Das Lagerhaus scheint bis zum Ende des dritten Jahrhunderts in Gebrauch gewesen zu sein, danach wurde es verfallen, bevor der zentrale Teil des ausgegrabenen Flügels, zusammen mit der Struktur über dem Eingang teilweise abgerissen und um ca. 350 dem Erdboden gleichgemacht wurde. Der Schutt des verfallenen Gebäudes bedeckte die Böden von zwei Lagerräumen. Es scheint, dass in einem davon Haushalts-, und persönliche Gegenstände, einschließlich Möbel, Glasflaschen und Krüge, aber auch Fibeln, ein Fingerring und eine Spiegelscherbe gelagert waren, manches davon in Kisten oder Schatullen. Der Boden des zweiten bedeckten Lagerraumes war übersät mit militärischen Funden, von denen viele sehr brüchig waren (besonders die eisernen Artefakte, die die Zeit in der nassen Erde in Priory Field nicht gut überstanden haben). Diese Artefakte wurden vorsichtig entfernt und konserviert, 38 Funde wurden mit Erdblocken zusammen herausgehoben und später im Labor ausgegraben. Obwohl die Eisenplatten oft fast gänzlich mineralisiert waren, wurde doch bald klar, dass die Erdblocke die äußersten fragmentierten Überreste von mindestens zwei zerlegten *lorica segmentata* (Plattenpanzer) und *lorica squamata* (Schuppenpanzer) enthielten, die auf dem Boden verstreut war, wie auch ein kunstvoll geschmücktes Zaumzeug eines Pferdes.

Der Plattenpanzer war in der Newstead-Art der *lorica segmentata*, welche auseinandergenommen und wiederverwertet worden war, als das Dach einstürzte (die Panzer hatte wahrscheinlich schon ein gewisses Alter als das geschah). Das Pferdezaumzeug ist ein seltenes Beispiel eines Stirnschildes aus Leder, das mit hunderten von runden Kupferbolzen, Nietnägeln und anderen dekorativen Beschlägen geschmückt war, wie es wahrscheinlich von Kavalleristen oder Offizieren bei Paraden oder offiziellen Zeremonien benutzt wurde. Die Ledermaske des Stirnschildes war längst zerfallen,

nur die Kupferbeschläge überlebten als lose Teilchen in dem größten Erdblock. Es ist ähnlich wie andere Stirnschilder von Vindolanda und Newstead im Norden von Britannien (wo das Leder in Ablagerungen, die unter Wasser standen, überlebte), obwohl die Funde in Priory Field einzigartig sind, weil sie nämlich mit überlappenden Bolzen verziert waren, die in der Sonne geglimmert haben mussten.

Zwei neue Gebäude wurden in den Ruinen des alten und teilweise abgerissenen Lagerhauses errichtet. Es scheint, dass die Fassade zum Teil stehenblieb und beim Bau eines hüttenartigen Haus mit drei Räumen, welches sehr schlecht gebaut worden war und daraufhin einstürzte, wieder verwendet wurde. In dem mittleren Raum befand sich eine mit Steinen ausgelegte Grube, die mit mehreren Schichten von verbranntem pflanzlichen Material, einschließlich Holzkohle, Getreidekörnern und anderen Samen, mehrmals gefüllt war. Einige Proben wurden zur Kohlenstoffdatierung abgeschickt, was bewies, dass dieses Gebäude zwischen 430 und 600 errichtet und benutzt wurde. Somit ist es definitiv das erste neue Gebäude in einer römischen Siedlung, in Wales und wohl auch Britannien, aus dem fünften oder sechsten Jahrhundert, und es hat eine wichtige Geschichte über das Leben in dem alten Legionslager nach dem Ende des römischen Britanniens, c. 410, zu erzählen.

Die Priory Field Ausgrabung war auch ein Ausbildungs- und Engagement Projekt. 138 Archäologen, Studenten und freiwillige Mitarbeiter arbeiteten über zwei Perioden bei der Ausgrabung mit (viele andere Studenten arbeiteten auch nach der Ausgrabung mit, besonders bei der Konservierung der Funde). Zu der Ausgrabung kamen fast 7.000 Besucher, entweder zu täglichen Führungen oder einem der Tage der Offenen Tür, wobei man an verschiedenen Aktivitäten teilnehmen konnte, z.B. Nass- und Trockensieben, Töpfern, römische Gerichte verkosten, ein Malwettbewerb, oder einen römischen Helm und Panzer anprobieren. Es war das erste Mal, dass eine Forschungsausgrabung in Wales auf dieser Art und Weise der Allgemeinheit zugänglich war und das hat sich als äußerst beliebt bei den Bewohnern von Caerleon und darüber hinaus erwiesen.

Dieser Bericht ist die formelle Darstellung der Priory Field Ausgrabung und enthält die technischen Beschreibungen der Stratigraphie im Graben und der Bergung der Funde, aber auch den Arbeitsaufwand während und nach der Ausgrabung, das alles zu diesem Einzelwerk geführt hat. Nach der Einleitung enthält Kapitel 2 detaillierte Diskussionen über die Schlüsselfragen der Forschung, bevor die Beweise in den Kapiteln im Zusammenhang mit dem stratigraphischen Narrativ (Kapitel 3) und Funde (Kapitel

4) beschreiben werden. Die Diskussion befasst sich zwar mit weitreichenden Themen, aber wir hoffen, dass in der Zukunft andere Interessierte die Daten aus diesem Bericht vielleicht benützen werden (auch digital

verfügbar durch die Archaeology Data Service Website), um andere Themen der außerordentlichen römischen Vergangenheit von Caerleon zu untersuchen.

## Acknowledgements

Organising and running a large-scale archaeological excavation at an internationally important site such as Caerleon is a daunting challenge, and it is safe to say that the Priory Field excavation would have been impossible without the advice, guidance, support and assistance of a great many people and organisations. Space does not permit us to thank each and every one individually, so we will have to make do with a heartfelt general thank you to the small army (equivalent to a couple of legionary centuries at least) of field archaeologists, conservators, archaeological scientists, finds specialists, illustrators, photographers and many others who contributed in all sorts of ways, small and large, to the Priory Field excavation over the years.

This report is the culmination of the Priory Field project's formal assessment stage, which was completed in 2013 with the assistance of Drs Caroline Pudney and Michelle Statton (who also undertook much of the archival work after the 2008 and 2010 seasons). Dr Stuart Eve also supported the development of the project's ARK database. Mike Bishop, David Breeze and Richard Reece kindly commented on an earlier draft and we thank them for their insightful advice and feedback, all of which proved extremely helpful (the views, thoughts and opinions expressed in this report belong solely to the authors, as do any errors of fact).

Priory Field is owned by the Welsh Government and managed by Cadw. We are particularly grateful to Cadw's Dr Rick Turner (Inspector of Ancient Monuments), Louise Mees (Regional Inspector of Ancient Monuments and Archaeology) and Dr Jonathan Berry (Senior Inspector of Ancient Monuments and Archaeology), who encouraged the original geophysical surveys in Priory Field in 2006 and supported the evaluation and research excavation seasons in 2007, 2008 and 2010. Rick Turner was a great friend to our project and we looked forward to his calm and sage advice before, during and after the excavations. Priory Field is a Scheduled Monument and Rick provided generous comments and feedback on our applications for Scheduled Monument Consent before these were submitted for the three excavation seasons. Rick also arranged for permissions to allow the archaeological teams to camp in Priory Field and for the tenant to vacate the field while the excavations took place each year. Louise Mees took over after Rick's retirement in 2014, followed by Jonathan Berry who continued Cadw's steady support during the project's post-excavation and publication stages (Rick Turner sadly passed away in June 2018). Jonathan's encouragement was invaluable, especially after Peter

Guest left his academic position at Cardiff University in 2019 and the future of the project was in doubt.

Cadw also provided substantial financial assistance at all stages of the project. Total direct and indirect costs are estimated at £400k (2007-2021), of which Cadw contributed about half, with another third coming from Cardiff University and UCL (additional funding for the post-excavation stage was provided by The British Academy and the Roman Research Trust / Society for the Promotion of Roman Studies). This published report was funded by a final archaeological publication grant from Cadw.

The excavation was also supported by the Caerleon Research Committee and the National Roman Legion Museum in Caerleon. The NRLM is part of Amgueddfa Cymru - National Museum Wales and we would like to thank the Museum's curators and conservators for their invaluable assistance, particularly Evan Chapman, Dr Mary Davis, Penny Hill, Dr Mark Lewis, Louise Mumford, as well as conservation interns Alaina Schmisser and Julia Tubman. Conservation of the excavation's substantial finds assemblages also took place at Cardiff University and we are grateful to the many students and their tutors, Phil Parkes and Prof. Jane Henderson, for their hard work over several academic years.

Cardiff University staff also helped produce the many figures that illustrate this report and we thank Rachel Roberts for diligently photographing the many hundreds of Registered Artefacts, as well as Ian Dennis, Kirsty Harding and Laura Hogg who drew many of these for publication, as well as the drawings that accompany the pottery catalogues. Dr Kathryn Piquette undertook the Reflectance Transformation Imaging (RTI) photography of the eight inscribed lead labels or tags at UCL.

A total of 138 people worked on the excavations at Priory Field, including academic archaeologists, commercial field archaeologists, student archaeologists as well as volunteers in various guises. It was a privilege to lead this excavation at one of Roman Britain's most iconic sites and we are enormously grateful to everyone who took part in the three excavation seasons and who made the Priory Field excavation such an amazing project to be part of (see Appendix 6.5 for the three season's excavation teams). The teams camped in Priory Field and used the showers and other facilities in the recently opened Caerleon Pavilion (courtesy of Caerleon Rugby Club).

The Priory Field excavation caused quite a stir in Caerleon, particularly on Open Days in 2010 when hundreds of visitors would descend on the town's unsuspecting inhabitants. Almost 7,000 people visited the excavation over the two digging seasons and we would not have coped with this wave of public enthusiasm for our work without Gemma Turner of Cardiff University's Community Engagement Team (since terminated), and Dr David Wyatt and Elizabeth Walker from the University's School of History and Archaeology, all of whom helped enormously with the planning, preparation and operation of the excavation's community engagement events and activities (the innovative community engagement element of the project is described in Appendix 6.4). The archaeological team made good use of the many hostelrys in the town and we thank the people of Caerleon for making us so welcome during our months with them. Many local people took great interest in our work, including Paul Flynn MP, Rosemary Butler AM and Councillor Gail Giles who were always enormously encouraging and helpful (Rosemary and Gail spent several very pleasant afternoons and weekends on the excavation, quickly becoming very dedicated and efficient pot washers).

Finally, we would like to pay special tribute to Steve Ash, who was Vice-President and Secretary of Caerleon Rugby Club at the time of our project. Steve was an extraordinarily generous man with a big heart who loved

everything about Roman Caerleon, our excavation and the archaeologists who worked on it. Not only did he allow us use of the Rugby Club's facilities, but he single-handedly prepared our evening meals in the smallest kitchen imaginable, never missing an opportunity to prepare a very creamy, chocolatey or sugary cake for an archaeologist's birthday. The Pavilion was a haven of warm conviviality, never more so than on days when it felt like the wind and rain would never stop and Steve was ready with cups of tea, biscuits and a joke or two to cheer us up. Sadly, Steve passed away before this report was completed, but we are glad to remember him sitting in his favourite chair in the Pavilion, reading an Agatha Christie novel and listening to a Vaughan Williams CD, while looking out over the rugby pitches towards the prehistoric hillfort on Lodge Hill beyond. Steve was greatly impressed by the collective efforts of the Priory Field archaeologists, but he especially enjoyed the discovery of the Flavius Rufus building stone in 2008, after which he regularly asked himself, and us, how many of the Second Augustan Legion's men would have made it into the Welsh Rugby Union's first XV, inevitably coming to the conclusion that, as long as they beat England, it didn't really matter.

This report is dedicated to the memories of the Priory Field excavation's very special friends, Rick Turner and Steve Ash.

# Chapter 1

## Introduction and Background

This report describes the results of the excavation of a large store building in the legionary fortress at Caerleon, conducted between 2007 and 2010 by the authors on behalf of Cadw, Cardiff University and the UCL Institute of Archaeology. Geophysical surveys (magnetometer and resistivity) in 2006 and 2007 had identified at least thirteen previously unknown Roman buildings in Priory Field, including barracks, granaries and one range of a large courtyard building that extended beneath the adjoining garden and car park of the Priory Hotel. Courtyard buildings are thought to have fulfilled a range of functions in legionary fortresses, but similarities with the plans of comparable structures in Italy led to the suggestion that the Priory Field example could have served as the fortress's main store building (Guest and Young 2007; Guest and Young 2010).

Subsequent evaluation excavations undertaken later in 2007 indicated that the remains of these Roman buildings are well preserved in this part of the fortress, lying between 0.50 m and 1.0 m below the modern ground surface (the evaluation also included a trial trench in Golledge's Field inside the fortress's *porta principalis dextra*, on the opposite side of the Broadway).<sup>1</sup> Based on a wealth of new knowledge from these surveys and test-pits, the authors decided to embark on a major archaeological project to uncover the western range of the courtyard building. The primary purpose of the excavation was to test the hypothesis that the building was indeed the fortress's main store, as well as to investigate the history of this part of Caerleon from the Roman period until the present day.

The Priory Field excavation was a research, training and engagement project. Remarkably, it was the first occasion in Caerleon's long archaeological history that an excavation trench had been positioned to answer specific research questions. Without exception, all previous excavations within the fortress walls had been in response to development, usually housing, as Caerleon grew from a small agricultural community to a more densely occupied settlement on the lower reaches of the River Usk, greatly influenced by the expanding and increasingly wealthy town at Newport only five miles away on the mouth of the river. The Priory Field project was also the first time that a university had

organised and led an archaeological excavation in Caerleon (most large excavations had been arranged by the National Museum of Wales and were directed by at least four generations of keepers and curators), and it was, therefore, the first opportunity for undergraduate and postgraduate archaeologists to gain practical fieldwork experience at this internationally important site, with a considerable depth of complex stratigraphy to master and understand (Breeze and Guest 2022, 41-51).

The excavation took place over ten weeks during two summer seasons in 2008 (four weeks) and 2010 (six weeks). Archaeologists often work to very tight schedules decided by external factors (usually the need to commence construction work), but at Priory Field we were able to take the necessary time to almost completely excavate the interior of the store's front range, while also training dozens of students and volunteers. This has produced one of only a handful of complete archaeological sequences for a Roman building in Caerleon and the excavation strategy also led to important light being cast on the post-Roman history of this part of the town, including the first new buildings at a Roman site from the fifth and sixth centuries in Wales and, possibly, Britain. This innovative archaeological work in Caerleon was also intended to be experienced by the general public in Wales, the UK and as far afield as possible; another notable first that proved to be immensely challenging, but extremely rewarding too.<sup>2</sup>

This report is the formal account of the Priory Field excavation and it contains the technical descriptions of the stratigraphy encountered in the trench and the finds recovered, as well as the work involved during and after the excavation that led to this monograph. It is not intended to be read from cover to cover and, after this Introduction, Chapter 2 presents evidence-based discussions of the project's key research questions, before the evidence itself is described in chapters dealing with the stratigraphic sequence (Chapter 3) and finds (Chapter 4). This arrangement emphasises the significance of the Priory Field excavation's results, which extends far beyond what it has been possible to achieve here. The key research questions are discussed thematically and, when taken together, they naturally

<sup>1</sup> The results of the 2007 evaluation excavation are presented in Appendix 6.3.

<sup>2</sup> The results of the community engagement element of the Priory Field project are presented in Appendix 6.4.

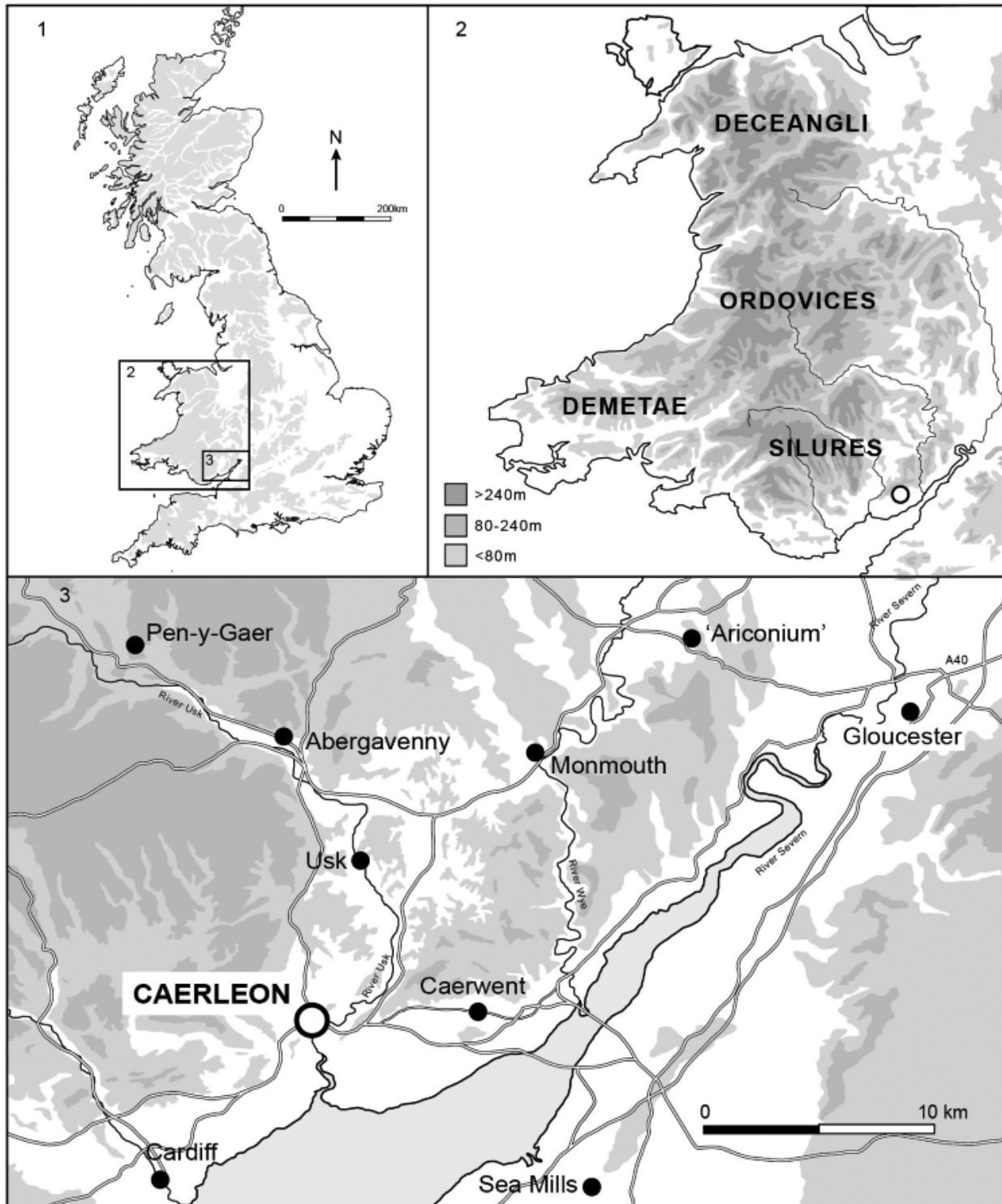


Figure 1.1. Location map

closely reflect the interests of the authors. We are aware that there is much more that could be done, but hopefully others in the future will want to use the data presented here, particularly of the military material culture, to explore even more themes in Caerleon's extraordinary Roman archaeology.

### 1.1 From Caerleon to Isca

The town of Caerleon lies on the lower reaches of the River Usk in south Wales, on what was the river's lowest bridging point before the construction in 1800 of the first stone bridge downstream at Newport (Figure

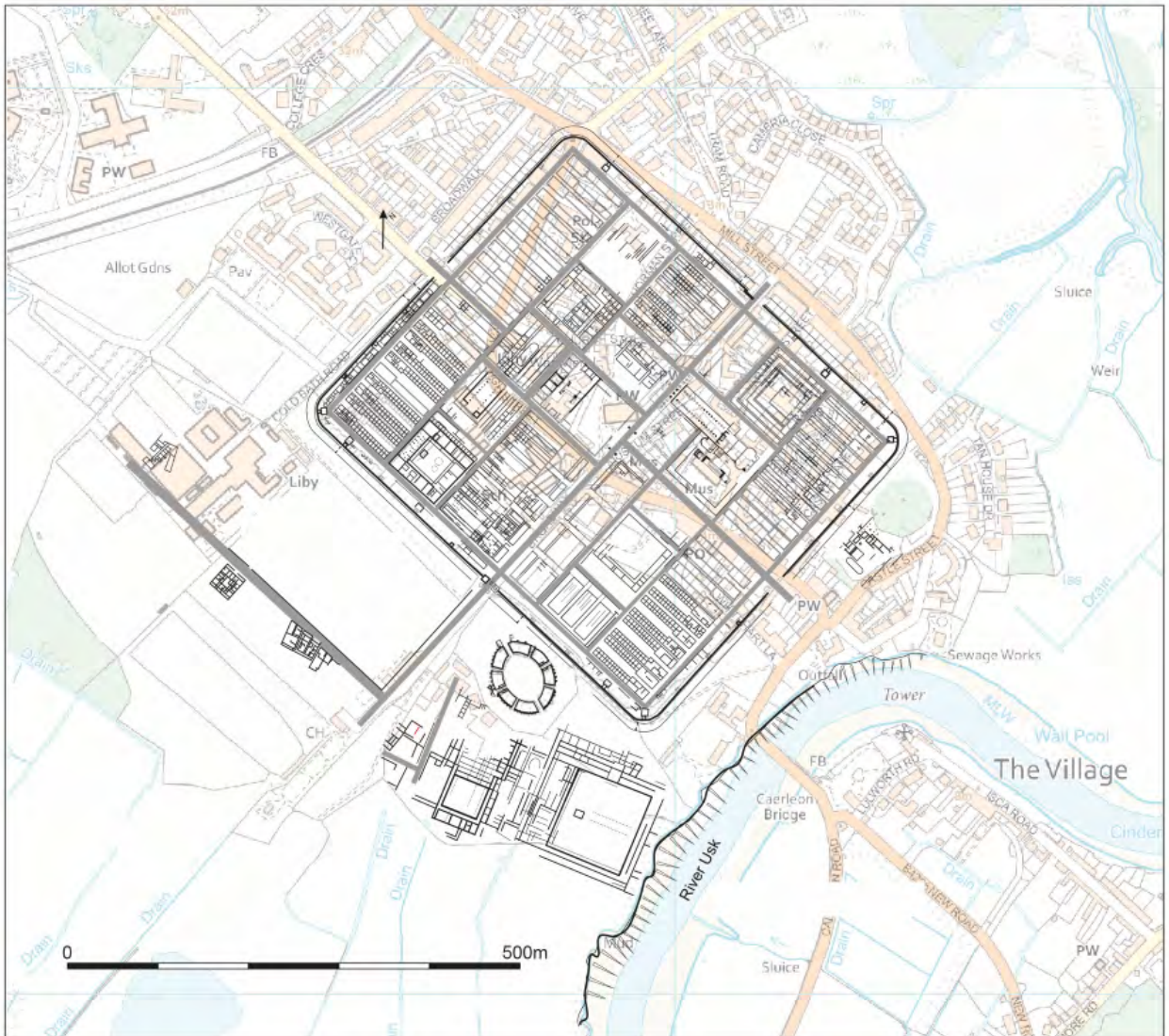


Figure 1.2. Plan of the fortress of Isca and extramural *canabae legionis* (Data © GeoArch. Base map © Crown copyright and database rights [2020] Ordnance Survey).

1.1).<sup>3</sup> The modern town lies over the remains of the Roman legionary fortress known to the Romans as *Isca*, as well as the extramural settlements and cemeteries that existed around the fortress (Boon 1972; Boon 1987; Evans 2010; Breeze and Guest 2022, 40-50). Some two-thirds of *Isca*'s interior lie beneath the roads, buildings, gardens and yards of medieval and modern Caerleon (Figure 1.2), while the rest of the fortress is in open spaces to the southwest of the current built-up area. Beyond the fortress wall and the *porta principalis dextra* was a large extramural settlement including the Amphitheatre, a port and a complex of public buildings. Roman cemeteries have been found to the north of the fortress on Lodge Hill and on the other side of the Usk in *Ultra Pontem* (The Village). Large areas of modern

Caerleon are Scheduled Monuments and the town is also a designated Archaeologically Sensitive Area and a Conservation Area. The centre of Caerleon records the town's medieval and modern history as a prosperous and busy place inhabited by a diverse and changing population. It is also known for its association with King Arthur's mythical Camelot.

Caerleon's name is a reference to the town's Roman origins: *Caer* is a Welsh word corresponding with the Latin *castra*, meaning 'fortification' or 'camp', while *Leon* is derived from the Latin *legio*, or 'legion'. Caerleon can be translated, therefore, as 'Fortress of the legion' and the name is an early post-Roman memory that this place had been the base of the Second Augustan Legion for at least 200 years. Caerleon is called *Isca*, or *Isca Augusta*, in the surviving copies of Roman maps and itineraries; *Isca* meaning 'water' in the language of the

<sup>3</sup> Today Caerleon is an administrative *community* in the north of Newport City Council unitary authority.

native Britons (derived presumably from the adjoining River Usk, whose name also comes from the same ancient linguistic root - *Afon Wsyg* in modern Welsh).

After the end of the Roman period, Caerleon would become widely known as the location of a shrine to two Roman martyrs, Julius and Aaron, and the site of one of legendary King Arthur's courts.<sup>4</sup> Writing in the twelfth century, Geoffrey of Monmouth claimed Caerleon had been the seat of one of three Archbishops in Britain (with Canterbury and York), before the metropolitan see was moved to Pembrokeshire by St David. Both Geoffrey and his contemporary, Gerald of Wales, visited Caerleon and claimed to have seen, or have knowledge of, substantial Roman structures still standing there. By the sixteenth century, Caerleon had become better known for its Roman past and, from this time, antiquarians such as William Camden and Edward Llwyd dismissed the Arthurian stories and instead began the systematic recording of Roman inscriptions and mosaics from the town and its surroundings.

The scientific exploration and recording of Roman remains at Caerleon began when John Edward Lee investigated the Castle Baths in 1849 (Boon 1972, 102-3). Lee was a Newport industrialist with a passion for the past and the first person to record where objects had been found in and around Caerleon. He also drew many archaeological remains exposed during construction work in the now booming town (Lee 1845). Lee encouraged like-minded local philanthropists to form the Caerleon Antiquarian Association in 1847, with a view to raising funds to build a museum of antiquities at Caerleon and: *'to save from the destroying hand of time the valuable relics of bygone days'*, as well as to *'enlighten the intellect'*, *'cultivate the pursuit of liberal studies'* and *'inspire the spirit of enquiry'*.<sup>5</sup> The Museum, only the second to be founded in Wales, opened its doors in 1850 and Lee published its first catalogue of Roman artefacts soon afterwards (Lee 1862).

Recognisably modern archaeological excavation arrived in Caerleon in the 1920s, brought by R.E. Mortimer Wheeler, first Keeper of Archaeology and later Director at the National Museum of Wales. The systematic exploration of the fortress was begun by Wheeler and his wife Tessa Verney Wheeler, who famously excavated the remains of the Amphitheatre in 1926-27 (Wheeler and Wheeler 1928), and was continued by the Caerleon Excavation Committee, specially formed in recognition of the international significance of the archaeology of the largely undeveloped Roman fortress and its environs. Apart from the Second World War,

up to the mid-1990s excavation had taken place in Caerleon virtually every year since the 1920s, mostly in response to threats to the archaeology from the rapid expansion of the town beyond its medieval core along the High Street. In this way, large areas within Caerleon were investigated, often by National Museum of Wales archaeologists such as V.E. Nash-Williams and George Boon, revealing the plans of numerous buildings within the fortress (for example, Prysge Field, Jenkins Field, The Hall and Myrtle Cottage). Although the Second World War brought an end to the Caerleon Excavation Committee, excavations continued after 1945 as more land in the town was developed and built over.

Until this point, most excavations in Caerleon had been relatively small-scale or used rather primitive techniques. For many years, for instance, archaeologists working in Caerleon had to rely on test-pits and trial-trenches to locate the subterranean remains of buildings. This hit-and-miss approach always required an element of good fortune, but once a building's walls had been located, narrow trenches would then 'chase' these until the complete ground plan of the building was recovered. From this information, archaeologists would attempt to interpret the building's function, whether barrack block, headquarters building, hospital or workshop etc. This is how most excavations were carried out at Caerleon from the 1920s to the 1960s and it is from the results of this approach that the plan of the legionary fortress was slowly pieced together (Boon 1972). However, although the test-pit and wall-trenching technique provided significant information in places such as Prysge Field, Myrtle Cottage and Jenkins Field, it is also the case that this method of excavation missed a great deal of valuable evidence that unfortunately was destroyed when these areas were developed. In part this is a consequence of the fact that most excavators were more concerned with reaching the solid remains of *Isca's* military buildings, rather than locating any more ephemeral remains of occupation (whether pre-Roman, Roman or post-Roman), which were often missed or simply shovelled away. It was also the case that the wall-trenching technique tended to prioritise the recovery of a building's plan and layout over the investigation of its functions and history, which only more time-consuming excavation of a building's interior could have provided evidence for.

The 1970s and 1980s saw a number of important excavations in and around Caerleon that employed modern excavation methods and which have done much to enhance the story of *Isca*. The excavation of the Fortress Baths between 1977 and 1981 led to the permanent preservation and display of the outdoor pool (*natatio*), the heated changing room (*apodyterium*) and cold-plunge bath (*frigidarium*) of this enormous bathhouse complex, while excavations in advance

<sup>4</sup> Julius and Aaron were believed to have been soldiers in the Second Augustan Legion, martyred for their Christian faith in the same persecution of Christianity as Alban of Verulamium (today St Albans in Hertfordshire).

<sup>5</sup> Monmouthshire Merlin, eighth July 1849.

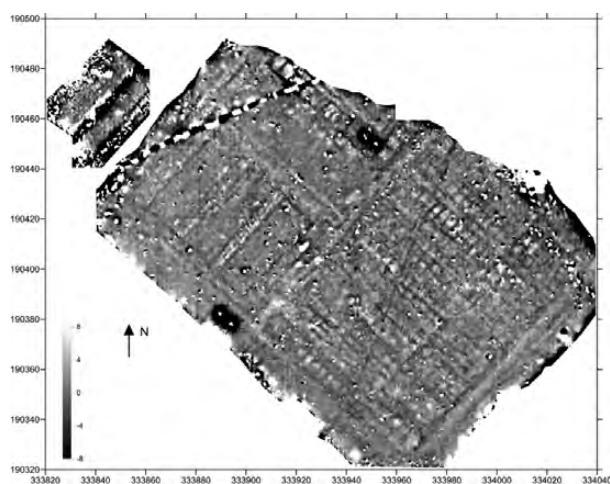


Figure 1.3. Magnetometry results for Priory Field  
(© GeoArch)

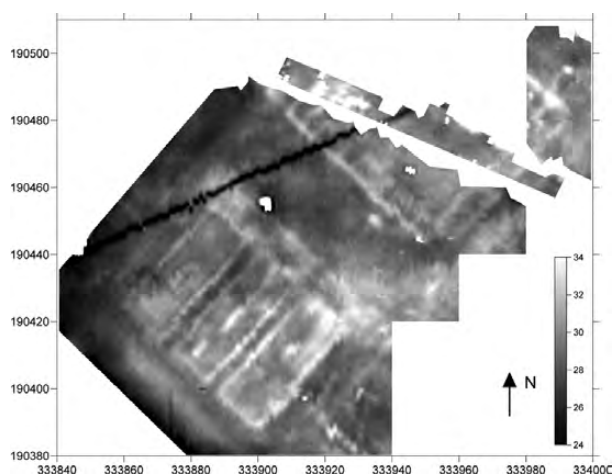


Figure 1.4. Resistivity results for the northern part of Priory Field (© GeoArch)

of housing development in the northern part of Caerleon at Mill Street, for the first time revealed the archaeological remains of the civilian settlement outside the fortress (Zienkiewicz 1986a; Evans 2000). The 1987 excavations in advance of the redevelopment of the Roman Legionary Museum identified traces of the early timber fortress at Caerleon, something that had not been possible before (Zienkiewicz 1993a). The number of threat-led excavations in Caerleon decreased from the 1980s as the remaining open spaces were filled or protected, and the focus of development moved outside the town beyond the Roman fortress (noteworthy sites included Roman cemeteries at Ultra Pontem, Abernant and Lodge Hill, while work in the lead up to the Ryder Cup tournament at the Celtic Manor Resort in 2010 added important new information about the Roman settlement at Great Bulmore and the pottery kilns on the slopes above it. See Evans and Maynard 1997; Reynolds 2015; Tuck 2006; Tuck *et al.* 2006).

In 2001, Cadw initiated the 'Research Framework for the Archaeology of Wales' project. Caerleon and its environs were highlighted as particularly important for the study of the Roman period in Wales and the national framework recommended that Caerleon deserved its own review.<sup>6</sup> This was completed in 2004 as 'The Roman fortress at Caerleon and its environs: a framework for research', which set out what was known about the site and its inhabitants as well as, crucially, what was not yet known (Evans 2004). Following the forward-thinking recommendations for further work in these research frameworks, Cardiff University and GeoArch organised several geophysical surveys in and around the fortress that provided significant new information about numerous buildings buried beneath the modern ground surface (collectively known as the 'Mapping Isca' project). Both magnetometry and resistivity were employed and the surveys, undertaken between 2006 and 2011, covered an area of approximately 20 hectares inside the fortress as well as outside. In addition to the thirteen previously unknown military buildings in Priory Field in the south quarter of the fortress (Figures 1.3 and 1.4), geophysics also identified a very large metalworking workshop (*fabrica*) in School Field and a monumental complex of public buildings and riverside wharves to the south of the fortress, between the Amphitheatre and the River Usk (Guest and Young 2007; Guest and Young 2010; Guest, Luke and Pudney 2012).

## 1.2 The Priory Field excavation summary

The 2006 and 2007 geophysical surveys were the stimulus for the Priory Field project, which culminated with the targeted excavation of the courtyard building's western side, in the northern part of the field. The first step was the evaluation season in 2007, which consisted of a 20 m by 2 m trial trench in Golledge's Field and six 2 m by 2 m test pits in Priory Field (Figure 1.5). Appendix 6.3 is the report of this evaluation, which showed, among other things, that there was potential for good preservation of archaeological remains from the Roman period in both fields (Figure 1.6).

The 2007 resistivity survey located three corners of the courtyard building, indicating that it had been almost square in plan and covered an area of approximately 60 m by 64 m. Four ranges, at least two of which were subdivided into smaller rooms, enclosed the large

<sup>6</sup> For 'The Research Framework for the Archaeology of Wales' see [www.archaeoleg.org.uk/intro.html](http://www.archaeoleg.org.uk/intro.html) (accessed 10.2.2023). 'The Roman fortress at Caerleon and its environs: a framework for research' was produced as: 'the first step in a new integrated approach to archaeological work in Caerleon, which will identify the extent of our knowledge, the main gaps in it, and the questions which should be asked during any future work in the light of the local, regional, national and international priorities. It will not itself set out to answer these questions, but will provide broad proposals as to how these might be addressed'.

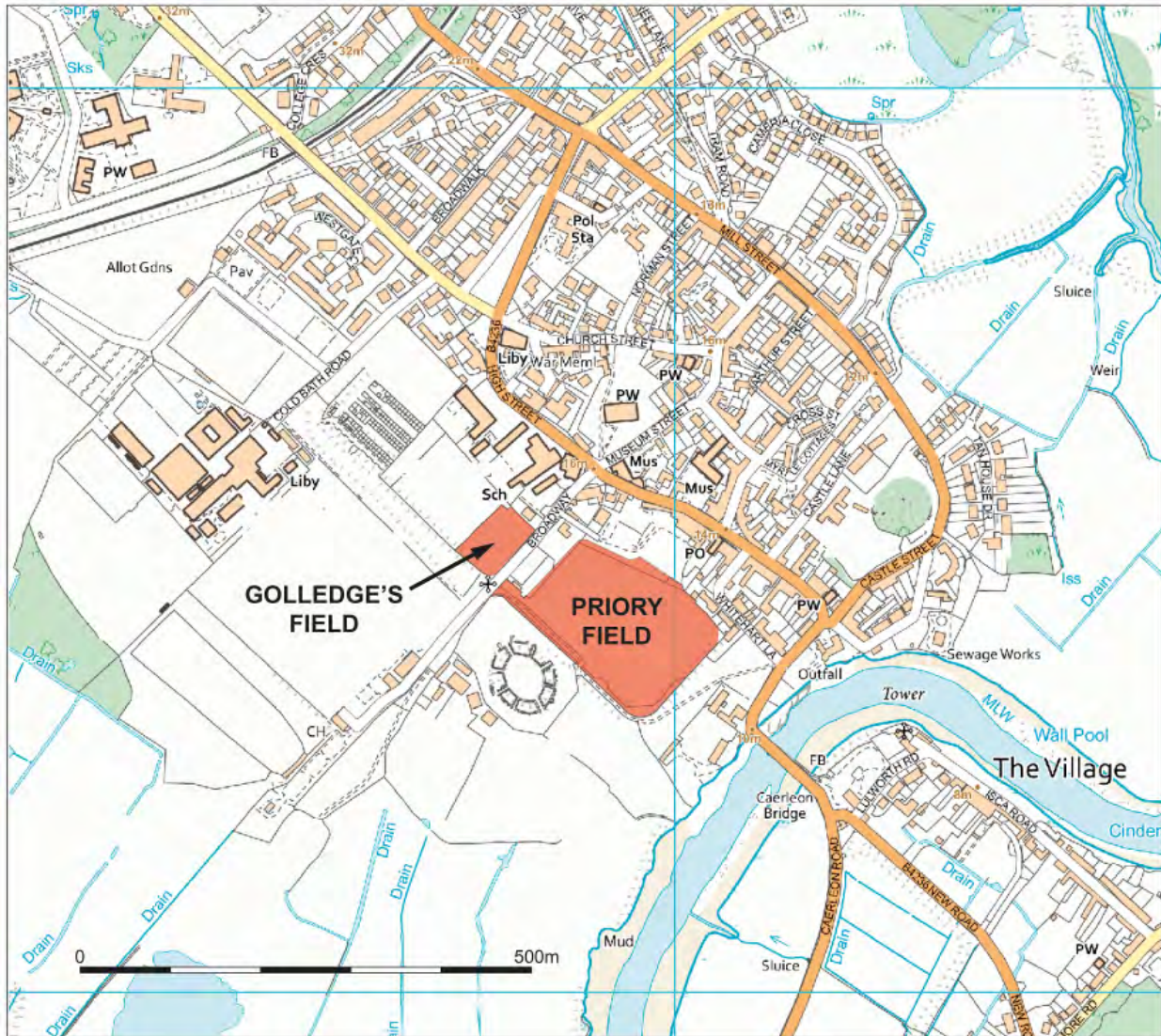


Figure 1.5. The town of Caerleon showing the scheduled areas of Priory Field and Golledge's Field, owned by the Welsh Government (Base map © Crown copyright and database rights [2020] Ordnance Survey).

central courtyard. The main entrance appears to have been located in the centre of the southwestern range, leading out onto the extensive yard between the building and the three granaries close to the fortress's *porta principalis dextra* (it is not known if there were other entrances from the streets to the north, east or south).

Rectangular and square courtyard buildings similar to the Priory Field example are known from a number of other permanent legionary fortresses, where they have been identified as store buildings for foodstuffs and non-perishable items. The arrangement of rooms around a central courtyard is also similar to the plans of civil store buildings and warehouses known from Rome and Ostia that were called *Horrea*. The identification of these military structures as stores, however, depends almost entirely on their ground plans, rather than on

much direct evidence for their function. Unlike other military buildings whose characteristic architectural forms reflect the activities that took place there (granaries, barracks, baths and the *principia*), courtyard buildings could have performed a range of different functions and there are many similarities between the plans of buildings identified as stores and those thought to have been hospitals (*valetudinaria*) and workshops (*fabricae*), all of which can comprise ranges of rooms around a central courtyard.

No other store has been excavated using modern archaeological excavation and sampling methods at any fortress in the Roman Empire (the few excavations at such buildings tended to be piecemeal and took place when the recording and publication of finds or their locations, which might indicate a building's function more reliably than its ground plan, were not yet normal



Figure 1.6. Golledge's Field trench at the end of the 2007 evaluation season

archaeological practice). Therefore, and with support and advice from Cadw, the excavation strategy was devised to investigate if the courtyard building had been a large store (and what, if so, might have been kept in it), and to explore its history during and after the Roman period.

The excavation's original objectives were to:

- define the plan and layout of the courtyard building and any later structures, paying careful attention to the sequence of occupation;
- examine the functions of the building(s) and individual rooms/spaces, making use of finds and environmental evidence as well as architectural characteristics;
- establish the chronology of the site, with particular attention to the earliest and latest military phases, identified as particularly problematic in the 'Caerleon Research Framework' (Evans 2004);
- involve other organisations, such as Cadw and the National Museum of Wales, as project partners;

- involve the local community in the project.

Guided by the geophysical results and the evaluation test-pits, a 25 m by 20 m trench was positioned over the western (front) range of the large courtyard-building (Figure 1.7). It was located to include the central and southern parts of the range of rooms, as well as an area of the extensive open yard area to the west where, it was suspected, faint anomalies shown on the magnetometer survey could be the remains of ephemeral structures built against the outside of the building's front wall (Area A on Figure 1.7). The 2008 excavations concentrated on the late- and post-Roman stratigraphy (Figure 1.8) and in 2010 the footprint of the reopened trench was reduced to 15 m by 15 m in order to concentrate on the building's interior, while a 10 m extension northwards meant that some 66% of the range was now included in the excavation (Area B on Figure 1.7). The 2010 trench covered an area of 375 m<sup>2</sup> (Figures 1.9 and 1.10), compared to 500 m<sup>2</sup> in 2008.

Seven internal spaces were excavated, including the wide entranceway and two small flanking rooms, as well as four squarer rooms (Figure 1.11). The latest Roman floors were revealed in all rooms, while the entranceway and three of the rooms were excavated to the underlying clay natural. The four nearly-square rooms probably had beaten earth surfaces and white-washed plastered walls. This, and the nature of the finds recovered from above their floors, indicates that the building had a utilitarian function and a store seems highly likely. Carts and other traffic passed into the building's courtyard on robust and durable surfaces in the entranceway, from where goods and materiel would have been unloaded into the store rooms. A guard chamber on the south side of the entrance was the only internal space provided with an *opus signinum* floor and it is possible that its walls were decorated with painted plaster too. The very narrow room on the opposite side of the entranceway is suggested to have been a stairwell to the upper floors of the building.

Late- and post-Roman stone robbing had removed almost all of the store building's superstructure and, apart from a few short lengths of upstanding wall, only the foundations or the lowest wall courses survived. The building's footings were broad and shallow, consisting of large unbonded cobbles sealed with stony mortar layers, below a levelling course of crudely shaped flat stones that provided a solid base upon which the mortared masonry walls were then constructed. Walls were faced with mortar-bonded courses of neatly cut Old Red Sandstone facing blocks and a rubble and mortar core. The very solid foundations were intended to support a considerable weight and the extra width of the front wall's foundations suggests that the building's façade could have been several storeys high

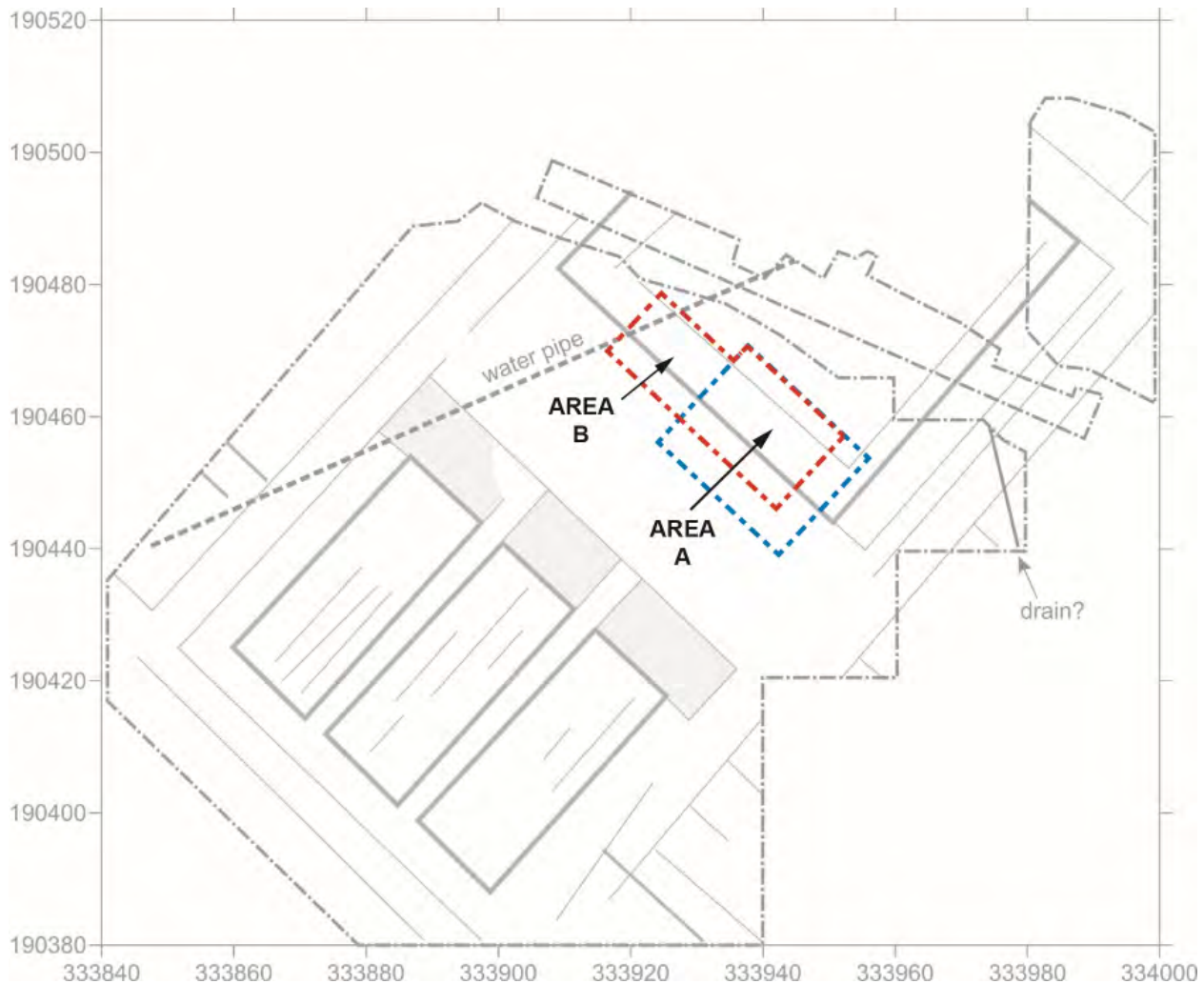


Figure 1.7. Location plan of the 2008 (blue) and 2010 trenches (red), in relation to interpretation of the geophysical results in the northern part of Priory Field (Base map © GeoArch)

(it is possible that, apart from the front wall, the store's upper storeys were constructed in timber).

The entrance was originally provided with a surface of compacted small cobbles and pebbles, which was replaced with rectangular flagstones of various sizes laid in irregular rows. Although the internal portico wall had been completely robbed, it is likely that it was colonnaded to provide a covered ambulatory in front of the store rooms. This is certainly how *horrea* in Rome and Ostia were constructed and such colonnaded porticoes are also familiar from other courtyard buildings in legionary fortresses, including the headquarters building (*principia*), officer's clubs (*scholae*), officers' houses (particularly for tribunes) and workshops (*fabricae*). If, as seems likely, the store building was at least two storeys high, the portico might have supported a balcony for the upper floors (accessed via the possible stairwell next to the entranceway).

The store almost certainly was the first building in this part of the fortress and it was constructed most

probably between 90 and 110. It seems to have been no longer in use from the end of the third century, after which it fell into a derelict state before the central part of the excavated range, including the structure above the entranceway, was partially demolished and levelled by around 350. The store's front wall seems to have remained at least partially standing, however, and it was reused by at least two superficial (earth-bonded) masonry buildings erected directly on top of the demolished store. One of these was a poorly constructed three-room rectangular cottage-like building with a large stone-lined pit in its central room. The pit contained several fills of burnt plant material, including wood charcoal, seeds and grains, which produced radiocarbon dates demonstrating that these buildings were constructed and in use between 430 and 600. This is the first new structure at a Roman site definitively dated to the post-Roman fifth and sixth centuries from Wales and it has an important story to tell about life in the old legionary fortress after the ending of Roman *Britannia*, c. 410. From the twelfth to fourteenth centuries, this part of Priory Field was



Figure 1.8. Priory Field excavation trench at the end of the 2008 season, from west

occupied by new agricultural buildings constructed using recycled Roman building stone, paving slabs and roof tiles, and the store's original façade appears to have remained standing in some form into the post-medieval period, serving perhaps as a field boundary.

Like all archaeological excavations in Caerleon, the Priory Field trench generated a very large and diverse finds assemblage, including over 1,800 Registered Artefacts and 2,800 nails, 5,000 sherds of pottery, 110 kg of animal bone and almost 6 tonnes of broken roof tile and brick. The vertical and horizontal distributions of these finds are explored in detail in Chapter 4.1, but three groups stand out. The earliest of these, derived from deposits associated with the construction of the store building, consists of large quantities of material related to the consumption of food and drink, including pottery, animal bone and an unusual number of glass vessel fragments (mostly large bottles and plates, as well as jugs and cups). It is more likely that this material was brought to the site with other refuse to raise and level the interior of the store, rather than broken and discarded during the construction work itself.

The other important finds assemblages were found in two store rooms and consisted of objects that had been kept there immediately prior to the roof's collapse, which sealed these finds on the rooms' latest floors.

In Room 7, and no earlier than 348, an interesting collection of household and personal items was recovered, including fragments of glass vessels, mainly bottles but also a bowl as well as pieces of jugs and a flask (probably of some antiquity at the time of deposition), found alongside three near identical and unusual fish plate brooches, a finger ring and a mirror fragment. Perhaps some of these objects had been kept in boxes or caskets before the roof collapsed, which might explain the large number of other finds that are likely to have been derived from items of furniture from the room.

The greatest quantity of finds, however, was recovered from a second store room, again from above the last floor and sealed by building and roof debris (which seems to have occurred earlier than in Room 7, c. 300). Room 2 produced almost 20% of all Registered Artefacts from the excavation, a large proportion of which were from objects with military functions, mostly equipment and some weaponry. The room was excavated during the 2010 season and its floor was littered with finds, particularly iron artefacts that had not survived well in Priory Field's damp aerated soils. After the extent of the artefact scatter had been established and the individual finds exposed as far as possible with the trowel, temporary Small Find numbers were allocated before expert advice was sought from the National Museum of Wales about how to recover these lumps of fragile



Figure 1.9. Priory Field excavation trench at the end of the 2010 season, from south



Figure 1.10. Priory Field excavation trench at the end of the 2010 season, from north

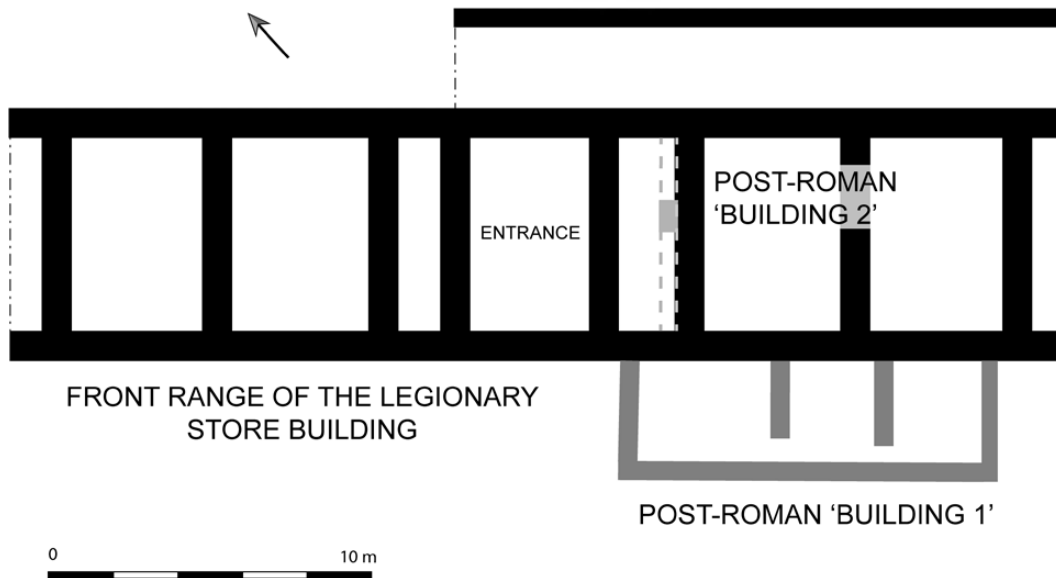


Figure 1.11. Plan of the excavated store building and post-Roman buildings

artefacts without causing undue damage or holding up the excavation's schedule. Soon afterwards, curatorial staff from the Museum lifted the finds in a total of 38 soil blocks. These were taken to the National Museum Cardiff where they were first x-rayed before the plaster casings were removed and their contents excavated under laboratory conditions; a task that took several years to complete (Chapter 4.3 describes the work to lift the blocks and their subsequent conservation).

### 1.3 Post-excavation: assessment, conservation and analysis

The post-excavation stage of the project began immediately after the end of each of the two seasons, involving the checking and digitisation of the site records, initial cleaning, marking, sorting and quantification of finds assemblages, producing provisional stratigraphic narratives and, finally, the preparation of archives and interim reports (Guest and Gardner 2009; Gardner and Guest 2011). How the rest of the post-excavation stage would proceed was set out in the formal assessment report (Gardner and Guest 2013), which also established the project's final research questions (see below).

Conservation work on the Registered Artefact assemblage took place at Cardiff University, while the National Museum of Wales assumed responsibility for the excavation and conservation of the 38 soil blocks (ownership of which was transferred from Cadw to the Museum prior to this work being initiated). This part of the project's post-excavation stage was a major undertaking that took eight years to complete, requiring the attention of six professional conservators and dozens of undergraduate and postgraduate conservation students working at both institutions. It gradually became clear, however, that the soil blocks contained the highly fragmentary remains of at least one set of dismantled *lorica segmentata* body armour that had been scattered across the floor of Room 2, an elaborately decorated horse's headpiece and a set of scale body-armour, along with an array of other artefacts. The iron plates of the armour were often almost entirely mineralised and most could not be removed as single objects, but were consolidated with the partially-excavated soil blocks instead. The work at the National Museum of Wales represents a considerable contribution of time, resources and skill to the project and the results are exceptional: the very fragile remains of very rare pieces of Roman military equipment would not have been recognised without this patient expertise.

The soil blocks as well as all iron and copper-alloy Registered Artefacts were x-rayed before conservation, as were all nails (this latter process identified several

non-nail objects). Cardiff University students were encouraged to undertake further analysis and research on important objects, many of which were analysed with one of the university's Scanning Electron Microscopes. A notable example of this additional research by conservation students is the folded lead sheet discovered in 2008 (RA 477) and subsequently unfolded by Megan de Silva. The cleaned object was sent to Dr Roger Tomlin at the University of Oxford, who identified it as a baggage label (Dr Tomlin uses the Caerleon lead tag as an example of best archaeological practice). The students produced blogs as the work progressed and the final comprehensive conservation reports have been incorporated into the site archive.

Once the conservation work was completed, the finds assemblages were handed over to the project's finds specialists who undertook the patient process of identification, cataloguing and analysis in Cardiff, at the National Roman Legion Museum in Caerleon, and elsewhere. The inscribed lead labels or tags described in Chapter 4.2.9, for example, were taken to UCL for Reflectance Transformation Imaging (RTI) photography by Dr Kathryn Piquette, along with some further cleaning in the UCL Institute of Archaeology's conservation department. Each label was photographed multiple times with a flash in different positions, enabling the creation of composite images with a movable light source. These greatly enhanced the legibility of the labels and were also used by Dr Tomlin to help decipher the inscriptions (Figure 1.12). Many of the finds assemblages from Priory Field are very large and the work to identify, catalogue and analyse this material was only completed in 2020. Chapter 4 in this report presents the results of this sustained effort by the expert specialists we were fortunate to collaborate with.

The final Publication Stage of the Priory Field project began in late 2021, after Peter Guest had decided to leave Cardiff University in 2019. A combination of new priorities at the University from 2012 and a seemingly never-ending cacophony of reviews, targets, league tables and frameworks had significantly reduced the time and space available for any research, let alone for a project as large and complex as the Priory Field excavation. There is no doubt that this report would not have appeared when it did had Peter not taken the decision to apply for the university's Early Severance Scheme and leave academia earlier than foreseen (indeed, it is very possible that the project would have remained unpublished had he not done so). This report completes the Priory Field project, sixteen years after the authors first agreed to work together and excavate part of a newly-discovered building in the legionary fortress of *Isca* at Caerleon.



Figure 1.12. RTI image of inscribed lead label or tag RA 477

#### 1.4 Excavation archive

Preparation of the site archive began immediately following the excavation seasons and was generally completed within six months after their close. The Priory Field excavation archive consists of physical and digital records, including:

- 643 context records (paper and digital scans). Contexts are described and listed by Phase and area in the digital archive.
- Excavation matrix, dividing the site's stratigraphy into seven occupation Phases.
- 92 site plans, and 67 sections and elevations (drafting film, digital scans and inked in versions). Drawings are listed in the digital archive.
- 1,337 digital photographs.
- 1,858 Registered Artefacts. These objects have all been stabilised and, where necessary, consolidated and repackaged in air-tight containers with silica gel. The Registered Artefacts are listed by material and object type in the digital archive.
- Complete ceramic assemblage. All pottery was washed, marked and bagged by context on site. The pottery is listed by Phase, Context Group and Context in the catalogue.
- Complete animal bone assemblage. All animal bone was cleaned and bagged on site. The animal bone is listed by Context, species and NISP in the digital archive.
- Samples of the Ceramic Building Material were retained for the physical archive, including complete tiles and fragments with animal prints or, in the case of tegulae, examples of different sized flanges. The bulk of the CBM assemblage was discarded and reburied in the medieval or post-medieval sawpit when the excavation trench was backfilled. The CBM is listed by type per context in the digital archive.
- Complete Bulk Finds assemblages (in addition to pottery, animal bone and CBM), including nails, *opus signinum*, tesserae, wall plaster, Roman window glass, shell, modern vessel glass and clay pipes. Lists of nails and Roman window glass per context are included in the digital archive.

The complete physical archive (records and finds) was transferred to the National Roman Legion Museum in Caerleon in 2019. The archive will be incorporated into the Museum's collections, where they will be available for study in perpetuity (National Museum Wales Accession Number: 2017.11H). A copy of the digital archive also has been transferred to the National Roman Legion Museum.

Details of contexts and finds are held in the project's ARK (Archaeological Recording Kit) digital database. Elements of the digital archive (Contexts; Registered Artefacts; Faunal Remains; CBM; and Nails/Window Glass) are publicly available via the Archaeology Data Service website (ADS Collection: *Spreadsheet Data from the Caerleon Priory Field Project, 2008-2010*. <https://doi.org/10.5284/1106612>).

### 1.5 Final research questions

The formal assessment report for the Priory Field excavations included the project's final research questions that were intended to guide the rest of the post-excavation stage, particularly the analysis of finds and their integration with the stratigraphic narrative (Gardner and Guest 2013). These updated the, more limited, research objectives set out in the original project design and they are explored in detail in Chapter 2: Overview and Discussion of Key Themes.

#### 1.5.1 Chronology

- Was there any pre-Roman activity at the Priory Field site? Was there an earlier timber military phase?
- When was the masonry store constructed?
- How long did the store remain in use? Were alterations/repairs made and when?
- When did the store cease to serve its original function, and how did the structure of the building change?
- When were the post-Roman masonry building(s) constructed, what functions did they serve and for how long were they occupied? Is the 'cist' pit associated with them?
- When were the walls of the legionary store building robbed and did this occur at the same time?
- What evidence is there for medieval, post-medieval and modern activity in this part of Priory Field?

#### 1.5.2 Construction and function of the Roman masonry buildings

- What did the store building look like as built (i.e., was there more than one storey)?
- How were the individual rooms / spaces used?
- Was the building *Isca's* main store as currently thought?
- What was the condition of the original store when the post-Roman masonry building(s) were constructed?
- What activities took place in the post-Roman masonry building(s)?

#### 1.5.3 Roman legionary equipment

- What does the Priory Field excavation tell us about legionary equipment and weaponry (e.g., combat or ceremonial, standardisation, status, development, re-use and recycling etc.)?
- How were the various items of military equipment manufactured?

#### 1.5.4 The store and the fortress

- What does the excavated stratigraphic sequence tell us about the foundation and early history of the fortress?
- What was the nature of the materials stored, where did these come from, and where were they destined to go (e.g., official storage for further distribution, or private safe-keeping while off-site)?
- What does the store tell us about the planning of the fortress and zoning within it? Is its location near the *porta principalis dextra* significant and how does this compare with other fortresses?
- How did the store articulate with the granaries to create a provisioning/storage zone?
- Does the store support the contention that the legion was largely absent from *Isca* during much of the period from the first quarter of the second century to the early third century?
- Does the store indicate that *Isca* ceased to be a legionary fortress c. 300? Or does the evidence rather suggest a reduced legionary garrison / presence during the fourth century?

#### 1.5.5 Material culture studies

- What does the excavation contribute to the understanding of artefact typologies, sequencing and dating?
- How do the artefact assemblages compare with others in Caerleon and beyond?
- What other information can the artefact assemblages contribute to the understanding of Roman-period material culture and/or the store?

#### 1.5.6 Connectivity with Roman Britain and the Roman Empire

- What light does the store shed on the plans of other fortresses in Britain and beyond?
- To what extent was Caerleon (and other fortresses) a model of urbanism and/or Roman authority in newly-conquered territories (e.g., how does the evidence for writing and representation relate to the maintenance of imperial authority?)

## EXCAVATION OF THE PRIORY FIELD STORE BUILDING IN CAERLEON

- How does the history of the store /*Isca* relate to the mobility/inertia of the Second Augustan Legion in Britain?
- Can we identify connections between *Isca* and auxiliary forts/garrisons in south Wales?
- What does the finds evidence tell us about the wider military community at *Isca*?
- Can we identify discrete military and civilian artefacts/assemblages/activities?
- How does the store fit into wider social and economic networks?

## Chapter 2

# Overview and Discussion of Key Themes

### 2.1 The fortress of *Isca* and the Second Augustan Legion at Caerleon

Caerleon is one of three permanent legionary fortresses in Britain and an incomparable archaeological asset locally, nationally and internationally. The other permanent fortresses lie beneath the cities of Chester and York where a millennium-and-a-half of post-Roman occupation means their remains are buried more deeply and, invariably, have been more disturbed by later activity.<sup>1</sup> Much more is known about *Isca* than the fortresses at Chester (*Deva*) and York (*Eboracum*), while Caerleon's relatively intact and accessible archaeological remains have great potential for more important discoveries to be made.

*Isca* is one of the most well known and best understood legionary fortresses in the Roman Empire, standing alongside other important sites such as *Noviomagus* (Nijmegen, the Netherlands), *Vetera* (Xanten, Germany), *Novaesium* (Neuss, Germany), *Vindonissa* (Windisch, Switzerland), *Carnuntum* (Bad Deutsch Altenburg, Austria), *Lambaesis* (Tazoult-Lambèse, Algeria) and *Betthorus* (El-Lejjun, Jordan). A century of archaeological work at Caerleon has resulted in an unparalleled level of knowledge and understanding of the site, its history and its garrison, and *Isca* has become a type site for the study of legionary fortresses under the Empire (Boon 1987; Knight 1988; Brewer 2002; Evans 2004; Evans 2010; Bishop 2012; Breeze and Guest 2022).

*Isca* sat on a promontory of land extending from Lodge Hill to the northwest and bounded on the other three sides by two rivers (see Figure 1.2). The Usk passes to the southeast and south as it meanders its way to meet the Severn Estuary beyond Newport, while the smaller Afon Lwyd runs along the north-eastern side before it joins the Usk just upstream of the fortress. Lying on the end of this terrace between the lower slopes of Lodge Hill and the Usk, the orientation of the fortress was determined by the direction of the Roman road from the colony at Gloucester (*Glevum*) as it crossed the river, as well as the surrounding topography.

<sup>1</sup> There are a number of temporary timber fortresses in Britain, such as at Colchester, Exeter, Lincoln, Gloucester and Inchtuthil in Scotland, but only those at Caerleon, York and Chester were fully rebuilt in stone to become permanent legionary bases. Summaries of all fortresses in Britain and elsewhere in the Roman Empire can be found in Bishop 2012.

A legionary fortress had existed already on the River Usk, beneath the town of Usk about 12 km upstream from Caerleon. Called *Burrium*, it was founded in the 50s when the river was the frontline between Roman forces and the native tribes, but the timber fortress appears to have been prone to severe flooding and was abandoned by its garrison at about the same time that Caerleon was established closer to the Severn Estuary and on the lowest bridging point of the Usk. The road followed the easiest route from the base at Gloucester to the fort at Cardiff and Caerleon's position was not only drier than its predecessor at Usk, but also strategically sensible in the years after the conquest (Usk retained an auxiliary unit from this time in a much smaller fort with a civilian settlement outside).

The Usk gave the legion at Caerleon direct access into the hilly interior of Wales to support the forward auxiliary units in their forts along the river's upper reaches, and, of course, the rest of Roman Britain and other parts of the Empire via the Severn Estuary (see Figure 1.1). The discovery in 2007-11 of warehouses that would have lined wharves along the bank of the Usk demonstrates the strategic importance of the river to the fortress's location (although this appears to have waned considerably by the beginning of the third century). Caerleon's port was attached to a very large courtyard complex that could have been used for parades, military training, or the corralling of livestock, which in turn led into an extensive complex of public buildings. These consisted of smaller courtyards with surrounding wings or ranges, including rooms provided with concrete floors, windows and painted plaster walls. Two bath-houses are believed to have stood in the complex, which might also have been the location of a *mansio* (post-station or official stopping place), that we would expect to find in or around a legionary fortress. The complex of buildings between the amphitheatre and the port was likely to have been the *canabae legionis*, the military settlement around the fortress from which the wider territory under legionary command was governed (Guest, Luke and Pudney 2012). It is also likely that this is where the earliest administration of the conquered Silures and other groups in south Wales was located, before the cities at Caerwent (*Venta Silurum*) and Carmarthen (*Moridunum*) were founded at the beginning of the second century.

No evidence for an urban settlement has been found beyond the official quarter and elsewhere on this side of the fortress were simple roadside structures, a few

masonry buildings and field boundaries (and possibly a parade ground). A more typical civilian settlement was located on the opposite side of Caerleon between the fortress and the Afon Lwyd. The Eastern *Canabae*, as it perhaps should be referred to now, consisted of relatively low-status buildings where a large community would have lived and worked (Evans 2000). Whether these people included legionaries' families or retired legionaries cannot be known, but there is very little to suggest that the 100 or so soldiers whose service in the army came to an end each year spent the rest of their lives in the immediate vicinity of the fortress. Perhaps some lived in the city at Caerwent, while others retired to smaller rural settlements in the countryside, such as at Great Bulmore 2 km upstream from Caerleon? Although we cannot be certain where legionaries lived after their military service, we do know where some of them and their families were buried. Cemeteries containing cremations and inhumations are known from Bulmore as well as closer to Caerleon at Ultra Pontem and Lodge Hill (the National Roman Legion Museum has a fine collection of inscribed tombstones).

Sourcing the materials needed to construct a legionary fortress and maintain a legion, or just part of a legion, in newly-conquered territory must have had a considerable effect on the surrounding landscape and its populations. *Isca* could not have existed without a very extensive hinterland sustaining the legion and it is important to understand its local and regional impacts. Stamped bricks and tiles, together with other evidence, suggest Caerleon was the command-and-control centre for all of south Wales (extending into central and west Wales too), including about 8,000 auxiliaries, while the increasing availability of scientific techniques (such as stable isotope analysis, dna analysis and organic residue analysis), is beginning to provide new evidence for the origins and movements, diets and health of the people and animals living in and around the fortress.

The fortress at Caerleon was probably first established during campaigns led by Sextus Julius Frontinus, governor of Roman Britain, against the native peoples from 73/74 to 77. These military operations appear to have been successfully concluded by the time of the governor's return to Rome in 77, and the Roman writer Tacitus wrote of Frontinus: '*He subdued by force of arms the strong and warlike tribe of the Silures, after a hard struggle, not only against the valour of the enemy, but also against the difficulties of the terrain*' (Tacitus, *Agricola* 17). It is unclear, however, whether *Isca* was constructed prior to or during the Frontinian campaign, or once the fighting was over, although 74 or 75 are most commonly given for the fortress's foundation.

The native group in south-eastern Wales was known to the invaders as the Silures, who first came into contact

with the Roman army as early as 48, only five years after the invasion of Britain. The years from 48 to 73/4 witnessed intermittent warfare between Roman forces and the local peoples and, despite determined resistance on the part of the Britons, the Romans nevertheless were able to push deep into Silurian territory by advancing westwards along the south coast as well as into the hilly interior of Wales by means of the Wye and Usk river valleys. By the time Julius Sextus Frontinus arrived in Britain in 73/74, Roman soldiers had been stationed in the forts at Cardiff on the River Taff, Cefy-Brynich and Abergavenny on the River Usk, and Clyro on the River Wye for up to 20 years, supported by legions in their bases on the Welsh borders at Wroxeter, Gloucester/Kingsholm and Usk (Burnham and Davies 2010; Davies and Driver 2015). The fortress at Caerleon was not intended to perform the role of a front-line base from which the final operations against the Silures would be spearheaded (Roman emperors were careful to preserve their legions and in Wales much of the actual fighting probably fell to auxiliary troops). Instead it is more likely that Caerleon was planned as a rearward command-and-control centre for the post-conquest occupation and pacification of the Silures and the other peoples of south Wales.<sup>2</sup>

The Roman legion was one of the most effective fighting units of the ancient world - the blunt force with which Rome shattered its enemies and built one of the largest and most enduring empires in western history. The Roman emperor had some 30 legions under his command when the fortress at Caerleon was established, of which four were based in Britain (the British garrison was reduced to three legions by the second century). The legion based at *Isca* was *legio secunda augusta* (the Second Augustan Legion), which had been part of the invasion force in 43 and moved to Caerleon from its first base at Exeter. Legions consisted of about 5,500 men and the legionary's training, equipment and his loyalty to the Emperor made him a formidable opponent in battle, although being heavily armed was a disadvantage in hilly Wales where the lighter auxiliaries, particularly cavalry, most likely would have borne the brunt of the initial campaigning. Auxiliary units would have monitored the movements of the natives from their forts along the river valleys of south Wales, and the recent discovery of the port at Caerleon makes it highly likely that *Isca* also functioned as the base from which these forts in the interior of Wales were supplied with men, materials and provisions.

<sup>2</sup> The fear of losing legions followed the annihilation of three in the Teutoburg Forest in AD 9. Tacitus praises Gnaeus Agricola, successor to Julius Frontinus in Britain, for using auxiliaries in the front line in battle against the Caledonians.

In order to accommodate a full and self-sufficient legion in recently conquered territory, legionary fortresses had to be very large installations. The Caerleon fortress was rectangular in plan with rounded corners (the typical ‘playing-card’ shape of early imperial military fortifications), covering an area of some 20.8 hectares (measuring 495 m north-south and 420 m east-west).<sup>3</sup> Fortresses of the early imperial period followed a predetermined layout, although differences between them reveal each to be local variations on an overall theme. The interior of *Isca* shows that its construction had been carefully planned, based on an orthogonal street-grid and the orderly arrangement of buildings of specific functions grouped together into zones (Figure 2.1). The main streets were the *via principalis* and the *via praetoria*, that were 7.5 m wide and very well built with cambered metalled surfaces, side drains and large covered sewers beneath them. The *via praetoria* led from the main gate (the *porta praetoria*) to the entrance of the large headquarters building (*principia*) in the centre of the fortress, where it met the *via principalis*, which in turn led to gates at its eastern and western ends (namely the *porta principalis dextra* and the *porta principalis sinistra*).<sup>4</sup> The four gates were the only way through the fortress’s defences, which consisted of a 1.5 m wide stone wall with evenly-spaced integral turrets and an earthen rampart behind it. The material for the rampart was derived from the substantial ditch (fosse), 8.75 m wide and 2.75 m deep, that ran around the outside of the fortress walls (with causeways to allow access to the gates). A 5.5 m wide street, the *via sagularis*, ran inside the rampart allowing men to be moved along the defences between the four gates quickly and easily.<sup>5</sup>

The street grid divided the interior of the fortress into 24 ‘blocks’, which following the terminology of ancient city plans are called *insulae* (literally ‘islands’).<sup>6</sup> These can be grouped together into 3 parts or divisions:

*Praetentura* (‘front division’). Three blocks deep and divided into left and right sides by the *via praetoria*;

*Latera praetorii* (literally ‘flanks of the praetorium’). A single row of blocks behind the *via principalis* where the fortresses’ most important buildings were located;

*Retentura* (‘rear division’). The two blocks at the back of the fortress, divided into left and right sides by a road, this time the *via decumana* which led to the fortress’s rear gate, the *porta decumana*.

The *praetentura* was taken up with 24 centurial barracks immediately inside the main gate (*insulae* I and II); then three large granaries and the main store (*insulae* III and IV), as well as the Fortress Baths and hospital (*insulae* V and VI); followed by, in the final row, seven large houses facing onto the *via principalis* (*insulae* VII to XIII) that were probably for the legion’s senior officers (with the exception of the commanding officer). From the main gate the *via praetoria* led directly to a monumental four-way arch (tetrapylon) that straddled the junction with the *via principalis*. The arch was the entranceway into the *principia*, which as usual was positioned at the centre of the *latera praetorii* (*insula* XV) and the very heart of the fortress. The *principia* consisted of a large paved courtyard with porticoes on three sides and, on the remaining side, an adjoining basilican hall with rooms beyond (the central room was the shrine of the legion’s standards).<sup>7</sup> The legion was commanded by a legate, whose house (the *praetorium*) was located next to the *principia* in *insula* XVI (Lewis 2011), while the *latera praetorii* was completed by the barracks for two cohorts: a standard six-century cohort (*insula* XVII) and the five double-century barracks of the senior First Cohort (*insula* XIV).

The *retentura* at the rear of the fortress included a row of large workshops (*fabricae*) immediately behind the *latera praetorii* that appear to have been given over to the working of metals, particularly iron, copper and lead, and other materials (*insulae* XVIII to XXII). The building in *insula* XVIII was discovered in 2007 by geophysical survey and is the only one whose plan can be said to be complete (the others being known from limited excavation in advance of redevelopment during the middle part of the twentieth century). The *insula* XVIII workshop, measuring approximately 70 m by 65 m, comprised a central square courtyard and four surrounding ranges, which the geophysical surveys and limited excavation demonstrate was a *fabrica* for the smithing (and perhaps smelting too) of iron on an industrial scale (Guest and Young 2010). Other buildings in this part of the fortress also seem to have

<sup>3</sup> The fortress is oriented close to northwest-southeast. The modern convention is to simplify the fortress’s alignment so that its cardinal points are North (top), South (bottom), East (right) and West (left). Confusingly the dextral (right-hand) gate appears on the left side of the fortress plan as conceived today, while the sinistral (left-hand) gate appears on the right. This is because to the Romans the left and right sides of the fortress were determined by looking ‘down’ the *via praetoria* from the centre, whereas modern plans of fortresses put the main gate (*porta praetoria*) at the bottom from where the viewer looks ‘up’ towards the *principia*.

<sup>4</sup> The *via principalis* roughly corresponds with the Broadway, Museum Street and Backhall Street today, while the south-eastern stretch of Caerleon’s High Street follows the course of the line of the *via praetoria*.

<sup>5</sup> *Sagularis* means ‘cloak’ and the street (also called ‘intervallum road’), wrapped the interior of the fortress like a security blanket.

<sup>6</sup> The numbering of Caerleon’s *insulae* was first devised by George Boon in 1972 and is followed here.

<sup>7</sup> The rear colonnade in front of the shrine was blocked off by a screen, in front of which were several statue bases (a few fragments of bronze discovered here suggest that at least one of the statues was of an emperor in military uniform and cloak). In theory the shrine, or the statues standing in front of the shrine, could be seen from the fortress’ main gate, i.e., along the *via praetoria*, through the tetrapylon arch, across the *principia*’s courtyard and through the basilican hall.

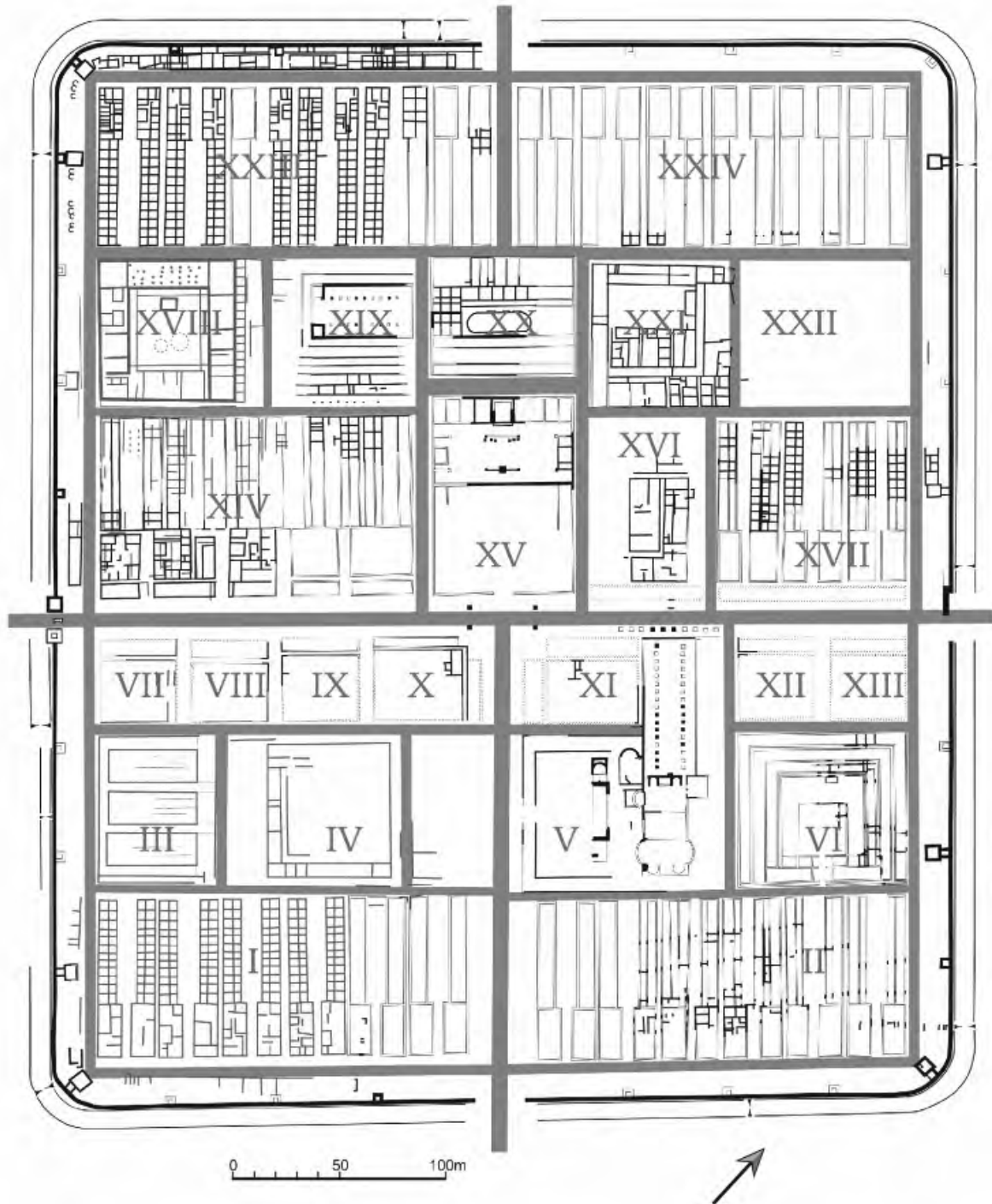


Figure 2.1. Plan of Isca (© GeoArch)

been concerned with blacksmithing and the working of other metals (copper and lead), while the workshop in *insula XXI* produced evidence for leather production. The last row of buildings in the fortress, immediately inside the *porta decumana*, consisted of 24 centurial barracks for four standard sized cohorts. The important excavations carried out between 1927 and 1929 in Prysg Field (in the north-western corner of the fortress), revealed the remains of eight barracks; one of the very

few systematic excavations of legionary quarters from the Roman Empire.<sup>8</sup> The Prysg Field excavations also uncovered a series of long narrow buildings against the earthen rampart of the fortress's north-western wall that were probably some of the legion's *armamentaria*,

<sup>8</sup> Unusually for the time, No. 1 Barrack Building was completely excavated and it remains the only Roman legionary barrack on display in Europe.

where arms and armour were manufactured and repaired (Chapman 2002).

It is important to bear in mind that this seemingly coherent understanding of the layout of *Isca* is often based on fragmentary evidence and that the plans of some of the buildings are very incomplete (the hospital in *insula* VI for instance). Moreover, the internal arrangement of the fortress describes the situation after the decision had been taken to make *Isca* the permanent base of the Second Augustan Legion, which resulted in many of the buildings being rebuilt in stone. This is likely to have occurred at the end of the first and the beginning of the second centuries (the Amphitheatre was first built c. 90-100), and the rebuilding seems to have continued into the latter half of the second century. Prior to this most of the fortress's internal buildings would have been constructed in timber, although it is only recently that excavations in Caerleon have begun to identify the less solid remains of the fortress's earliest decades of occupation.

The work to rebuild *Isca* in stone started before the emperor Hadrian's visit to *Britannia* in 122, which resulted in the planning and construction of Hadrian's Wall to mark the northern frontier of the province. Six cohorts of the Second Augustan Legion were involved in the building of Hadrian's Wall and for several decades a large proportion of the legion must have been semi-permanently absent from Caerleon as it built the Wall and its short-lived successor further north, the Antonine Wall. A number of inscriptions from Caerleon reveal that several buildings in the fortress were renovated during the course of the third century, no doubt because many had been unoccupied and disused for long periods of time before then. Furthermore, the port and adjacent extramural *canabae legionis* appear to have been abandoned as early as perhaps 200, indicating that the fortress no longer acted as a main supply base from this time.

The later history of the legionary fortress at Caerleon is less clear. It is thought that the Second Augustan Legion could have left *Isca* at some point around 300 to occupy the newly-reconstructed fort on the lower River Taff at Cardiff. Excavations in Caerleon, however, have shown that occupation in some form continued throughout most of the fourth century, but whether these inhabitants were soldiers occupying a reduced footprint within the walls of the old fortress, or civilians who had moved into the abandoned military fortification remains a matter of considerable debate (discussed later in this Chapter). What is known is that several buildings had fallen into disrepair by this point, while others appear to have been deliberately demolished.

## 2.2 Site formation processes, phasing and chronology

Most of the archaeological remains encountered in the excavation trench were formed during the construction and destruction of at least three buildings: 1) the legionary store building; 2) post-store buildings; 3) medieval and post-medieval buildings. The use of these buildings did not lead to the deposition of significant quantities of archaeologically-recoverable material, which is to be expected of spaces that had been kept clean for long periods of time. Although later stone robbing had removed almost all of the store's walls, the building's interior spaces survived between robber trenches and were often sealed by destruction deposits and the floors of later buildings (notably in Rooms 1 and 2, Rooms 6 and 7). In general, the remains of the building's interior survived well, though the metal finds, iron especially, had suffered from being buried for over 1,500 years. Although the post-Roman disturbances were extensive, with the exception of the robber trenches they were also superficial and, fortunately, their overall impact on the surviving Roman archaeology was relatively limited.

### 2.2.1 The legionary store building (Phases 1-3)

The earliest deposits overlying the original pre-Roman ground surface (Phase 0), were mainly generated either during clearance and construction work, or had been brought to the site to raise and level the interior of the building. Soil from the wall foundation trenches appears to have been taken elsewhere once they had been dug, and it was only in the entranceway (Room 4) that there was any sign of upcast material from the adjacent wall trenches overlying the pre-store ground surface. Lime mortar had been mixed in the space that would become Room 1 and large quantities of stone chippings suggest that this was also where limestone blocks were dressed prior to being built into the rising walls (Phase 1i). Similar deposits mixed with builder's debris in Room 6 show that stone dressing also took place on the northern side of the building. After the walls had been constructed (and also probably once the roof had been tiled), rubble and other deposits raised and levelled the building's interior (Phase 1ii). These layers often contained finds, including important assemblages of pottery and animal bone as well as Registered Artefacts, that are likely to have been used and discarded elsewhere in the fortress before the opportunity was taken to dispose of them beneath the floors of the store. The entranceway (Room 4) was re-laid on at least one occasion, while the floor in Room 3 was also replaced with a new *opus signinum* surface (Phase 2). The bedding for these new surfaces consisted of soil mixed with rubble and, in the case of Room 3, large quantities of finds that also appear to have been considered worthless when this took place.

The floors in the store building were all sealed by material derived from the dereliction and destruction of the building, consisting of varying quantities of broken tile and brick, discarded building stones, mortar and plaster (Phase 3). In Rooms 2 and 7 these deposits were mixed with artefacts that had been used or stored in the building, perhaps indicating relatively sudden episodes of collapse or demolition. These rooms produced thick deposits of broken roof tiles followed by rubble that suggest the roof in these parts of the building had collapsed before the walls began to fall inwards. Similar sequences of destruction debris were found in Rooms 1 and 6, although the absence of broken roof tiles perhaps indicates demolition rather than collapse, or more efficient recycling post-destruction. Building debris was largely absent from the central part of the building, however, and the superstructure above the entranceway and its adjacent rooms (i.e., Rooms 3, 4 and 5) may well have been deliberately demolished in the late Roman period, perhaps so that the roof tiles and building stones could be reused elsewhere.

### 2.2.2 Post-Roman and medieval / modern occupation (Phases 4-7)

The post-store buildings (Phase 4) consisted of the shallow remains of several poorly-constructed walls, some thin deposits that related to their occupation, a large pit filled with material containing significant quantities of burnt palaeoenvironmental remains, as well as the buildings' remains after they had fallen down or been taken down.

The robbing of the store building's walls occurred as at least three separate archaeological events (Phase 5). The first took place prior to the construction of the post-store buildings and seems to have consisted of levelling the internal walls between Rooms 2 and 3, as well as between the entranceway (Room 4) and Room 5. These rooms were reduced to ground level or slightly below, before being sealed by the walls and floors of the post-store buildings. More extensive and efficient stone robbing occurred later, probably in the twelfth to fourteenth centuries and again in the seventeenth to nineteenth centuries. The robbing of the store building's front wall cut through the floors of earlier buildings (that must have been built against it) and probably occurred relatively recently. This activity removed all the masonry courses, as well as some foundation stones in places, which is similar to the robbing of the northern internal walls (between Rooms 6, 7 and 8), perhaps indicating that they were destroyed and recycled at the same general time as the front wall. The actions of the stone robbers in particular led to the redeposition of Roman finds in later phases, often mixed together with more recent material.

The next episode of occupation (Phase 6) consisted of at least one probably timber building with floors of reused Roman stone slabs, and more extensive evidence for agricultural or domestic activities, including trench as well as pit digging (notably the possible saw-pit). Evidence for twentieth century activity in this part of Priory Field (Phase 7) was limited to an iron waterpipe towards the northern edge of the trench (which must have fed the stables close to the gate into the field from The Broadway), and two iron post-collars from the time in living memory when teams from Caerleon Rugby Football Club played their matches here (unaware that the try line passed over a 1,900-year-old Roman building).

### 2.2.3 Dating the stratigraphic phases

Dating for the Priory Field excavation's phasing scheme is provided by artefacts recovered from securely stratified contexts, primarily coins and pottery, as well as radiocarbon dates obtained from samples taken from Phase 0 and Phase 4 deposits. A summary of the dating evidence is provided on Table 2.1 and the full list of radiocarbon dates can be found in Appendix 6.1.

#### *Phases 0 and 1 (site clearance and construction)*

Charcoal from two Phase 0 deposits produced radiocarbon dates of Cal BC 40 to AD 80 and Cal AD 55 to 135. Ases of Vespasian and Domitian from Phase 1ii levelling layers in the entranceway (Room 4) and Room 1 provide a *terminus post quem* of 86 for the store's construction, while the absence of Central Gaulish samian from these phases indicates that the work to erect the store building had been completed before the Hadrianic period. Therefore, the date of the store's construction is most likely to have occurred c. 90-100/110. There is no evidence for pre-store activity and *insula* IV must have been open ground for the first 15-35 years of the fortress's history.

#### *Phase 2 (occupation and alteration of the store)*

Dating evidence for the store's long period of use came from throughout the building, with significant collections from Room 2 and the entranceway (Room 4). In the former, seven coins were found among the remains of the room's contents before the roof collapsed, including a *denarius* of Titus, a *sestertius* of Trajan, a *denarius* of Septimius Severus and four *radiates* of the later third century. The latest coins are *radiates* struck for Carausius, and the *terminus post quem* for this room's use (and presumably other parts of the store too) is 286-293.

Pottery from Phase 2 contexts also produced early pieces (notably from Room 1) together with later material,

OVERVIEW AND DISCUSSION OF KEY THEMES

Table 2.1. Occupation Phases and relevant dating evidence

Phase	Latest Coins	Pottery	Radiocarbon Dates
0/1 (Construction)	As of Vespasian, 71-2 (Room 4, RA5) As of Domitian, 86 (Room 1, RA4)	Flavian and Flavian-Trajanic. The small amount of Central Gaulish samian could indicate that construction continued into the Hadrianic period but it seems more likely that these, with a very few later pieces are intrusive. The suggested date of construction is, therefore, c. 90/100-110.	Room 5 (C3090) <ul style="list-style-type: none"> <li>• 40 BC to AD 80 (95%)</li> <li>• AD 5 to 65 (68%)</li> </ul> Yard (C320) <ul style="list-style-type: none"> <li>• AD 55 to 135 (95%)</li> <li>• AD 70 to 130 (68%)</li> </ul>
2 (Occupation)	10 coins from Rooms 1 and 2. From Flavian but mainly <i>radiates</i> , the latest of which are of Carausius (286-93)	Late 1st-early 2nd century to mid-3rd to early 4th century, but with polarisation at either end of this range.	
3 (Demolition)	25 coins, many from Room 7. From Flavian but mainly <i>radiates</i> , esp. Carausian, plus 3 House of Constantine bronzes, the latest of which is 347-48	Sufficient late 3rd-4th century pottery to suggest that collapse and demolition took place at this time (stone robbing through into the post-medieval period has increased the amount of potentially intrusive pieces). It is perhaps significant that the later Roman material appears to be earlier than the mid-late 4th century collection from Phase 4.	
4 (Post-store occupation)	5 coins, including 4 mid-later 4th century bronzes, ranging c. 330-375	Surprising little intrusive material, this fairly small assemblage appears to be mid-late 4th century.	Building 1 (C318), wall bonding <ul style="list-style-type: none"> <li>• AD 430 to 640 (95%)</li> <li>• AD 540 to 600 (68%)</li> </ul> Building 1 (C346), primary fill of [C337] <ul style="list-style-type: none"> <li>• AD 425 to 595 (95%)</li> <li>• AD 430 to 560 (68%)</li> </ul> Building 1 (C339), primary fill of [C337] <ul style="list-style-type: none"> <li>• AD 260 to 430 (95%)</li> <li>• AD 340 to 420 (68%)</li> </ul> Building 1 (C304), secondary fill of [C337] <ul style="list-style-type: none"> <li>• AD 420 to 575 (95%)</li> <li>• AD 430 to 550 (68%)</li> </ul>
5 (Wall-robbing)	19 coins, mostly <i>radiates</i> , esp. Carausian, plus 3 mid-4th century bronzes	Wall robbing extended from the demolition of the store (Phase 3) through into the modern period (Phase 7). The pottery contained in robber trenches would suggest that the 12th-14th centuries and the 18th-19th centuries saw the most active stone robbing.	
6 (Medieval)	Residual late 3rd-4th century issues	Medieval and post-medieval pottery but in small quantities (more likely to be intrusive). Sufficient medieval pottery to suggest activity in the 13th-14th centuries, but the period between the Roman and the Norman was largely aceramic in Wales and a building of this date cannot be ruled out.	
7 (Modern)	Residual late 3rd-4th century issues plus a late 17th century sixpence	There is likely to have been continued stone robbing and other activity through into the 20th century and this is reflected in the latest ceramics present.	

indicating the store's long history of occupation and use, while the latest ceramics are dated to the later third or early fourth centuries. The new *opus signinum* floor in Room 3 appears to have been laid towards the end of the building's use, while the two structures erected in front of the building's façade, 'platform' (G2010) and the 'kerbed-structure' (G3098), produced first-second century and third century pottery groups respectively.

#### *Phase 3 (dereliction and demolition of the store building)*

As with Phase 2, the dating evidence for the store's demolition and collapse produces a mixed picture, including significant quantities of material from the building's earlier use as well as its destruction. Important finds assemblages were recovered from Rooms 2 and 7, the latter of which produced nineteen of the Phase's 25 coins, including two *denarii* of Vespasian, thirteen later third-century *radiates* (of which ten were struck for Carausius and an eleventh for Allectus), as well as three fourth-century issues. The latest identifiable coin from Phase 3 was recovered from Room 7 and provides a *terminus post quem* for the building's final destruction of 347-348. Although less specific than the coins, the pottery from Phase 3 also indicates a mid-fourth century date for this event.

#### *Phase 4 (post-Roman masonry buildings)*

Although relatively small in size, the finds assemblage from this phase of occupation is solidly late Roman in character and would suggest that the three-room Building 1 was erected and in use during the later fourth century. Phase 4 contexts produced five coins in total, including a *quinarius* of Allectus and four fourth century bronzes, the latest of which is a SECVRITAS REIPUBLICAE issue in the name of Valentinian I. This is one of the latest coins excavated from the fortress at Caerleon and provides a *terminus post quem* of 364-78 for this post-store occupation. A similar picture is provided by the pottery from Phase 4, which is noticeably later than material from the preceding phase and includes Black-burnished ware vessels that are dated to the mid-to late fourth century.

Four radiocarbon dates from Building 1 indicate, however, that it was erected and in use significantly later than the relative dating provided by the associated material culture. Three samples from the fills of the stone-lined pit [C337] in the building's middle room produced radiocarbon dates of Cal AD 260 to 430, Cal AD 420 to 575, and Cal AD 425 to 595, while a fourth sample taken from one of the building's internal walls produced a radiocarbon date of Cal AD 430 to 640 (two additional charcoal samples produced much earlier and later dates that are, presumably, residual and intrusive in this phase). The absolute dates provided

by these radiocarbon dates indicate that Building 1 was occupied and in use between c. 420 and 600, and Figure 2.2 suggests that a date around 500 is most likely.

#### *Phase 5 (wall robbing)*

Pottery from the backfills of robber trenches suggests that the robbing of stone from the store building occurred intermittently and sporadically over a very long period of time, beginning at the end, or close to the end, of the Roman period and continuing until relatively recently. Three episodes of intensive robbing seem to have taken place in the fourth and fifth centuries, the twelfth to fourteenth centuries, and again in the eighteenth or nineteenth centuries (the store's front wall could well have remained standing to an unknown height as late as the nineteenth century when it might have been in use as a field or property boundary).

#### *Phase 6 (medieval and early-modern occupation)*

Wales was aceramic between the Roman and Norman periods (fifth to twelfth centuries) and some of the possible remains of buildings and evidence for other activities at Priory Field could date to this time. There is sufficient medieval pottery, however, to indicate that some form of occupation occurred in the thirteenth and fourteenth centuries, with agricultural activity continuing until the seventeenth to nineteenth centuries.

## **2.3 Architecture of the Legionary Store Building**

### **2.3.1 Plan of the store building**

The Priory Field store building was first located by the geophysical surveys undertaken in 2006 and 2007. Although not all of the building was revealed, the survey results identified three of the building's corners, which allows the plan of the building to be reconstructed (Figures 2.3 and 2.4).

The building was almost square and covered an area of approximately 60 m by 64 m (the results of the geophysical surveys are inevitably somewhat indistinct and, therefore, it is not possible to provide precise dimensions). A large central courtyard was enclosed on all four sides by ranges, at least two of which were subdivided into smaller rooms. The main entrance appears to have been located in the centre of the excavated southwestern range, leading out onto the extensive yard between the courtyard building and the three granaries close to the fortress's *porta principalis dextra* (it is not known if there were other entrances from the streets to the north, east or south).

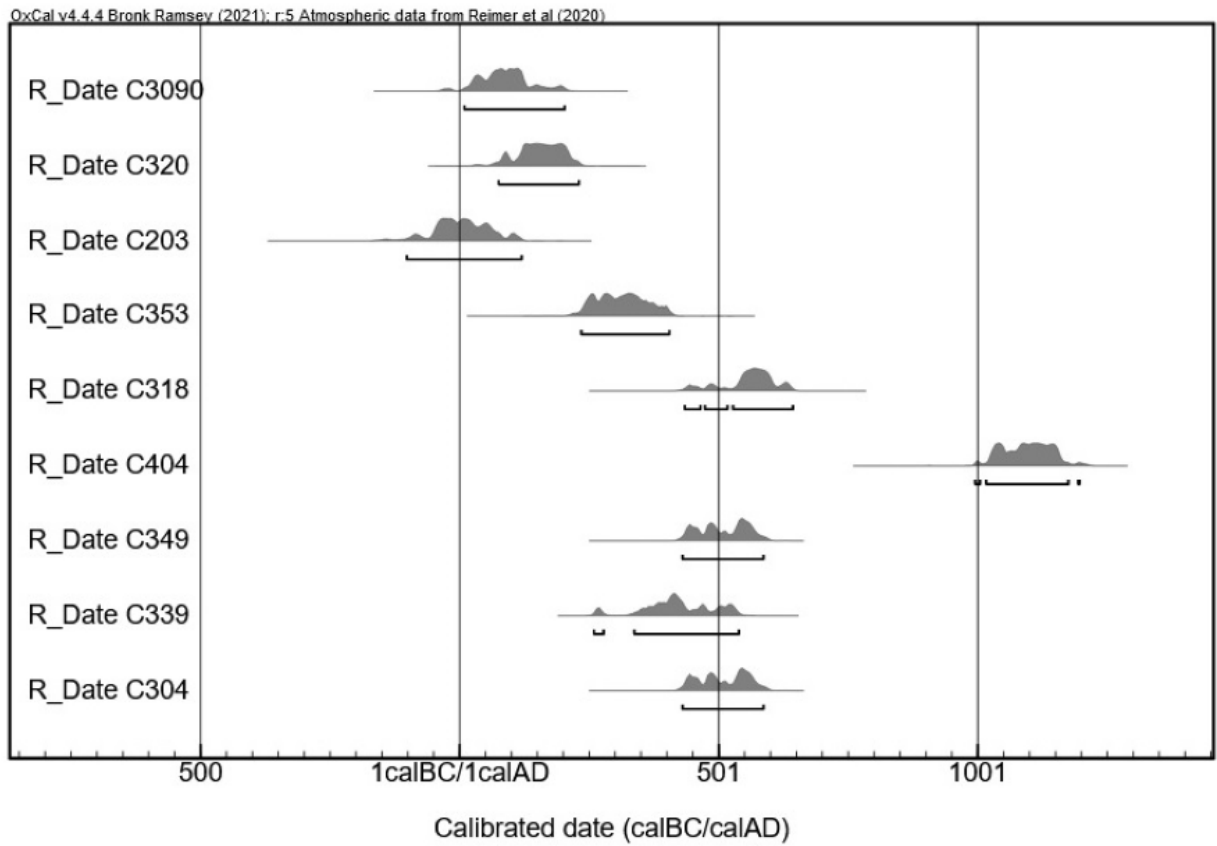


Figure 2.2. Bayesian plot of Period 4 radiocarbon dates

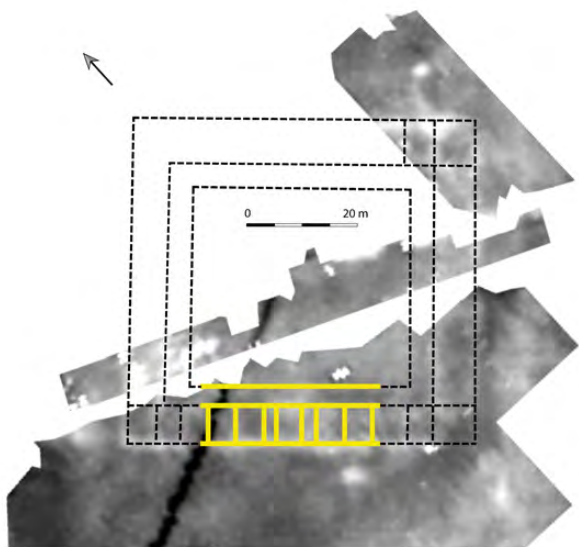


Figure 2.3. Resistivity survey results showing the walls of the Priory Field store building (geophysical results © GeoArch)

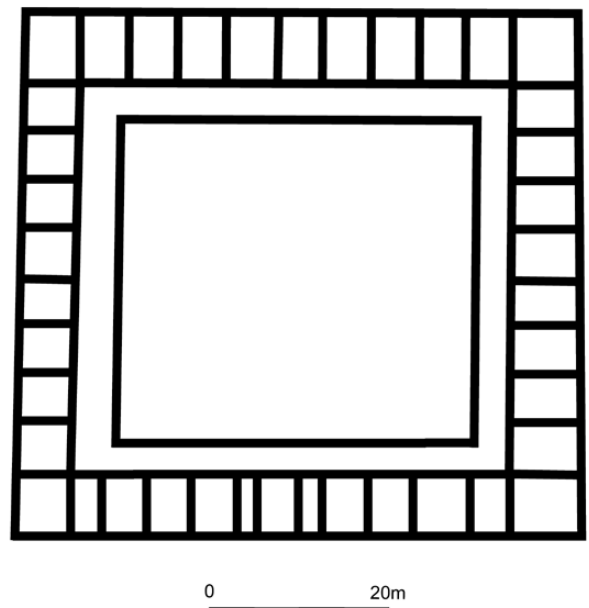


Figure 2.4. Reconstruction of the Priory Field store's ground plan

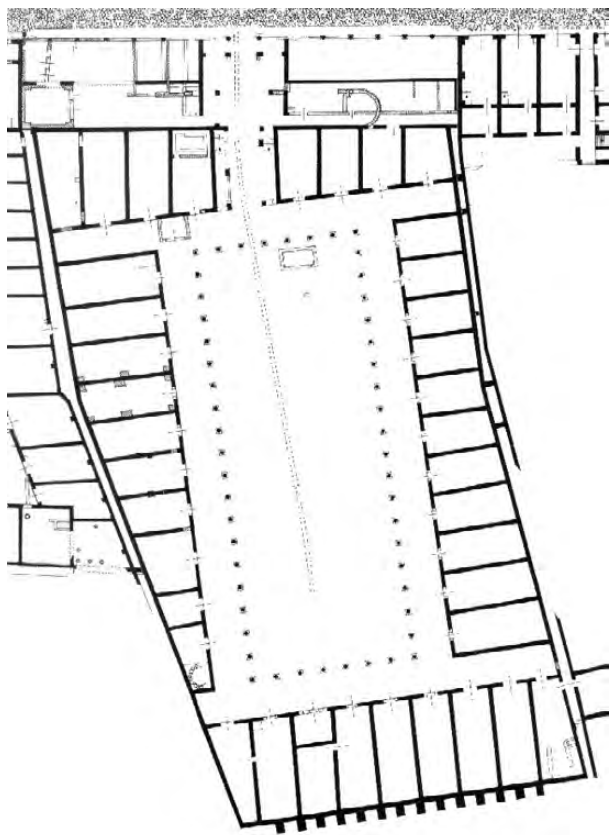


Figure 2.5. Plan of the Horrea di Hortensius in Ostia

The southwestern range was some 64 m long and 9 m wide (the rooms were 6 m wide and the portico was 3 m wide), and contained 13 internal spaces, of which nine were uncovered during the excavations (the geophysical results indicate that another two rooms lay at both ends). These included the central entranceway (Room 4, 3.8 m wide) and two adjoining narrow rooms (Rooms 3 and 5, 1.9 m and 1.5 m wide respectively), in the middle of five equally sized and near-square rooms (Rooms 1 and 2 to the south of the entrance and Rooms 6, 7 and 8 to the north, all of which were c. 4.2 m wide). A narrow portico, c. 2.7 m wide and possibly colonnaded, ran along the inside of the southwestern range and, although the geophysical surveys did not identify the building's full ground plan, it is likely that it extended around the remaining three sides of the courtyard too. The other ranges are known only from the geophysical results and their internal arrangements are less certain. Of these, the southeastern is the most complete and faint anomalies indicate the presence of internal walls dividing the building into small rooms, including a more obvious room at the north-eastern corner (most of the north-western and northeastern ranges lie beneath the tarmac of the Priory Hotel's car park and the access road to the Broadway).

Rectangular and square courtyard buildings similar to the Priory Field example have been identified at a

number of other permanent legionary fortresses, where they have been interpreted as stores or store buildings for foodstuffs and non-perishable goods (Rickman 1971, 257-63; von Petrikovits 1975, 82-6; Bishop 2012, 26). The arrangement of rooms around a central courtyard is certainly similar to the plans of civil store buildings known from Rome and Ostia that the Romans knew as *horrea* (Rickman 1971, 15-122; Pavolini 2006; Van Oyen 2020). The fragmentary so-called Severan Marble Plan of Rome shows square or rectangular courtyard buildings lining the banks of the River Tiber that were often known by the names of their owners or original builders (such as the *Horrea Lolliana*, consisting of adjoining buildings probably built by Marcus Lollius, consul in 21 BC, or his son, that had become imperial property by the reign of Claudius). Although of various sizes and ground plans, the architecture of these *horrea* consisted of narrow ranges of small rooms around a central courtyard, usually (though not always) flanked with internal colonnades (Carrettoni *et al.* 1960). Numerous store buildings of similar and more complex plans have been identified in Ostia, often located on main or arterial roads closer to the port city's gates and the River Tiber. The *Horrea di Hortensius* in *Insula XII* of *Regio V*, for example, was a rectangular building over 100 m long and 60 m wide, with a colonnaded courtyard and narrow rooms along its four sides (Figure 2.5) (Rickman 1971, 64-9).<sup>9</sup>

Buildings with analogous ground plans have been recognised at the legionary fortresses of *Deva* (Chester); *Noviomagus* (Nijmegen); *Novaesium* (Neuss); *Bonna* (Bonn); *Vindonissa* (Windisch); *Carnuntum* (Bad Deutsch Altenburg); *Aquincum* (Budapest) and *Lambaesis* (Tazoult) (Figure 2.6). The identification of these structures as store buildings, however, often depends almost exclusively on their ground plans (frequently

<sup>9</sup> In the Roman world, the word *horreum* (pl *horrea*) described a building used to store things. In common usage, it could refer to store buildings in towns and cities, ports, the countryside as well as military camps (Rickman 1971, 1). Things stored included foodstuffs (particularly but not exclusively grain), and other merchandise for commercial transactions (in which case the term 'warehouse' is sometimes used). While civil *horrea* in Rome and Ostia tended to involve a central rectangular or square courtyard with rows of small rooms arranged around the outside, simpler buildings consisting of a row of rooms that all opened onto the same side (i.e., the street) are known from Rome, Portus as well as the provinces in Asia and Africa (Rickman 1971, 15-147). In modern Roman military literature, *horreum* is a term reserved for buildings that were for the storage of grain and other staples that were very different architecturally from the many known *horrea* from civilian contexts in Italy. Military granaries were large single-spaced buildings of timber or stone with raised floors supported on posts or dwarf walls. When constructed in stone, they were often provided with external buttresses on their long walls (Rickman 1971, 213-50; Gentry 1976). Other military buildings thought to have been for storage (largely restricted to legionary fortresses), are not known as *horrea* and in English they tend to be referred to as 'stores', 'store buildings', 'storehouses' or 'baggage stores' (Rickman 1971, 257-63). In German they are known as *Magazine* and in order to avoid confusion it would be simpler to refer to the former type of military building as granaries and the latter as stores or store buildings.

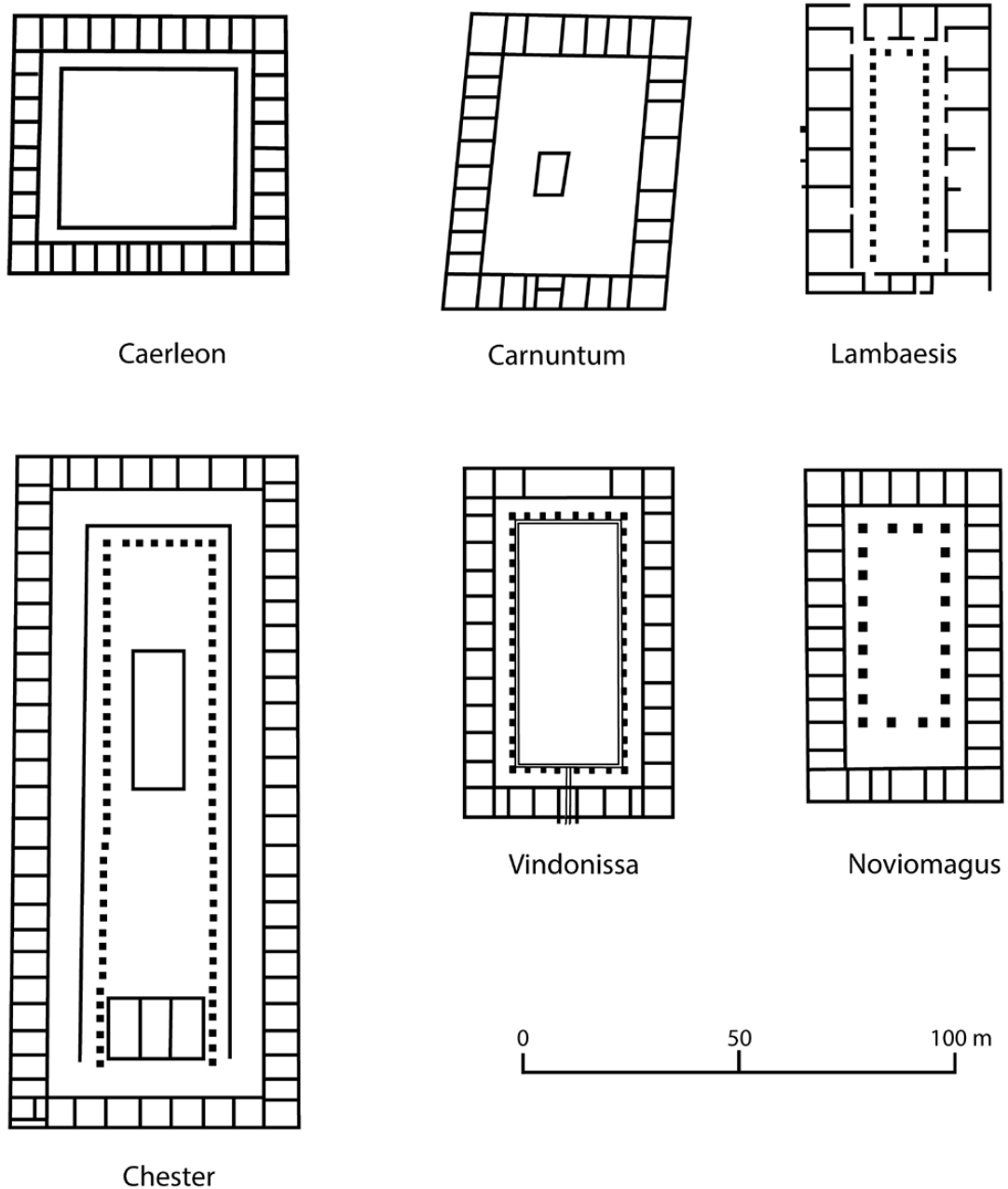


Figure 2.6. Plans of the Priory Field store and other possible legionary store buildings

incompletely known), rather than on any direct evidence for their function, and many were excavated when the recording and publication of finds or their locations, which might indicate a building's function more reliably than its ground plan, were not yet normal archaeological practice. Although the identification of the Priory Field building, the only systematically excavated legionary courtyard building of its size and form, as a store can now be confirmed, this does not mean that the similar buildings in other fortresses

were also stores. Unlike other military buildings, whose characteristic architectural forms reflect the activities that took place there (granaries, barracks, baths and the *principia*), courtyard buildings could have performed a range of different functions and there are many similarities between the plans of buildings identified as stores and those thought to have been hospitals (*valetudinaria*) and workshops (*fabricae*), all of which can comprise ranges of rooms around a central courtyard.

### 2.3.2 Architecture of the store building, including internal fittings

Late- and post-Roman stone robbing had removed almost all of the store building's superstructure and, apart from a few short lengths of upstanding wall, only the foundations or the lowest wall courses were revealed during the excavation. Where they survived, the walls were faced with mortar-bonded courses of neatly cut Old Red Sandstone facing blocks and a rubble and mortar core. The building's foundations were broad rather than deep and consisted of large unbonded cobbles sealed with mortar layers mixed with smaller cobbles and pebbles (a section excavated through the foundations of the courtyard-building's front wall showed that these were only three courses, c. 0.35 m - 0.40 m wide). A levelling course of crudely shaped flat stones over the cobbles provided a solid base upon which the mortared masonry walls were then constructed.

The foundations of the front wall were slightly over 2 m wide and supported a 0.95 m wide masonry wall. Unusually, the front wall had been built so that its outer face lay directly above the front (western) edge of its foundations, leaving an offset of over 1 m on the inside of the foundations that later would be covered by internal walls and floors (Figure 2.7). The building's other wall foundations were considerably narrower than those supporting the façade, with the footings for the internal (rear) long wall of the range measuring 0.95 m wide and those for the internal partition walls were 0.90 m wide. These supported three or four courses of medium-sized faced stones also 0.90 m wide, above which narrower faced-walls, usually 0.65 m wide, were constructed using slightly smaller stones (leaving narrow offsets on either side) (Figure 2.8).

The very solid foundations were intended to support a considerable weight and the extra width of the front



Figure 2.7. The store building's front wall and its wide foundations



Figure 2.8. South face of wall (C604) between Rooms 4 and 5

wall's foundations suggests that the store could have been several storeys high (the small quantities of brick from the excavations suggests these were used relatively sparingly in the building, perhaps only for string courses or around the entranceway). The internal walls, however, appear to have been designed to be less tall and it is possible that, apart from the façade, the store's upper storeys were constructed in timber. While we do not know what the Priory Field store building would have looked like, the surviving *horrea* at Ostia indicate that Roman stores were very utilitarian structures, characterised by thick walls, sometimes buttressed to emphasise strength and security, with narrow windows high up in their outer walls (Figure 2.9). Although the building at Caerleon was constructed in stone rather than brick, it also needed to be secure and it was most likely to have been an austere building where architectural decoration would appear to have been limited to a carved roof cornice and frames around doors and windows, as well as some sort of decorated frieze above the entranceway, perhaps with the triton and the centurial stone of Flavius Rufus. The roof was of the usual Roman construction, consisting of overlapping tegulae and imbrices, while the absence of antefixa suggests that the outward-facing ends of the lowest row of ridge tiles were sealed by another means, perhaps plugged with mortar rather than decorated tiles.

The entrance was originally provided with a surface of compacted small cobbles and pebbles, which was replaced with rectangular flagstones of various sizes laid in irregular rows, some of which seem to have been shaped or broken to fit more-or-less neatly into the new surface (Figure 2.10). This renovation of the entranceway also involved raising the height of the stone slabs closest to the external yard to create a slight gradient from the outside down into the building's interior. At the same time, a small pier or buttress was added to the northern side wall of the entrance



Figure 2.9. Photograph and reconstruction of the Horrea Epagathiana's (Ostia) façade (photo: Sailko. Creative Commons Attribution 3.0 Unported licence. Reconstruction: © Angelo Coccettini)



Figure 2.10. The original cobbled surface in the entranceway (Room 4), overlain by the later flagstone surface

passage, which perhaps served as a jamb for a new gate inserted at the rear of the entrance prior to the laying of the stone slabs. Although the internal portico wall had been robbed, it is likely that it was colonnaded to provide a covered ambulatory in front of the store rooms. This is certainly how *horrea* in Rome and Ostia were constructed and such colonnaded porticos are also familiar from other courtyard buildings in legionary

fortresses, including the *principia*, *scholae* (officer's clubs), officers' houses (particularly for tribunes) and workshops. No stone column drums were recovered from the excavations, however, and it is possible that these were removed during the building's eventual demolition, or that the colonnade used wooden posts instead (although this seems doubtful given the evidence for stone columns elsewhere in Caerleon). If, as seems likely, the store building was at least two-storeys high, the portico might have supported a balcony for the upper floors, access to which probably would have been via stairs.

The utilitarian nature of the store building is attested in the limited evidence for internal fixtures and decorative embellishments. Carts and other traffic would have passed into the building's courtyard on robust and durable surfaces in the entranceway, from where goods and materiel would have been unloaded into the store rooms. Room 3 on the southern side of the entrance, a good candidate for a guard chamber, was the only internal space provided with an *opus signinum* floor and it is possible that its walls were decorated with painted plaster too. The earliest floor in the room was some 0.2 m below the entranceway and perhaps resulting problems with water ingress led to the decision to provide a new concrete floor at the same level as the newly laid flagstone surface in the entranceway. This raised floor was bedded on a thick deposit containing significant quantities of building debris and apparently domestic refuse, including an unusually large assemblage of painted wall plaster (whitewashed with occasional splashes of colour), which could have derived from the refurbishment of the room, but, like the refuse, also could have come from other parts of the store (or indeed from elsewhere in the fortress). It is surprising that Room 3 did not produce any window glass, but it is possible that it was provided with an unglazed opening onto the entranceway (perhaps fitted with shutters). It is probably no coincidence, however, that the entranceway produced the largest assemblage of window glass from the excavation and it is possible that this came from a window from Room 3 (or windows from Room 3 and Room 5), that fell outwards onto the flagstone surface of the entrance passage.

Room 5 on the opposite side of the entrance produced no evidence for a floor surface, very small quantities of wall plaster, or any indications of fixtures and fittings. It is suggested that this was a stairwell, perhaps opening onto the internal portico, which gave access to the upper floors of the building.

The four nearly-square rooms excavated to either side of the entrance and its side rooms (Rooms 1, 2, 6 and 7), could have been provided with wooden floors, but more likely with simple beaten earth surfaces. Small

quantities of whitewashed plaster recovered from their interiors suggests these rooms' walls would have been very simply decorated, although the absence of any plaster from Room 1 indicates that this might not necessarily have been the case in every instance. It would seem likely that the store rooms were provided with glazed windows to provide some light during the daytime, but the limited assemblages of window glass suggests that these would have been small and probably few and far between (perhaps only one or two per room).

### 2.3.3 Functions of spaces in the store

The two rooms on either side of the entranceway were probably a guard chamber or an office (Room 3) and a stairwell (Room 5). Room 3 was the only internal space provided with a solid *opus signinum* floor and it is possible that its walls were plastered and painted too. There is very little evidence to indicate what Room 5 was for or how it had been used (it produced very few finds), but the absence of a floor surface and the fact that it was by far the narrowest internal space (only 1.5 m wide), suggest it was a stairwell. Other explanations for Room 5 are perhaps possible, but a stair next to the entranceway from which the building's upper storey(s) could be reached, seems to fit the evidence.

The four squarer rooms (Rooms 1, 2, 6 and 7) were almost certainly storerooms (*cellae*) where items would have been kept safe until they were required again. These rooms had simple beaten-earth floors (it is possible that they could have had wooden planked floors), while internal decoration was very rudimentary, consisting of roughly plastered and lime washed walls with perhaps one or two small windows, and there was no evidence for artificial lighting or, with the exception of Room 7, heating.

Room 2 and Room 7 provide important *in situ* evidence for the items that had been stored there immediately prior to the building's demolition or collapse, at the end of the third century and the first half of the fourth century. In Room 2, a scatter of hundreds of iron and copper-alloy artefacts across the floor indicates that military equipment had been kept here, and the evidence suggests that the room was used to store high-status items that were considered (or had been considered) 'special' (Figure 2.11). These included a decorated chamfron, a set of scale armour (*lorica squamata*) and at least one suit of segmented plate armour (*lorica segmentata*). The chamfron would have been worn by a cavalryman's or officer's horse on parade or at other ceremonies to commemorate special occasions, while the scale armour is an unusual find in a legionary fortress and could also have been used on parades or on important occasions. *Lorica segmentata*

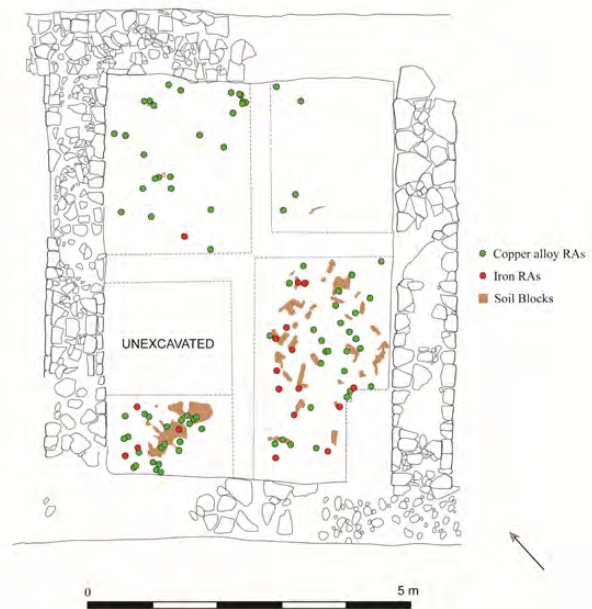


Figure 2.11. Distribution of Registered Artefacts in the Military and Fasten categories in Room 2, from Phases 2 and 3 (by material)

is widely known from Caerleon and other legionary fortresses, but the examples found in Room 2 could have been between 50 and 200 years old when they were buried by debris from this part of the store building's demolition. The *lorica segmentata* had been stripped of many of the copper-alloy fittings that held it together and it is possible that Room 2 contained one or two sets that had been disassembled for some reason. Some of the chamfron's larger decorative copper-alloy pieces also had been removed prior to its loss in the room, and the scale armour seems to have been dismantled too. Perhaps these items of military equipment, of which two are very rare from legionary contexts, were kept in Room 2 at the end of the third century because they were considered special enough to warrant being repaired or recycled?

The scatter of iron and copper-alloy military artefacts on Room 2's floor indicates that these pieces of equipment had been stored on the rear, left and right sides of the room, probably on freestanding shelves, with iron objects closer to the room's back wall. A similar arrangement was found when a long, narrow, rampart building was excavated on the western side of the *retentura* in the legionary fortress at *Carnuntum*. This building (Building VI) was interpreted as a weapons store, or armoury, where military equipment was kept, including arrows and shields in one room, helmets and *lorica segmentata* in another room, and other items in a third room. Much of the arms and armour had disintegrated to form layers of iron oxide 0.2-0.3 m thick and in one room (k), the excavator noticed voids in the oxidised deposits that were interpreted as the positions

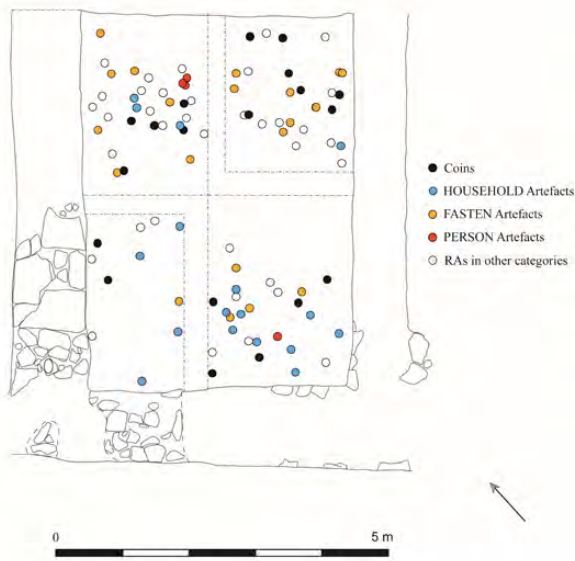


Figure 2.12. Distribution of Registered Artefacts in the Currency, Personal, Household and Fasten categories in Room 7, from Phase 3

of wooden posts for freestanding shelving along the room's two long sides and one short side (von Groller 1901b, 39-44). The posts were 0.5-0.6 m in diameter and were spaced 0.7-0.8 m apart, and the shelves must have been approximately 0.45 m deep.

Artefacts from Room 7 indicate that this room was not used to store military equipment prior to the building's collapse. Instead, a range of domestic and personal items were found mixed with building debris on top of the room's floor, including glass vessels (probably of some antiquity at the time of their deposition), a finger ring, a fragment of a mirror, as well as three near identical and unusual fish plate-brooches (Figure 2.12). The large number of other copper-alloy fittings from Room 7 are likely to have been derived from items of furniture such as chairs or couches and boxes or caskets, in which things like the brooches, mirror and ring could have been stored. A hearth in the centre of the room indicates that it could have served functions other than storage during its history and, although exactly what these might have been are unclear, it is possible that it had been used as a domestic space of some kind.

#### 2.4 'Post-Roman' buildings and occupation

At least two new rectangular masonry buildings were erected on the footprint of the legionary store after its abandonment and destruction in the fourth century (Figure 2.13). The southern part of the store's front range had been demolished c. 300 (Rooms 2, 3 and the entranceway at least, and possibly Room 1 too), while the storerooms to the north of the entrance appear to have collapsed by c. 350.

The store's front wall was standing to an unknown height when these new buildings were constructed, and the entranceway probably remained in use at this time too. The buildings were put up against the store's front wall; Building 1 on the outside faced onto the external yard and the three legionary granaries opposite (if they were still standing of course), while the heavily disturbed Building 2 probably lay over the demolished remains of the store's Rooms 2 and 3. Despite being partially truncated by a large medieval or post-medieval saw pit, the plan of Building 1 can be reliably reconstructed. Five stone walls formed a three-room rectangular structure measuring 11.75 m long and 3.7 m wide. The northern room was 4 m wide, while the middle and southern rooms were 2.60 and 2.75 m wide respectively, with doorways in the internal walls between rooms. The building originally stood to a height of perhaps up to 3.5 m and fourteen or fifteen courses of its front wall were found lying on the earlier yard surface after it had fallen down (spaces in the collapsed masonry might indicate the presence of an external doorway into the northernmost room and a window).

Building 1 was poorly built and although the courses of its walls had been carefully laid using blocks of different sizes, these sat directly on the old yard without foundations of any kind. Not only did the walls undulate as they followed the contours of the underlying surface, but they were also earth-bonded and, as described above, the building fell down at some point. It is unclear for how long Building 1 might have been in use, but its superficial construction would suggest that it probably stood for a few decades or less, rather than a century or longer.

Building 1 was most probably an agricultural building of some kind. An inverted imbrex in the corner of the lowest course of the southern end wall perhaps was intended to serve as a drain for water or other liquids from the building's interior. If so, it is possible that the room at this end of the building had been used to keep animals (perhaps a sty for one or two pigs?), in which case the rudimentary surface beyond the end wall, into which the imbrex drain emptied and that was sealed by dark humic deposits, could have been some form of animal pen. The central room contained a large pit, 0.7 m deep and lined with large, irregularly-shaped thin stone-slabs (probably reused broken flagstones), placed vertically within the pit to create a rectangular cist-like feature some 1.55 m long and 0.65 m wide. The stone-lined pit's primary charcoal-rich fills suggest it was used to store grain for human consumption and also that it had been episodically cleansed by fire to eliminate insects and other pests. These fills produced mainly wheat with smaller quantities of barley and oats, while the low incidence of chaff and weed seeds indicates

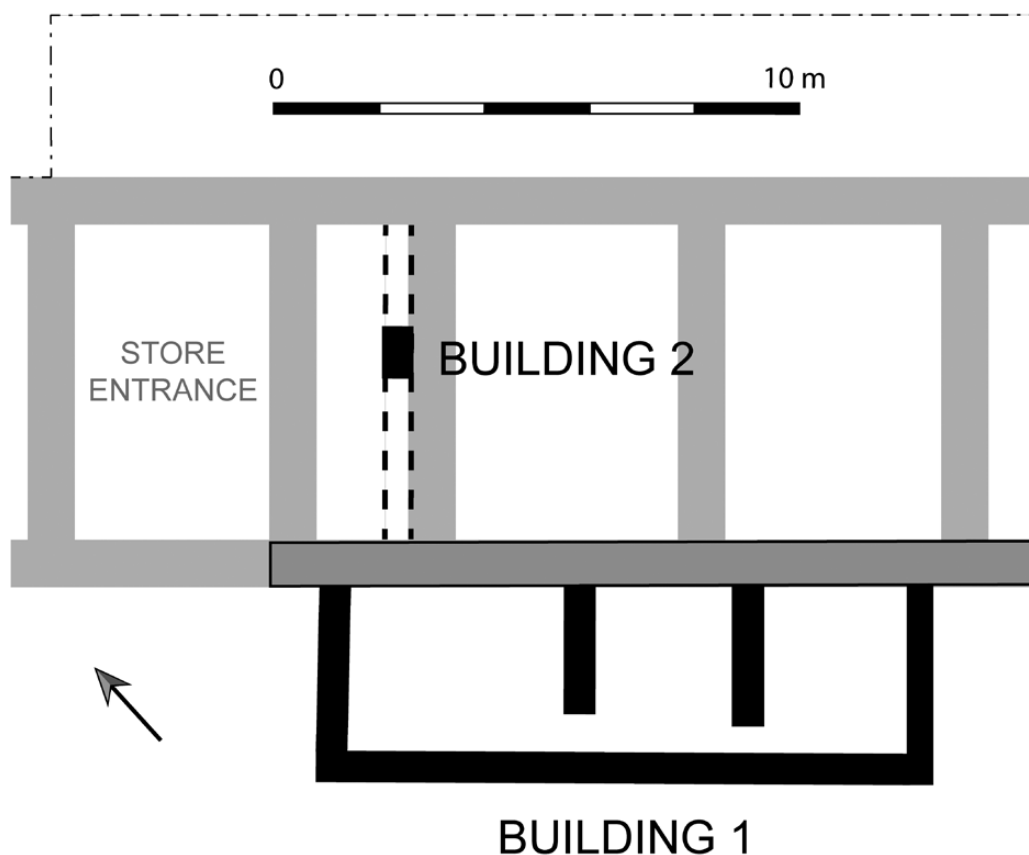


Figure 2.13. Schematic plan of the 'post-Roman' buildings overlying the demolished store

the grain had already been winnowed and fine-sieved before being stored in the pit. The broken flagstones used to line the pit's sides would have projected above the room's floor and the pit could have been closed with a large lid, or covered with planking.

It is unclear what activities took place in the larger northern end room of Building 1, but it, like the other two rooms, was covered with thin layers of dark debris-free silts that could have been the remnants of beaten-earth floors, or deposits that had accumulated during the building's use. These layers physically connected the walls and the stone-lined pit, demonstrating that these features were contemporary and part of the same occupation episode. Four radiocarbon dates from Building 1 indicate that it was erected and in use between 420 and 600, with a date around 500 most likely (see section 2.2.3 in this chapter).

In contrast, the finds assemblages recovered from Phase 4 deposits, including Building 1, are consistently late Roman in character and, without the radiocarbon dating evidence, these would indicate that this occupation dates to the later fourth century and, possibly, the first years of the fifth century. The five

coins from this phase are noticeably later than the large group from the store's earlier demolition and collapse, and include a bronze coin of the House of Valentinian struck between 364 and 375. This was found in the uppermost fill of the large pit in Building 1's middle room and it is the latest coin from the Priory Field excavation (and one of the last Roman coins known from Caerleon). The relatively small quantity of pottery from Phase 4 also conspicuously post-dates the assemblage from the preceding phase, containing vessels that were manufactured no earlier than the second half of the fourth century.

The wider significance of these 'post-Roman' buildings at Priory Field is explored in the following sections, but it is clear that, in Caerleon at least, terms such as 'late-Roman' and 'post-Roman' are not mutually exclusive and probably should be considered as political rather than chronological, or cultural, labels. The radiocarbon dates demonstrate that Building 1 was constructed and in use after Roman Britain had ceased to exist (i.e., after c. 410), but at a time when people in Caerleon were still using Roman material culture and, presumably, behaving like Roman-Britons. That the exclusive use of Roman objects, and the practices they were associated

with, seem to have been a normal part of life in the decades around 500 has profound implications for how scholars identify, describe and interpret fifth century archaeology in Britain, which in this part of south Wales looks convincingly 'Roman' and not at all 'post-Roman'.

Building 1 is the first archaeological evidence for occupation at Caerleon definitively dated to the period immediately after the end of Roman Britain. Its architecture, as well as its likely agricultural functions, illustrate *Isca's* transition from an imperial legionary fortress to a place inhabited by a community that led very different lives to earlier generations of the Second Augustan Legion's soldiers. It is highly significant, however, that although Caerleon had changed very dramatically from 300 to 500, it seems to have remained a place where a Roman way-of-life continued long after the demise of *Britannia*. The excavation of the forum-basilica at Caerwent also found good evidence for continuity into the fifth century, perhaps political as well as cultural, in the old city of *Venta Silurum* only nine miles away (Guest 2022).

## 2.5 Themes in Roman archaeology

### 2.5.1 *The Priory Field building and fortress planning*

Above and beyond the significance of the identification of the Priory Field building as a store, in comparison with other examples of this type, its particular location within the fortress complex is an important discovery. The geophysical surveys and trial excavations conducted as part of the wider project investigating Caerleon in 2006 and 2007 firmly located the military granaries in a neighbouring plot to the store building (Guest and Young 2007, 128-9), and it is possible therefore to describe a 'logistics zone' in this part of the fortress, with a wide yard separating the two sets of storage buildings and the whole being situated close to the gate which connected the *via principalis* down to the dock facilities on the river Usk (Guest and Young 2010). The list of other main examples of the 'baggage store' type in a legionary context have not particularly changed between Rickman's examination of Roman storage buildings and Bishop's comprehensive survey of fortress structures; they include buildings at Bonn, *Carnuntum*, *Lambaesis*, *Novaesium*, *Noviomagus*, *Vindonissa*, and possibly the very large courtyard building at Chester (Bishop 2012, 26; Rickman 1971, 257-63; von Petrikovits 1975, 82-6). The context of these examples within their fortresses is not always easy to establish as clearly as at Caerleon, so the possibility of whether such zoning was a consistent part of fortress planning must be a hypothesis to be examined in future work, but certainly these buildings quite often occur along the *via sagularis*. This is true for all of the sites mentioned except Chester, and possibly *Noviomagus*

which has two candidates, though positions within the fortress otherwise vary, and association with granaries is harder to establish (see Bishop 2012, 51, 58, 63, 90, 93, 107, 114 for plans). At Inchtuthil, a possible baggage building is on the *via praetoria* near one of the granaries, though other examples of the latter are distributed throughout the fortress (Bishop 2012, 76; Pitts and St Joseph 1985, 123-8). It may be that the organisation of space on the western side of the fortress at Caerleon also took account of the activities taking place in the extensive range of buildings outside the walls in the Southern *Canabae* (Guest, Luke and Pudney 2012).

### 2.5.2 *The chronology of the Priory Field store in context*

The summary of the stratigraphic and dating evidence in Chapter 2.2 makes clear that the evidence from the Priory Field store building is particularly informative regarding transitions in the life of the building and the people using it. The construction phase fits into a particular context in the development of the stone fortress and contributes to discussions about the evolution of military architecture at the end of the first century AD (see Chapter 2.3), though recent discoveries in the Southern *Canabae* are probably more dramatically significant for the early period at Caerleon (Guest, Luke and Pudney 2012). The construction of the store as one of the first buildings in stone, without a timber antecedent, suggests that its intended purpose was more appropriate for a later stage in the deployment of the legion to the region, but one which became important once the fortress was more established and the decision to convert other parts of the site to stone had been taken. Whether space had been left for specifically this building is difficult to say. The storage use of the building certainly relates to everyday military life through the later history of the fortress, and the periodic redeployments which were an integral part of that, albeit with limited resolution. The most conspicuous transition at Priory Field, though, and the one with widest potential significance, is the series of structural changes and related features dating from the later third century through to perhaps sometime in the sixth century. This is a challenging, important and exciting period in the history of Roman Britain and the wider empire, and indeed has always been so at Caerleon itself (see e.g., Esmonde Cleary 2016; Gerrard 2013; Haarer 2014 for recent overviews, Casey 2002; Gardner 1999 on Caerleon). In this section, some of the comparative context for the evidence at Priory Field will be considered, both within the fortress and at other sites in Britain, before considering potential interpretations for the social and political significance of this evidence.

Relevant evidence for late Roman occupation at Caerleon has been discovered relatively frequently

during the long history of archaeological investigation at the fortress. This is, however, a mixed blessing, as some of the seemingly more important elements in the picture that has been built up over the decades were recovered, and/or reported, in far from ideal circumstances, in terms of contemporary methods and approaches. Among the relatively few excavations of barracks areas within the fortress, for example, intriguing evidence of late modifications to structures were recorded in Myrtle Cottage Orchard (Fox 1940), and at the Roman Gates site (Evans and Metcalf 1992), but in both cases – albeit for different reasons – the trenching was limited and the observations are somewhat unclear. The absence of much fourth century material from the main barracks area excavated in the rear portion of the fortress, Prysge Field (albeit that this dates to the 1920s), combined with some evidence of dismantling activity in central buildings like the *principia* (though seen only very partially), led George Boon to suggest that the fortress was abandoned by the legion *Secunda Augusta* at the end of the third century (1972, 66-70). Boon, and others, have gone further to hypothesise that the legion then moved to Cardiff and its new, ‘Saxon Shore style’ fort, and thence to Richborough, where it is recorded in the *Notitia Dignitatum* (Boon 1987, 44-5; Davies 1991, 54-5; Fulford 2002, 97-9). As neat as this line of reasoning is, there is evidence in Caerleon that still requires explanation – to which the Priory Field material adds – and that explanation need not contradict the idea that parts of the legion did indeed move elsewhere in the fourth century.

The evidence of fourth century activity in the fortress comes not only from the two barracks sites mentioned above, and now the Priory Field building, but also from several sites particularly in the central and front portions of the enclosure, and also from parts of the *canabae* outside its eastern walls. This evidence provides interesting comparative material to Priory Field because it is in many ways similar in character – scattered finds, indications of modifications to buildings – which suggests that there were changes in the uses of structures and spaces, but certainly not abandonment. A good example of this comes from the Fortress Baths, where the large rectangular swimming pool or *natatio* in the courtyard of the complex, and some of the other plunge pools, were filled with rubbish certainly up until the mid-fourth century; this included sizeable quantities of BB1 pottery and animal bone (Zienkiewicz 1986a, 253-61). Elsewhere, maintenance of the main roads in this part of the fortress seems to have continued, particularly the lateral *via principalis*, observed in several small excavations (e.g., Zienkiewicz 1988). The dismantling and semi-occupation of the Priory Field building in Phase 3, and perhaps the beginning of the use of the buildings of Phase 4, chimes with this kind of evidence. While these activities may

represent new inhabitants moving into the fortress, it is clear from the Eastern *Canabae* excavations that houses there were still in use, again at least in the first half of the fourth century (Evans 2000, 484-6), and these might be expected to be just the sort of people to replace the legionaries if they had entirely moved elsewhere. Some continued legionary occupation, in repurposed spaces, is therefore very possible, and would be compatible with the common practice of dividing later Roman legions into smaller detachments (Casey 2002). Other sites in Britain reveal further helpful comparisons that allow us to further expand on this notion, particularly in relation to the character of late ‘military’ occupation, and also see some of its wider political context.

A couple of sites in particular have become famous, if not notorious, as exemplifying the transformation of later Roman settlements into their post-Roman successors, and publication of these in the 1990s had a significant impact on the wider debates over the character of ‘late antique’ Britain. Although one of these, Wroxeter, was clearly home to a different kind of community to Caerleon, it is relevant not only for the period under discussion here, but in a regional context, especially as that has subsequently been characterised by Roger White in relation to the late Roman provincial structures (White 2007). The sequence proposed in the Wroxeter baths basilica report (Barker *et al.* 1997), with the shell of the building remaining standing in the fifth century, attracting ephemeral use, and then being replaced with a series of substantial timber structures in the sixth/seventh century, has been very influential, particularly on ideas about urban continuity and the persistence of Roman administrative or ecclesiastical structures. There are elements of similarity to Caerleon, too, but recent critical discussion of the Wroxeter evidence but must be taken on board, especially as this highlights differences between Wroxeter and the Priory Field evidence. Alan Lane has carefully considered the structural and artefactual evidence from Wroxeter, and found both wanting in their support for the published sequence (Lane 2014). One point of critique is that Wroxeter lacks imported pottery found at other western sites of later fifth and sixth century dates, and that in lieu of artefacts absolute dating is essential. Another criticism is that there are serious questions about the essentially invisible post-baths buildings. These points are useful to bear in mind when we look at Priory Field. The dating issues are different, as the sequence proposed here has an earlier focus, but the lack of imported ware perhaps reinforces an emphasis on the earlier to mid-fifth century; this is, though, supported by several radiocarbon dates. The structural evidence, however, for reoccupation within the shell of the old store building is substantial and although the Priory Field sequence is perhaps less spectacular than that proposed at Wroxeter, it is much more secure.

For guidance in the interpretation of this sequence, other military sites are obviously useful, and here the second major excavation publication of the 1990s comes to the fore: Birdoswald (Wilmott 1997). Like Wroxeter, this report proposed a sequence of modified use for Roman buildings – here particularly the fort store buildings, in the late fourth century – followed by rebuilding of timber structures on the rubble of these structures, and like Wroxeter, this evidence has been placed in a wider regional and theoretical context by Wilmott and others (Collins 2012; Gardner 2007; Wilmott 1995). The Birdoswald sequence has generally stood the test of time more firmly than that at Wroxeter, and partly this is because – while there remain important debates about various aspects of later Roman fort architecture, especially barracks (e.g., Hodgson and Bidwell 2004) – there are more clear comparative examples, primarily from northern sites, of significant modifications in the later fourth century to the uses of fort buildings. These often involve reuse of previously functionally-specific central spaces for more *ad hoc* activities like rubbish dumping or metalworking (e.g., in some rooms of the *praetoria* at South Shields and Binchester, or in the *principia* at Housesteads), or rebuilding of some features in different materials (e.g., earthwork and timber defensive works at Housesteads and South Shields) (Gardner 2007: 166-86). The character of the refuse being disposed of can also be illuminating, as with the large amounts of animal bone dumped in the *praetorium* baths at Binchester, interpreted as evidence of communal feasting which perhaps forged new bonds between soldiers and their wider community in the waning days of more bureaucratic political relationships (Petts 2013; Ferris 2010; Reece 2002b). Elements of all of these sequences are very relevant to Priory Field, with occupation in the shell of a storage building giving way to new, different structures, and to some of the evidence from Caerleon as a whole, like the animal bone in the Fortress Baths. Does this mean similar interpretations can be applied here?

Certainly a case can be made in this direction, bearing in mind too the distinctive context of the late Roman western frontier region (cf. Gardner 2017, 39-40). After the relatively straightforward phases of conquest and initial garrisoning in the later first and early second centuries, and then a period of limited military involvement in the later second and early third centuries, the region emerges in the later imperial period with a number of enigmatic features. Western garrisons are missing from the *Notitia Dignitatum*, and the distribution of late official/military metalwork also has a big gap in the west, but the archaeology of several sites shows clear activity in existing fortifications, and indeed new defended sites are added to the coastline of what is now Wales, such as Cardiff and the fortlets in the north-west (Burnham and Davies 2010, 42-62;

Casey 2010; Leahy 2007; White 2007, 59-71). This clearly suggests that the region moved from an early focus on internal control to a later, externally-directed frontier, and indeed there is emerging evidence from Ireland for the notion that there was increased contact in both directions across the Irish Sea at this time, with social changes, trade, and conflict all part of the possible range of interactions (Cahill Wilson 2014; Cahill Wilson 2017; Casey 2010, 64-6; Rance 2001). At a later stage, this also manifests in the emergence of a linguistic community uniting Ireland and at least western Wales, represented by Latin and ogham-inscribed stones appearing from the end of the Roman period, and later still the connections of the Atlantic/Irish Sea trade in pottery mentioned above (Lane 2014, 509-11; Mytum 1992, 23-52; White 2007, 151-68). The fortresses at Caerleon and Chester were the linchpins of the early garrison network, but in both cases their later role has been difficult to unravel. The changing character of the fourth century occupation in both sites bears comparison though (Wilmott and Garner 2018, 7-9). In both cases, the patterns of occupation can certainly be interpreted as indicating the presence of reduced legionary detachments, constituting part of the new Irish Sea frontier for much of that century, before transforming into something rather different as that frontier gradually turned itself inside out, becoming more directed to the east than the west (cf. White 2007, 152). The evidence from Priory Field adds to at least the earlier part of this story, and provides comparable data to northern sites for the transformation of late Roman military communities into their early medieval successors.

### 2.5.3 Military equipment

This section describes the evidence for a very rare example of a decorated leather chamfron as well as the highly fragmentary remains of *lorica segmentata* and *lorica squamata*, all of which were found lying on top of the latest floor in Room 2 mixed with debris from the building's abandonment and collapse, c. 300. This material includes Registered Artefacts as well as artefacts recovered from several soil blocks lifted from the trench and excavated in the National Museum of Wales's conservation laboratory. A general discussion of all military finds from the store building (including Room 2) is presented in the introduction to the Finds chapter (Chapter 4.1), followed by details of military Registered Artefacts in the iron, copper alloy and lead catalogues and reports (Chapter 4.2.3-5), as well as the items contained in the soil blocks (Chapter 4.3).

The chamfron and *loricae* were in the room when the building's superstructure fell inwards, sealing them beneath broken roof tiles and rubble (the discovery of vole bones among the military equipment suggests

a previous period of abandonment). These items were probably not complete prior to this event, but the violent circumstances of their deposition certainly increased their fragmentation and also resulted in the scattering of pieces over the floor. Being buried by building debris, however, had also protected the remains of the equipment from later activities that disturbed the Roman-period stratigraphy in other parts of the store (medieval and modern robbing of the building's front wall caused some damage to the western side of the room's interior). Nevertheless, the burial conditions had affected the *lorica segmentata* in particular very badly indeed and many of the iron plates and other ferrous artefacts were often so oxidised that very little of the original metal survived, while the chamfron and *lorica squamata* existed only as masses of jumbled copper-alloy artefacts.

This made the task of piecing together the chamfron and armour left in Room 2 at least 1,700 years ago all the more challenging. That it has been possible to attempt to do so is because of their careful and systematic excavation (including the lifting of 38 soil blocks), the delicate conservation and analytical programme at the National Museum of Wales, as well as the dedication of the project's finds specialists. There is no doubt that without the concerted efforts of experienced archaeologists and conservators over many years, most of the remains of these important items would have been missed and their significance gone unrecognised.

### The Chamfron

Room 2 produced numerous elements of an elaborate chamfron that would have covered a horse's face and head. Originally this would have consisted of a leather mask decorated with copper-alloy studs, pins, plaques and, probably, pierced domed eye-guards. Examples of this type of chamfron are very rare and have been found only in Roman Britain.<sup>10</sup> Excavation of anaerobic water-logged deposits at the auxiliary forts at Newstead in southern Scotland, as well as at Vindolanda and Carlisle on Hadrian's Wall, have recovered the leather sheets of thirteen chamfrons pierced with holes for their copper-alloy decorative fittings (Junkelmann 1997; Schuckelt 2014; Winterbottom 1989). Although most of the chamfrons were cut up prior to their deposition

and only pieces of the original leather masks were retrieved, single near-complete examples were found at Newstead and Vindolanda (Curle 1911; Curle 1913; van Driel-Murray 1989; van Driel-Murray 1993). Both Chamfron I from Vindolanda and the example from Pit 78 at Newstead had been stripped of almost all copper alloy fittings prior to their deposition (presumably to recycle the metal), but the holes through the surviving leather backing show where the pins, studs and other pieces had been originally located, preserving the masks' original designs (Figures 2.14 and 2.15). These were very similar, consisting of two large round eye-

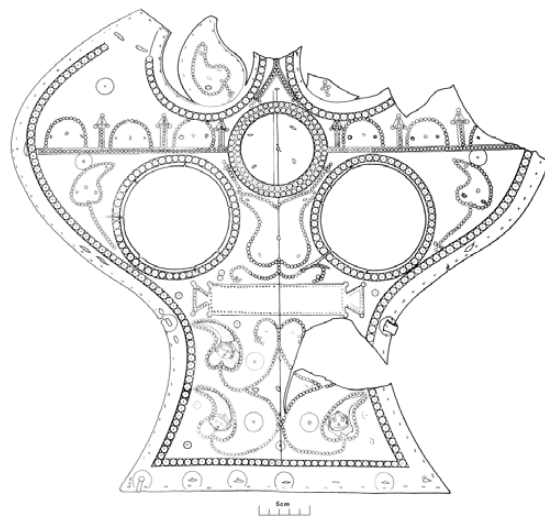


Figure 2.14. Chamfron I from Vindolanda (drawing: B. Brouwenstijn © The Vindolanda Trust)



Figure 2.15. Chamfron from Pit 78 at Newstead (© National Museums Scotland)

<sup>10</sup> Eye-guards are known from other sites in Britain, notably Ribchester where they were found with a cavalry 'sports' helmet, and also from military sites in other Roman frontier provinces (Garbsh 1978; Schuckelt 2014). Other types of chamfron comprised three articulated copper-alloy plates, where the side panels covered the horse's cheeks and eyes and the central plate extended from above the muzzle to the forehead and ears. The central panel was often elaborately decorated with martial and mythological motifs, and the only known possible instance of this type of chamfron from Britain is the plaque found in a barracks in Prys Field in Caerleon, decorated with a Victory carrying a *tropeum* on her shoulder (Chapman 2005, 144-5).

guards (missing, but probably pierced domes), a large circular fitting on the forehead (also missing), and numerous decorative motifs, including a *tabula ansata* across the centre of the horse's nose, and semi-circle and leaf-shaped panels filling the remaining spaces (almost entirely missing). Other leaf-shaped panels fitted into the chamfron's ear-guards, and three leaf-shaped copper-alloy plaques with attached flowing-haired busts were found still fixed to the lower part of Vindolanda Chamfron I.

Unlike these earlier discoveries at northern forts, only the copper-alloy fittings survive of the Priory Field chamfron, the leather mask having long since decayed away. These were found in a large mass in the northwestern corner of Room 2 and were lifted from

the trench before being excavated in the National Museum of Wales (Chapter 4.3, Soil Block 1). This painstaking process revealed good evidence that the mass comprised a single near-complete chamfron, but from which some elements had already been removed, most obviously the likely eye-guards (also missing from the Vindolanda and Newstead chamfrons). What remained were hundreds of overlapping small flat-headed studs, larger pins and studs of various types, as well as a leaf-shaped plaque that was the first real clue to the chamfron's identification.

This plaque consisted of a thin concave copper-alloy sheet that would have been attached to the leather mask by three pins on the back (RA 284). A separate decorated cast stud, probably made from a different

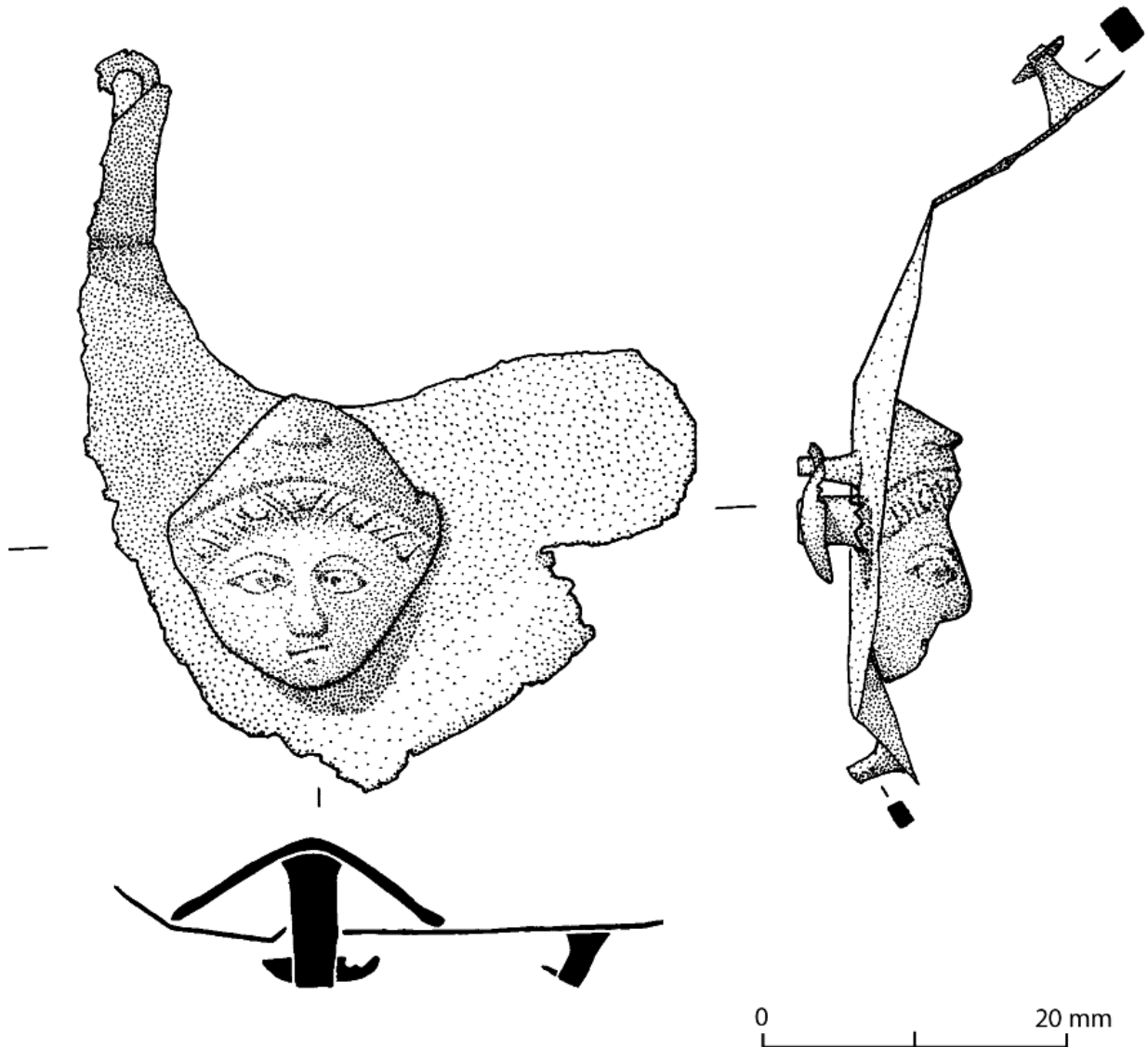


Figure 2.16. Leaf-shaped copper alloy plaque with decorative stud

copper alloy to the sheet itself, depicts a head wearing a Phrygian cap (Figure 2.16). This stud was attached to the sheet with a pin that also would have pierced the leather backing, kept in place with a washer (fragments of washers for the three pins on the rear of the sheet were found beneath the plaque). The four pins on the back of the plaque almost exactly match the location of four holes on the right ear of Vindolanda's Chamfron I (Figure 2.17), confirming that it was an ear guard attached to a leather mask of the same type. This also explains the deliberate creases in the plaque, which must have been intended to keep the chamfron from touching the horse's sensitive ear. The identity of the figure wearing a Phrygian cap is not known and although candidates might include Bacchus, Attis or Mithras, it is more likely that it was a generic representation of an 'easterner' rather than a specific deity or mythological figure.



Figure 2.17. Underside of the leaf-shaped plaque showing four pins and washer (© Amgueddfa Cymru – National Museum Wales)



Figure 2.18. Underside of pins from Soil Block 1 showing two dies used in their manufacture (© Amgueddfa Cymru – National Museum Wales)

Approximately 250 copper alloy pins and studs were also recovered from the same soil block around and beneath the ear guard. The majority of the pins had small flat heads (5-8 mm in diameter), that appear to have been struck using two different dies (Figure 2.18): one with four equal spaced ridges and the other die with a raised rim (some show evidence of stress cracks radiating in from the circumference, indicative of a cold stamping process). The pins' shafts were attached to their heads in a separate manufacturing process and, where the full lengths of the shafts survived, all exhibited an almost right-angle bend about halfway along their lengths (Figure 2.19).

Four incomplete patches of overlapping flat-headed pins were excavated and removed from Soil Block 1: two face up and two upside down. The largest of these consisted of almost 100 pins in eight rows, arranged diagonally to produce a 'fish-scale' pattern; an effect also repeated on the other three panels (Figure 2.20). A further 150 copper alloy flat-headed and domed pins and studs were recovered from the deposits around the soil blocks, of which at least 50 were the same type as



Figure 2.19. Pins from Soil Block 1 showing bent shafts (© Amgueddfa Cymru – National Museum Wales)



Figure 2.20. Panel 2 of flat-headed pins from Soil Block 1 (© Amgueddfa Cymru – National Museum Wales)

those forming the fish-scale panels, as well as another 20 larger flat-headed and domed studs with diameters between 10 mm and 27 mm. Therefore, approximately 400 copper alloy pins and studs of various types and sizes were recovered from the corner of Room 2, the majority of which are likely to have decorated the chamfron.

The studs included four large domed examples (three of which had washer fragments still attached to the ends of their shafts), and two large disc-headed studs. Two of the domed variety were more silvery in appearance than the others (XRF analysis detected a coating of tin), and had fragments of copper-alloy chain attached to loops on the inside faces of their heads. A few small dome-headed pins were also recovered from the soil block, most of which seem to have been closely associated with the larger domed studs with attached chains. Other artefacts that also perhaps derived from the chamfron were found in other soil blocks from the same general area of Room 2, including a large copper alloy flat-headed stud from Soil Block 2 (RA 232, 34 mm in diameter).

Like the ear guard, all of these pins and studs would have been attached to a leather sheet. The distance between the back of the pin heads and the bend in their shafts was 3-4 mm, which is similar to the few studs where rear washers survived in place, as well as the leaf-shaped plaque. Although organic materials on their own are unlikely to survive burial in damp aerated soil, the corrosion products on some of the copper-alloy objects afforded a degree of protection from complete bacterial decay. A dark material remaining on the undersides of several pins, studs and the plaque was examined under a microscope to ascertain what kind of organic material



Figure 2.21. Traces of leather on the back of pins, x16 magnification (© Amgueddfa Cymru – National Museum Wales)



Figure 2.22. Positions of copper alloy fittings in Soil Block 1 prior to lifting

these artefacts had been in contact with (Figure 2.21). A fibrous material was visible, confirming that the sheet was made of leather (this material's structure had become deformed and laminated on some of the artefacts and it is known that decaying leather often displays lateral splitting between layers of different fibre density and orientation).

Examination of the Vindolanda and Newstead chamfrons revealed that they were constructed from two or three layers of tanned leather, the uppermost of which was tooled and decorated while the inner one protected the horse from the metal fixings and prevented chafing (Hyland 1993, 145-8). The leather for Chamfrons I and II from Vindolanda was identified as cowhide with a thickness of 4-5mm (fragments of goatskin were identified on the inner surface), while a section of lining from Chamfron III consisted of goatskin and thin sheep or deer skin (van Driel-Murray 1989, 283-91). The Newstead chamfron was described as being one-eighth of an inch in thickness (about 3 mm), and fragments of goatskin lining were identified too.

The Priory Field pins and studs closely match the sizes of the equivalent fittings from Vindolanda and Newstead.

Although fewer items survive from these chamfrons, in both cases the impressions in the leather can be used to identify three sizes of pins and studs, which would have been c. 3 mm, 6 mm and 17 mm in diameter. Those from Caerleon measured:

- 3-3.5 mm: small dome-headed pins
- 5-8 mm: small flat-headed pins
- 15-17 mm: four large dome-headed studs (including two with attached chains)
- 19 mm: two large disc-headed studs
- 34 mm: large flat-headed stud

The absence of both domed eye-guards and one of the ear-guards demonstrates that the Priory Field chamfron had already been stripped of most of its larger decorative elements. The decomposition of the leather backing and the mixed nature of the surviving decorative elements mean it is difficult to be sure how the Priory Field chamfron would have looked exactly, and how the various surviving components would have fitted together. Not all of the decorative elements had been completely disturbed, however, and the locations of the copper-alloy fittings in Soil Block 1 appear to reflect, to some extent at least, the relative positions of the remaining elements of the original chamfron immediately prior to the building's collapse (Figure 2.22). The ear guard indicates that the chamfron was lying face up, while the panels of pins could have derived from the parts of the mask that covered the horse's forehead, perhaps beginning at the muzzle and

extending upwards to the area between the eyes and ears, and even covering the likely poll guard. The lower patches of downward-facing pins, beneath the upward-facing panels, indicate that the chamfron had been folded, or had collapsed in on itself, which suggests it is most likely that it was the muzzle and the poll guard that were tucked underneath the main part of the chamfron. If the decorative arrangement of the Priory Field chamfron was similar to those from Vindolanda and Newstead, the small dome-headed pins may well have been used to mark the outline of plaques such as the ear guard, while the larger dome-headed and disc-headed studs might have been positioned around a circular fitting on the forehead (perhaps some of which were linked together with chains).

The Priory Field chamfron is similar in several ways to those from Newstead and Vindolanda, particularly the presence of decorated ear guards and the use of multiple similar sized dome-headed studs to adorn the leather mask (Figure 2.23). There are, however, important differences with these other chamfrons; most obviously in the use of flat-headed pins to cover large areas of the example from Caerleon. Uniquely, the Priory Field headpiece was decorated to create a fish-scale effect that, when in use, must have glistened and shimmered.

It is unclear if leather chamfrons of this type were intended to offer protection in combat, or were to be worn only on parades and official ceremonies (Fischer



Figure 2.23. Reconstructions of Vindolanda and Newstead chamfrons  
(© The Vindolanda Trust and National Museums Scotland)

2012, 227-228; Junkelmann 1996, 16; Junkelmann 1997, 79). The author Arian, writing during the reign of Hadrian, described the exercises known as the *hippika gymnasia* that Roman cavalry practised to demonstrate their horsemanship and martial prowess (Hyland 1993). These involved a number of complex manoeuvres performed by two opposing teams, often in front of important spectators. The riders would wear face-mask helmets while their mounts bore protective chamfrons, both of which are often referred to today as cavalry 'sports' gear or equipment. The *hippika gymnasia* was a highly formalised performance whose origins Mike Bishop and John Coulston suggest lie in the Troy Game (*Iustus Troiae*), in which one team would perform as Greeks while the other played the role of their ancient enemies (in a post-Augustan sense), the Trojans and Amazons (Bishop and Coulston 2013, 42). If the Priory Field chamfron was used in such *hippika gymnasia* in or around the fortress at Caerleon (perhaps the amphitheatre or the putative *campus* close to the River Usk), the bust with the Phrygian cap on its surviving ear-guard suggests that the horse wearing it would have been on the Trojan side, in which case its rider may well have worn a Phrygian-inspired 'sports' helmet, such as the example found at Crosby Garret in Cumbria (Breeze 2018; Breeze and Bishop 2013; Lewis 2016).

Although we cannot know when the Priory Field chamfron was manufactured, or for how long it continued to be actively used, the many similarities with those from Vindolanda and Newstead suggest that it most probably dates to the second century. If so, it might have been up to 200 years old by the time the part of the store building in which it had been kept finally collapsed, c. 300.

#### *Lorica squamata*

This type of armour consisted of individual small copper-alloy scales sewn in rows with copper wire onto a backing material, presumably textile.

#### Scales

Approximately 110-120 thin copper alloy scales were found in and around Soil Block 1 (sub-blocks B and C) and Soil Block 3. Most of the scale from Soil Block 1 was found either singly or in groups of two or three scattered throughout the block, often with the copper ties still in place, indicating they had become detached from the backing material to which they had been affixed. Two types were present: most were short and wide (approx. 14 mm long and 12 mm wide) with a slightly rounded lower end, and a smaller number of a long narrower variety (approx. 23mm long and 9 mm wide), with a more pronounced rounded lower end. The short and wide variety was pierced by five

holes (pairs of holes on each of the long sides as well as a larger hole in the centre of the upper end), and would have been wired together in horizontal rows before being sewn onto a textile backing, forming a flexible scale cuirass in use throughout the Roman period (von Groller type III). The long narrow scales had pairs of holes at their upper and lower ends as well as on the long sides, and were wired to other scales vertically as well as horizontally to produce a more rigid form of scale armour first introduced during the second century (von Groller type VII).

#### Breastplates

A *lorica squamata* breastplate was recovered from Soil Block 5 (RA 377). The rectangular plate is partially damaged, but it must have been at least 98 mm long and 72 mm wide and the bottom part survived reasonably well (Figure 2.24). Ridges divided the front of the plate into a large central panel c. 42 mm wide, with narrow borders around the three surviving sides (the right side was damaged). The left border was c. 15 mm wide, the bottom border was c. 12 mm wide and, if the right border was the same width as the opposite side, the plate would have been c. 72 mm wide. The right, damaged, edge was pierced with three holes, one of which still contained the remains of an iron rivet (a likely fourth hole would



Figure 2.24. *Lorica squamata* breastplate RA 377 (photo: Mark Lodwick © Cardiff University)



Figure 2.25. Decorative sheet for a possible *lorica* breastplate RA 284 (© Amgueddfa Cymru – National Museum Wales)

have been located where the plate was damaged, in which case the holes were perhaps originally arranged in pairs). It is likely that this is the left breastplate from *lorica squamata* (scale armour) and it would have been attached to the scales by means of the rivets on its right-hand side. A small square aperture measuring 7 mm by 7 mm on the left, undamaged, side is most likely the slot through which a rectangular male fastener or tie-ring from the matching right breastplate would have passed.

A small number of breastplates from scale and mail cuirasses are known, though most are copper alloy and their central panels are invariably decorated. The find from Manching in Bavaria, for example, was a right-sided breastplate that still had two turning pins in place with which it could be fastened to a matching plate on the left side of the chest, thereby closing the armour at the neck (Garbsch 1978, Taf. 8,1). Part of a similar iron breastplate from Carlisle was found still attached to rows of ferrous and copper-alloy scales by three surviving copper-alloy disc-headed rivets (Bishop 2009, 691-2 and Figure 338). Although the surface of the Caerleon plate is very corroded, it is possible that its central panel was decorated (traces of embossed decoration survive on the surface of the Carlisle plate), and it is likely that copper-alloy breastplates, like the one from Manching, were intended to cover more substantial iron plates, like those from Caerleon and Carlisle, that were strong enough to hold the armour together. The plate from Carlisle is dated to the early second century or earlier, but these scale cuirasses must have been prestige items that were expensive to produce and it is not impossible to imagine that the scale armour from Priory Field could have been a century or so old at the time of its

deposition in the store in the later third or early fourth centuries (see also Caruana 1993).

Soil Block 4 contained a thin trapezoidal copper-alloy sheet decorated with a Capricorn within a right-angled trapezoid panel (RA 284). The sheet was 87 mm long and 42 mm wide (the same width as the central panel in the iron plate from Soil Block 5), while the presence of broad, possibly enamelled, borders on its upper, lower and right-hand sides suggests the sheet originally had been larger (Figure 2.25). It was found face down beneath at least one iron plate and it is likely that it had been attached to one of them, although no means of attachment could be identified (any holes for rivets probably lay closer to the, cut away, edges). If the sheet had been attached to an item such as a breastplate or a backplate, when worn the Capricorn would have faced up towards the wearer's head.

#### *Lorica segmentata*

The remains of body armour from Room 2 include elements of at least one set of *lorica segmentata*, the articulated segmental armour used by the Roman legions from the beginning of the first century AD (Bishop 2002; Bishop and Coulston 2011). This type of cuirass consisted of multiple overlapping iron plates and must have been complicated and time-consuming to manufacture and wear. The armour was articulated with riveted leather straps and copper-alloy hinges, and the plates were fastened together with a variety of copper-alloy fittings (hooks, loops and rings). The numerous fittings holding the *lorica* together were often decorated and how the plates were joined and connected has enabled archaeologists to understand

how this type of armour developed over time. Some of the most complete sets of *lorica segmentata* were found during excavations at Corbridge and Newstead in northern Britain, which show how this body armour changed (Allason-Jones and Bishop 1989; Bishop 2002, 2-6).

The Priory Field sets are of the Newstead type, introduced probably in the first half of the second century and which continued in use into the late third century, or possibly the early fourth century (Bishop 2002, 49; Aurrecochea 2003/2004; Geschwinde and Lönne 2013, 277). Newstead *lorica* was simpler and less elaborate than the Corbridge types it ultimately replaced; the earlier variety relied on elaborate hinges, hooks and straps laced together, whereas the plates on a Newstead *lorica* were connected and fixed using fewer simpler hinges and tie-rings that passed through slots in adjoining pieces, fastened with split pins to hold both plates in place (Bishop 2002, 57-8; Webster 1992, 116-8). There have been four main reconstructions of the Newstead-type *lorica segmentata* (Curle 1911, 157-8, Pl. XXII; Robinson 1975, 180, Pls. I and Figure 181; Poulter 1988; Bishop 2002, 46-61), inevitably based on limited, often incomplete, evidence from older excavations (for example, those at Building VI in the fortress at Carnuntum carried out in 1899), although Mike Bishop was able to refer to the recent finds from Carlisle, Leon and Stillfried to produce the most informed reconstruction of how this armour worked.

According to Bishop's reconstruction, the Newstead *lorica segmentata* consisted of at least 28 iron plates that

used leather straps and copper alloy hinges to articulate separate upper and lower parts (Table 2.2). The upper part comprised two breastplates, two backplates and two mid-collar plates that together protected the upper torso, as well as fourteen shoulderguards for the two shoulders and upper arms (the edges of plates around the neck were rolled or turned out to avoid cutting or chafing the wearer's skin). Six or seven pairs of narrow curved plates, referred to as girdle or girth hoops, formed the lower part of the *lorica* protecting the abdomen and lower back (the top edges of the upper hoops and the bottom edges of the lower hoops were also rolled or thickened). These hoops are estimated to have been 50-65 mm wide, although the lowest hoop is believed to have been much wider than the others (the fragmentary find from Zugmantel included plates with a rolled edge that were 110 mm wide).

The pairs of girth hoops could be closed by means of two tie-rings inserted into opposing slots with rectangular cover plates, before being securely fastened with split pins (the lowest hoops were not closed in this way and were held in place by the wearer's belt). The *lorica*'s two parts joined together to form the complete cuirass by means of vertical fastening hooks on the front and back of the uppermost girth hoops that attached to matching fittings on the bottom edges of the breast and backplates. In this reconstruction, the Newstead *lorica* would have required about 54 copper alloy fittings to hold the iron plates together, including hinges, hooks and fasteners, as well as tie-rings and various covering plates for slots (and the ten copper-alloy split pins). These fittings were attached to the iron plates by means

Table 2.2. Components of Newstead-type *lorica segmentata*

Component	Material	Qty
Breastplates	Iron (rolled edge or turned at neck)	2
Mid-collar plates	Iron (rolled edge or turned at neck)	2
Backplates	Iron (rolled edge or turned at neck)	2
Upper shoulderguard plates	Iron	6
Lesser shoulderguard plates (long)	Iron	4
Lesser shoulderguard plates (short)	Iron	4
Upper girth hoop halves	Iron (rolled or thickened top edge)	2
Girth hoop halves	Iron	8-10
Lower girth hoop halves	Iron (rolled or thickened bottom edge)	2
Lobate hinge halves (breast, mid-collar & backplates + upper shoulderguards)	Copper alloy	16
Rectangular female fasteners (breast & backplates)	Copper alloy	3
Rectangular male fasteners (breast & backplates)	Copper alloy	3
Vertical fasteners female (breast & backplates)	Copper alloy	6
Vertical fastening hooks male (upper girth hoops)	Copper alloy	6
Tie-rings (girth hoops except lowest)	Copper alloy	10
Rectangular covering plates (girth hoops except lowest)	Copper alloy	10
Split pins (girth hoops except lowest)?	Copper alloy	10?

of copper alloy and iron rivets, roves and washers, and between 220 and 270 rivets must have been required for each cuirass.

The remains of the Priory Field *lorica segmentata* consist of copper-alloy fittings and highly fragmented, often very mineralised, mostly long, narrow thin iron sheets, most of which were lifted in soil blocks. Invariably, very little iron metal survived and the absence of the hinges, fasteners, aperture plates, strap fittings and buckles that allowed a Newstead *lorica* to be worn, suggests that the material from Room 2 was no longer in use and may well have been dismantled when the building was becoming increasingly derelict towards the end of the third century. The identification of numerous rivet holes, some still containing copper-alloy rivet shafts, and iron roves on the x-rays of the iron sheets and plates, confirms that many of these expected copper-alloy fittings already had been removed, several of which were found separately around the soil blocks. The apparent stacking together of similar-sized iron sheets is reminiscent of the way the Corbridge *lorica* had been kept in a wooden chest after being dismantled.

The *lorica* remains were concentrated in the northwestern corner of Room 2 where they were partially mixed with the decayed chamfron, although many other parts were found dispersed across the southern side of the room too, apparently lying where they had fallen during the building's collapse. The largest group of iron plates identified as deriving from *lorica segmentata* was lifted and excavated in Soil Block 3, with other related material in Soil Blocks 1, 4-15 and probably 16-23 (Soil Blocks 24-36 consisted of unidentifiable iron sheets that cannot be confirmed as

armour). Several copper-alloy fittings were recovered from deposits around the soil blocks and the combined evidence for *lorica segmentata* in Room 2 is summarised on Table 2.3.

#### Breastplate / backplate

Soil Block 6 contained several fragmentary and highly mineralised iron sheets, including at least one large rectangular plate that might have been a *lorica* breastplate or backplate. The x-rays show a possible hole with a rove along its side and part of an enamelled crescentic buckle protruded from the same part of the soil block.

#### Girth hoops

At least twelve girth hoops were identified in the soil blocks, including one upper hoop, six possible lower hoops (that could also have been upper hoops), as well as another five standard girth hoops. Numerous other narrow iron plates were also recovered from the soil blocks and, although some or all might have been girth hoops from *lorica segmentata*, their fragmentary nature or their almost complete mineralisation means that it is not possible to definitively identify them as such.

The upper girth hoop, 61 mm wide, was found in Soil Block 3, Feature 2 (plate 1). A copper-alloy vertical fastener was found on the hoop's top edge, while the x-rays show two holes with their iron roves still *in situ* close to the same edge. Upper girth hoops would have been fastened to the *lorica's* breast and backplates by these vertical hook fasteners and the rivets might have been where the internal leather strapping was attached.

Table 2.3. Components of the Newstead-type *lorica segmentata* recovered from Priory Field

Component	Bishop	Priory Field
Breastplates and backplates	4	1?
Mid-collar plates	2	-
Upper shoulderguard plates	6	2?
Lesser shoulderguard plates	8	5?
Upper girth hoop halves	2	1
Girth hoop halves	8-10	Many
Lower girth hoop halves	2	6?
Lobate hinge halves	16	1
Rectangular female fasteners	3	-
Rectangular male fasteners	3	-
Vertical fasteners female	6	-
Vertical fastening hooks male	6	2
Tie-rings	10	9
Rectangular covering plates	10	-
Split pins	10?	-

Table 2.4. Widths of plates identified from the Newstead-type lorica segmentata at Priory Field

	width of girth hoops (mm)										
	60	61	62	63	64	65	66	67	68	69	
Soil Block 3 / F2 (Upper Girth Hoop)											
Soil Block 3 / F2											
Soil Block 14											
Soil Block 13											
Soil Block 13											
Soil Block 3 / F2											
Soil Block 13											
Soil Block 13											
Soil Block 13											
Soil Block 3 / F5											

The six lower girth hoops were identified from their rolled long edges and the absence of associated tie-rings (it is also possible that these plates included upper girth hoops whose tie-rings and other fittings such as vertical fasteners had already been removed). They include:

1. Plate lying flat in Soil Block 3 / Feature 1, broken and partially damaged. The preserved edge of this plate had been rolled.
2. Fragmentary plate in Soil Block 3 / Feature 2, with a rolled long edge.
3. Fragmentary plate in Soil Block 3 / Feature 3, possibly with a rolled long edge.
4. Fragmentary plate in Soil Block 3 / Feature 4, possible rolled edge.
5. Incomplete plate in Soil Block 13, with a rolled long edge.
6. Fragmentary plate in Soil Block 15, with a rolled long edge.

At least five other girth hoops were recorded from various soil blocks. In most cases, their long edges have not survived and, if these had been rolled or thickened, they could have been upper, or possibly lower girth hoops. This group consists of the following fragmentary girth hoops:

1. A full-length curved plate in Soil Block 3 / Feature 1 (overlying the possible lower girth hoop described above), on its side with a copper alloy tie-ring still attached to one end. There were no signs of the slot for the matching hoop's tie-ring or a copper-alloy covering plate that are known from other Newstead *loricae* (these could have been removed). The distance between the ends of the semi-circular plate suggests a diameter of at least 32 cm, which would make the circumference of a pair of matching girth hoops,

bearing in mind that both ends overlapped (right over left), something like 90 cm (36 inches).

2. A mineralised curved plate in Soil Block 14. Its full width was c. 62 mm and it may have had a tie-ring at one end.
3. Soil Block 3 / Feature 5 contained a near-complete curved plate lying on its side. No fittings were attached but its curvature suggests either a shoulder plate or, more likely, a girth hoop.
4. Also in Soil Block 3 / Feature 5 was another narrow plate whose preserved edges indicate a width of c. 68 mm.
5. A copper-alloy tie-ring indicates that one of the several mineralised plates in Soil Block 15 was a girth hoop.

An unknown, though certainly sizeable, number of other narrow iron plates were found alongside or in close proximity to the *lorica* elements described above. Soil Block 3, in particular, contained several mineralised plates, often in at least four layers. Their widths, where these can be measured from the fragmentary remains or x-rays, are invariably similar to the known girth hoops from the soil blocks and it is most likely that these are also girth hoops that had been stripped of the copper alloy fittings and stacked together.

The widths of ten iron plates from Priory Field are shown in Table 2.4, which demonstrates that most were between 61 mm and 65 mm wide. It is also worth noting that the sets of narrower plates, presumed to be shoulderguards, from Soil Blocks 13 and 14, were stacked together with wider plates measuring 64 mm and 62 mm wide respectively. Therefore, it is possible that some of the plates identified as girth hoops could have been the curved elements from upper shoulderguards, which, like the Corbridge-type *lorica*, are thought to have been formed from three plates (Bishop 2002, 40). None of the

possible lower girth hoops have two undamaged edges and it is not certain if any of these were as wide as the only known example from Zugmantel (i.e., 110 mm).

#### Lesser shoulderguards

Five possible lesser shoulderguards were identified among the material excavated in the Soil Blocks. It was not possible to estimate any of these plates' lengths, but they were considerably narrower than other iron plates recognised as girth hoops (some also had hinges or other fittings riveted to them that would not have been present on girth hoops). These plates' widths and their details are as follows:

- 1-2. 45 mm and 49 mm. Two plates from Soil Block 14 stacked together, of which at least one was originally curved.
- 3-4. 46 mm and 47.5 mm. Two plates from Soil Block 13 stacked together with other plates, both of which were originally curved.
5. 51 mm. Plate from Block 12.

#### Lorica fittings

Only a single half of the expected eight lobate hinges was found in the *lorica* deposits in Room 2. These would have articulated the breast, neck and backplates, as well as the upper shoulder guards, and their absence suggests that these elements had already been dismantled and the fittings removed prior to their deposition. Four closely-spaced holes on a plate in Soil Block 12 might indicate a missing hinge, while the damaged remains of two copper alloy fittings attached to two plates in Soil Block 13 are also possibly from hinges.

Two copper-alloy vertical hook fasteners were recovered in Room 2, including one attached to Plate 1 in Block 3 / Feature 1. These would have been fixed to the top edges of the upper girth hoops and hooked onto the matching vertical female fasteners on the bottom edges of the breast and backplates (the Newstead *lorica* is thought to have had six each of the two types of vertical fasteners).

Room 2 produced nine copper-alloy tie-rings that would have fastened pairs of girth hoops, including six Registered Artefacts and another three examples from Soils Blocks 3 (Feature 1), 14 and 15. Of the Registered Artefacts, three are of Webster's Type 1 (circular ring with short shank), one of Type 2 (circular ring with long shank), and two of Types 3/4 (D-shaped ring) (Webster 1992, 116-17 and Chapman 2005, 77-83).

It is instructive to consider the copper-alloy fittings from Newstead *lorica* that were not found in Room

2. These include the male and female rectangular fasteners that joined the breastplates and backplates (Bishop's reconstruction posits that there were three each of these), the vertical fastener plates on the bottom edges of breast and backplates that hooks on the upper girth plates would have attached to (there should have been six of these on a *lorica*), as well as the rectangular cover plates on the ends of girth hoops, around the slots through which tie-rings would have passed (there should have been ten of these).

Otherwise, the soil blocks produced an assortment of fittings that possibly derived from *lorica segmentata*. These include six copper-alloy studs (domed in Soil Block 4, larger in Soil Blocks 3 and 13, and smaller in Blocks 14 and 15), a large copper alloy dome-headed pin from Soil Block 3 / Feature 5, and a small penannular object made of twisted copper alloy wire with a loop on the undamaged terminal from Block 16.

Room 2 must have contained at least one set of Newstead *lorica* that had been disassembled and stripped of most of its fittings prior to being sealed by debris from the store building's collapse. It is not possible to be certain how many sets of *lorica* were kept in the room, but the elements that have been identified include a possible breastplate, possible upper and lower shoulderguards, as well as numerous girth hoops (including upper and upper hoops). The taking apart of the *lorica* involved the removal of almost all of the copper-alloy fittings and the stacking of plates together. It would seem improbable that the armour was in the process of being repaired and it is much more likely that they had been dismantled in order to recycle the valuable copper alloy. Therefore, the *lorica* was not performing its primary function as body armour for a legionary infantryman when the building collapsed into Room 2 (which of course it might not have done for some time before that event too).

Newstead-type *lorica segmentata* was in production from the first half of the second century to the later third century, or possibly even later (the find from Eining post-dates 229, while the Zugmantel objects must be earlier than 259/60. Bishop 2002, 49), which makes the Priory Field discovery one of the latest finds of this kind of segmented armour from the Roman Empire. Perhaps the *lorica's* special nature was derived in part from its antiquity, because by the time the store building collapsed c. 300 it could have been between 50 and 150 years old (though they had been dismantled and stripped by then).

It is possible that the two types of body armour recovered from Room 2 originally might have been part of the same cuirass. A damaged sculpture from Alba

Iulia in Romania shows a soldier wearing armour that combines *segmentata* around the torso, with *squamata* on the chest and shoulders (closed with two rectangular breastplates). No examples of this type of armour have been found to date and the sculpture is the only source for its existence (Bishop 2002, 62-5). At Priory Field, however, the scale was found in closer proximity to the chamfron than to the confirmed iron *segmentata* plates, and it is unlikely that the armour in Room 2 was of the Alba Iulia type.

#### 2.5.4 Food and food systems: legionary consumption at Caerleon

This section brings together the evidence from the pottery, faunal and environmental assemblages, often somewhat overlooked, to explore a variety of research themes. The application of new and innovative scientific techniques to the Priory Field material, alongside the results of more traditional quantitative analytical methods, shows what can be achieved from the targeted and systematic study of ceramics, animal bones and botanical remains. Integrated like this, the 5,000 sherds of pottery (Chapter 4.5), the more than 110 kg of animal bones (Chapter 4.6), as well as the material recovered from the 23 environmental samples (Chapter 4.7), are a window into the domestic life of the fortress, particularly the dietary and culinary practices of the Second Augustan Legion (Cool 2006).

Such themes and questions are often bundled together under the umbrella term ‘Foodways’, a concept in the social sciences that has been variously defined, but is generally understood to mean the practices and activities relating to the production and consumption of foodstuffs (food and drink). These practices and activities extended to a wide range of sites and actors, covering the following stages:

- PRODUCTION: Sowing and harvesting of crops, rearing of domesticated animals, hunting of wild animals;
- PROCESSING: Threshing, winnowing and cleaning of harvested crops, slaughter and butchery of animals for meat and other resources;
- DISTRIBUTION: Producer to consumer, directly or via markets, over shorter or longer distances;
- PREPARATION: Kitchen activities and sites;
- CONSUMPTION: Dining activities and sites, including serving of food and drink;
- DISPOSAL: Discarding of food waste (e.g., animal bone and oyster shells) and the unusable or unwanted material

culture associated with foodways (e.g., broken pottery vessels)

The production and consumption of foodstuffs are determined by distinctive cultural, social, and economic practices often specific to particular societies or social groups. The concept of Foodways, however, implies a more or less linear process (i.e., ‘From Farm to Fork’), whereas it is more helpful perhaps to think of the often very complex and highly dynamic networks of interconnected actors, activities and related infrastructure as systems, whose purpose was to produce the food that a population needed and wanted (Reed 2021). The primary archaeological evidence for a society’s food systems consists of the remains of the consumed foodstuffs themselves, particularly animal bones and botanical remains, as well as the material culture used in the production and processing, distribution and storage, and preparation and consumption of food and drink.

During the Roman period, this material culture is largely composed of pottery vessels in a variety of forms, for instance amphorae for the transportation and storage of wine and olive oil, as well as storage jars, cooking vessels and a wide range of plates, bowls, dishes, flagons, cups and beakers. Containers for the storage and preparation of food are invariably coarsewares that are likely to have been found most commonly in the kitchen or the larder, whereas vessels intended for the consumption of food and drink would have been used in dining settings and often included more exotic finewares (samian from Italy and Gaul is the most well-known). Other artefacts also indicative of food preparation and consumption include quernstones for the grinding of grain, implements such as knives, as well as vessels in other materials such as glass and metal used in the serving of food and, particularly, drink.

The legionary fortress at Caerleon was home to over 5,000 Roman soldiers and was a major centre of consumption. The need to supply the Second Augustan Legion with the food and other resources it needed must have been a significant challenge for the military administrators as well as the provincial authorities in Britain. Food security would have been high on the legates’ list of priorities, yet today we have very little idea how this redistribution of resources required to provision a Roman legion was achieved. The significance of this topic has long been recognised and in 1997, Richard Reece stated: ‘The huge quantity of resources needed by the army and the impact this might have had on the local native populations seem to me to be areas which cry out for investigation’ (Reece 2002b, 187). Despite being written over 25 years ago, until recently little progress has been achieved in these

areas; a deficit that the Priory Field project sought to do something about.

To do so not only requires integrated and focused analysis using the latest available techniques, it also demands an awareness of the stratigraphic origins of the archaeological material. In the case of the Priory Field excavations, much of the relevant pottery, animal bone and botanical remains derive from the construction and disuse episodes in the store's history. Only 5% of the excavated pottery and faunal assemblages, for instance, were recovered from deposits associated with the use of the building (Phase 2), whereas the make-up and levelling layers from its construction (Phase 1ii) produced 17% and 18% of these finds respectively, with another 8% and 12% from the building's disuse and demolition (Phase 3). Understanding the formation processes that led to the deposition of pottery and animal bone at Priory Field indicates that the majority of these finds were generated by activities elsewhere in the fortress. This allows wider themes to be explored, but means they have less to say about the store itself, other than the building's front range appears not to have been used for the storage or preparation of foodstuffs (including commodities such as wine and olive oil).

The material from the construction phase (Phase 1) is especially important as it pre-dates the erection of the store in the last years of the first century and, although we do not know the origins of these finds before they were brought to Priory Field to be incorporated under the floors of the building, analysis and discussion of these assemblages throws important new light on activities related to the legion's food systems in the first few decades of military occupation at Caerleon.

#### *Production, processing and distribution of foodstuffs*

This includes agricultural production and the hunting of wild animals, as well as the processes that lead up to the supply of cereals and meat. The evidence from Priory Field consists of faunal and botanical remains, mainly from the construction phases of the store building.

The animal bones are mostly derived from the main domesticated species, cattle, pig and caprids (sheep and goats), but also some wild birds (the absence of deer from sealed Roman deposits is noteworthy). Although the faunal assemblage as a whole broadly reflects the 'military diet' in Roman Britain, where beef and pork were more important than sheep and goat meat, pigs appear in unusually large relative quantities at Priory Field (35% compared to 28% from cattle and 25% from caprids). This evidence for a pork-rich diet is notably different to assemblages from other parts of the fortress

where cattle were the dominant species (for example, the Fortress Baths), but is more similar to patterns recovered from urban sites, such as Caerwent and the extramural Southern *Canabae* settlement. It is not until the fourth century (Phase 3), that cattle became more common than pigs, by which time the Priory Field assemblage resembles the more traditional beef-rich military diet.

The presence of a wide range of skeletal remains from all the domesticated species suggests that animals were driven to Caerleon on-the-hoof prior to slaughter in or near the fortress. The cattle and caprids from Priory Field were similar in size to animals from other sites in Caerleon as well as further afield in Wales and the southern Marches, but smaller than elsewhere in England. This suggests local or regional sources for the legion's meat supplies, a conclusion confirmed by the stable isotope study, albeit with important caveats (Madgwick et al. 2019). Samples from 37 cattle, pigs and sheep/goats show that the majority of these animals were raised within the local area (i.e., 5 to 10 km of the fortress), although a significant minority (at least 25%) came from further afield, including one group reared on the chalklands of southern and central England, and another that could have originated in the Malvern Hills, northern Britain, or Brittany (Figure 2.26). These non-local animals were all from Phase 1ii deposits, whereas the animal bones from later occupation phases consistently produced local isotopic signatures, suggesting that long-distance networks in the first century were replaced by more local supply chains once the legion became established at Caerleon. It is possible that this involved farms in the legionary *territorium* or *pratium*, including reclaimed pasture on the Wentlooge and Calidcot Levels (Allen and Fulford 1986; Meddens and Beasley 2001).

Animal bones from the construction and occupation phases of the store building (Phases 0-1 and 2), indicate that pigs and caprids were killed as subadults, pointing to husbandry practices at this time that were geared towards meat production. Cows, on the other hand, were more likely to reach adulthood before being slaughtered, suggesting the retention of animals as milk or draught cattle. Heavy cleavers, characteristic of the intensive processing of large quantities of animals by the army, were used in the butchery of cattle and pig, while finer cut marks suggest the preparation of stewing steak (or possibly the smoking of beef joints). Numerous sheep/goat and pig ribs and vertebrae were found with butchery marks consistent with the processing of lamb and pork chops. Unusually high quantities of foot bones from Phase 2 groups suggests that this assemblage is more likely to be derived from butchery rather than domestic waste, perhaps supported by evidence for the extraction of marrow from pig bones. Faunal remains

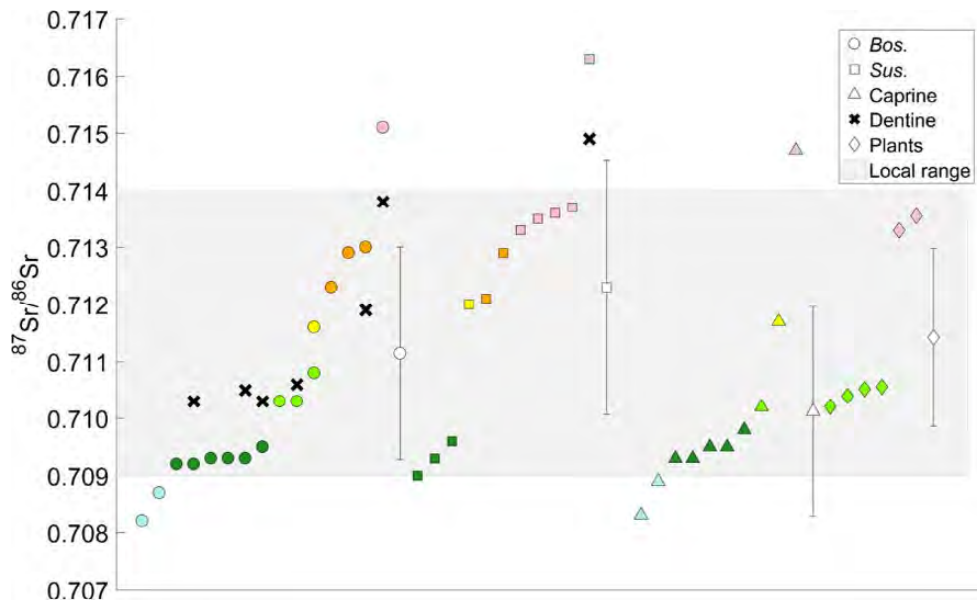


Figure 2.26. Strontium ( $^{87}\text{Sr}/^{86}\text{Sr}$ ) isotope results from a sample of Priory Field fauna. Results from the enamel samples are arranged by taxon in ascending order from least to most radiogenic. As a guide, they are colour coded to the published British biosphere map (Evans *et al.* 2010). The shaded area represents the conservative estimate of the local biosphere range (Madgwick *et al.* 2019, Fig. 3)

from later Phase 3 deposits display similar mortality profiles for domesticates, although the presence of older sheep/goats from these groups suggests some animals were more likely to be kept for milk and wool production by the fourth century.

Various birds also appear in the faunal assemblage, including chickens and wild species (particularly from Phase 1ii). The former are represented mainly by wings and legs, while the presence of spurred and spurless feet suggests mixed flocks kept for meat and eggs. The wild birds include hedgerow species such as partridge, whose habitats can include edges of cultivated fields, as well as wetland birds likely to have been hunted locally on the Usk, Afon Llwyd and Severn. The absence of woodland birds is surprising and perhaps suggests that locally-reared pigs were raised in sties rather than wooded pasture or pannage.

The botanical remains from Priory Field mainly consist of burnt cereal and weed seeds deposited during site clearance prior to the construction of the store building (Phase 0ii), as well as from the initial dumping of material to level the building site (Phase 1ii). It is unclear if charring occurred accidentally during crop processing, or if it indicates the deliberate burning of general waste material. Barley and oat are the dominant crops from these phases, perhaps intended for human consumption or animal fodder (or both), with less evidence for wheat cultivation. A Celtic bean from Phase 1ii illustrates the range of crops being supplied to Caerleon, while a dill seed from a Phase 2 sample reveals the presence of herbs and spices

introduced during the Roman period in south Wales. The weed seeds identified among the botanical remains suggest damp growing conditions, while the presence of medicks and clover are indicative of rough ground or poor soils, perhaps a sign of the rapid expansion of arable cultivation along the banks of the Usk and Afon Llwyd in the immediate vicinity of the fortress.

#### *Preparation and consumption of food and drink*

The large ceramic assemblage is the main source of evidence for the storage and cooking of food, as well as eating and drinking. In addition to the pottery, the excavation produced only a limited range of Registered Artefacts associated with food storage and cooking (three quernstones and two knives), or dining (including 133 sherds from glass vessels for the serving of liquids, such as bottles, jugs and flasks, as well as bowls and cups, almost one-third of which came from Phase 0 and 1 deposits).

When viewed as a whole, the Priory Field pottery shows the considerable range of fabrics available at Caerleon, including finewares such as samian that can be attributed generally to dining. For example, fineware vessels represent 33% of the pottery recovered from Phase 1 deposits, of which almost half were decorated forms and one-fifth were cups. On the other hand, pottery for storage and food preparation is generally absent, notably amphorae and mortaria, but also including Black-burnished ware vessels (the archetypal Romano-British kitchenware), that only accounts for just over 20% of the assemblage. Mortaria overall

represent less than 7% of the total identified pottery, although samian mortaria are more common from Priory Field than other fortress excavations (except the Museum site); a pattern that is more familiar from civilian sites outside the fortress.

In order to examine what foodstuffs might have been served up at Caerleon, organic residue analysis was carried out on a sample of 30 sherds from coarseware cooking jars, all from Phase 1ii deposits (Chapter 4.5.2). Eight of these produced identifiable lipids (degraded animal fats), including one used to process mainly porcine products, four used to process products mainly from cattle, sheep and goats, while another three jars had been used to process mixed meat products (ruminant and non-ruminant). It is likely that a variety of meat-based stews had been prepared in these jars, emphasising the importance of beef, mutton and pork in the Roman military diet at the end of the first century.

#### *Discarding of food waste*

A Roman legion would have generated large quantities of rubbish derived from the preparation and consumption of foodstuffs that needed to be disposed of. The animal bones from Priory Field suggest that they had been discarded in open-air dumps or middens prior to being redeposited in the construction levels of the store building. This is demonstrated by the incidence of rodent and carnivore-gnawed bone (30% of the 56 gnawed bones were from Phase 0-2 deposits), the presence of bones from scavenging birds, rodents and dogs, as well as the unusually high concentrations of weathered and root-etched bones. It has already been noted that the faunal and pottery assemblages might have had civilian rather than military origins, in which case it is likely that these middens and rubbish dumps were located outside the fortress where food waste from a variety of sources was discarded. In contrast, the deposits from Phase 1ii that produced the charred botanical remains are more likely to have been brought directly to Priory Field during the construction of the store building, rather than being redeposited from a midden or dump. These also contained large quantities of charcoal and metallurgical residues, suggesting intramural origins for this material.

#### *Post-Roman cereal production*

Botanical remains recovered from the fills of a rectangular stone-lined pit provide important evidence for cereal production in post-Roman Britain. Located in the middle room of a building erected after the legionary store had been partially demolished (Phase 4), radiocarbon dates obtained from charcoal and charred seeds indicate that the pit was in use between the early fifth and later sixth centuries.

The lower fill was composed of four thin, alternately white-ash and charcoal-rich deposits that extended across most of the pit's flat base. Large quantities of charred cereal grains were contained in two samples taken from the charcoal fills, one of which produced mostly free-threshing bread wheat with some spelt wheat, barley and oat, while barley was marginally more common than bread wheat in the second sample (oat was also present). The low incidence of chaff and weed seeds indicates that the cereals had already been threshed, winnowed and partially sieved to remove contaminants. Like the second sample from the charcoal, the rubbly upper fill produced relatively equal quantities of barley and bread wheat. Weed seeds, however, were far more common in this fill and it is likely that the cereals had not been fine-sieved before they were deposited in the pit. The weeds include species often found on cultivated land, preferring moist but well-drained soils.

The main crops in post-Roman Wales appear to have been barley and free-threshing bread wheat (the latter replaced spelt and glume wheats in the later Roman period), although oat became an increasingly important crop in Wales at that time. It is possible that the lower fills are burnt crop processing waste or, if the pit was used to store grain, the remnants of its episodic cleaning out by fire. The combination of cereals in two of the samples could indicate mix-till farming nearby, animal fodder, or the mixing of different crops in the pit (perhaps separately).

## Chapter 3

# History of the Legionary Store and Post-Roman Occupation in Priory Field

### 3.1 Introduction

The excavated part of the front range of the store building in Priory Field included seven rooms or spaces, numbered 1 to 7 (south to north) in this report (Figure 3.1).<sup>1</sup> An entranceway in the centre of the range (Room 4) connected the extensive outer yard, between the building and the three granaries to the west, with the internal courtyard. Two narrow rooms lay on either side of this entrance passage (Room 3 to the south and Room 5 to the north), while beyond these were pairs of wider, squarer, rooms (Rooms 1 and 2 to the south and Rooms 6 and 7 in the north). A narrow portico or ambulatory, probably colonnaded, extended along the full length of the 2008 trench (Area A) on the eastern side of the range of rooms, beyond which lay the internal courtyard and the building's other three ranges (Figure 3.2). Rooms 1, 4 (entranceway), 5 and 6 were excavated to the ground

surface beneath the legionary store building - sections recording the stratigraphic sequences in these spaces, as well as the partially-excavated Room 3, are shown on Figures 3.3-3.7.

The archaeological stratigraphy is described according to the sequence of broad Phases that correspond with the main episodes of activity on the site (see Chapter 2.2). When key deposits or features are referred to, individual contexts (layers, walls, cuts and fills etc.) are shown prefixed with a C (e.g., C001), while groups of related contexts belonging to the same general activity (such as foundation trenches, walls, levelling deposits etc.) are indicated by the number of the main context and the prefix G (e.g., G001). Negative features, such as foundation trenches, pits and post-holes are shown in square brackets (e.g., [C100]).<sup>2</sup>

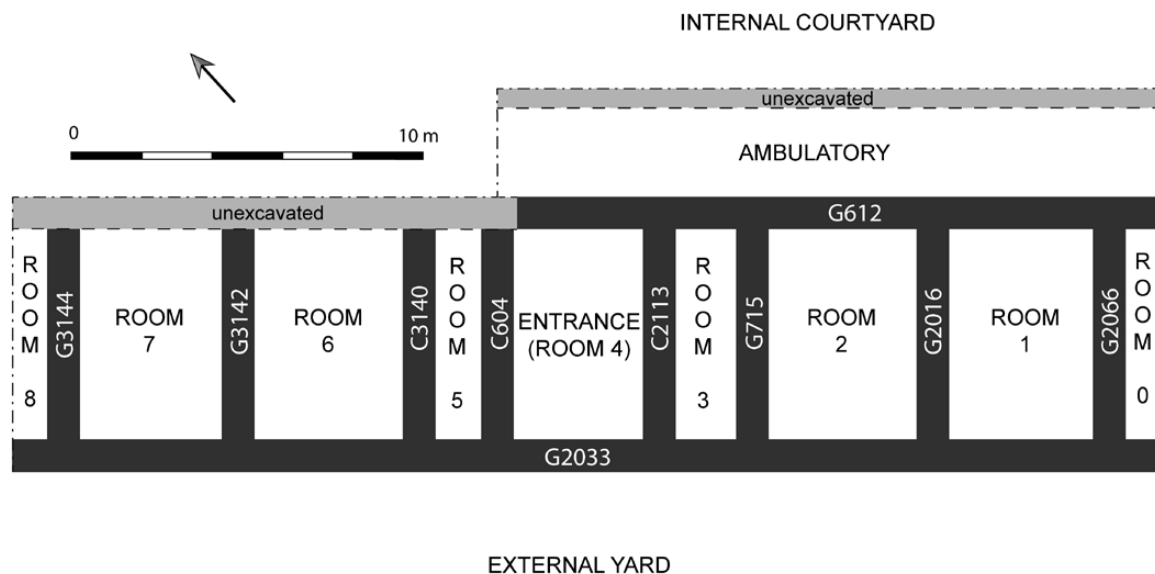


Figure 3.1. Schematic plan of the excavated front range of the Priory Field store building, showing wall Contexts and Groups

<sup>1</sup> Walls to the southernmost and northernmost rooms (numbered 0 and 8 respectively) were revealed, although their interiors lay just outside the excavation. In the following discussion, Areas A and B refer to the uppermost stratigraphy in the 2008 trench and the northern extension of the 2010 trench respectively.

<sup>2</sup> The full context record is contained in the excavation's Phased Context List available via the Archaeology Data Service website (ADS Collection: *Spreadsheet Data from the Caerleon Priory Field Project, 2008-2010*. <https://doi.org/10.5284/1106612>).

EXCAVATION OF THE PRIORY FIELD STORE BUILDING IN CAERLEON

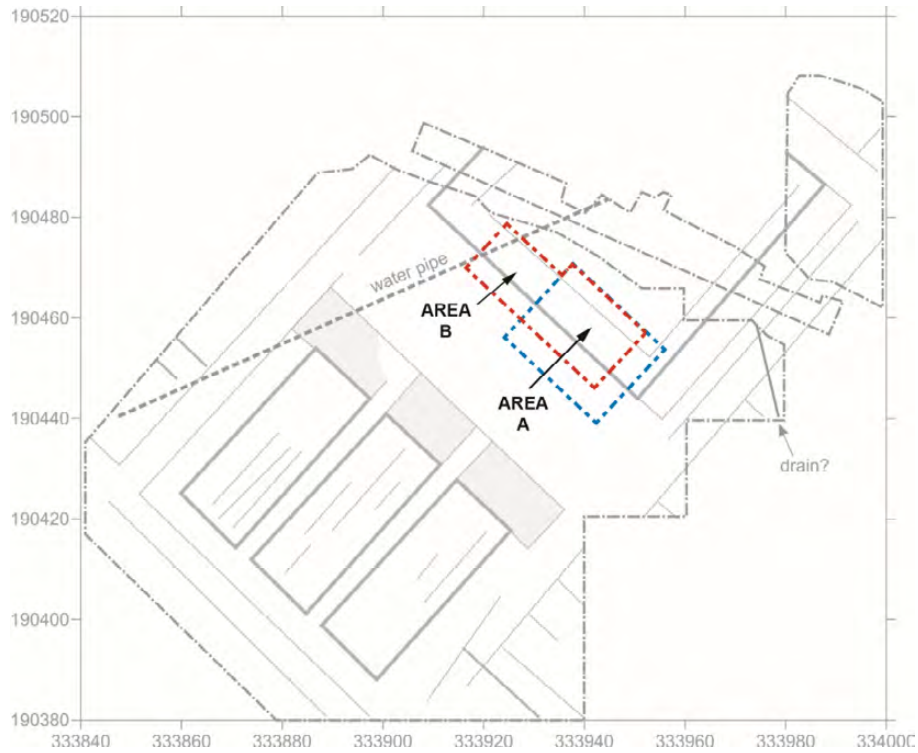


Figure 3.2. Location plan of 2008 (yellow) and 2010 trenches (red), in relation to magnetometer results in the northern part of Priory Field (magnetometer results © GeoArch)

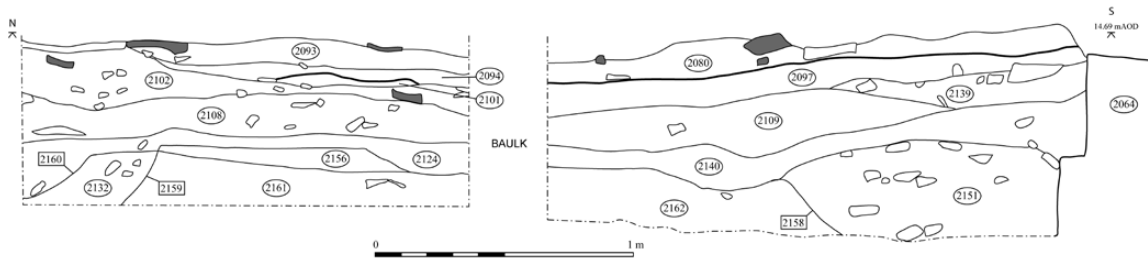


Figure 3.3. West-facing section through Room 1

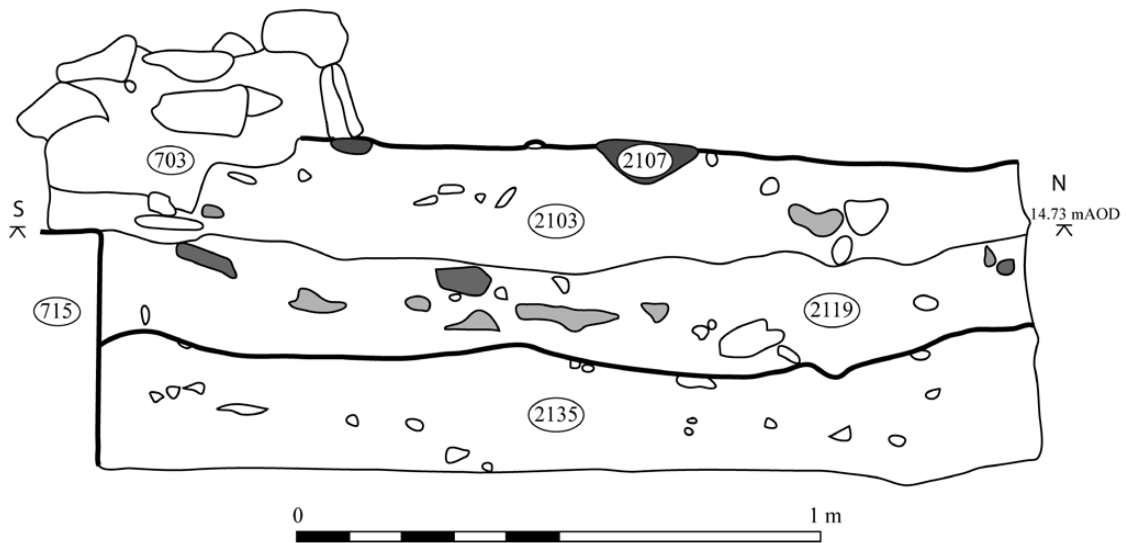


Figure 3.4. East-facing section through Room 3

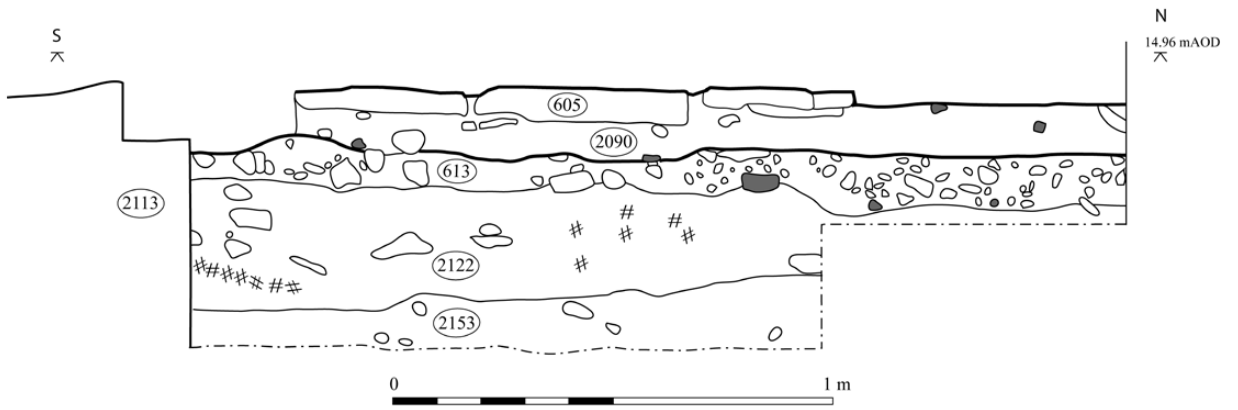


Figure 3.5. East-facing section through entranceway (Room 4)

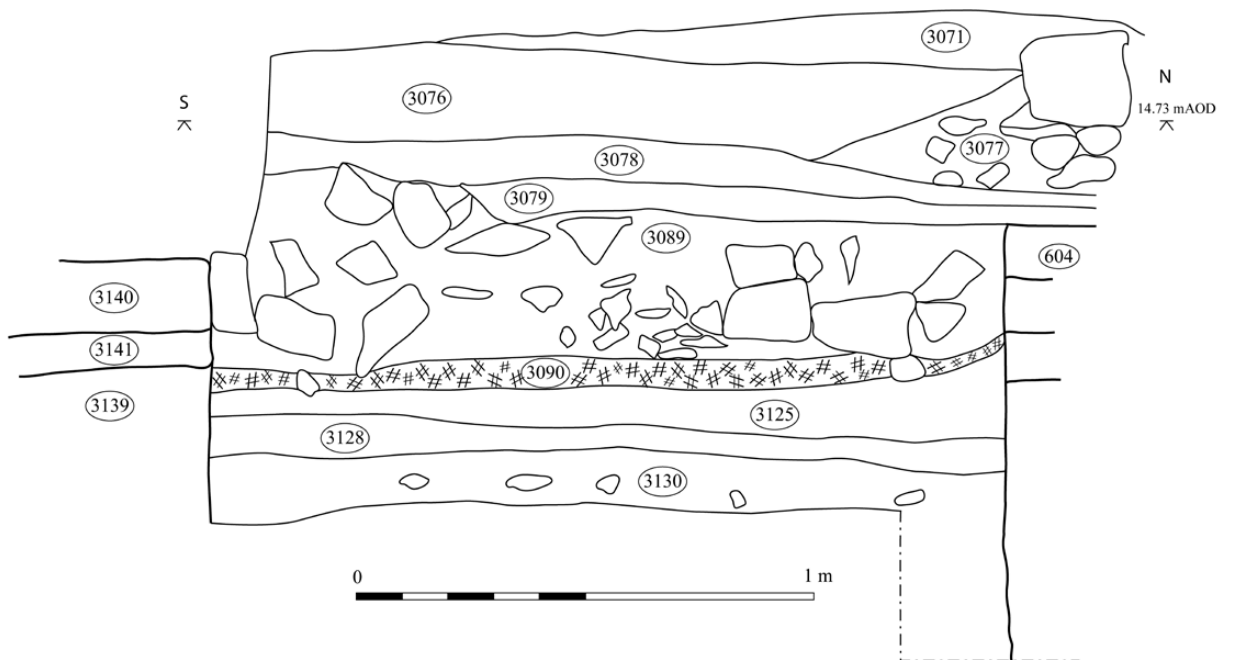


Figure 3.6. West-facing section through Room 5

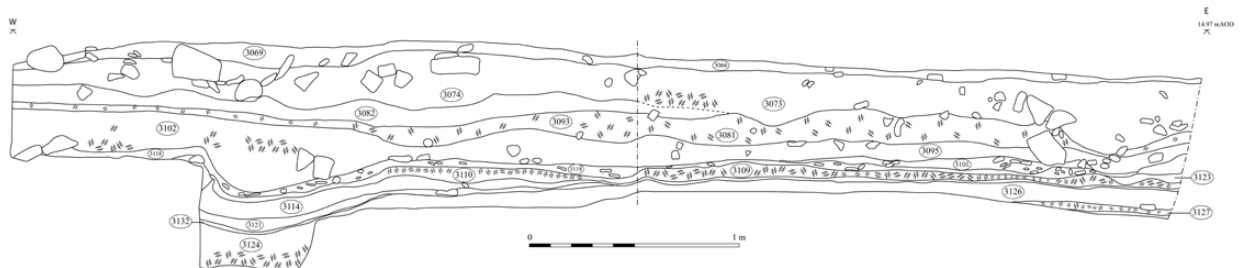


Figure 3.7. North-facing section through Room 6

### 3.2 PHASE 0: Pre-legionary store building

#### 3.2.1 Phase 0i – original ground surface

In Rooms 1, 4 (entranceway), 5 and 6, the original ground surface and the underlying natural layers survived as yellow-brown clays and mixed brownish-grey silty clays respectively: Room 1 (G2161); Room 4 (G2152); Room 5 (G3125); Room 6 (C3124). The pre-store surface was relatively level in the southern and eastern parts of the trench, sloping away gently to the north and slightly more steeply to the west towards what would become the external yard in front of the store (C333).<sup>3</sup>

#### 3.2.2 Phase 0ii – clearance and levelling

Evidence for site clearance and the dumping of material prior to the store building's construction was identified in Rooms 4, 5 and 6 in the northern part of the trench, where the natural slope of the ground needed some initial levelling. In Room 4 (entranceway), a large U-shaped pit at least 2.4 m long, 0.5 m wide and 0.5 m deep [G2164], was cut from the level of the original ground surface and subsequently filled with clean redeposited subsoils. This pit was possibly a backfilled tree throw (it was not completely excavated and had been truncated by wall foundation trenches to the south and west), and was sealed by a thin (maximum 0.04 m deep) charcoal-rich layer (C2130). Similar thin, dark, charcoal-rich layers above the pre-building ground surface were also found in Room 5 and Room 6, (C3090) and (G3127) respectively, which most likely are evidence for the clearance of vegetation prior to construction of the store building (see Chapter 4.7).

These initial charcoal deposits were succeeded by a mixed trample layer in Room 5 (C3120), and a series of more substantial layers in Room 6 that consisted of a dump of firm orange clay (G3121), followed by another silty charcoal layer (G3112), and finally a thicker general deposit of mixed grey sandy silt (G3108).<sup>4</sup> The compacted clays and mixed layers overlying the initial clearance debris in Rooms 5 and 6 (and probably in Rooms 7 and 8 too), most likely represent a mixture of levelling deposits to counter the natural south-north gradient of the ground, as well as temporary working surfaces. The uppermost charcoal-rich layer in Room 6 contained unexpectedly large quantities of

<sup>3</sup> The original ground surface lay at 14.20 mAOD in Rooms 1 and 4, and 14.00 mAOD in Room 6. Equivalent layers were observed in the sides of features cut through the area of the external yard, notably the post-medieval saw-pit [C207], where the height of the likely original ground surface (C333) was at approximately 13.75 mAOD.

<sup>4</sup> Thin charcoal-rich layers and mixed silty clay layers were also observed in both sides of the later cut to rob the wall between Rooms 7 and 8 (neither of which were excavated to these early levels), indicating that the sequences of deposits excavated in Rooms 4 to 6 continued in the northern end of the later store building.

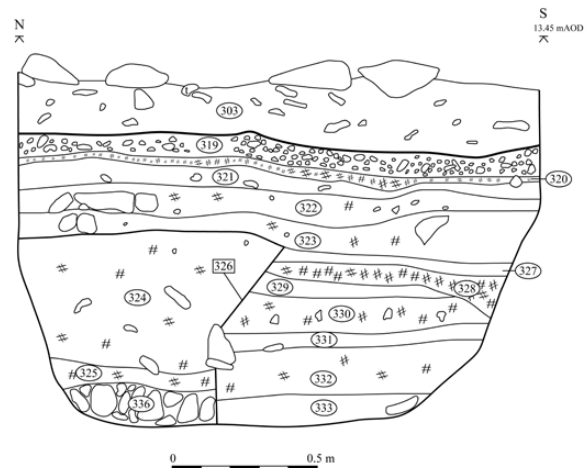


Figure 3.8. Stratigraphic sequence in the external yard, as revealed in the side of the 'saw-pit' [C207]

metalworking waste, likely brought from elsewhere in the fortress and possibly laid deliberately as an area of hard-standing (G3112).

A similar sequence of deposits occurred beneath the external yard too. The post-medieval saw-pit [C207], cut a series of (unexcavated) layers of redeposited natural (G329), that overlay the original ground surface and were then sealed by a thin charcoal layer (C328) (Figure 3.8). Further make-up deposits (G321) were subsequently covered by a second thin charcoal-rich layer (C320), although a steep-sided pit cut from the level of one of the second series of make-up layers (C327), indicates that these were deposited intermittently rather than in a single episode. The pit [G326] was more than 0.7 m deep and at least 0.6 m wide at the base before widening out to 0.95 m at the top, and had been filled with a primary layer of packed rubble followed by compact homogeneous fills. Although the pit was not excavated, the apparently deliberate and careful infilling suggests that it was cut to remove something like a tree prior to the construction of the store building, rather than as a structural feature or a rubbish pit.

### 3.3 PHASE 1: Construction of the masonry store building

#### 3.3.1 Phase 1i – foundation trenches, footings and walls

The front range of the Priory Field store building consisted of three parallel north-south walls, forming the front and rear sides of the long row of rooms and its adjacent portico. Lateral east-west walls between the two main long walls divided the interior of the range into separate rectangular spaces that would become rooms and the building's entranceway. Much of the superstructure had been completely robbed in the post-Roman period and only a few short upstanding sections

of the partition walls between rooms survived in the southern part of the trench. In places the stone robbers also removed the upper parts of the wall foundations, notably in Area B lying closest to the Broadway and the centre of Caerleon.

The excavations exposed the foundations of the store building's front wall along the full 25 m length of the trench, while 15 m of the rear wall of the range of rooms was excavated in the southern part of the trench (Area A), together with a small sondage in the northern extension (Area B). All lateral partition walls within the range of rooms were excavated to the surviving walls or footings (the wall between the portico and the internal courtyard was not excavated, although the robber trench showed where it had stood). Foundations and superstructure were recorded for the walls between Rooms 1 and 2 (G2015) and (G2016); Rooms 2 and 3 (G721) and (G715); Rooms 3 and 4, unexcavated footings and (C2113); Rooms 4 and 5, unexcavated footings and (C604); Rooms 5 and 6 (G3138) and (C3140); Rooms 6 and 7 (G3142) and no surviving wall; and Rooms 7 and 8 (G3144) and no surviving wall (see Figure 3.1).

The store building's wall footings were built using the same method of construction and the fact that those of the external walls and the partitions were bonded together demonstrates that this phase of construction occurred as a single episode. The wall trenches in the southern part of the building were dug from the level of the original ground surface, while to the north they were cut through the initial clearance and levelling layers that are described in the previous Phase. Generally, the wall foundations were broad rather than deep, consisting of large cobbles roughly laid in unbonded courses and filling the full width of the wall trenches. These were sealed by mortar layers mixed with smaller cobbles and pebbles, before being capped with a levelling course of crudely shaped flat stones. It was from this solid base that the walls' first mortared masonry courses were then constructed.

A section excavated through the foundations of the store building's front wall showed that the cobbled footings here were only three courses deep (C344 / C2032), before mortar had been poured into the trench (C2063) and the levelling slabs laid on top (C345). Uniquely, at 2.05 m these footings were more than twice as wide as the masonry wall they supported, of which a short section measuring 0.95 m wide survived to two courses (G2033). This had been built so that its outer face lay directly above the front (western) edge of its footings, leaving an offset of over 1.0 m on the inside of the foundations that later would be covered by internal floors (Figure 3.9).

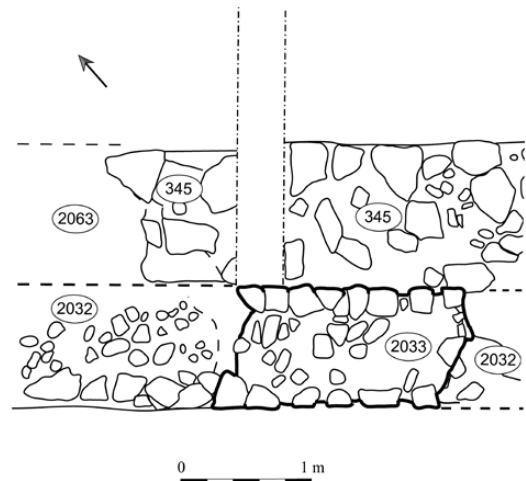


Figure 3.9. Plan of a length of the external front wall, showing foundations (C2032), wall (C2033) along their outer edge, and the levelling slabs (C345) extending inside the wall

The other wall foundations were considerably narrower than those supporting the front wall. The trench for the opposite long wall of the range was c. 0.95 m wide and its footings consisted of cobbles, mortar, levelling slabs and another mortar bedding layer (G2009), while the masonry wall above was only slightly narrower at 0.92 m wide (G612). The trenches for the building's internal walls were c. 0.9 m wide and filled with similar cobbled and slabbed footings. The partition walls themselves, where these survived, consisted of lower courses of medium-sized stones also c. 0.9 m wide and, above these, narrower faced-walls usually c. 0.65 m wide (leaving narrow offsets on either side), constructed using slightly smaller stones (Figures 3.10-3.12). Like their footings, the partition walls appear to have been bonded with the long front and back walls of the building, their western ends sitting directly on top of the wide inner offset of the front wall's foundations.

### 3.3.2 Phase 1ii – levelling and floors

Once the walls had been erected, the internal spaces of the building were raised and levelled before floors and surfaces were laid. All spaces apart from Rooms 2, 3 and 7 were excavated to these pre-floor levels, which invariably consisted of a mixture of construction debris (particularly in the southern rooms), as well as rubble and other mixed material most likely brought in from elsewhere in the fortress. These were then sealed by floor surfaces of various types, both external and internal.

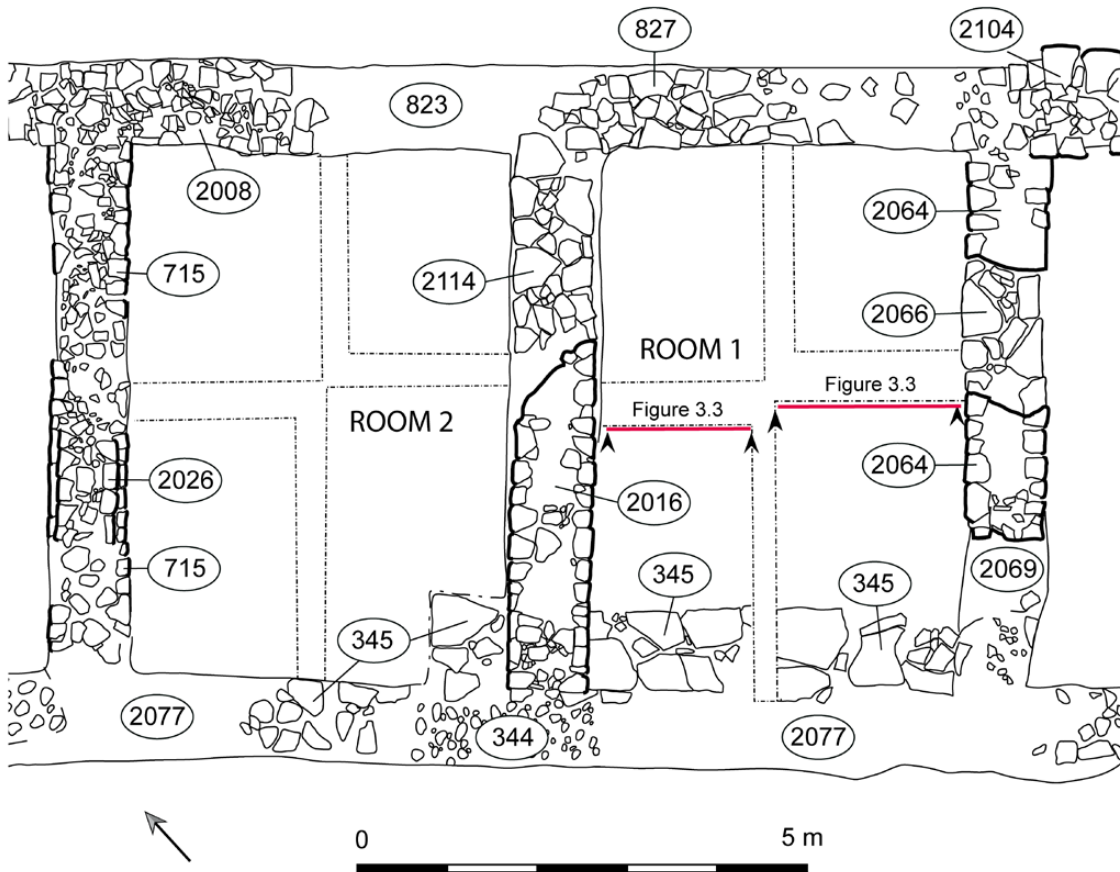


Figure 3.10. Plan of walls and foundations for Rooms 1 and 2



Figure 3.11. South face of wall (C604)

The entranceway (Room 4) was raised by 0.35 m-0.6 m by a combination of possible upcast natural from the adjacent wall trenches, construction debris and other material that contained mortar, charcoal and fragments of brick and tile, as well as numerous finds (G2122) (see Figure 3.5). Above this was a 0.05-0.15 m thick layer of compacted small cobbles and pebbles set in a silty matrix (G613) that formed the first permanent surface in the entranceway (effectively an extension of the external yard surface) (Figure 3.13). The cobbles extended over the foundations of the inside wall of the range, demonstrating that this section of the wall was never built above ground (the same must have been the case over the front wall of the building where the surfaces of the external yard and entrance would have met) (Figure 3.14).<sup>5</sup> The surface in the entrance merged with the external western yard, which also had been raised in height before being provided with a durable surface of compacted stones, cobbles and pebbles (G204).<sup>6</sup>

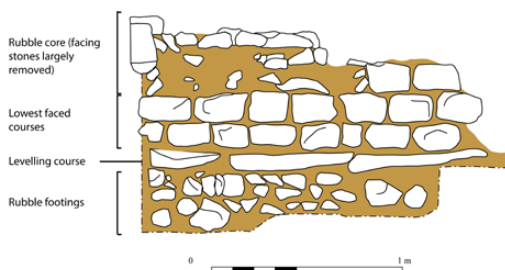


Figure 3.12. North-facing elevation of wall (C604)

<sup>5</sup> Level of entranceway (Room 4) surface = 14.75 mAOD.

<sup>6</sup> The yard surface sloped down to the west from the front of the store. The yard surface's height varied from 14.70 mAOD to 14.50 mAOD.



Figure 3.13. Entranceway (Room 4) surfaces looking west. Earliest cobbled surface (C613) to left of the section, and later flagstone surface (C605) to the right. The ranging rod lies where the surfaces pass over the inside wall of the building range.



Figure 3.14. Entranceway (Room 4) surfaces passing over the inside wall of the building range (looking south)

The two narrow rooms flanking the entranceway received entirely different floor surfaces. The earliest floor in Room 3 consisted of a thick layer of *opus signinum* (G2135), the only example of this durable internal floor encountered in the building, which was laid some 0.2 m below the level of the adjacent entranceway (see Figure 3.4).<sup>7</sup> Rubbly debris, including large quantities of limestone chippings, and rubbish deposits filled

<sup>7</sup> Level of Room 3 floor = 14.55 mAOD.

the interior of Room 5 by up to 0.45 m (G3089), but no evidence for a floor was found (see Figure 3.6).<sup>8</sup>

None of the four larger rooms towards the ends of the front range of the building were provided with permanent concrete or cobbled surfaces. Instead the earliest floors here appear to have consisted of simple beaten earth or clay floors (although the many nails recovered from these layers could have come from suspended wooden floors, perhaps constructed on beams resting on the wall offsets). Room 2 produced the best evidence for the nature of the floors in these rooms. Here the debris associated with the final collapse of the building lay directly on top of the first and only floor, which consisted of a beaten earth surface (G820). An extensive scatter of artefacts, presumably abandoned at the time of the building's collapse or demolition, lay on this earth floor and below the remains of the demolished walls (see Phase 2).<sup>9</sup>

Room 1 contained an extensive series of construction deposits seemingly derived from a variety of building activities that took place there, particularly the mixing of mortar and the dressing of limestone (see Figure 3.3). These, together with dumps of rubble and general rubbish, were used to raise the level of the room's interior (G2115) and, although it was not possible to definitively identify the floor level in Room 1, the mixed layers (C2101 / C2096 / C2097) represent the best candidates for the first, and only, surface in this room.<sup>10</sup>

In the rooms to the north of the entrance, numerous discrete deposits of builders' debris (primarily limestone chippings), rubble and rubbish raised the interior of Room 6 by 0.25 m-0.35 m (G3116) (see Figure 3.7). The layers above this appear to derive from the demolition of the building and it is likely that, similar to Rooms 1 and 2, a beaten earth floor was provided.<sup>11</sup> Room 7 was excavated to what is believed to be the remnants of the first and only floor surface and its underlying rubble make-up layers (G3137). The later robbing of the surrounding walls revealed the sequence of deposits beneath this floor, from which it was clear that there were no earlier surfaces in this room.<sup>12</sup>

### 3.4 PHASE 2: Occupation and alteration of the store

Evidence for the use of the store came mainly from the resurfacing of the entranceway (Room 4) and various minor structural alterations to the walls on either side of the entrance passage. Further instances of alterations and repairs were found in Room 3 and also

<sup>8</sup> Level of the likely surface deposits in Room 5 = 14.55-65 mAOD.

<sup>9</sup> Level of floor deposits in Room 2 = 14.50-14.57 mAOD.

<sup>10</sup> Level of likely floor deposits in Room 1 = 14.50-14.60 mAOD. Deposits overlying these layers contained more broken tile and brick (see Phase 2).

<sup>11</sup> Level of likely floor deposits in Room 6 = 14.55-14.65 mAOD.

<sup>12</sup> Level of likely floor deposits in Room 7 = 14.65-14.70 mAOD.



Figure 3.15. Flagstone surface (C605) in the entranceway (Room 4), looking south

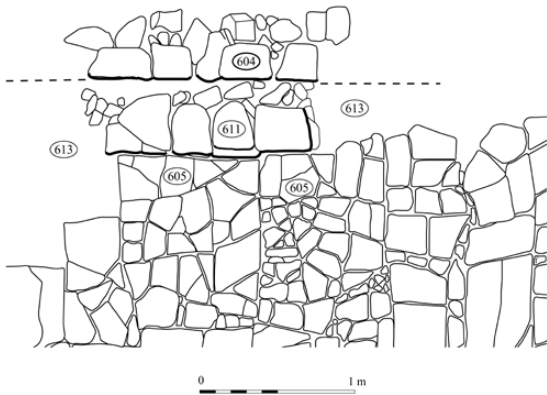


Figure 3.16. Plan of the northern part of entranceway (Room 4), showing the possible gate-jamb (C611) added to south face of wall (C604), and flagstone surface (C605)

in the external yard, while deposits in other rooms may have accumulated during the building's occupation. It is worth bearing in mind that the building stood for perhaps 250 years and that the evidence for the building's use and alteration is likely to have occurred throughout this period of time.

The original cobbles in the entranceway (Room 4) were replaced by a neatly laid flagstone surface sitting on top of shallow bedding layers that included a patch of crushed tile fragments (G605). The flagstones had been laid in irregular rows and, although every one was shattered at the time of excavation, it is clear that slabs of various sizes had been used, some of which seem to have been shaped or broken to fit more-or-less neatly into the surface (Figure 3.15). Presumably the resurfacing was necessary because the original cobbled surfaces had become too worn, but the opportunity was taken to raise the level of the new surface closest to the external yard too, creating a slight gradient through the entrance from the outside into the building's interior. At the time of excavation, the underlying wall foundations separating the entranceway from the



Figure 3.17. Remains of latest *opus signinum* floor in Room 3 (looking south)

internal portico produced a hump in the flagging across the width of the entrance, which later was repaired with an area of poorly-laid broken bricks, roof tiles and flat stones (G619).

The new flagged surface butted against a short stretch of mortared and faced stones on the entrance passage's northern side-wall (G611), that had been added to the wall's original face (C604). This pier-like structure was at least 1.35 m long and approximately 0.45 m wide, and had been constructed prior to or at the same time that the surface was re-laid (Figure 3.16). This thickening of the existing wall most likely represents a jamb for a new gate inserted at the rear of the entrance passage and just in front of the hump in the flagged surface (unfortunately the opposite side of the entranceway had been disturbed by stone robbers and no trace of a matching jamb was found).

Otherwise, the interior of the building produced only limited evidence for occupation and alteration during the building's lifetime. In Room 3 the original *opus signinum* floor was replaced by a second concrete floor, raising the level of the room by some 0.4 m (G2103) (Figure 3.17). The material on which the later floor was bedded (C2119) contained large quantities of pottery, animal bone and other finds, indicating that the reflagging of the room was used as an opportunity to dispose of rubbish from elsewhere (see Figure 3.4).<sup>13</sup> There was no convincing evidence for any activities to do with occupation in Room 5 on the other side of the entranceway.

Room 2 produced a scatter of important pieces of military equipment and other artefacts that lay directly on top of the Period 1 floor among mixed silts containing quantities of decayed mortar and plaster (G2098). These deposits and finds have been assigned to the building's occupation phase rather than its

<sup>13</sup> Level of the relaid *opus signinum* floor in Roman 3 = 14.98 mAOD.

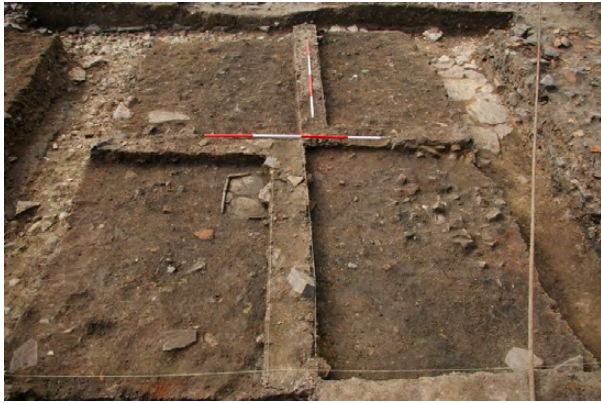


Figure 3.18. Room 7 showing latest floor (C3137) and stone hearth (C3088)



Figure 3.19. Close-up of stone-lined hearth (C3088) in Room 7

decay and demolition because, while the equipment's incorporation into the archaeology is most likely associated with the very end of the store's life (Phase 3), these *in situ* finds are also the only surviving evidence for how this part of the building might have been used prior to this cataclysmic event. The coins and pottery from these deposits suggest the finds in Room 2 may

well have accumulated over an extended period of time (Chapters 4.2.1 and 4.5.1).

Various patchy deposits in Room 1 between the beaten-earth floor and debris from the building's decay or demolition also are assumed to have originated from occupation activities, or the room's use as a place where



Figure 3.20. Plan of structures (G2010), (G3098) and (C3008) in the external yard



Figure 3.21. 'Platform' (G2010) in the external yard, showing crudely laid stones (C2011), looking east



Figure 3.22. 'Platform' (G2010) in the external yard, showing cut [C2010], primary stony fill (C3097) and stone courses (C3099), looking east

rubbish could be disposed of (G2080) (see Figure 3.3). It is possible that some of these layers could represent later temporary surfaces, though this was far from clear during the excavations.

Room 6 did not produce any evidence for occupation, but a stone hearth (C3088) was found directly on top of the floor (C3137) in the middle of Room 7 (Figures 3.18 and 3.19). The base of the hearth was made from at least three polygonal slabs of Old Red Sandstone reminiscent of stone roof tiles (but without nail holes), with five narrow pieces of stone set in the floor surface to form a shallow, close fitting, vertical edge to the feature (smaller stone fragments had been inserted into the base to fill gaps left by the larger slabs). The hearth measured 0.63 m from east to west and it is likely that it would have been hexagonal or octagonal in plan (the northern part extended into the running section along the centre of the room). The hearth's small size and relatively superficial nature suggest it would have served some sort of domestic function, though precisely what this entailed is uncertain.

Outside the store building, the surface of the external courtyard had been repaired on numerous occasions. Worn areas were infilled with cobbles and stones, but crushed brick and tile seem to have been particularly favoured for this purpose (G423). Two enigmatic structures in the yard immediately in front of the store are also likely to date to the period when the building was in use (Figure 3.20).

The first of these was a rectangular 'platform' of laid, but unmortared, dressed stones found on the northern side of the entranceway into the building (G2010). The structure was perpendicular to the front wall and appeared to consist of at least two connected parts, both of which sat in a shallow cut through the yard surface. A single layer of stones some 1.15-1.5 m wide, crudely laid and often placed on their ends, extended from the store's front wall for slightly more than 3 m into the yard (C2011) (Figure 3.21). These sat upon another layer of smaller rounder stones (3097) that lined the base of the cut (Figure 3.22). At the end of these stones, the cut became wider and deeper, into which at least three



Figure 3.23. 'Kerb' (C3098), possible surface (C3107) and large blocks of sandstone in the external yard (robbed main wall of the store building at top of photograph)

unmortared courses of larger dressed stone blocks (C3099) had been placed. This produced a faced square or rectangular structure some 2.1 m wide (this extended beyond the trench edge and must have been at least 1 m in length), and the wider area of larger blocks extended some 0.6 m southwards beyond the edge of the smaller stones laid on their ends, towards the building's entrance. This structure cannot have offered much support as a buttress for the store's front wall and it is possible that it was the base for an external staircase or a loading platform of some kind. The pottery from this feature, excluding a few later intrusive pieces, was first or second century in date.

The second external feature in the yard consisted of a row of nine large dressed-stones sitting directly on top of the yard surface and some 2.75 m parallel to the store's front wall (outside Rooms 6 and 7) (G3098) (Figure 3.23). The stones were unmortared and formed a 2.6 m long 'kerb', on the inside of which were several flat stones as well as numerous large fragments of brick and tile that gave the appearance of having been deliberately laid as a surface (C3107). The function of this structure is unknown, but it is perhaps best interpreted as a small lean-to building of some kind that used the store building as its rear wall. Several large blocks of sandstone were found lying just beyond the back edge of the possible floor surface (C3107), and it is tempting to imagine that the structure was part of a stone-mason's workshop, perhaps used episodically during repairs to the store building. The small collection of pottery from this feature indicates a mid- to late third century date.

Limited excavation in the interior portico revealed a deposit containing crushed tile (G911), possible surfaces (G829), as well as other deposits that might also belong to Phase 2 (G720).

### 3.5 PHASE 3: Dereliction and demolition of the store building

The excavation showed that while the central part of store's front range was likely to have been systematically demolished, the rooms towards the range's two ends contained substantial quantities of building debris that indicate a more prolonged period of abandonment, decay and dereliction. The absence of faced stones and large pieces of roof tile from the debris layers in Rooms 2, 3, 4, 5 and 6 is most probably a result of the recycling of reusable materials in these rooms closest to the entrance, whereas the presence of large quantities of broken tegulae and imbrices in Rooms 1 and 7 suggests the end rooms of the range may well have been left standing for longer before their roofs finally collapsed. It is likely that after the building's internal walls had been levelled or fallen down, the building's front wall remained upstanding, becoming a boundary between the open yard and the ruined building.

The front wall had been heavily robbed in the medieval and post-medieval periods (Phase 5), and we cannot know for certain if it remained standing, fell down, or was demolished and levelled at the end of the Roman period. Convincing circumstantial evidence in support of the first explanation, however, comes from the siting of the later rectangular building erected close to and parallel with the store (see Phase 4), whose end walls were cut by the robber trench for the front wall. This suggests this later building had butted against the store building's still upstanding wall.

The interior walls to either side of the entranceway (Room 4) would seem to have been carefully pulled down and levelled by this time. The best evidence for this deliberate demolition comes from the wall between Rooms 2 and 3, which had been reduced to the three courses of the wider lower wall overlying the footings



Figure 3.24. Reduced wall (C715) between Rooms 2 and 3 overlain by silty layer (C712) and later wall (C703), looking north

along most of its length (C715), except for at its western end where a short section of the bottom course of the narrow upper wall survived (C2026). A clean orange-brown silty layer (C712) covered the eastern end of (C715) and extended into Rooms 2 and 3, while a wall from a later post-store building had been constructed directly on top of (C712) as well as the northern face of (C715) (Figure 3.24, and see Figure 3.4).

A series of thin sandy layers (G3078) overlay the wall between Room 5 and the entranceway (C604), indicating that this wall also had been reduced by this time (see Figure 3.6). Subsequent layers of rubble, covering what had been wall (C604) and spreading into Room 5, appear to have derived from further episodes of demolition (G3077). The entrance itself, however, did not produce any significant quantities of building debris. Here, the flagstones of the latest Roman surface were covered by relatively shallow layers of orange-brown silty clay with traces of degraded mortar or plaster (G2000).

This evidence from Rooms 3 and 5 flanking the entrance indicates that the central part of the store building's front range was systematically demolished and cleared, while the absence of any debris from the entrance passageway itself suggests that this area continued to be used as the main access route through the still upstanding remains of the store building's front wall. Other parts of the building further away from the entrance, in contrast, produced more substantial deposits of building debris, probably associated with prolonged episodes of collapse.

In Room 2, rubble and other mixed deposits covered the floor and the artefacts scattered on top of it (G2022). These did not produce substantial quantities of roof tiles, but they did include large fragments of *opus signinum* flooring that can only have come from Room 3. The fact that some layers extended into that room demonstrates that they were laid down after the partition wall had been removed. In Room 1, layers containing large quantities of roof tile and decayed mortar and plaster were covered by more rubbly deposits (G2059), while large quantities of broken roof tiles were also found in the area of the porticoed ambulatory adjacent to Room 1 (G902). In the northern part of the range, mixed silty layers containing some rubble and only very few roof tile fragments were found spread across Room 6 (G3072). Similar layers in Room 7 were subsequently sealed by large quantities of broken roof tiles, further building debris and broken flagstones (G3084). A corresponding layer of broken roof tiles was recorded but not excavated in Room 8 (C3028).

No deposits definitely belonging to Phase 3 were identified above the external courtyard, where the

walls of the later Phase 4 building sat directly on top of the earlier Phase 2 yard surfaces.

### 3.6 PHASE 4: Post-Roman masonry buildings

After the demolition and collapse of the store building, the site was the location of at least two new buildings, whose unfounded and earth-bonded masonry walls lay directly over either the latest surfaces in the external courtyard, or the remains of the earlier building (Figure 3.25). The best evidence for these superficial structures was found in the southern part of the trench above the external yard, where the remains of a three-room rectangular building were found (Figure 3.26). A short length of wall sitting on top of the internal wall between Rooms 2 and 3 shows the interior of the earlier building was also reoccupied by another building, although subsequent medieval and modern disturbance has removed any further traces of the structure this wall was part of.

**Building 1:** This was a three-room rectangular structure built over the yard outside the earlier building. It was almost certainly constructed against the front wall of the store building's partially demolished façade, reusing this as its back wall. Remnants of five earth-bonded walls were excavated (G403) that, it is proposed, formed Building 1:

- Front wall (C403 / C309). 3.5 m of this north-south wall had survived, approximately 3.7 m to the west of the store's front wall and lying immediately outside Rooms 1, 2 and 3 of the earlier building (see the previous Phase for a discussion of the entranceway's continued use beyond the store building's demolition). It seems likely that this wall would have continued northwards for another c. 1.25 m to meet the east-west wall (C421). The southern end of (C403) had been truncated by an extensive later pit ([C207], Phase 6), but probably originally extended southwards to meet east-west walls (C306) and (C203). Three courses of Old Red Sandstone survived. The lowest was faced with roughly square blocks, the second with longer more rectangular dressed blocks, while the third was faced with larger dressed blocks, possibly laid alternately square and rectangular (only four stones of the uppermost course survived) (Figure 3.27). The wall was built without foundations and the bottom course of stones sat directly on top of the last undulating cobbled surface of the earlier yard.
- North wall (C421). Only a short 0.85 m length of the base course of this east-west wall survived, forming the northern end-wall of Building 1.



Figure 3.25. General photograph of 2008 trench (Area A), showing Phase 4 walls overlying the external yard, looking east

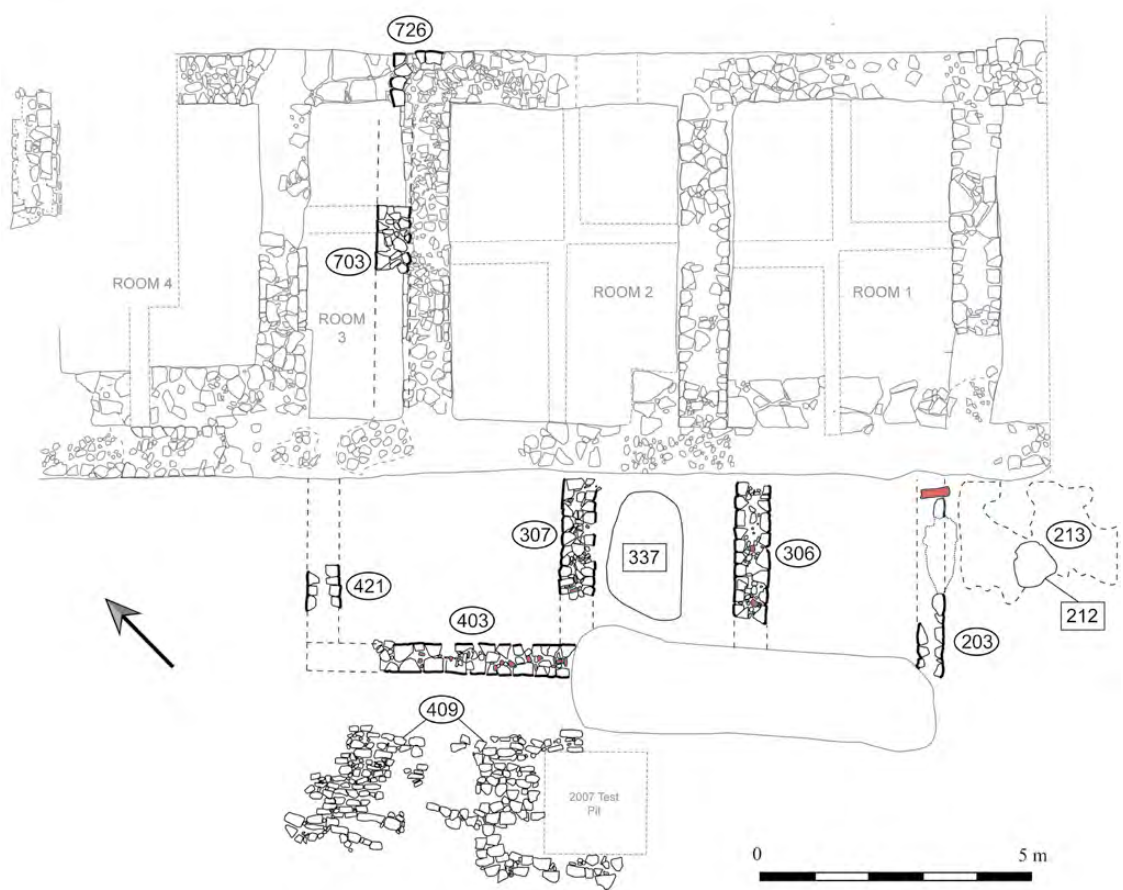


Figure 3.26. Plan of surviving walls of Buildings 1 and 2, with pit [C337] and wall collapse (C409)



Figure 3.27. Wall (C403) from west showing 3 surviving faced courses



Figure 3.28. Wall (C306) from west

Measuring 0.55 m wide, the course of dressed square Old Red Sandstone blocks around a core of clay and rubble had been placed on the earlier courtyard surface without foundations. Originally the wall is likely to have joined Building 1's front wall in the west (C403) and the wall of the store building in the east (it was cut by the Phase 5 robber trench, [G314]).

- South wall (C203). A 3.55 m long, 0.5 m wide, length of the southern end-wall of Building 1 survived to two courses in height, albeit greatly disturbed. Faces of dressed Old Red Sandstone and Conglomerate blocks with a core of earth-bonded rubble and broken roof tiles, sat on the earlier courtyard's cobbles. The wall almost certainly would have met the north-south front wall to the west (C403), had this area not been disturbed by later pit-digging, and the store building's old wall in the east (it had been cut by the Phase 5 robber trench [G314]). An inverted complete imbrex roof tile at the eastern end of the lowest course might have served as a drain to allow liquids to flow out of the southeastern corner of the building.
- Northern internal wall (C307). Two faced courses of this east-west wall survived for 2.2 m, overlying the earlier cobbled yard surface. Constructed with Old Red Sandstone blocks and a core of earth-bonded rubble and broken roof tiles, this wall was wider than the building's external walls (0.65 m). It almost certainly would have butted against the store's defunct front wall (it was also cut by the Phase 5 robber trench [G314]), while the western end of the wall terminated abruptly to leave a space of 0.95 m to the inner face of Building 1's front wall (C403), perhaps an internal doorway between rooms.
- Southern internal wall (C306). 2.55 m of this east-west wall survived *in situ*. Like internal wall (C307), it was also 0.65 m wide and, as with all Building 1's other walls, it consisted of (two) courses of small Old Red Sandstone blocks wall laid directly on the earlier yard's cobbled surface (Figure 3.28). Like (C307), this wall almost certainly originally butted the earlier store building's front wall in the east (again cut by the Phase 5 robber trench [G314]), while the c. 0.6 m gap at its western end to the inner face of Building 1's front wall (C403) (had the latter not been truncated), is possibly another internal doorway between rooms (apparently surfaced with cobbles and pebbles).

Assuming these five walls were part of a single structure, Building 1 would have been 3.7 m wide to the front wall's outer face and some 11.75 m long. The internal rooms were all 3.15 m deep, with the northernmost room measuring 4 m wide, while the middle and southern rooms were 2.60-2.75 m wide. The building originally stood to a height of perhaps up to 3.5 m. Its front wall (C403) had collapsed outwards and fourteen or fifteen courses of its external face (G409) were found lying over the earlier courtyard surface (the wall's core and inner face did not survive) (Figure 3.29). A space of 1.0-1.1 m was found between the *in situ* wall and the lowest



Figure 3.29. Wall (C403) and wall collapse (C409), from west

course of the collapsed elevation, perhaps where later activity had removed all traces of the lowest collapsed courses, though other spaces in the fallen masonry could indicate the presence of an external door and a window in the wall (the fragmentary nature of the surviving evidence means this is far from certain).

Evidence for the occupation of Building 1 was scanty. It is likely that the cobbled surfaces of the earlier yard, upon which the walls had been laid, also served as floors for the building. These were overlain by thin layers of debris-free dark silts that could well have accumulated during its use (G350), consisting of (C350) in the middle and southern rooms and (C425) in the northern room. A series of deposits (G210) outside the southern wall (C203), and close to the inverted imbrex drain, also could have derived from the building's occupation. These included a possible crude surface of stones, broken tile and brick (C213), into which a shallow circular feature had been cut and filled, [C212] and (C211), which was in turn sealed by a dark silty deposit (C210).

A large stone-lined, flat-bottomed pit [G337] almost entirely filled the northern half of Building 1's middle room (thereby blocking the postulated doorway at the western end of wall (C307). The pit itself [C337] was sub-oval in plan with vertical sides. Measuring 2.4 m (east-west) by 1.4 m (north-south), it had been cut

from the level of the reused earlier courtyard surface to a maximum depth of 0.7 m, before a series of large, irregularly-shaped thin stone-slabs (probably reused broken flagstones) were placed vertically within the pit to create a rectangular cist-like feature some 1.55 m long and between 0.6 and 0.65 m wide (C338) (Figure 3.30). The vertical slabs were positioned towards the centre of the larger pit and soil filled the gaps between the slabs and the pit's cut sides, capped with carefully placed blocks of Old Red Sandstone that overlapped the upper edges of the vertical slabs (particularly on the northern and eastern sides). The two surviving slabs that formed the southern face of the feature projected some 0.1 m above those on the other sides, and these were not sealed by rubble (Figure 3.31).

The stone-lined pit's primary fills included a series of four thin, alternately white ash and charcoal-rich deposits extending across most of the pit's flat base (C339) (Figure 3.32). This fine-grained material produced large quantities of charred cereal grains, particularly bread wheat together with oats and barley, vetches, as well as small pieces of carbonised wood (including blackthorn). The pit was subsequently filled with a thick rubbly deposit (C304) that also produced large quantities of charred botanical remains (possibly residual), again including cereals (though less dominant here than in the primary fills), vetches and some large

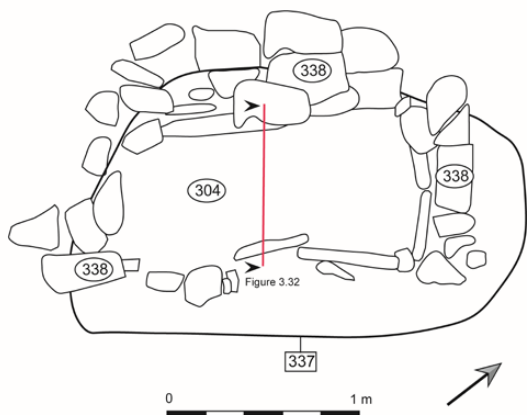


Figure 3.30. Plan of pit [C337] and stone lining (C338)



Figure 3.31. Vertical stone slabs (C338) forming a rectangular stone-lined structure in the centre of pit [C337], from east

fragments of wood charcoal. It is perhaps instructive that all of the pit's fills produced only very limited evidence for cereal chaff, indicating that the grain had already been threshed and winnowed and was for human rather than animal consumption.<sup>14</sup> The purpose of pit [C337] was probably to store grain, with the ash and charcoal layers produced by episodic cleansing of the pit by fire.

#### Building 2:

- Wall (C703). One course of a short length of unmortared Old Red Sandstone wall survived, 1.05 m long and 0.5 m wide, consisting of a rubble core faced with square dressed stones (see Figure 3.26). This wall lay above the previously

<sup>14</sup> See Botanical Remains, Chapter 4.7.

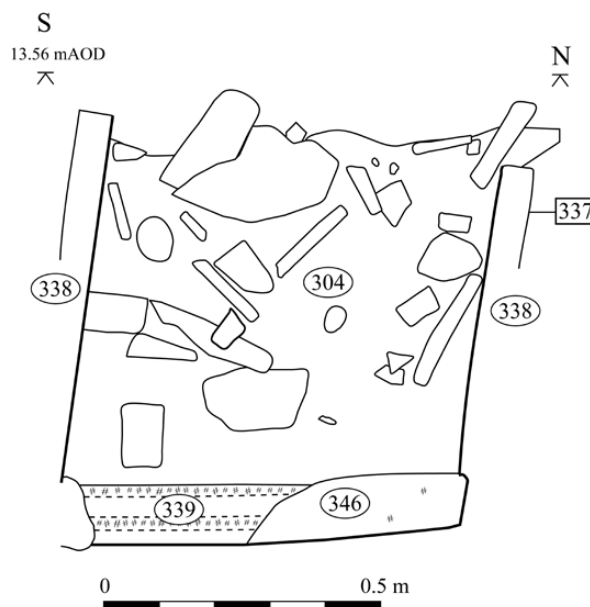


Figure 3.32. East-facing section through the stone-lined pit [C337]

demolished Room 2/3 partition wall (the fact that the short surviving stretch of this wall was not squarely aligned with the underlying masonry indicates that the earlier wall was no longer visible to the later builders), on top of a thin deposit of grey brown silt (C728) that could have been accumulated material, or bedding for the wall. A small area of tumbled stones (c. 0.9 m by 0.5 m) to the north is perhaps a collapsed part of this wall (C717).

- Wall (C726). A group of faced stones on a similar earth bedding (C727) on top of the store building's main internal wall (C2008), might be part of the same structure as (C703), but this area was very disturbed and any relationship is not clear (see Figure 3.26).
- A layer of mixed rubble (C701) spread over the reduced Room 2/3 wall must have been laid down after the wall had been demolished and could have been used as a surface.

Other features within the footprint of the store building that might relate to Phase 4 occupation were found in the rooms at the northern end of the excavation trench. These included possible rough flagstone, stone rubble and broken brick and tile surfaces in Room 7 and Room 8 (G3006). These lay above the roof tile collapse deposits within these rooms and were cut by the robber trenches of Phase 5.

A poorly-built wall (C3008) overlying the external courtyard also has been allocated to this phase of occupation at Priory Field (see Figure 3.20). Only two



Figure 3.33. Wall (C3008) overlying the external yard surface

rough courses of facing stones and the rubble core survived, 3.5 m long and 0.8-0.9 m wide. Similar to the walls of Building 1 further to the south, this was constructed without foundations and the lowest courses of un-mortared stone simply sat directly upon the latest Roman yard surface (C3002) (Figure 3.33). It also seems to have been built against the external wall of the store building (the eastern end was cut by the Phase 5 robber trench [G314]), but it headed obliquely away from the building and was much wider than the walls of Buildings 1 and 2. It is possible that, like the potential external staircase (G2010), this isolated masonry structure was built during an earlier occupation phase, although the nature of its construction (it was built over the yard, not into it) and the discovery of a coin struck in 347-48 suggests a date after the end of the store is likely. The function this wall served, whether as part of a building or a stand-alone structure of some kind, is unclear.

### 3.7 PHASE 5: Wall robbing

The next stratigraphic activity on the site consisted of the extensive robbing of stone from the store building's walls and their footings. All of the walls had been robbed, some more heavily than others, and reduced to ground, or below-ground, level. The robber trenches

truncated many of the more superficial walls of the previous Phase's buildings and cut through deposits associated with the earlier store, removing most of the evidence for the physical relationships between walls and floors.

The robber trenches have been allocated the following Context and Group numbers (cuts and fills):

- Front wall (north-south) of range of rooms: [G314] / (G315);
- Interior wall (north-south) of range of rooms: [G710] / (G709);
- Internal wall (north-south) between the portico and the internal courtyard: [G609] / (G608, plus possible robbing pit [G804] / (G803);
- Internal partition wall between Rooms 0 and 1: [G2056] / (G2057);
- Internal partition wall between Rooms 1 and 2: [G2040] / (G2041);
- Internal partition wall between Rooms 2 and 3: [C725] / (C718);
- Internal partition wall between Rooms 3 and 4: [C2099] / (C2095);
- Internal partition wall between Rooms 4 and 5: [C2019] / (C2006);



Figure 3.34. Robbed walls in Area B (Rooms 6 and 7), from west

- Internal partition wall between Rooms 5 and 6: [C3031] / (G3032);
- Internal partition wall between Rooms 6 and 7: [C3057] / (G3055);
- Internal partition wall between Rooms 7 and 8: [C3050] / (G3045).

The trench over the front wall of the building was excavated along its entire length and showed that the main north-south walls had been most extensively robbed, removing almost all of the original faced superstructure and often the slabbed levelling course on top of the footings as well.

The internal partition walls in the northern part of the range were generally more heavily robbed than those south of the entranceway, presumably because this part of the store was closest to the centre of Caerleon (Figure 3.34). The walls between Rooms 8 and 7 (C3145), Rooms 7 and 6 (C3143), and Rooms 6 and 5 (C3140) were robbed to their cobble footings or the levelling slabs above these, whereas the walls flanking the entranceway had been less completely robbed and here some of the lower courses of the superstructure survived (C604 between Rooms 4 and 5, and (C2113) between Rooms 4 and 3). The southernmost walls had been least robbed and in this part of the store building the lower faced-



Figure 3.35. Robbed walls in Area A (Rooms 1, 2, 3 and 4), from south

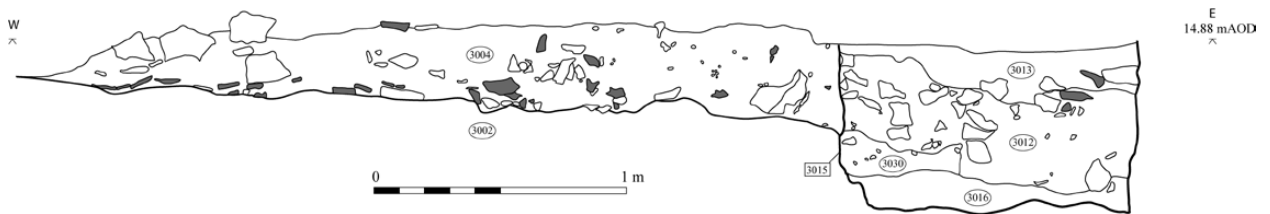


Figure 3.36. South-facing section through trench to rob the store building's front wall [C3015] and rubble (C3004) overlying the external yard surface

courses of the partition walls often survived (Figure 3.35): (C2026) between Rooms 3 and 2, (G2016) between Rooms 2 and 1, and (C2064) between Rooms 1 and 0).

The robber trenches were never much wider than the robbed-out footings and their near vertical sides suggest they were backfilled not long after the robbing had taken place. Fills of the robber trenches tended to be very mixed, containing large quantities of rubble and broken brick and tile that was also found spread out across the site (i.e., rubble (G3004) extending over the external courtyard in the northern part of the excavation trench). Presumably this debris comprised material associated with the dereliction of the store building and the robbing of its stonework over many centuries.

Overall, the impression is that stone robbing took place episodically rather than systematically for an extensive period of time. Evidence for this comes from the trench over the store building's front wall [G314], which seemed in places to have cut through the trenches to rob the building's partition walls (i.e., the front wall was robbed later). The varying levels to which the front wall had been reduced might be further evidence that the robbing of this wall also occurred gradually rather than at the same time. This interpretation is supported by differences noted in the fills of the front wall's robber trench (G315), which tended to consist of mixed sandy silts in the south and more differentiated rubble fills in the northern part of the trench (Figure 3.36). Finally, it is possible that the ambulatory wall was robbed later than the building's other long walls (robber trench (G609) was visible at a higher level than the other trenches).

### 3.8 PHASE 6: Medieval and early-modern occupation

Numerous archaeological deposits and features either sealed or cut the robber trench fills and must post-date this activity (Figure 3.37). These included layers of rubble and broken brick and tile derived from the store building, some of which might have been laid as surfaces of some kind, such as (G607), (G103) and (C706).

In other areas within the trench, spreads of more-or-less broken Roman flagstones looked to have been as

laid as floors and surfaces associated with buildings whose walls left no detectable traces in the surrounding rubble. Most of these lay only just beneath the subsoil / topsoil and had been disturbed by more recent activity. Whether or not these originally belonged to a single structure, or to numerous separate structures, is unclear. These possible surfaces included:

- (G202): Several areas of reused broken flagstones, especially (C305) / (C402) / (C410) and patches of what appeared to be deliberately laid rubble surfaces (or hard-standing) were found in the central part of Area A, partially overlying the uppermost fills of the trench to rob the store's front wall (Figure 3.38).
- (G501): A spread of scattered broken flagstones, possibly deliberately laid, overlying rubble and moderate amounts of broken brick and tile at the northern end of Area A, especially (C501) / (C603).
- (G815): A rubble layer and a much less stony deposit of dark brown sandy silt might be evidence for further surfaces at the southern end of Area A (overlying Room 1).

In addition to these surfaces, a number of pits and linear cuts were excavated that most likely post-date the robbing of the store building. These pits and cuts included:

- (G207): A large, deep, steep-sided pit was cut through some of the (G202) surfaces in the western part of Area A. Measuring 6.7 m long, 1.6 m wide and at least 1.2 m deep (it was not bottomed), the pit had been filled with homogenous compacted small rubble and pieces of broken brick and tile (Figure 3.39). It seems unlikely that the pit had been dug to extract materials or to bury the fill, and its shape and size suggest it could have functioned as a saw-pit. The fill included medieval pottery.
- (G422): A steep-sided, east-west linear cut (0.8 m long and 0.7 m wide) also truncated the flagstone patches, as well as the earlier robber trench for the store building's front wall. The silty-sandy fill contained large quantities of stone rubble

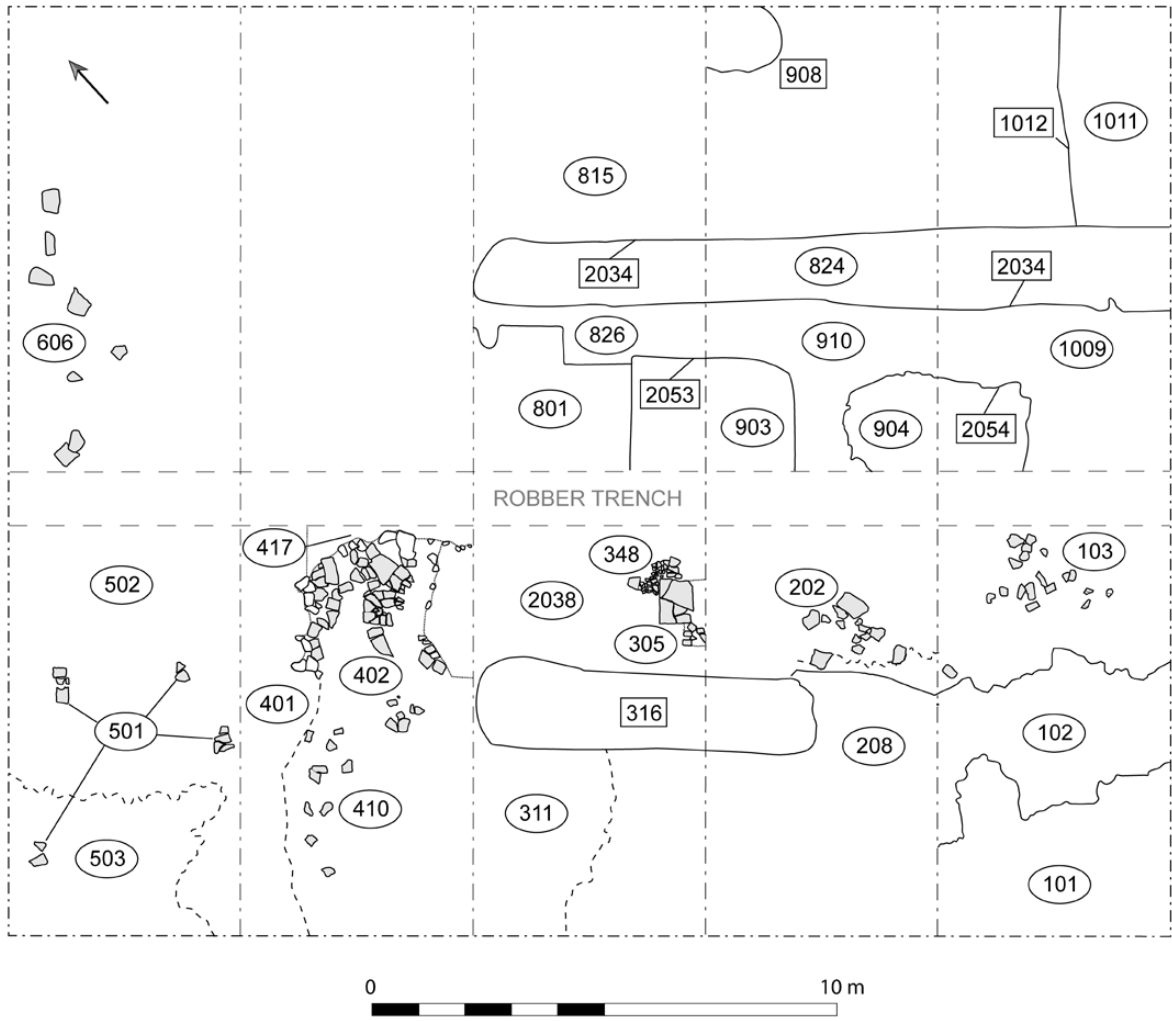


Figure 3.37. Plan of Phase 6 features in Area A



Figure 3.38. Broken flagstones (C402), from west

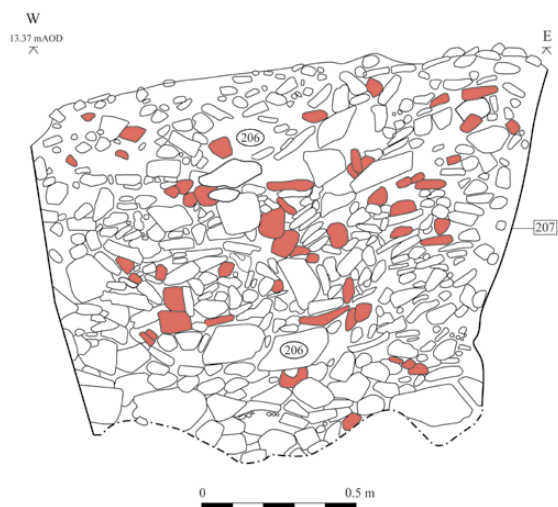


Figure 3.39. South-facing section through 'saw pit' [C207]

and some broken brick and tile, but no post-Roman pottery.

- (G907): This pit, measuring 1.6 m (north-south) by 1.3 m (east-west) and 0.5 m deep, appeared to cut the fill of the ambulatory robber trench and was filled with a dark brown sandy silt containing small stony rubble, charcoal, broken brick and tile, as well as eighteenth and nineteenth century pottery.
- (G1011): A large feature that also cut the ambulatory robber trench, of which one side was preserved in the south-eastern corner of Area A. It was at least 4.9 m long (it extended beyond the eastern edge of the trench and had been truncated by (G2034) to the west), and 2.15 m wide (it extended beyond the southern edge of excavation). The 0.65 m deep fill consisted of a mixed sandy-silt containing some stones, small pieces of broken brick and tile, and a sherd of a seventeenth or eighteenth century plate.
- (G2034): A long (at least 15 m in length), steep-sided, north-south linear feature up to 0.5 m deep in Area A, running parallel to the robber trench for the internal wall of the front range (which it also cut). The 0.5 m deep fill of this feature included rubble and some broken pieces of brick and tile. The cut was perhaps for drainage or functioned as a boundary of some kind and its fill included medieval pottery.
- (G2053): An oval pit, measuring 3.1 m by 1.9 m, and 0.36 m deep, with a rubble fill also at the southern end of Area A. Included sherds of medieval pottery.
- (G2054): A circular pit, measuring 1.4 m by 1.25 m and 0.47 m deep, containing a rubbly fill at the

southern end of Area A. Contained only Roman pottery.

### 3.9 PHASE 7: Modern activity

The evidence for recent occupation in this part of Priory Field was limited to topsoils and subsoils, a large circular pit and a water-pipe in Area B, a post-hole for a rugby goal post in Area A, and the 2007 test-pit also in Area A. The features included:

- (G3070): A large circular pit, 4 m in diameter, in what had been Rooms 4 and 5 of the store. The uppermost of the four fills produced sherds of modern china, fragments of clay-pipe and a toy car.
- (C005): This topsoil layer contained an intact iron water-pipe running diagonally (east to west) through the northern part of Area B. The pipe was presumably intended to supply a building adjacent to the Broadway with running water and is likely to have been installed around the middle of the twentieth century.
- (G003): Cut and fill of a goalpost from when Priory Field was used as Caerleon Rugby Football Club's home pitch (the club moved to its current ground on the opposite side of the Broadway in the later 1950s or early 1960s). The 2006 magnetometer survey showed that the facing goal was located near the gate from Priory Field leading towards the amphitheatre.
- (G2166): Cut and fill of 2 m by 2 m test-pit excavated in 2007 over the area of the yard in front of the store (see Appendix 6.3).
- (G001) and (G100): Modern subsoils and topsoils.

## Chapter 4

# Finds Catalogues and Specialist Reports

### 4.1 Introduction and discussion

The finds recovered during the Priory Field excavations are a plentiful and diverse assemblage from the fortress at Caerleon. The excavated finds are divided into two broad classifications: Registered Artefacts and Bulk Finds. Registered Artefacts are usually portable manufactured objects, or fragments of portable objects, that people in the past used for a variety of purposes. These finds are allocated a unique number on site and their horizontal and vertical locations within an excavation trench are plotted as accurately as possible. Bulk Finds include pottery, animal bone, building materials, as well as metallurgical and environmental residues (the latter recovered from 23 soil samples). Bulk finds are not allocated individual find numbers and tend to be stored and analysed together according to the context from which they were excavated.

Initial cleaning and conservation were undertaken during and immediately after the excavation seasons. The Registered Artefacts were mechanically cleaned and conserved, labelled and stored, while the Bulk Finds were cleaned either by washing (for example, pottery and animal bone) or brushing (tiles and bricks). All Bulk Finds were sorted, counted and weighed on site and sherds of pottery were also marked with the site code (CPF08 or CPF10) and context number before being bagged up to await further analysis. Conservation of the Registered Artefacts took place in the laboratories at Cardiff University and the National Museum of Wales, after which the artefacts were individually photographed at Cardiff University. Once this work had been completed, the entire finds assemblage was assessed by the post-excavation team for its significance and its potential to contribute to the project's research questions (Gardner and Guest 2013). The specialists also advised on how the Registered Artefacts and Bulk Finds assemblages should be published, after which the same team undertook the final identification and analytical work to produce the finds catalogues and reports contained in this chapter.

#### *Registered Artefacts Overview*

The Priory Field excavation recorded a total of 1,858 Registered Artefacts, of which 571 are considered sufficiently important to be published individually in this volume (the remaining 1,287 are included in the full site archive). The reports describing these Registered Artefacts in the later sections of this chapter

are arranged according to the material from which the artefacts were made, while the sequence of finds within each report and catalogue is determined by their original functions (see below). The distributions of Registered Artefacts between the various parts of the excavated store building in Priory Field are shown in Table 4.1 as well as Figures 4.1 and 4.2. From these it can be seen that over half of all registered finds are copper-alloy artefacts, which were the most common finds from all spaces in the store building except the external yard, while iron artefacts represent almost one quarter of the Registered Artefacts assemblage and were especially frequent in Room 2. Objects of other materials do not appear particularly often from Priory Field; vessel glass accounts for 10% of all Registered Artefacts (but 15% of finds from Room 1 and Room 6), while only 8% of finds overall are lead (although the finds make up nearly a quarter of the artefacts from Room 4 / entranceway). Silver objects as well as those made of worked bone or worked stone were recovered only rarely at Priory Field (the latter includes a group of whetstones and pieces of building stone, notably part of a sculpted frieze and an inscription).

Of the excavated spaces inside the store building, by far the most productive in terms of Registered Artefact recovery was Room 2 (where almost 20% were found), followed by Rooms 7, 1, 4 and 6 (Room 4 was the building's main entranceway, while the others were all small storerooms). The fewest numbers of Registered Artefacts came from Rooms 3 and 5 (Room 8 was unexcavated), which appear to have been spaces where finds were less likely to have been dropped or lost and not recovered (interpreted as the building's guard chamber and a stairwell respectively). Also, very few finds originated from the excavated area of the yard in front of the building, a wide-open space where dropped objects perhaps would have been recovered or cleared away more easily than in a small room (especially one filled with furniture and equipment). Areas A and B, which together account for 40% of the Registered Artefacts assemblage, refer to the uppermost post-Roman layers in the trench excavated in 2008 and 2010 respectively. These Areas produce relatively similar assemblages of finds to the rooms and spaces below them, albeit in far larger quantities than from sealed Roman archaeological deposits.

The vertical distribution of Registered Artefacts, according to the excavation's sequence of chronological Phases, is shown in Table 4.2, where it is apparent that

Table 4.1 Distribution of Registered Artefacts from the Priory Field excavation, by material

MATERIAL	ROOMS / AREAS												Total	Total%
	1	2	3	4	5	6	7	8*	Yard	A	B	?		
Silver	1	3		1		2	6			4	2	5	24	1%
Copper alloy	100	245	36	57	9	48	113		5	205	135	66	1019	55%
Iron	11	86	13	21	3	16	20	2	5	152	64	25	418	22%
Lead	9	4	4	27	3	11	15			28	16	33	150	8%
Glass	23	3	3	15	2	14	15		1	72	26	8	182	10%
Worked bone	1	1	1				2			7	7		19	1%
Worked stone	3	1		2	1	2	1		9	9	8	3	39	2%
Other finds	1						1			2	2	1	7	0%
<b>Total</b>	<b>149</b>	<b>343</b>	<b>57</b>	<b>123</b>	<b>18</b>	<b>93</b>	<b>173</b>	<b>2</b>	<b>20</b>	<b>479</b>	<b>260</b>	<b>141</b>	<b>1858</b>	<b>100%</b>
<b>Total %</b>	<b>8%</b>	<b>18%</b>	<b>3%</b>	<b>7%</b>	<b>1%</b>	<b>5%</b>	<b>9%</b>	<b>0%</b>	<b>1%</b>	<b>26%</b>	<b>14%</b>	<b>8%</b>	<b>100%</b>	

\* Room 8 was unexcavated

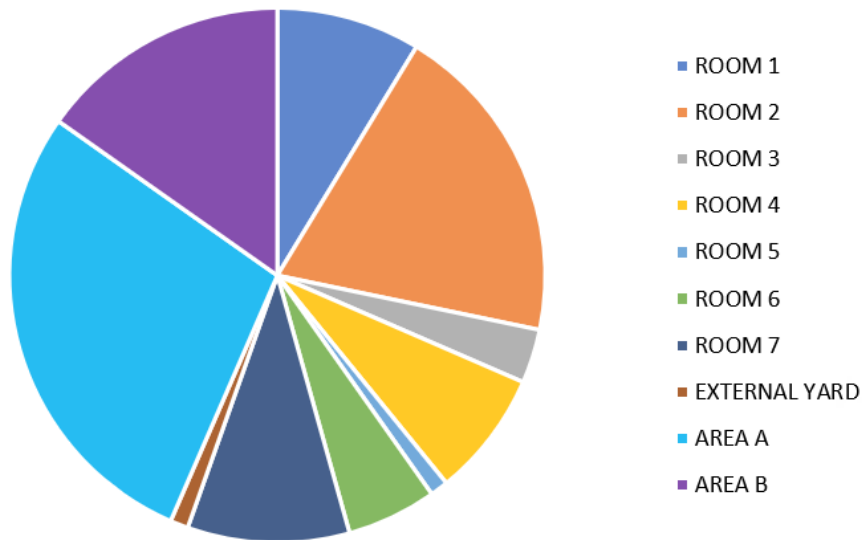


Figure 4.1. The distribution of Priory Field Registered Artefacts from the store's rooms and excavation Areas

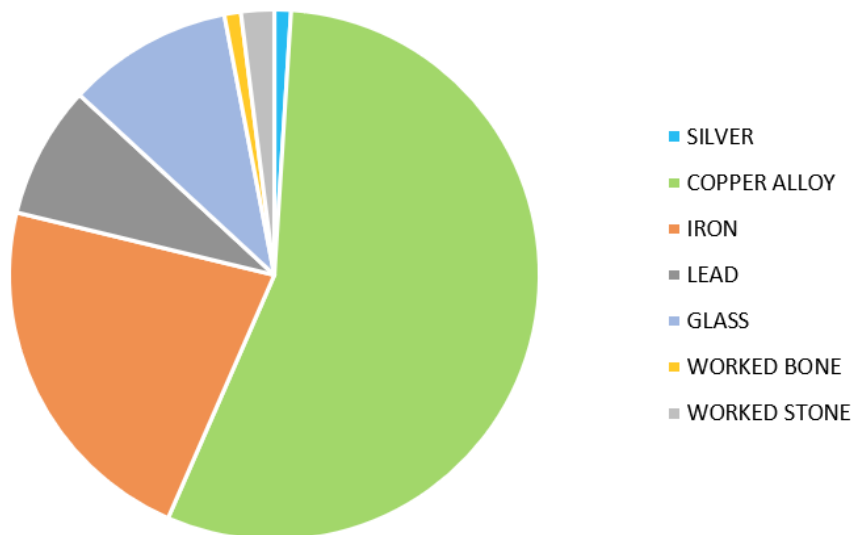


Figure 4.2. The Priory Field Registered Artefacts by materials

Table 4.2 Distribution of Registered Artefacts from the Priory Field, by excavation Phase

PHASE	ROOMS / AREAS												Total	Total %	
	1	2	3	4	5	6	7	8	Yard	A	B	?			
Oi	2			5	4									11	1%
Oii					8	21			1					30	2%
1i												12		12	1%
1ii	37	4	4	56	1	54	3		5					164	9%
2	85	216	53	45					14	2		1		416	22%
3	25	108		17	5	18	170	2						345	19%
4		15								43	4			62	3%
5										103	194	1		298	16%
6 & 7										327	62			389	21%
u/s										4		127		131	7%
<b>Total</b>	<b>149</b>	<b>343</b>	<b>57</b>	<b>123</b>	<b>18</b>	<b>93</b>	<b>173</b>	<b>2</b>	<b>20</b>	<b>479</b>	<b>260</b>	<b>141</b>		<b>1858</b>	<b>100%</b>
<b>Total %</b>	<b>8%</b>	<b>18%</b>	<b>3%</b>	<b>7%</b>	<b>1%</b>	<b>5%</b>	<b>9%</b>	<b>0%</b>	<b>1%</b>	<b>26%</b>	<b>14%</b>	<b>8%</b>		<b>100%</b>	



Unexcavated

almost half of the assemblage was derived from post-Roman (Phases 5-7) and unstratified contexts. Of the finds from secure Roman deposits, nearly 75% came from Phases 2 and 3 deposits associated with the use, collapse and demolition of the store, while Registered Artefacts are significantly less common from deposits dating to the building's construction (Phases 0 and 1), or the late Roman / early post-Roman occupation (Phase 4).

Registered Artefacts are manufactured objects that fulfilled a wide range of functions in people's lives and each Registered Artefact from Priory Field has been assigned to a functional category in the standard classification system devised for Roman artefacts (Crummy 1983, 4-7; Cool 2002; Allason-Jones 2011). This allows the finds assemblage from an excavation, or a site, to be characterised according to its functional profile, which then can be compared to other assemblages from other excavations or settlements (an important, if sometimes overlooked, aspect of archaeological finds analysis). The functional classification system has been adapted slightly to fit the Priory Field assemblage (coins have been added and the three categories for objects associated with metalworking, the working of animal bone and the manufacture of pottery vessels have been merged into a single Manufacture category). Details of the functional classification system used for the Priory Field Registered Artefacts and its eighteen constituent categories are set out in Table 4.3.

It is important to bear in mind that these categorisations describe an object's or artefact's single original intended function or purpose. The concept of Object or

Artefact Biography is a useful approach to take to the study of archaeological artefacts, reminding us that objects can perform different functions depending on the circumstances of when they are used and by whom. This idea distinguishes between connected stages of an object's life-history, which can be summarised in the following way:

PRODUCTION → SUPPLY →  
 USE / REUSE / CONSUMPTION →  
 DEPOSITION (LOSS / DISPOSAL) →  
 DISCOVERY → ARCHAEOLOGICAL ARTEFACT

During the Use/Reuse/Consumption stage, how an object is perceived and used can change, become adapted, or be entirely transformed in new or altered contexts (Appadurai 1986; Gilchrist 2000; Hurcombe 2007; Allason-Jones 2011). A demonetised coin, for instance, no longer fulfilled a monetary function after it had ceased to be legal tender and, therefore, its deposition as an archaeological artefact was not the act of burying currency, but rather an object with a different function and value. Another example of the dynamic nature of object biographies and uses might be an item that was broken and which, therefore, could no longer perform its original function and was intended to be repaired, recycled, or simply thrown away.

Understanding the subtleties of objects' biographies can be achieved if material culture is seen as socially determined rather than physically set in perpetuity at the moment of production or manufacture. As has already been stated, this is not always easy, particularly

FINDS CATALOGUES AND SPECIALIST REPORTS

Table 4.3 Functional categories used to classify the Priory Field Registered Artefacts

FUNCTIONAL CATEGORY	Description
CURRENCY	Coinage
PERSON	Objects of personal adornment or dress
TOILET	Toilet, surgical or pharmaceutical instruments
TEXTILES	Objects used in the manufacture or working of textiles
HOUSEHOLD	Household utensils and furniture, locks and keys, box hinges & inlay
LEISURE	Objects made for recreational purposes
METROLOGICAL	Objects employed in weighing and measuring
SCRIPT	Objects for, or associated with, written communications (including seal boxes)
TRANSPORT	Objects associated with transport
BUILDINGS	Building fabric and services
TOOLS	Tools that cannot be assigned to one of the more specific categories, such as Agriculture or Manufacture
FASTEN	Fasteners and fittings of indeterminate original function (not including objects such as keys, locks or box hinges that appear under Household)
AGRICULTURE	Objects associated with agriculture, horticulture and animal husbandry
MILITARY	Military equipment and weapons
VOTIVE	Objects associated with religious beliefs and practices
MANUFACTURE	Objects used in, or which are created as part of, a manufacturing or production process, including the by-products of such processes.
POST-ROMAN	Post-Roman finds
UNKNOWN	Objects the function or identification of which is unknown or uncertain

Table 4.4 Distribution of Registered Artefacts from the Priory Field excavation (by functional categories)

FUNCTION	ROOMS / AREAS												Total	Total %
	1	2	3	4	5	6	7	8*	Yard	A	B	?		
Currency	6	11		3		1	20			52	28	13	134	7%
Military	9	164	7	4	1	7	18		2	29	15	11	267	14%
Household	29	17	9	18	2	17	20		1	63	33	17	225	12%
Fasten	38	38	8	15	1	15	25		1	52	35	17	245	13%
Buildings	3	5	1	3	1	3	7	1	3	28	13	7	75	4%
Manufacture	5	1	1	9	1	5	4		1	11	6	2	46	3%
Textiles				1									1	0%
Tools	1		1				1			8	1		12	1%
Person	4	3	2	2	2	1	4		1	16	7	1	43	2%
Toilet		1					1			1			3	0%
Script	2	1	1	4		1	1			7	4	1	22	1%
Metrological										2		8	10	1%
Leisure			1				1			4		1	7	0%
Transport				1						1			2	0%
Agriculture													0	0%
Votive													0	0%
Post-Roman				1			2			32	8	5	48	3%
Unknown	52	97	26	61	10	43	69	1	11	174	110	58	718	39%
<b>Total</b>	<b>149</b>	<b>344</b>	<b>57</b>	<b>122</b>	<b>18</b>	<b>93</b>	<b>173</b>	<b>2</b>	<b>20</b>	<b>479</b>	<b>260</b>	<b>141</b>	<b>1858</b>	<b>100%</b>
<b>Total %</b>	<b>8%</b>	<b>19%</b>	<b>3%</b>	<b>7%</b>	<b>1%</b>	<b>5%</b>	<b>9%</b>	<b>0%</b>	<b>1%</b>	<b>26%</b>	<b>14%</b>	<b>8%</b>	<b>100%</b>	

\* Room 8 was unexcavated

for artefacts whose original or intended uses are either unknown or difficult to pin down precisely. For example, of the 1,858 designated Registered Artefacts from Priory Field, the functions of 718 (39%) cannot be ascertained with the necessary degree of certainty and have been allocated to the Unknown category. These include numerous fragments of iron, copper alloy and, to a lesser extent lead, sheet, bars, rods, strips, wire and chains that could have had a wide range of possible uses. Nevertheless, and despite these and other methodological and interpretative challenges, the artefact classification system allows the grouping together of Priory Field's Registered Artefacts into relatively broad functional categories, with which we might begin to characterise the assemblage and compare it to others excavated from Roman Caerleon and elsewhere.

Table 4.4 presents the Priory Field assemblage broken down into the eighteen categories, which shows that artefacts with a Military function (equipment and weaponry) are the largest group of identifiable artefacts, particularly from Room 2, while objects associated with Household (furniture and utensils) are almost nearly as numerous (notably from Room 1, Room 6 and Room 4 / entranceway). The Fasten category includes fasteners and fittings, mainly copper-alloy studs, that originally might have come either from items of military equipment, or household items such as pieces of furniture (the similarity of the distribution of these finds and those of the Household category suggests they

are most likely to have come from furniture, perhaps couches and chairs). Registered Artefacts with Military, Household and Fasten functions together account for 40% of the total Priory Field assemblage (65% if the 718 objects in the Unknown category are excluded), while the 134 coins from Priory Field represent another 7% of all Registered Artefacts. The assemblage also includes a limited but interesting collection of objects associated with writing (Script) and a group of weights (Metrological). Artefacts with other functions are notable for their under-representation at Priory Field, including objects associated with industrial production (the Manufacture, Textiles and Tools categories), personal appearance (Person and Toilet categories), and recreational activities (Leisure), while farming implements and objects directly associated with religious beliefs and practices are entirely absent. Only 48 Registered Artefacts can be definitely identified as post-Roman (3% of the assemblage), mainly fragments of modern glass bottles, window glass, and an assortment of iron objects. The breakdown of Priory Field Registered Artefacts according to their functional categories (excluding Unknown) is shown in Figure 4.3.

**Bulk Finds Overview**

The excavations in Priory Field produced large quantities of artefacts classified as Bulk Finds, including over 5,000 sherds of pottery (Roman and post-Roman), more than 110 kg of animal bone (undatable without scientific analysis but likely to include post-Roman as

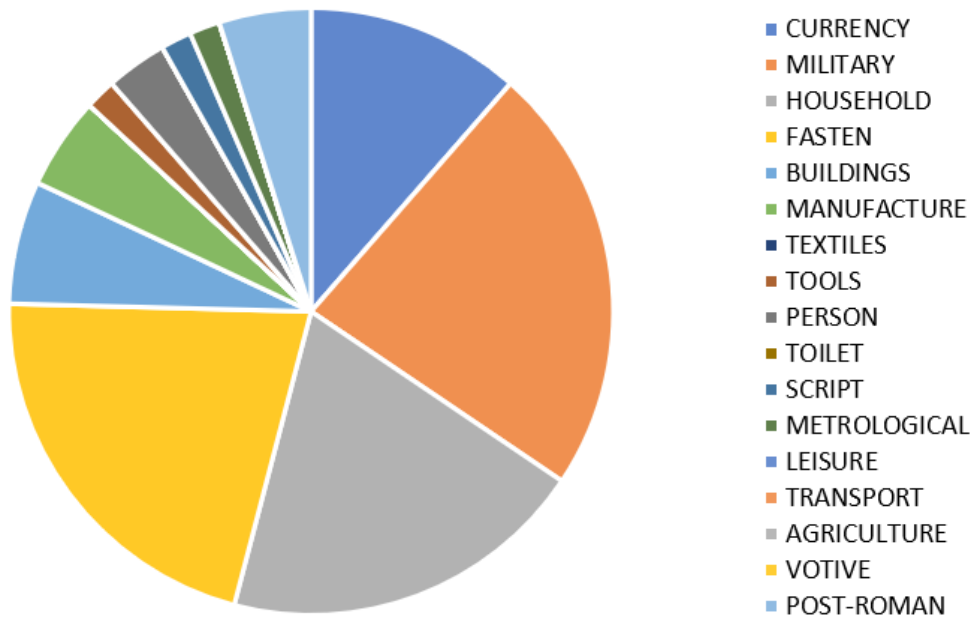


Figure 4.3. The functions of Priory Field Registered Artefacts

well as Roman material), almost 6 tonnes of Ceramic Building Materials (CBM, almost all Roman roof tiles and bricks), 2,800 nails (not easily dated if corroded, but likely to be mostly Roman with some post-Roman examples), *opus signinum* and 230 tesserae (Roman concrete flooring and pieces of tessellated floors), 4 kg of internal wall plaster and 0.75 kg of Roman window glass, over 3.5 kg of oyster shell, as well as a small collection of modern material (mainly bottle glass, window glass and fragments of clay pipes).

Like Registered Artefacts, material described as Bulk Finds also served specific purposes, largely either to do with the building itself (for example, roof tiles, flooring, window glass, nails and internal wall plaster), or the storage, preparation and consumption of food and drink (animal bone, oyster shell and pottery). Ceramic vessels fulfilled many functions in daily life, but the Priory Field assemblage is overwhelmingly domestic with a focus on activities associated with eating and drinking. It is very

likely, however, that the excavated Bulk Finds had lost their primary functions either as parts of a building's superstructure, or objects concerned with the kitchen and dining room by the time they were deposited in Priory Field, where they were probably deliberately thrown away or simply not cleaned up (i.e., they had passed the 'useful' stage in their biographies and had lost their value to their owners or consumers). This is a very different depositional process to that envisaged for Registered Artefacts, most of which are understood to have been accidentally lost while being used, and it suggests that we should expect more Bulk Finds where rubbish was discarded rather than in places that were kept clean.

The general distribution of Bulk Finds from the various parts of the excavated store in Priory Field is shown in Table 4.5, from which it is apparent that finds of different types are found in different rooms and spaces of the building. For example, pottery and animal bone

Table 4.5 Distribution of Bulk Finds from the Priory Field excavation

MATERIAL	COUNT	ROOMS / AREAS											Total
		1	2	3	4	5	6	7	Yard	A	B	?	
Pottery	Sherds	378	85	41	579	54	225	247	92	2471	943	0	5115
	%	7%	2%	1%	11%	1%	4%	5%	2%	48%	18%	0%	100%
Animal bone	Weight (g)	7114	2629	2328	16443	1218	4021	6903	1720	39490	28002	453	110321
	%	6%	2%	2%	15%	1%	4%	6%	2%	36%	25%	0%	100%
Ceramic Building Materials	Weight (kg)	25	418	3	514	18	10	286	101	3850	593	47	5863
	%	0%	7%	0%	9%	0%	0%	5%	2%	66%	10%	1%	100%
Nails	Quantity	95	103	44	155	10	71	87	23	1705	479	29	2801
	%	3%	4%	2%	6%	0%	3%	3%	1%	61%	17%	1%	100%
Opus signinum	Weight (g)	0	353	0	0	0	0	0	0	575	2821	0	3749
	%	0%	9%	0%	0%	0%	0%	0%	0%	15%	75%	0%	100%
Tesserae	Quantity	0	0	0	217	0	0	0	5	7	1	0	230
	%	0%	0%	0%	94%	0%	0%	0%	2%	3%	0%	0%	100%
Wall plaster	Weight (g)	0	51	805	10	26	93	23	0	2505	525	5	4043
	%	0%	1%	20%	0%	1%	2%	1%	0%	62%	13%	0%	100%
Window glass (Roman)	Weight (g)	25	21	0	52	16	15	19	0	526	107	3	783
	%	3%	3%	0%	7%	2%	2%	2%	0%	67%	14%	0%	100%
Shell	Weight (g)	1431	37	86	390	203	504	98	51	358	432	71	3661
	%	39%	1%	2%	11%	6%	14%	3%	1%	10%	12%	2%	100%
Glass - vessel (post-Roman)	Weight (g)	0	0	0	1	0	0	0	0	662	105	0	767
	%	0%	0%	0%	0%	0%	0%	0%	0%	86%	14%	0%	100%
Window glass (post-Roman)	Weight (g)	0	0	0	0	0	0	0	0	77	4	3	84
	%	0%	0%	0%	0%	0%	0%	0%	0%	92%	5%	4%	100%
Clay pipe	Weight (g)	0	0	0	0	0	0	0	0	374	18	0	392
	%	0%	0%	0%	0%	0%	0%	0%	0%	95%	5%	0%	100%
Stone - worked	Quantity	0	0	0	0	0	0	0	0	2	0	2	4
	%	0%	0%	0%	0%	0%	0%	0%	0%	50%	0%	50%	100%

share very similar distributions, with the largest stratified groups coming from Room 4 / entranceway, followed by Rooms 1 and 7 (both of which include post-Roman as well as Roman material). By and large, finds associated with the fabric of the store building and its internal fixtures and fittings (i.e., CBM, nails, floorings, wall plaster and Roman window glass), are more likely to derive from post-Roman layers (Areas A and B), while securely stratified material associated with the building's superstructure (CBM and nails) tends to derive from Room 4 / entranceway, as well as Rooms 2 and 7. Room 3 produces the largest quantities of wall plaster, while tesserae are overwhelmingly from Room 4 / entranceway. Almost 40% of all oyster shell from the excavation came from Room 1 (representing over 50% of shell from Roman occupation Phases), while modern material (bottle glass, window glass and clay-pipes), is limited exclusively to Areas A and B where the uppermost post-Roman layers were excavated (corresponding closely with the distribution of post-Roman Registered Artefacts).

#### *Deposition and post-deposition processes at Priory Field*

The systematic excavation of the archaeological remains at Priory Field means we can be confident that the vast majority of recovered finds are reliably allocated to those contexts where they were finally deposited. For example, it has already been noted that the post-Roman material (Registered Artefacts and Bulk Finds), is consistently derived from the layers and deposits overlying and, to some extent, sealing the store building, which indicates only limited contamination of Roman-period contexts (see Tables

4.4 and 4.5). We can explore the deposition of these post-Roman finds more closely by looking at the phases from which they were recovered, as is shown in Tables 4.6 (Registered Artefacts) and 4.7 (Bulk Finds). From these it is clear that the vast majority of this material was recovered from post-Roman Phases 5-7, while the post-Roman finds from earlier phases are very few in number and come from the uppermost Roman-period layers related to Phases 3 and 4 (which were more likely to be disturbed by later activity, such as the robbing of walls and pit digging). This demonstrates that the excavated archaeological deposits associated with the construction, use and abandonment of the Roman store building (i.e., Phase 0-3) are almost entirely free of intrusive later finds, including even the layers derived from the building's eventual collapse and demolition.

While most of the post-Roman finds appear to have been recovered from those deposits where they were originally lost or discarded, a significant number of Roman-period artefacts had moved since their deposition and were excavated from post-Roman contexts. This is apparent when the distribution of the 133 Roman coins from the excavation is examined (Table 4.8), showing that two out of three of these artefacts were recovered from post-Roman or uncertain contexts (Phases 5-7 and unstratified). Only 34% of all Roman coins were found in deposits that were laid down in the Roman period, including a significant proportion from the store building's abandonment and demolition (Phase 3). The conclusions from this are that the majority of Roman coins from Priory Field were recovered from different deposits in different locations to where they had been originally lost or

Table 4.6 Distribution of post-Roman Registered Artefacts from the Priory Field excavation

PHASE	ROOMS / AREAS											Total	Total%	
	1	2	3	4	5	6	7	Yard	A	B	?			
0i													0	0%
0ii													0	0%
1i													0	0%
1ii													0	0%
2													0	0%
3				1			2						3	6%
4													0	0%
5									2	1			3	6%
6 & 7									30	7			37	77%
u/s											5		5	10%
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>2</b>	<b>0</b>	<b>32</b>	<b>8</b>	<b>5</b>		<b>48</b>	<b>100%</b>
<b>Total %</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>2%</b>	<b>0%</b>	<b>0%</b>	<b>4%</b>	<b>0%</b>	<b>67%</b>	<b>17%</b>	<b>10%</b>		<b>100%</b>	

Table 4.7 Distribution of post-Roman Bulk Finds (vessel glass, window glass and clay pipe) from the Priory Field excavation (by weight in grammes)

PHASE	ROOMS / AREAS										Total	Total%	
	1	2	3	4	5	6	7	Yard	A	B			
0i												0	0%
0ii												0	0%
1i												0	0%
1ii												0	0%
2												0	0%
3				0.5					0.4			0.9	0%
4									19.4			19.4	1%
5									50.0	7.8		57.8	4%
6 & 7									1042.6	19.3		1062	65%
u/s									272.7	118.7		492.4	30%
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0.5</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1486.0</b>	<b>145.8</b>		<b>1632.3</b>	<b>100%</b>
<b>Total %</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>91%</b>	<b>9%</b>		<b>100%</b>	

Table 4.8 Distribution of Roman coins from the Priory Field excavation

PHASE	ROOMS / AREAS											Total	Total %	
	1	2	3	4	5	6	7	Yard	A	B	?			
0i													0	0%
0ii													0	0%
1i													0	0%
1ii	1			2			1						4	3%
2	3	7											10	7%
3	2	2		1		1	19						25	19%
4		2							2	1			5	4%
5									2	17			19	14%
6 & 7									47	10			57	43%
u/s									1		13		14	10%
<b>Total</b>	<b>6</b>	<b>11</b>	<b>0</b>	<b>3</b>	<b>0</b>	<b>1</b>	<b>20</b>	<b>0</b>	<b>52</b>	<b>28</b>	<b>13</b>		<b>134</b>	<b>100%</b>
<b>Total %</b>	<b>5%</b>	<b>8%</b>	<b>0%</b>	<b>2%</b>	<b>0%</b>	<b>1%</b>	<b>15%</b>	<b>0%</b>	<b>39%</b>	<b>21%</b>	<b>10%</b>		<b>100%</b>	

discarded; that most of the activity that caused the coins' redeposition has occurred in the last 1,000 years or so; and also that many may well have been moved on more than one occasion. The robbing of the store building's walls, particularly their foundations, must have led to much of this redeposition activity, while the digging of numerous pits and post-holes in the area of the store building would have similarly affected the locations of many Roman artefacts in the ground.

All categories of Roman finds from Priory Field show relatively similar levels of redeposition during the post-Roman period, although there are some variations between their distributions that suggest either different processes at work, or different treatment by the people

responsible for the redeposition activities. For example, Ceramic Building Material (Table 4.9), which consists mainly of terracotta roof tiles, is found predominantly in the post-Roman Phases 5-7 (to a greater extent than other types of finds, whether Bulk or Registered Artefacts). Unsurprisingly, CBM from the Roman-period occupation is concentrated in the layers associated with the store building's dereliction and destruction (Phase 3), but only in significant quantities from Rooms 2, 4 and 7. The presence of so much Roman CBM in post-medieval and modern phases demonstrates that some of the roof of the legionary store was recycled on later structures, although the robbing of masonry walls and foundations would also have brought much CBM to the surface.

EXCAVATION OF THE PRIORY FIELD STORE BUILDING IN CAERLEON

Table 4.9 Distribution of Ceramic Building Materials from the Priory Field excavation (by weight in kilogrammes)

ROOMS / AREAS													Total	Total %
PHASE	1	2	3	4	5	6	7	Yard	A	B	?			
0i													0.0	0%
0ii													0.0	0%
1i												19.0	19.0	0%
1ii	1.0							87.0					88.0	2%
2		5.0	2.5	93.0				13.5					114.0	2%
3	24.0	305.5		420.5	18.0	9.5	285.5					24.5	1087.5	19%
4		107.5							86.0	27.5			221.0	4%
5									773.3	482.0			1255.3	21%
6 & 7									2990.9	83.5			3074.4	52%
u/s												3.5	3.5	0%
<b>Total</b>	<b>25.0</b>	<b>418.0</b>	<b>2.5</b>	<b>513.5</b>	<b>18.0</b>	<b>9.5</b>	<b>285.5</b>	<b>100.5</b>	<b>3850.1</b>	<b>593.0</b>	<b>47.0</b>		<b>5862.6</b>	<b>100%</b>
<b>Total %</b>	<b>0%</b>	<b>7%</b>	<b>0%</b>	<b>9%</b>	<b>0%</b>	<b>0%</b>	<b>5%</b>	<b>2%</b>	<b>66%</b>	<b>10%</b>	<b>1%</b>		<b>100%</b>	

Table 4.10 Distribution of Pottery from the Priory Field excavation (by sherd)

ROOMS / AREAS													Total	Total %
PHASE	1	2	3	4	5	6	7	Yard	A	B				
0i					3								3	0%
0ii					11	108		12					131	3%
1i													0	0%
1ii	251			488	5	108		11					863	17%
2	121	17	41	26				69	2				276	5%
3	6	27		65	35	9	247						389	8%
4		41							176	105			322	6%
5									282	734			1016	20%
6 & 7									2011	104			2115	41%
<b>Total</b>	<b>378</b>	<b>85</b>	<b>41</b>	<b>579</b>	<b>54</b>	<b>225</b>	<b>247</b>	<b>92</b>	<b>2471</b>	<b>943</b>			<b>5115</b>	<b>100%</b>
<b>Total %</b>	<b>7%</b>	<b>2%</b>	<b>1%</b>	<b>11%</b>	<b>1%</b>	<b>4%</b>	<b>5%</b>	<b>2%</b>	<b>48%</b>	<b>18%</b>			<b>100%</b>	

Table 4.11 Distribution of Animal Bone from the Priory Field excavation (by weight in grammes)

ROOMS / AREAS													Total	Total %
PHASE	1	2	3	4	5	6	7	Yard	A	B	?			
0i				326	100	25							451	0%
0ii				80	158	1285		575					2098	2%
1i												453	453	0%
1ii	5153	9	620	11120	140	1945		471					19458	18%
2	1389	425	1708	1586				674	77				5859	5%
3	392	622		3331	820	766	6903						12834	12%
4		1573							2047	1590			5210	5%
5									10897	23723			34620	31%
6 & 7									26469	2689			29158	26%
u/s	180												180	0%
<b>Total</b>	<b>7114</b>	<b>2629</b>	<b>2328</b>	<b>16443</b>	<b>1218</b>	<b>4021</b>	<b>6903</b>	<b>1720</b>	<b>39490</b>	<b>28002</b>	<b>453</b>		<b>110321</b>	<b>100%</b>
<b>Total %</b>	<b>6%</b>	<b>2%</b>	<b>2%</b>	<b>15%</b>	<b>1%</b>	<b>4%</b>	<b>6%</b>	<b>2%</b>	<b>36%</b>	<b>25%</b>	<b>0%</b>		<b>100%</b>	

It has already been noted that pottery and animal bone share similar general spatial distributions that are different to other Priory Field finds. Tables 4.10 and 4.11 show that pottery and animal bone are the only find types that were recovered in relatively large quantities from deposits associated with the store building's construction. Phase 1ii produced 17% of the pottery and 18% of the animal bone (representing 43% and 42% respectively of these assemblages from sealed Roman Phases), compared to only 3% of Roman coins (and all other Registered Artefacts) and 2% of CBM. The pottery and animal bone assemblages are different to other finds in that they are the intrinsically worthless remains of the storage and preparation of foodstuffs that were most likely to have been thrown away after they had been broken or consumed. Their presence in the construction phases suggests that these artefacts were deposited either during the work to erect the building, or more likely that they came from other parts of the fortress together with dumps of rubble and other mixed refuse brought to the site specifically to raise up and level the interior of the store. Both explanations indicate that the pottery and animal bone from Phase 1ii must have been deposited almost contemporaneously with the construction work on the store. Naturally, if these significant assemblages were brought to the building site from elsewhere in *Isca* they will be less relevant to the story of the Priory Field building, but will have a great deal to tell us about the storage, preparation and consumption of food and drink in other parts of the fortress at the end of the first century.

**Functions of the Priory Field Finds**

This section explores the range of functions performed by the finds recovered during the Priory Field

excavations, combining Registered Artefacts and Bulk Finds together in order to achieve a comprehensive understanding of the history and use of the legionary store. The starting point for the following discussion is the standard scheme of functional categories as set out in the previous sections and shown in Table 4.3. The goals are to produce an integrated explanation of the large and diverse finds' assemblages, and to extract as much information as possible about them and the building where they were used and deposited.

*Military Equipment*

As has already been noted, artefacts with a primary military function are the largest group of identifiable Registered Artefacts from Priory Field, representing 14% of the total assemblage. The 38 soil blocks lifted from the interior of Room 2 (found lying on top of the latest floor within mixed deposits containing quantities of decayed mortar and plaster, G2098), also contained large numbers of artefacts with military functions and these represent a critical source of information about the kinds of objects stored in this room. The contents of the soil blocks are described in detail later in this chapter, but it is necessary that they are discussed together with the Registered Artefacts assemblages to produce a reliable account of the excavations.

Several of the soil blocks contained fragmentary and disarticulated material that had clearly come from several pieces of armour and ceremonial equipment, notably an elaborately decorated chamfron to cover a horse's face and head, perhaps multiple sets of *lorica segmentata* iron body armour, as well as a possible *lorica squamata* scale cuirass (see Chapter 2.5.3). The surviving pieces of the chamfron and *loricae* were found lying towards the back walls of Room 2, often directly above

Table 4.12 Distribution of Registered Artefacts in the Military functional category

PHASE	ROOMS / AREAS											Total	Total %
	1	2	3	4	5	6	7	Yard	A	B	?		
0i												0	0%
0ii												0	0%
1i											2	2	1%
1ii				1		3						4	2%
2	8	152	7	1				2	1			171	64%
3	1	11		1	1	4	18					36	14%
4		1							4			5	2%
5									10	10		20	8%
6 & 7									15	5		20	8%
u/s											9	9	3%
<b>Total</b>	<b>9</b>	<b>164</b>	<b>7</b>	<b>3</b>	<b>1</b>	<b>7</b>	<b>18</b>	<b>2</b>	<b>30</b>	<b>15</b>	<b>11</b>	<b>267</b>	<b>100%</b>
<b>Total %</b>	<b>3%</b>	<b>62%</b>	<b>3%</b>	<b>1%</b>	<b>0%</b>	<b>3%</b>	<b>7%</b>	<b>1%</b>	<b>11%</b>	<b>6%</b>	<b>4%</b>	<b>100%</b>	

Table 4.13 Military Registered Artefacts arranged by Object Type

<b>LORICA SEGMENTATA</b>	<b>Copper alloy</b>	<b>Iron</b>	<b>Lead</b>	<b>Silver</b>
Iron plates / sheets		16		
Tie-rings	23			
Hook fasteners	10			
Tie-loops	3			
Hinges	2			
Strap fittings	1			
<b>OTHER ARMOUR</b>	<b>Copper alloy</b>	<b>Iron</b>	<b>Lead</b>	<b>Silver</b>
Helmet carrying handles	2			
Shield handgrip?		1		
<b>CHAMFRON</b>	<b>Copper alloy</b>	<b>Iron</b>	<b>Lead</b>	<b>Silver</b>
Studs	120	1		
Scale armour	20			
Sheet (ear-piece)	1			
<b>HORSE HARNESS</b>	<b>Copper alloy</b>	<b>Iron</b>	<b>Lead</b>	<b>Silver</b>
Harness mounts	2			
Junction loops	2			
Button and loop fasteners	1			
<b>OTHER EQUIPMENT</b>	<b>Copper alloy</b>	<b>Iron</b>	<b>Lead</b>	<b>Silver</b>
Pendants (possibly harness)	13			3
Mounts	7			
Belt-plates	5			1
Buckles	4			
Strap ends (possibly from lorica)	3			
<b>WEAPONS</b>	<b>Copper alloy</b>	<b>Iron</b>	<b>Lead</b>	<b>Silver</b>
Caltrops		6		
Sling shot			6	
Spearheads		3		
Projectile heads		2		
Arrowhead		1		
Scabbard chape	1			
Ferrule		1		

the floor surface but also on top of rubbish deposits in the north-western corner. Many additional artefacts that also had once been part of military equipment, including the chamfron and *loricae*, were recovered from deposits overlying the floor, as well as from among the remains of the building's roof and superstructure sealing the room. These are included in the excavation's Registered Artefacts assemblage and the distribution of objects with Military functions is shown in Table 4.12, where the concentration of military equipment in Room 2 is very apparent (contrast this with the general pattern for all Registered Artefacts in Table 4.2). Almost two-thirds (62%) of all military artefacts from Priory

Field came from Room 2, while a similar proportion of this category were recovered from deposits associated with the building's use prior to its dereliction (64% came from Phase 2 contexts, increasing to 78% if finds from Phase 3 are included).

Military Registered Artefacts performed a range of primary functions and they are shown in Table 4.13 according to their object types and the materials from which they were made. This shows that many are likely to have derived from the *lorica segmentata* or the chamfron, both of which had been disturbed and lay scattered across the floor of Room 2 (Figure 4.4). Not all

of the military artefacts came from Room 2, however, and other rooms also produced items of military equipment either stored there or lost accidentally. Of the 23 tie-rings registered as Registered Artefacts, for instance, just six were recovered from Room 2 (four from Phase 2 and two from Phase 3), to which we can add an additional four that were found among the soil blocks (Room 7 also produced five tie-rings from Phase 3 collapse / demolition deposits).

Overall, it is apparent that military artefacts from Priory Field are predominantly derived from body armour and the chamfron. Only two helmet handles are associated with other items of protective equipment (one of which was found in Room 2), and finds associated with horse harness, or soldiers' belts and straps, are also surprisingly few in number. The evidence for weaponry is similarly uncommon, consisting of small collections of lead sling shots, iron caltrops, spearheads and other

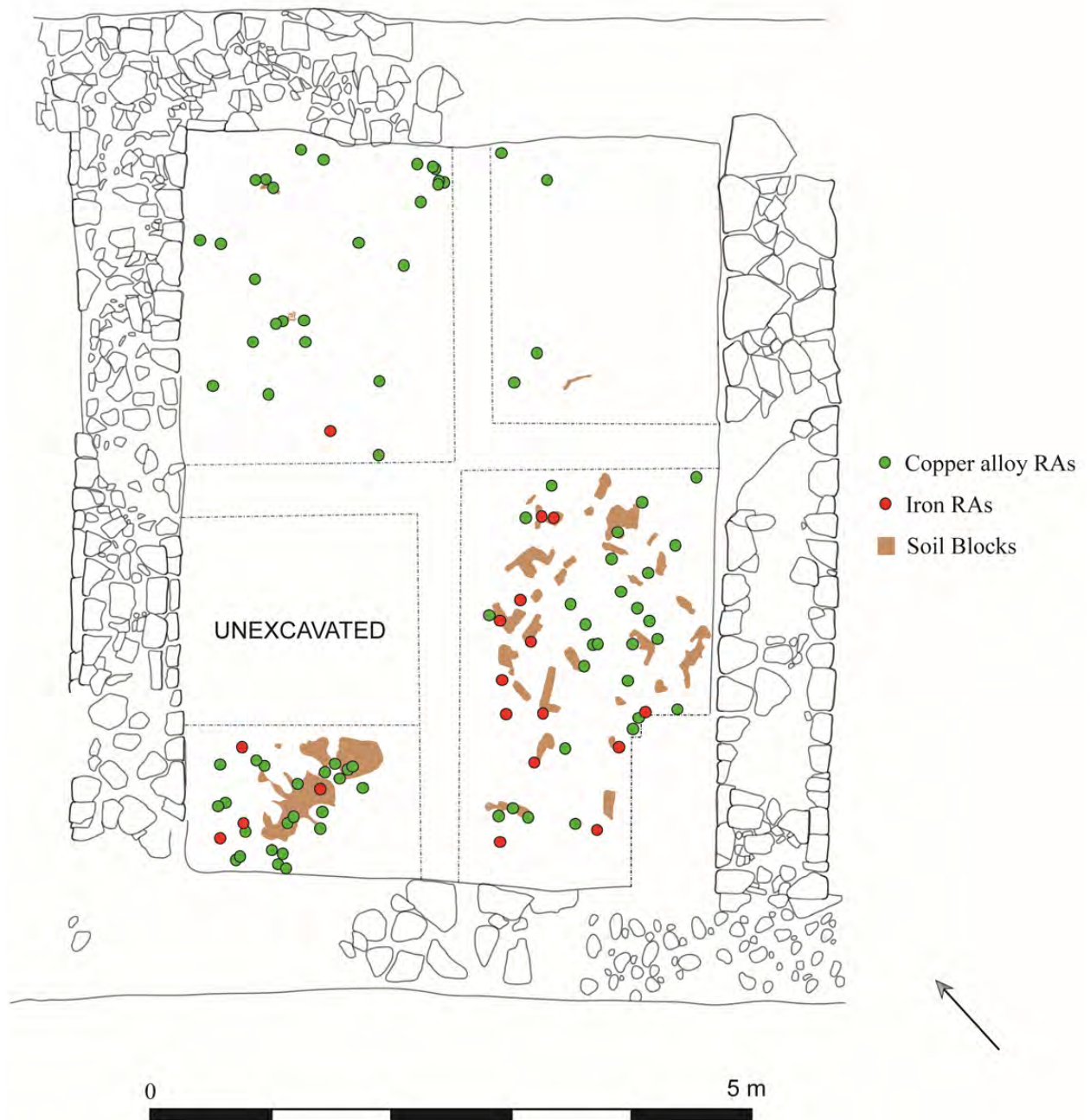


Figure 4.4. Distribution of Soil Blocks and Registered Artefacts in the Military and Fasten categories in Room 2, from Phases 2 and 3 (by material)

projectiles, as well as a single scabbard chape and an iron ferrule (the latter could have come from a variety of shafted objects). With the exception of Room 2, the assemblage of finds with a Military function suggests that the store (or its front range at least) was not generally a place where soldiers' equipment and weaponry were kept. Some of the material from this room, however, probably would not have been used by ordinary legionaries and was not working military equipment when the building collapsed on top of it. The evidence for the *lorica* and chamfron having been already partially dismantled suggests that this room could have been used to keep items that were no longer useful while their more intrinsically valuable elements were being recycled.

#### *Household Items*

Artefacts that fall into the Household functional category are almost as numerous from Priory Field as military equipment (225 finds representing 12% of all Registered Artefacts). Their distribution between the various rooms and spaces of the store building is more evenly spread than military equipment (Table 4.14), with the largest group recovered from Room 1 (13%), while Rooms 7, 2, 4 and 6 all produce slightly smaller collections (8%-9%). The finds from sealed Roman contexts are concentrated in Phase 1ii (Construction), or Phases 2 and 3 (Use and Collapse/Demolition). Room 1 produces an unusually large assemblage of Household finds from Phase 1ii deposits, almost all of which is vessel glass from working surfaces and debris associated with the final construction of the building (G2115). Most of these fragments are from larger bottles, but also include two beakers or cups and an unguent bottle. Other groups of vessel glass from the early construction deposits came from Room 4 / entranceway (Phase 1ii) and Room 6 (Phases 0ii and 1ii), all of which included bottles too, but unlike Room 1 these areas produced more sherds of cups, jugs and, in the case of Room 6, wide-rimmed glass plates. If the glass vessels from these phases were broken while being used on the building site is not known, but it is more likely that they were broken elsewhere before being thrown away with other refuse among the layers to raise the level of the building's interior (see the earlier discussion of the pottery and animal bone from these phases).

Another large group of artefacts with Household functions was recovered from Room 7, this time from Phase 3 deposits including mixed silty layers overlying the latest floor and more CBM-rich layers above these (G3084). These deposits were almost certainly associated with the final occupation of the room as well as its subsequent destruction, which produced an interesting assemblage of glass vessels, including bottles but also a bowl fragment as well as pieces of

jugs and flasks. These items were for serving drink and perhaps food, and some could have been at least a century old by the time this part of the store building had been abandoned and collapsed.

The range of artefact types and materials included in the Household category is shown in Table 4.15. The prevalence of glass vessel sherds is apparent, but the excavations also produced an interesting collection of finds that were likely to have been derived from pieces of furniture, including the ornate decorative mount in the form of a lion's head and another depicting a bust of a figure in a crested helmet, possibly Mars. Other Household artefacts are rare from Priory Field and the excavation recovered only a handful of keys and locks (surprising given the building's storage function), and, more predictably, just a few utensils that were more likely to have been used in a domestic setting such as a kitchen.

The only evidence for artificial lighting in the store building was a single ceramic lamp and if candles were used they were not held in candelabra. This suggests the building was either not in use outside daylight hours and that the windows let in sufficient sunlight, or other forms of illumination were employed (perhaps torches).

#### *Fasteners and Fittings*

This Registered Artefacts category can include locks, keys and items such as hinges (Crummy 1983, 5), but these artefact types were allocated to Household and Military finds during the post-excavation stage of the Priory Field project because they are a better fit alongside other objects that they are likely to have been used with, or were associated with. Even so, there are 245 Registered Artefacts in this category, including 230 copper-alloy studs and a few copper-alloy hooks and split pins and rings (Table 4.16). The studs are of the domed and flat-headed varieties that might have decorated items of furniture, such as couches and chairs or boxes and caskets, or items such as the decayed chamfron also decorated with hundreds of similar types of studs. Examples with deliberately bent shafts have been allocated to the Military category of Registered Artefacts (this is characteristic of chamfron studs), while others that are more obviously from furniture are in the Household category. The functions of those that remain here cannot be determined and they could have come from any of these larger items. Fasten studs are more likely to have been recovered from Rooms 1 and 2, and also (albeit less commonly) from Rooms 7 and 6 at the other end of the building. While those from the former rooms probably decorated the chamfron or other military equipment, studs from the latter could just have easily been applied to furniture (perhaps

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Table 4.14 Distribution of Registered Artefacts in the Household functional category

PHASE	ROOMS / AREAS											Total	Total %
	1	2	3	4	5	6	7	Yard	A	B	?		
0i				1	1							2	1%
0ii						8						8	4%
1i											3	3	1%
1ii	15			8		7		1				31	14%
2	8	6	9	6								29	13%
3	6	9		3	1	2	20					41	18%
4		2							8			10	4%
5									9	29		38	17%
6 & 7									43	4		47	21%
u/s									2		14	16	7%
<b>Total</b>	<b>29</b>	<b>17</b>	<b>9</b>	<b>18</b>	<b>2</b>	<b>17</b>	<b>20</b>	<b>1</b>	<b>62</b>	<b>33</b>	<b>17</b>	<b>225</b>	<b>100%</b>
<b>Total %</b>	<b>13%</b>	<b>8%</b>	<b>4%</b>	<b>8%</b>	<b>1%</b>	<b>8%</b>	<b>9%</b>	<b>0%</b>	<b>28%</b>	<b>15%</b>	<b>8%</b>	<b>100%</b>	

Table 4.15 Household Registered Artefacts arranged by Object Type

FURNITURE / CONTAINERS	Copper alloy	Glass	Iron	Worked stone	Worked bone	Lead
Studs	10		1			
Tacks	10		1			
Nails	11					
Mounts	11					
Inlay	7					
Knobs	2					
Terminal	1					
Plate / sheet	1					
Binding			1			
VESSELS	Copper alloy	Glass	Iron	Worked stone	Worked bone	Lead
Vessels		131				1
KEYS AND LOCKS	Copper alloy	Glass	Iron	Worked stone	Worked bone	Lead
Keys			5			
Lift key			1			
Lock bolt			1			
UTENSILS	Copper alloy	Glass	Iron	Worked stone	Worked bone	Lead
Knives			3			
Handles			5		1	
Ring-handle	2					
Pan handle?			1			
Pan rim?			1			
Pot lid				1		
OTHER DOMESTIC ITEMS	Copper alloy	Glass	Iron	Worked stone	Worked bone	Lead
Whetstones				9		
Querns				3		

Table 4.16 Distribution of Registered Artefacts in the Fasten functional category

PHASE	ROOMS / AREAS											Total	Total %	
	1	2	3	4	5	6	7	Yard	A	B	?			
0i													0	0%
0ii						4							4	2%
1i												2	2	1%
1ii	4	1	2	5		9							21	9%
2	24	2	6	9				1				1	43	18%
3	10	33		1	1	2	25						72	29%
4		2							6	1			9	4%
5									21	27			48	20%
6 & 7									25	7			32	13%
u/s												14	14	6%
<b>Total</b>	<b>38</b>	<b>38</b>	<b>8</b>	<b>15</b>	<b>1</b>	<b>15</b>	<b>25</b>	<b>1</b>	<b>52</b>	<b>35</b>	<b>17</b>		<b>245</b>	<b>100%</b>
<b>Total %</b>	<b>16%</b>	<b>16%</b>	<b>3%</b>	<b>6%</b>	<b>0%</b>	<b>6%</b>	<b>10%</b>	<b>0%</b>	<b>21%</b>	<b>14%</b>	<b>7%</b>		<b>100%</b>	

Table 4.17 Distribution of Registered Artefacts in the Building functional category

PHASE	ROOMS / AREAS											Total	Total %	
	1	2	3	4	5	6	7	Yard	A	B	?			
0i													0	0%
0ii					1								1	1%
1i												1	1	1%
1ii				1		3							4	5%
2	3	3	1	1				3					11	15%
3		2		1			8						11	15%
4									2	1			3	4%
5									4	9			13	17%
6 & 7									22	3			25	33%
u/s												6	6	8%
<b>Total</b>	<b>3</b>	<b>5</b>	<b>1</b>	<b>3</b>	<b>1</b>	<b>3</b>	<b>7</b>	<b>3</b>	<b>28</b>	<b>13</b>	<b>7</b>		<b>75</b>	<b>100%</b>
<b>Total %</b>	<b>4%</b>	<b>7%</b>	<b>1%</b>	<b>4%</b>	<b>1%</b>	<b>4%</b>	<b>9%</b>	<b>4%</b>	<b>37%</b>	<b>17%</b>	<b>9%</b>		<b>100%</b>	

which people had used when drinking and eating with the ancient glass vessels found in the same layers).

#### *Building fabric and fittings*

The Bulk Finds derived from building fabric, presumably exclusively the store's, have already been discussed (see Table 4.5). Broken Roman roof tiles and iron nails are found most often in post-Roman layers (see Table 4.9), while wall plaster and tesserae are most often found in Rooms 3 and 4 / entranceway respectively. The distribution of Registered Artefacts mainly associated with the building's interior presents a different pattern in which far more are found in sealed Roman Phases (Table 4.17). The number of finds in this category is

very small and includes iron brackets, nails, wall hooks and plugs, as well as items such as two large door hinges (one from Phase 1ii in Room 4 / entranceway). Most of the internal rooms appear to have been provided with beaten earth floors (perhaps planked), and undecorated walls. The excavations produced less than a kilogramme of Roman window glass, much of which came from post-Roman phases, although enough fragments were recovered from most rooms to suggest they were provided with at least one window (most likely high up on the south-facing front wall). The absence of window glass from Room 3 either means the putative guard chamber did not have a glazed window, or, if it did it, it had been removed.

The excavations produced only 26 fragmented pieces of carved architectural limestone and sandstone blocks from the fabric of the building. These were mostly undecorated and are likely to have come from door and window frames, or cornices from the store's external walls. One block of sandstone came from a larger decorated frieze and showed the upper part of triton (see section 4.2.10). This block had been subsequently reused to repair the yard paving, but it is likely to have come from a commemorative panel that originally would have been in a prominent location on the building's external wall, perhaps above the main entranceway. A carved centurial stone, recording the name of the legion's *primus pilus*, Flavius Rufus, may well have adorned the building in the same way (see section 4.2.9).

#### Manufacture and production

Evidence for manufacturing processes was limited and is likely to have been brought to the store building from elsewhere in the fortress. Metallurgical residues were recovered from samples taken from Phases 0 and 1, while only one artefact associated with object production in another material was found (a copper alloy needle that could have been used in textile work). The few tools from the excavation are not all certainly Roman (over half came from modern layers), and included a saw, a hammer, a file, a chisel, a punch and an awl, as well as two tool handles.

The Registered Artefacts included a few lead droplets and smelting fragments, notably from the last construction phase (Table 4.18) and a possible lead pattern for a utensil handle, as well as a ball of Egyptian blue pigment. Deposits associated with the collapse

or demolition of Room 7 produced a handful of lead smelting fragments and a possible lead pattern for a spoon or ladle bowl. Six plano-convex lead ingots were also recovered from the building.

#### Personal Items

The excavations produced very little evidence for a non-military presence in the store: only 43 Registered Artefacts were from the clothing and personal adornment of civilians, including women, children and non-legionaries, while just three items were intended for personal grooming and hygiene. The assemblage included only nine brooches and three finger rings, while objects associated with women and children might include the ten glass beads (mainly melon beads), five bracelet fragments (of which one was of shale and clearly intended for a child), an ear ring, four bone hair pins, six metal pins and two pin-head settings. The items concerned with grooming consist of a copper-alloy mirror fragment and copper-alloy tweezers, as well as a small stone pestle.

Post-Roman contexts produced over 50% of the artefacts with a personal function and only half a dozen or so were recovered from Phases 1ii, 2 and 3 (Table 4.19). The three Registered Artefacts from Phase 2 included two glass melon beads from Room 1, while Room 3 produced an iron finger-ring with an intaglio depicting Bonus Eventus, as well as a six-pointed star shaped brooch (the latter were both found in floor make-up). Three skilfully-made small copper-alloy fish shaped brooches were found together among the remains of the collapsed building in Room 7, although they are most likely to have been used and lost during its last occupation rather than after its destruction.

Table 4.18 Distribution of Registered Artefacts in the Manufacture functional category

PHASE	ROOMS / AREAS											Total	Total %
	1	2	3	4	5	6	7	Yard	A	B	?		
0i	1			1								2	4%
0ii					1	1		1				3	7%
1i												0	0%
1ii	3			7		4						14	30%
2			1									1	2%
3	1	1		1				4				7	15%
4									1			1	2%
5									2	5		7	15%
6 & 7									8	1		9	20%
u/s											2	2	4%
<b>Total</b>	<b>5</b>	<b>1</b>	<b>1</b>	<b>9</b>	<b>1</b>	<b>5</b>	<b>4</b>	<b>1</b>	<b>11</b>	<b>6</b>	<b>2</b>	<b>46</b>	<b>100%</b>
<b>Total %</b>	<b>11%</b>	<b>2%</b>	<b>2%</b>	<b>20%</b>	<b>2%</b>	<b>11%</b>	<b>9%</b>	<b>2%</b>	<b>24%</b>	<b>13%</b>	<b>4%</b>	<b>100%</b>	

Table 4.19 Distribution of Registered Artefacts in the Person functional category

PHASE	ROOMS / AREAS											Total	Total %	
	1	2	3	4	5	6	7	Yard	A	B	?			
0i					1								1	2%
0ii					1								1	2%
1i													0	0%
1ii	1			2		1		1					5	12%
2	3	1	3										6	14%
3		2						4					6	14%
4													0	0%
5									6	6			12	28%
6 & 7									19	1			11	26%
u/s											1		1	2%
<b>Total</b>	<b>4</b>	<b>3</b>	<b>2</b>	<b>2</b>	<b>2</b>	<b>1</b>	<b>4</b>	<b>1</b>	<b>16</b>	<b>7</b>	<b>1</b>		<b>43</b>	<b>100%</b>
<b>Total %</b>	<b>9%</b>	<b>7%</b>	<b>5%</b>	<b>5%</b>	<b>5%</b>	<b>2%</b>	<b>9%</b>	<b>2%</b>	<b>37%</b>	<b>16%</b>	<b>2%</b>		<b>100%</b>	

#### Writing equipment and written communications

The evidence for writing comes from a small but interesting group of artefacts. The excavations produced four styli (three Registered Artefacts and another from Soil Block 3), a copper-alloy inkwell lid and a samian inkwell. Although this limited collection suggests that people do not seem to have spent much time writing in the store, written communications must have been very important in how the building was used and organised. The thirteen lead tags, for instance, of which at least ten were inscribed (see section 4.2.9), were most likely labels that could be attached to sacks or parcels of some kind, recording what they contained and to whom they belonged (RA 470-482). Four of these were recovered from Phase 2 deposits (of which two were found in Room 4 / entranceway), and another three came from Phase 3 contexts (including single examples from Rooms 4, 6 and 7). Similar functions might well have been performed by the two seal boxes and a single seal-box lid (RA 325-327), even though there is some doubt if seal boxes were intended to secure tablets and

scrolls, or if they were meant to seal bags of coins and other valuables (Andrews 2012).

The final inscribed object is the centurial stone recovered from the building debris overlying the store (RA 1141), recording the role of Flavius Rufus, the legion's *primus pilus* in the construction and completion of the store (see section 4.2.9).

#### Other artefact categories

The Registered Artefacts from Priory Field included nine bi-conical lead objects that are most likely to have been weights (seven of which were unstratified), seven gaming counters (three glass and four worked bone), and a hipposandal and a horseshoe (the latter came from a modern context and cannot be identified as certainly Roman). The building produced no agricultural tools or implements, nor any obviously votive objects (although religious imagery is found on jewellery and decorative items from household objects, such as furniture).

## 4.2 Registered Artefacts Reports and Catalogues

### 4.2.1 Roman Coinage (Peter Guest)

The excavations at Priory Field recovered 133 Roman coins as well as a sixpence of William III. The coins are generally in very good condition and after cleaning 122 could be identified to an emperor's reign or fourth-century issue period. The scanning by metal detector of all spoil removed from the trench means that we can be confident it was possible to achieve near total recovery of coins from the excavated part of the store building. Therefore, the assemblage discussed here must be as close to representative of the coins originally deposited in this part of the building as it is possible to expect. Full descriptions of the Priory Field coins are provided in the catalogue following this discussion.

#### *Stratigraphic Distribution of the Coins*

The spatial and chronological distributions of the coins from the excavated stratigraphy are summarised in Table 4.8. This shows that 120 coins (90% of the assemblage), were recovered from sealed contexts allocated to one of the excavation's seven stratigraphic phases, while 44 coins (33% of the assemblage) were found in the various rooms and spaces of the store's excavated front range (a further 80 coins came from deposits overlying the remains of the building in Areas A and B).

#### Phase 1: Construction of the masonry store building

No coins came from the pre-store clearance deposits (Phase 0), but four coins were recovered from the levelling and bedding layers in Rooms 1, the entranceway (Room 4) and 7 below the building's first permanent surfaces (Phase 1ii). These included an *as* of Vespasian (struck 71-2) from levelling layers beneath the cobbled entranceway (Room 4), and an *as* of Domitian (struck 86) from similar deposits below the earliest floor in Room 1. These two Flavian issues indicate the construction of the building must have occurred in 86 or later (see Chapter 2.2 for a full discussion of the dating of the various site's phases).

The two other coins from Phase 1ii deposits are a *radiate* of Victorinus (268-70) from the heavily disturbed beaten-earth floor in Room 7 and a *radiate* copy found between the cobbles in the entranceway (Room 4). These coins date to the later decades of the third century and must have been deposited during the building's occupation rather than its construction (i.e., they are intrusive in Phase 1ii deposits).

#### Phase 2: Occupation and alteration of the store

Evidence for occupation of the store came mainly from the resurfacing of the entranceway (Room 4), the new *opus signinum* floor in Room 3, as well as various patchy deposits overlying floors in Rooms 1 and 2. Other than the intrusive *radiate* mentioned previously, the bedding layers below the new flagstone surface in the entranceway did not produce any coins, nor did the deposits brought in to raise the level of Room 3 prior to its resurfacing (despite the levelling layers in this room containing large quantities of pottery, animal bone and other finds).

The patchy occupation layers in Rooms 1 and 2 produced three and seven coins respectively. Those from Room 1 included a *denarius* of Septimius Severus (struck 197-8), a *radiate* of Tetricus II (273-4) and a *radiate* of Carausius (286-93), suggesting that this room was in use at least until the very end of the third century (c. 290-310). A similar picture emerges from the seven coins recovered from Room 2, all of which were among the mixed silts found directly on top of the Period 1 floor that also contained large quantities of military equipment and other artefacts. These included *denarii* of Titus (struck 80) and Septimius Severus (struck 195), a *sestertius* of Trajan (struck 103-11), a *radiate* of Tetricus I (270-4), a *radiate* copy, and two *radiates* of Carausius (286-93).

#### Phase 3: Dereliction and demolition of the store building

The 25 coins from Phase 3 deposits are associated with the dereliction and destruction of the Priory Field store. Room 7 produced nineteen of these coins with another two each from Rooms 1 and 2, while Rooms 4 and 6 both yielded one coin. The group from Room 7 all came from layers containing various quantities of building debris (G3084), and included three *radiates* of Carausius from the mixed accumulation layers on top of the latest floor. Above these, the substantial deposits containing large quantities of broken roof tile produced another eight coins: a *denarius* of Vespasian (struck 70), two *radiates* of Gallienus (260-68), four *radiates* of Carausius (286-93) and an uncertain late Roman bronze coin. Another eight coins were recovered from the rubble and building debris deposits overlying the roof tile, including a *denarius* of Vespasian (issued 73), three *radiates* of Carausius (286-93), a *radiate* of Allectus and three bronzes of the House of Constantine (an example of the VICTORIAE LAETAE PRINC PERP issue struck in 319, a GLORIA EXERCITVS 2 standards copy dated to 330-48, and a VICTORIAE DD AVGG QNN type struck 347-8). While the coins from Room 7 support the proposition that the building was no longer in use

by the beginning of the fourth century (the coins of Carausius from the previous Phase are the *t.p.q.* for this abandonment), they also suggest this was followed by a long period of dereliction that ultimately ended with the collapse or demolition of the northern part of the building's front range around c. 350.

Elsewhere, Room 1 produced two *radiates* of Carausius from demolition or collapse deposits (G2059), while another *radiate* of Claudius II (268-70) and a *radiate* copy from similar layers in Room 2 (G2022) also suggest a late-third or early-fourth century date for disuse and abandonment in the southern part of the front range. In contrast, the *denarius* of Septimius Severus (issued 195-6) from a layer of mixed debris in Room 6 and a plated *denarius* of Caracalla (copying a coin struck 210) from the shallow, silty deposits overlying the flagged surface in the entranceway (Room 4), in theory indicate that these spaces were no longer in use from as early as the beginning of third century. Considering the evidence from the other rooms (or from other finds), however, it is highly doubtful that the entranceway ceased to function as the main access point into and out of the building at such an early date, and it is more likely that the flagstone surface was kept clean of mud and dirt while still in use.

#### Phase 4: Post-Roman masonry buildings

Deposits associated with the poorly-constructed buildings above the demolished remains of the courtyard-building produced a total of five coins: two from above Room 2, two more from Area A and one from Area B. The two coins from Area A came from deposits associated with the three-room Building 1 overlying the external yard surface and constructed against the front wall of the courtyard-building, including a GLORIA EXERCITVS 2 standards issue (struck 330-5) from the silty accumulation deposits outside the building's south wall (G210), and a SECVRITAS REIPVBLICAE issue (struck 364-75) from the uppermost rubble fill of the large stone-lined pit in the building's middle room [G337]. The latter is one of the latest coins from the Priory Field excavations and the absence of House of Theodosius issues from the site (as well as Caerleon more generally), suggests that it could have been lost in the 380s, 390s, or even later (dating of the phasing scheme is discussed in more detail in Chapter 2.2).

A *quinarius* of Allectus (293-6) and a large bronze coin of Magnentius (350-1) were recovered from a mixed rubble and debris layer overlying the remains of the demolished store that it is believed also served as a surface associated with Phase 4's Building 2. The fifth coin from this Phase is a VICTORIAE DD AVGG QNN issue (347-8) found between the stones of a crudely-

built wall overlying the external yard in the northern part of the trench.

#### Phase 5: Wall robbing

Fills of the trenches to rob the courtyard-building's walls produced nineteen coins: two from Area A in the south and seventeen from Area B to the north. Seven came from the robber trench over the store's front wall (G315), including a *radiate* of Tetricus II (273-4), two *radiate* copies of the later third century, two *radiates* and a *denarius* copy of Carausius (286-93), and a bronze coin struck in 318 for Constantine II as Caesar. Single coins were recovered from the robber trenches for the internal walls between Rooms 3 and 4 (late-third century *radiate*), between Rooms 5 and 6 (GLORIA EXERCITVS 1 standard issue, struck 335-41), between Rooms 6 and 7 (*radiate* of Carausius, 286-93), between Rooms 7 and 8 (*radiate* of Carausius, 286-93), and the Ambulatory wall in Area A (*radiate* of Carausius, 286-93). Seven further coins were found among the building debris overlying the external yard in the northern part of the trench that is interpreted as deriving from wall robbing (G3004), including *radiates* of Claudius II (268-70) and Tetricus II (273-4), two *radiate* copies, a VICTORIAE DD AVGG QNN issue (347-8), and two uncertain late Roman bronze coins.

#### Phases 6 and 7: Medieval and modern occupation and activity

Deposits allocated to Phases 6 and 7 produced 57 coins in total. As expected for a site heavily disturbed by recent activity, these are almost all residual late-third and fourth century Roman coins redeposited by various means (i.e., pit digging) in later stratified contexts. Phase 7 also includes the single post-Roman coin, a silver sixpence of William III dated to 1697.

#### *The Priory Field Coin Assemblage*

The dates of production of the 122 coins from Priory Field that could be identified to an emperor's reign or fourth-century issue period are summarised in Table 4.20. This includes 'coins per mill' values that allow different assemblages of excavated site finds to be compared to one another, regardless of the quantities of coins they contain, in order to identify similarities and differences between the coinage from multiple excavations and/or sites (Casey 1986, 68-113; Reece 1995; Reece 2002a, 89-106). The table, however, only shows when the Priory Field coins were struck, which is not the same as when they were in circulation and available to be used and lost (as the previous section demonstrates, often there were many years between a coin's date of production and the moment of its

Table 4.20 Chronological sequence of Roman coins from Priory Field

Issue Period	Date of production	Coins #	Coins %
1	up to 41		0
2	41-54		0
3	54-68		0
4	69-96	5	41
5	96-117	2	16
6	117-38		0
7	138-60		0
8	160-80		0
9	180-92		0
10	193-211	9	74
11	211-38		0
12	238-60		0
13	260-75	21	172
14	275-96	41	336
15	296-318	1	8
16	318-30	5	41
17	330-48	21	172
18	348-64	10	82
19	364-78	7	57
20	378-88		0
21	388-402		0
<b>Sub-Total</b>		<b>122</b>	<b>1000</b>
	2nd c.	1	
	260-90	4	
	Late 3rd-4th c.	6	
	Modern	1	
	<b>Total</b>	<b>134</b>	

deposition in the archaeological record). It is also important to bear in mind that the coins recovered during an excavation do not necessarily reflect the coins that were used in the excavated building or site, and that coins could become archaeological artefacts for a variety of reasons (including, but not only, because they were dropped and lost).

Table 4.20 indicates the Roman coin assemblage from Priory Field consists of four separate peaks of coin loss that are likely to reflect major events in the history of the store building as well as the availability of coinage at Caerleon (also shown on Figure 4.5). The first peak comprises three *denarii* and two *ases* of the Flavian emperors Vespasian, Titus and Domitian, as well as another *denarius* and a *sestertius* in the name of Trajan. It is most likely that at least two of these

coins were lost during the construction of the Priory Field courtyard-building, which from the coin evidence alone must have occurred after 86 and before c. 120. The excavations did not produce any coins of the years between 111 and 195 (presumably because how the building was used did not result in coins being lost and incorporated into its archaeological remains), whereas the reign of Septimius Severus (193-211) is represented by seven *denarii* and two plated *denarii* (the latter are forgeries consisting of an iron or copper-alloy core with a silvered surface and are commonplace in Roman Britain). Perhaps these Severan coins give an indication of the occasion when some of the various alterations to the store were undertaken?

After another long gap in the coin record after 211, the years from 260 to 296 are represented by 62 coins (mainly low-value *radiates* and their copies). *Radiates* of the breakaway Gallic Empire (struck for the usurpers Postumus, Victorinus and the Tetrici) are three times as common from Priory Field as those struck in the names of the official emperors in Italy (Gallienus, Claudius II and Aurelian), while all of the identified *radiate* copies are imitations of Gallic Empire prototypes. It is thought that *radiate* copies were produced in Britain and other western provinces after the defeat of the last Gallic emperor Tetricus I in 274 and the subsequent reunification of the Empire under Aurelian. Official coinage seems to have been very scarce in Britain in the following decades and it is likely that vast quantities of *radiate* copies were struck to make up for this shortfall (they are all allocated, therefore, to Issue Period 14 in the catalogue and in Table 4.20). Coins of the usurpers Carausius and Allectus from 286 to 296 (the period known as the 'Britannic Empire'), are thought to have eased this shortage in the supply of new coinage in Britain, although it is possible that production of *radiate* copies continued at some level as late as 296.

The Priory Field excavations produced 24 *radiates* and a *denarius* copy of Carausius and two coins of Allectus (a *radiate* and a *quinarius*), representing 44% of all coins from 260 to 296. This is a far greater proportion of coins from the late-third century than has been encountered at other excavated sites in Caerleon, where issues of Carausius and Allectus account for 11% on average (ranging from 0% to 24%, see Table 4.21 below). Coins of the Britannic emperors are common elsewhere in Roman Britain and their prevalence in hoards from the western part of the province is thought to indicate this area's links to the usurpers (Abdy *et al.* 2010; Besly 2006). It is believed that coins of Carausius and Allectus would have been quickly demonetised after the latter's defeat in 296 and the reunification of the Empire under Diocletian, who had recently introduced a radical new monetary system with which pre-reform *radiates* do not seem to have coexisted for very long.

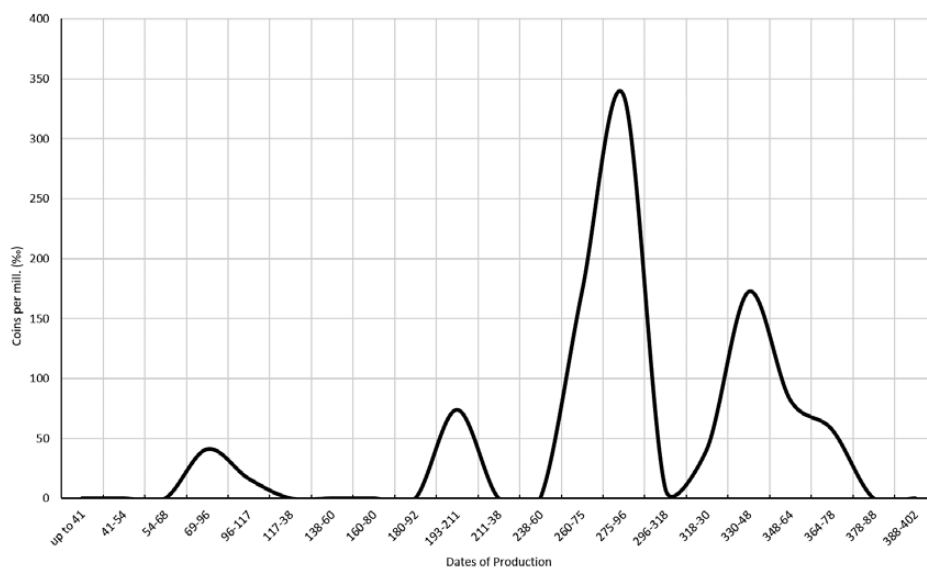


Figure 4.5. Chronological profile of the Roman coins from Priory Field

Carausian coins are found in all parts of the Priory Field store and their deposition in large quantities seems to mark the building's abandonment and the beginning of its subsequent dereliction, collapse or demolition. Two *radiates* of Carausius were the latest coins found among the remains of various items of military equipment in Room 2 (Phase 2), while eleven coins of Carausius and Allectus were recovered from roof and building debris in Room 7 (Phase 3). Other Phase 3 contexts produce coins of the mid-fourth century, suggesting perhaps that different parts of the building were demolished before others fell down more gradually. Why the Priory Field building produced such a large quantity of Carausian coins is not known, but the concentration in Room 7 might indicate the exchange or storage of coins among other functions (it is unlikely they are the remains of a dispersed hoard). It also reinforces the link between the Britannic usurper and the legion at Caerleon (though the relative absence of coins of Allectus is surprising).

Coin loss at Priory Field falls to very low levels from 296 to 330, after which the number of finds increases to a similar level seen in 260-75 before gradually declining again in the periods up to, and including, 364-78. Issues of the House of Constantine and Magnentius are the latest coins found in a number of rooms among demolition or collapse debris (Phase 3), supporting the proposition that some parts of the building's final destruction occurred around c. 350. The Valentinianic bronze coin from the fill of the pit in Phase 4's Building 1 provides a numismatic *terminus post quem* of 364-75 for the last use and disuse of this possible storage feature. How long fourth-century bronze coins might have continued in use in places like Caerleon has been a matter of conjecture, although the evidence from Priory Field and all other large excavations at the fortress

demonstrates that the supply of new coinage dried up completely after 378 (see discussion below). Unlike the nearby city at Caerwent, Caerleon has produced no more than a handful of coins of the House of Theodosius or Magnus Maximus, the latest usurper based in Britain between 383 and 388. The Priory Field store had already been partially demolished by this time and perhaps even reoccupied by the later more-ephemeral Phase 4 buildings (although the Valentinianic coin from a pit fill is considerably older than the radiocarbon dates obtained from the same deposits - see Chapter 2.2.3).

To better appreciate the peaks and troughs in the Priory Field coin profile, it is useful to set this alongside other assemblages from Caerleon. Nineteen excavations within and outside the fortress have produced coins, of which ten recovered more than 70 coins (Guest and Wells 2007).<sup>1</sup> Care needs to be taken when comparing coins from different sites because, for a variety of reasons, it is highly unlikely that the evidence is consistent or, in some instances, reliable. For example, most previous excavations in Caerleon were undertaken in advance of development in the town, whereas the Priory Field trench was the first archaeological investigation within the fortress located precisely to answer research questions about a specific building. Moreover, while most of the earlier excavations did not reveal the full depth of the existing archaeological deposits or were methodologically crude, the Priory Field trench was excavated systematically and stratigraphically, using modern techniques to excavate, sample and record the archaeological remains. Finally, the use of metal-

<sup>1</sup> Information obtained from the 'Iron Age and Roman Coins from Wales' project database ([https://archaeologydataservice.ac.uk/archives/view/iarcw\\_bcs\\_2007/](https://archaeologydataservice.ac.uk/archives/view/iarcw_bcs_2007/), accessed 22.01.2020).

detectors at Priory Field, particularly to scan spoil removed from the trench, guarantees more-or-less total recovery of coins and other metal objects from the site, which certainly cannot be claimed for any other excavation at the fortress.

With these caveats in mind, the ten Caerleon excavations with reasonably large coin assemblages together produced over 1,700 coins, which are the only direct evidence available with which to begin the discussion of coin supply, use and loss at the fortress (Table 4.21). These assemblages are shown on Figure 4.6, where the coins are presented in chart form in terms of their deviation from Caerleon's average excavated coins-per-mil values. The chart demonstrates that there is a great deal of variation between the coins from excavations in Caerleon and, even though some of this variation is explained by differences in excavation methods as discussed above, it is likely that these assemblages represent the history of coin use and loss in different parts of the fortress.

Overall, the Priory Field building produces fewer first and second century coins than expected, but more late-third century and mid- to late-fourth century issues than most sites in Caerleon. Pre-Flavian denominations are uncommon at Caerleon in general (Guest 2010, 25-30), and most excavations in and around the fortress produce similar troughs to those in the Priory Field profile; namely from Hadrian to Commodus in the second century (with the exception of Bear House Field, one of the few extramural sites but excavated under difficult circumstances in the 1950s), again from 211 to 260, and finally from 296 to 330. These specific episodes of very low coin loss are encountered time and again on sites throughout Roman Britain and illustrate how coin supply, in these cases the relative absence of new coin imported to the province, affects the coins found on excavations.

Conversely, the relative scarcity of fourth century coinage from Caerleon and the near complete absence of issues struck after 378 cannot be explained by general

Table 4.21 Chronological sequences of Roman coins from Priory Field and nine other excavations at Caerleon

	PRIORY FIELD	RIDING SCH FIELD	CAMBRIAN HSE	BEAR HSE FIELD	SCHOOL FIELD	ROMAN GATES	PRYSG FIELD	AMPHI-THEATRE	BROADWAY	FORTRESS BATHS	TOTAL
up to 41				4	2	4	4	4	11	1	30
41-54					1		2	1			4
54-68				1		5	5		4	5	20
69-96	5	2	6	37	19	51	33	38	45	30	266
96-117	2	10	6	17	6	11	32	18	8	15	125
117-38		9	3	28	4	12	12	13	7	12	100
138-60		9	7	39	5	4	11	13	12	9	109
160-80		9	2	20	2	2	12	8	4	6	65
180-92		7		5		3	5				20
193-211	9	20	10	29	3	4	12	10	2	7	106
211-38		8	4	1	1	1	2	2	1	3	23
238-60		1	10	4		1		3			19
260-75	21	43	30	31	16	45	6	60	7	14	273
275-96*	41	137	16	18	5	87	2	27	7	20	360
296-318	1	1		1	1	2		6		3	15
318-30	5			1	2	6		4	2	7	27
330-48	21			5	4	21		24	5	46	126
348-64	10			1	1	3	1	1	9	24	50
364-78	7							1		2	10
378-88											0
388-402											0
<b>Total</b>	<b>122</b>	<b>256</b>	<b>94</b>	<b>242</b>	<b>72</b>	<b>262</b>	<b>139</b>	<b>233</b>	<b>124</b>	<b>204</b>	<b>1748</b>
* Britannic Empire	44%	0%	0%	8%	19%	16%	13%	11%	7%	24%	

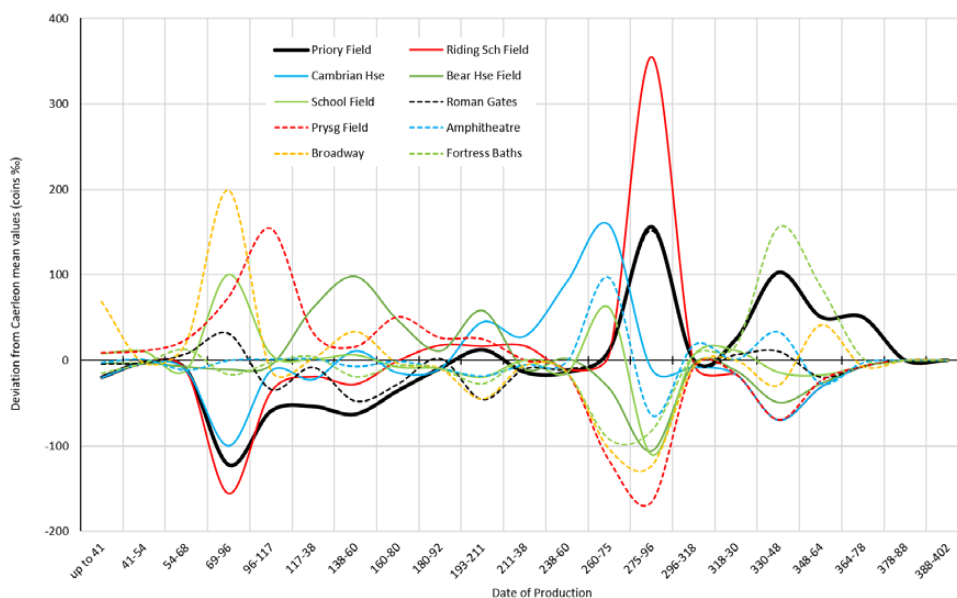


Figure 4.6. Roman coins from Priory Field and other excavations in Caerleon

reductions in the availability of these coins that are common elsewhere in Roman Britain, including Wales. For some time it was suspected that archaeologists may have simply missed these very small coins when excavating in Caerleon, but Priory Field indicates that the absence of issues of the House of Theodosius (378-402) is real rather than imagined. These coins from the end of the fourth century are certainly less common in much of Wales than earlier coins had been, perhaps marking the withdrawal of Roman authority from large parts of western Britain, although they are plentiful from the city of *Venta Silurum* at Caerwent, only 9 miles to the east of Caerleon (Guest 2010, 30-32).

The Priory Field excavation indicates that coin use and loss in this part of the fortress continued later than elsewhere in Caerleon, where coins of the fourth century are generally scarce. Only the Fortress Baths and Roman Gates excavations inside the fortress, as

well as the Amphitheatre outside, produced meaningful quantities of coins after the reforms of Diocletian in 294/6, while Priory Field is alone in yielding issues struck for the House of Valentinian from 364-78. If this general decline in coin loss in the fourth century demonstrates the withdrawal of the legion from Caerleon as early as 300 cannot be ascertained solely from the coin evidence, but it is worth bearing in mind that the coinage from Priory Field suggests the store, originally constructed in the first century, was no longer being used during the usurpation of Carausius, or not long afterwards. Fourth century coins from Priory Field were recovered mainly from deposits associated with the building's subsequent demolition or decay, while one of the Valentinianic coins was found in a pit associated with occupation that post-dates the military building and which is likely to have occurred in the later fifth century or, possibly, even later.

## Coin catalogue

Cat #	Context	Date	Denomination	Emperor / Issuer	Reverse type	Mint	Mint-mark	Reference	Comments
1	3047	70	Denarius	Vespasian	COS ITER TR POT - Pax seated l.	Rome		RIC: 29	
2	3027	73	Denarius	Vespasian	PONTIF MAXIM - Vespasian seated on curule chair	Rome		RIC: 546	
3	2098	80	Denarius	Titus	TR P IX IMP XV COS VIII P - thunderbolt on draped table or chair	Rome		RIC: 119	
4	2133	86	As	Domitian	Mars hurrying l., holding Victory & trophy - SC	Rome		RIC: 496	
5	2123	71-2	As	Vespasian	Eagle on globe - SC	Rome / Lyons		RIC: 322/1202	
6	2098	103-11	Sestertius	Trajan	SPQR OPTIMO PRICIP - SC.	Rome		RIC: 569	
7	u/s	103-11	Denarius	Trajan	COS V PP SPQR OPTIMO PRINC - Felicitas	Rome		RIC: 120 var.	
8	2098	195	Denarius	Septimius Severus	PM TRP III COS II PP - Mars advancing	Rome		RIC: 60	Found in Soil Block 24
9	u/s	197	Denarius	Septimius Severus	PM TRP V COS II PP - Sol	Rome		RIC: 101	
10	2045	207	Denarius	Septimius Severus	PM TRP XV COS III PP - Africa	Rome		RIC: 207	
11	2002	210	Plated denarius	as Caracalla	as PONTIF TRP XIII COS III - Virtus stdg r.	as Rome		as RIC: 117	
12	3074	195-96	Denarius	Septimius Severus	ARAB ADIAB COS II PP	Rome		RIC: 64	
13	u/s	196-211	Denarius	Julia Domna	HILARITAS	Rome		RIC: 555	
14	2072	197-98	Denarius	Septimius Severus	ANNONAE AVGG - Ammona standing l.	Rome		RIC: 107	
15	u/s	197-98	Denarius	Septimius Severus	MARTI PACIFERO	Rome		RIC: 113	
16	305	202-10	Plated denarius	as Septimius Severus	as FVNDATOR PACIS	as Rome		as RIC: 265	
17	3047	260-28	Radiate	Gallienus (sole reign)	uncertain				
18	3065	260-28	Radiate	Gallienus (sole reign)	uncertain				
19	208	260-68	Radiate	Postumus	ORIENS AVG	Principal mint	P/	Cunetio: 2454	
20	2095	260-74	Radiate	uncertain	uncertain				
21	300	268-70	Radiate	Victorinus	PAX AVG		V / *		
22	2100	268-70	Radiate	Claudius II	GENIVS EXERCITI				
23	3004	268-70	Radiate	Claudius II	uncertain				
24	3137	268-70	Radiate	Victorinus	[VIRTVS AVG]	Mint I		Cunetio: 2553	
25	202	270-74	Radiate	Tetricus II	uncertain				

## EXCAVATION OF THE PRIORY FIELD STORE BUILDING IN CAERLEON

Cat #	Context	Date	Denomination	Emperor / Issuer	Reverse type	Mint	Mint-mark	Reference	Comments
26	334	270-74	Radiate	Tetricus I?	Victoria				
27	401	270-74	Radiate	Tetricus II	PIETAS AVGUSTOR				
28	704	270-74	Radiate	Tetricus I	LAETTIA AVGG				
29	2098	270-74	Radiate	Tetricus I	Hilaritas				
30	3004	270-74	Radiate	Tetricus II	VICTORIA AVG				
31	3012	270-74	Radiate	Tetricus II	PRINC IVVENT?				
32	3059	270-74	Radiate	Tetricus II	HILARITAS AVGG				
33	u/s	270-74	Radiate	Tetricus I	COMES AVG				
34	600	271-74	Radiate	Tetricus I	SPES AVG				
35	335	273-74	Radiate	Tetricus II (Caesar)	SPES AVGG				
36	2062	273-74	Radiate	Tetricus II (Caesar)	SPES PVBLICA?				
37	3059	273-74	Radiate	Tetricus II (Caesar)	PIETAS AVGUSTOR				
38	004	270-90	Radiate copy	uncertain	uncertain				
39	502	270-90	Radiate copy	uncertain	uncertain				
40	614	270-90	Radiate copy	uncertain	uncertain				
41	2023	270-90	Radiate copy	as Tetricus II	as Hilaritas				
42	2030	270-90	Radiate copy	uncertain	uncertain				
43	2045	270-90	Radiate copy	uncertain	uncertain				
44	2106	270-90	Radiate copy	uncertain	uncertain				
45	3004	270-90	Radiate copy	uncertain	uncertain				
46	3004	270-90	Radiate copy	uncertain	Pax?				
47	3012	270-90	Radiate copy	as Tetricus I?	as Victoria				
48	3020	270-90	Radiate copy	as Tetricus II	uncertain				
49	u/s	270-90	Radiate copy	uncertain	uncertain				
50	u/s	270-90	Radiate copy	as Tetricus II	as PRINC IVVENT				
51	u/s	270-90	Radiate	uncertain	uncertain				
52	005	286-93	Radiate	Carausius	COMES AVG - Victory holding wreath and palm				
53	815	286-93	Radiate	Carausius	PAX AVG	London	B/E//MLXXI	RIC: 99	

## FINDS CATALOGUES AND SPECIALIST REPORTS

Cat #	Context	Date	Denomination	Emperor / Issuer	Reverse type	Mint	Mint-mark	Reference	Comments
54	1002	286-93	Radiate	Carausius	PAX AVG	London	S/P//MLXXI	RIC: 118	
55	2059	286-93	Radiate	Carausius	MARTI PACIFER		S/C	RIC: 466	
56	2088	286-93	Radiate	Carausius	PAX AVG			RIC: 880	
57	2094	286-93	Radiate	Carausius	PAX AVG			RIC: 880	
58	2098	286-93	Radiate	Carausius	Providentia holding baton and cornucopiae		-		
59	2098	286-93	Radiate	Carausius	PAX AVG	London	S/P//MLXXI	RIC: 118	from Soil Block 6
60	3012	286-93	Denarius copy	as Carausius	as EXPECTAT VENI - Britannia and Emperor		-	as RIC: 554	
61	3013	286-93	Radiate	Carausius	PAX AVG			RIC: 880	
62	3020	286-93	Radiate	Carausius	PAX AVG			RIC: 881	
63	3027	286-93	Radiate	Carausius	PROVIDENT AVG	London	B/E//MLXXI	RIC: 149	
64	3027	286-93	Radiate	Carausius	PAX AVG				
65	3027	286-93	Radiate	Carausius	PAX AVG				
66	3045	286-93	Radiate	Carausius	PAX AVG	Camulodunum	S/C//C	RIC: 300	
67	3047	286-93	Radiate	Carausius	PAX AVG			RIC: 880	
68	3055	286-93	Radiate	Carausius	SALVS AVG			RIC: 983	
69	3059	286-93	Radiate	Carausius	PAX AVG		S/P	RIC: 475	
70	3064	286-93	Radiate	Carausius	PAX AVG		S/P	RIC: 475	
71	3065	286-93	Radiate	Carausius	SALVS AVG	Camulodunum	S/C//C	RIC: 398	
72	3065	286-93	Radiate	Carausius	LAETTIA AVG	Camulodunum	//C	RIC: 259	
73	3086	286-93	Radiate	Carausius	COHRT PRAET	London	//ML	RIC: 12	
74	3087	286-93	Radiate	Carausius	PAX AVG		-		
75	3087	286-93	Radiate	Carausius	PAX AVG			RIC: 883	
76	u/s	286-93	Radiate	Carausius	PAX AVG			RIC: 880	
77	701	293-96	Quinarius	Allectus	VIRTVS AVG	Camulodunum	//QC	RIC: 130	
78	3027	293-96	Radiate	Allectus	PAX AVG	Camulodunum	S/P//C	RIC: 87	
79	3009	318	AE2	Constantine II (as Caesar)	PRINCIPIA IVENTVTIS	London	crescent//PLN	RIC: 136	
80	3027	319	AE2	Constantine I	VICTORIAE LAETAE PRINC PERP	Trier	*//STR	RIC: 213	
81	004	320	AE2	Constantine I	VIRTVS EXERCIT - VOT/XX	Trier	//STR	RIC: 266	

## EXCAVATION OF THE PRIORY FIELD STORE BUILDING IN CAERLEON

Cat #	Context	Date	Denomination	Emperor / Issuer	Reverse type	Mint	Mint-mark	Reference	Comments
82	502	320	AE2	Licinius II	CAESARVM NOSTRORVM - VOT/V	Thessalonica	//TSEVO	RIC: 93	
83	416	318-24	AE2	Crispus?	VICTORIAE LAETAE PRINC PERP		-		
84	500	323-24	AE2	Constantine I	SARMATIA DEVICTA	Trier	//PTR	RIC: 429	
85	210	330-35	AE3	Constantine II (as Caesar)	GLORIA EXERCITVS - 2 stds	Trier	//TR.S	LRBC I: 63	
86	410	330-35	AE3	House of Constantine	Wolf and Twins	Trier	//TRP	LRBC I: 51	
87	u/s	330-40	AE3	House of Constantine	Victory on Prow	Trier	//TR[...]		
88	001	330-48	AE3 copy	as House of Constantine	as Wolf and Twins		wreath//[...]		
89	100	330-48	AE3 copy	as House of Constantine	as Wolf and Twins		-		
90	3027	330-48	AE4 copy	as House of Constantine	as GLORIA EXERCITVS - 2 stds		-		
91	410	335-41	AE3	House of Constantine	GLORIA EXERCITVS - 1 std		-		
92	3032	335-41	AE3	House of Constantine	GLORIA EXERCITVS - 1 std		-		
93	005	335-48	AE3 copy	as House of Constantine	as GLORIA EXERCITVS - 1 std		-		
94	500	335-48	AE3 copy	as House of Constantine	as GLORIA EXERCITVS - 1 std		-		
95	100	337-41	AE3	Helena	PAX PVBLICA	Trier	//TRS	LRBC I: 119	
96	410	337-41	AE3	Theodora	PIETAS ROMANA		-		
97	1000	337-41	AE3	Helena	PAX PVBLICA		-		
98	u/s	337-41	AE3	Constans	GLORIA EXERCITVS - 1 std	Trier	M//TRP crescent	LRBC I: 133	
99	u/s	340-48	AE3	House of Constantine	star in wreath	Constantinople	//CONSA	LRBC I: 1067	
100	700	347-48	AE3	House of Constantine	VICTORIAE DD AVGG QNN	Trier	M//[TRP]		
101	704	347-48	AE3	House of Constantine	VICTORIAE DD AVGG QNN		-		
102	900	347-48	AE3	Constans	VICTORIAE DD AVGG QNN	Trier	I//TRP	LRBC I: 153	
103	3003	347-48	AE3	Constans	VICTORIAE DD AVGG QNN	Trier	D//TRS	LRBC I: 148	
104	3008	347-48	AE3	House of Constantine	VICTORIAE DD AVGG QNN		-		
105	3027	347-48	AE3	House of Constantine	VICTORIAE DD AVGG QNN		-		
106	600	348-50	AE2	House of Constantine	FEL TEMP REPARATIO - phoenix		-		
107	903	348-50	AE3	Constantius II	FEL TEMP REPARATIO - phoenix	Lyons	//PLG*	LRBC II: 182	

Cat #	Context	Date	Denomination	Emperor / Issuer	Reverse type	Mint	Mint-mark	Reference	Comments
108	u/s	348-50	AE3	House of Constantine	FEL TEMP REPARATIO - phoenix		-		
109	701	350-51	AE2	Magnentius	FELICITAS REIPUBLICAE	Lyons	//RPLG	LRBC II: 211	
110	001	350-64	AE3 copy	as House of Constantine	as FEL TEMP REPARATIO - falling horseman		-		
111	005	350-64	AE3 copy	as Magnentius	as VICTORIAE DD NN AVG ET CAE		-		
112	410	350-64	AE4 copy	as Magnentius	as VICTORIAE DD NN AVG ET CAES	as Lyons	//PLG		
113	502	350-64	AE3 copy	as House of Constantine	as FEL TEMP REPARATIO - falling horseman		-		
114	600	350-64	AE4 copy	as House of Constantine	as FEL TEMP REPARATIO - falling horseman		-		
115	800	350-64	AE2 copy	as Magnentius	as VICTORIAE DD NN AVG ET CAE		-		
116	304	364-75	AE2	Valentinian I	SECVRITAS REIPUBLICAE		-		
117	402	364-75	AE3	House of Valentinian	GLORIA ROMANORUM		-		
118	3001	364-75	AE3	House of Valentinian	SECVRITAS REIPUBLICAE		-		
119	001	367-75	AE2	House of Valentinian	SECVRITAS REIPUBLICAE	Arles	OF/II//CON		
120	305	367-75	AE2	Valentinian I	SECVRITAS REIPUBLICAE	Siscia	R/-//[...] ]	LRBC II: 1299	
121	410	367-75	AE2	Valens	SECVRITAS REIPUBLICAE	Arles	OF/II//CON	LRBC I: 516	
122	005	367-78	AE3 copy	as Gratian	as SECVRITAS REIPUBLICAE	as Lyons	OF/I+L//[...] ]		
123	300	1697	Sixpence	William III					
124	209	260-90	Radiate	Uncertain	Uncertain				
125	416	260-90	Radiate	Uncertain	Uncertain				
126	502	260-90	Radiate	Uncertain	Uncertain				
127	602	260-90	Radiate	Uncertain	Uncertain				
128	300	98-192	AE2	uncertain	Uncertain	-			
129	001	270-402	AE2	uncertain	Uncertain				
130	101	270-402	AE2	uncertain	uncertain				
131	402	270-402	AE2 cut half	uncertain	uncertain				
132	3003	270-402	AE3	uncertain	uncertain				
133	3004	270-402	AE3	uncertain	uncertain				
134	3064	270-402	AE4	uncertain	uncertain				

**4.2.2 Silver Artefacts (Peter Guest and Evan M. Chapman)**

Seven silver artefacts were recovered from the Priory Field excavation, all of which were broken prior to deposition. Two of these (RA 137-138), are probably from a pendant (three if the hanger RA 136 was attached). These were found in Phase 3 deposits in Room 7 together with the belt-plate. Evidence perhaps for the recycling of an antique high-status military belt immediately prior to the building's collapse?

*Military equipment***135 Belt-plate**

SF 3307 Context: 3047

Phase: 3 Area: 7

Fragment of a rectangular military belt plate. Only one edge survives, consisting of thin silver sheet rolled into a tube, through which a spindle passes with two bulbous finials at its ends. A raised border decorated with incised lines frames the edge of the sheet, while the face of the tube is decorated with a line of punched dots. A decorative plate that would have been attached to a military belt by means of pins in the corners (part of a hole for one of these survives). Grew and Griffiths Type B mount (Grew and Griffiths 1991, 49), although these are invariably copper alloy and SEM analysis indicates that this plate is approx. 96% silver (Parkes 2016). Likely that the mount would have been decorated with a punched central roundel or boss, or possibly a more elaborate design of floral motifs or the Lupercal (wolf and twins). An example with the Lupercal was discovered during the Chapel St excavations in Chichester (Grew and Griffiths 1991, 66 No. 58), while another find from Hod Hill is decorated with a simple raised central boss (Grew and Griffiths 1991, 69 No. 75). Likely to date to the Claudian period.

Weight (g): 5.9

L (mm): 12 W (mm): 47

D (mm): 6 Diam. (mm): -

**136 Pendant**

SF 3301 Context: 3047

Phase: 3 Area: 7

Small circular pendant with a projecting terminal. A small silver rivet held the end of the suspension loop in place. No evidence of surface decoration. Probably a hanger that would have been attached to a larger circular or lunate pendant. It is a very close match in size to the bottom hanger on a complete copper alloy pendant from Caerleon (Chapman 2005, 151-2 Wd03; Brewer 1986d, 181 No. 76). Another silver hanger of similar size and shape, but more elaborately decorated, has previously been found at Caerleon (Webster 1992, 126 No. 104). SEM analysis indicates that the pendant is approx. 95% silver (Parkes 2016).

Weight (g): 1.1

L (mm): 24 W (mm): 12

D (mm): 4 Diam. (mm): -

**137 Pendant**

SF 3318 Context: 3047

Phase: 3 Area: 7

Four fragments probably of a silver pendant, including the remains of a broad suspension loop and a ball terminal. SEM analysis indicates that the pendant is approx. 99% silver (Parkes 2016).

Weight (g): 2.2

L (mm): - W (mm): -

D (mm): - Diam. (mm): -

**138 Pendant**

SF 3316 Context: 3047

Phase: 3 Area: 7

Decorated fragment, probably part of the same pendant as RA 137. Decoration consists of a thin circular or oval lip or rim, with five small beads surviving around its inside edge, attached to the sheet with a thick bonding material (possibly solder). Parts of the decorative elements have a golden colour. SEM analysis indicates the item is approx. 99% silver, but a silver and gold alloy (80%:20% respectively) had been applied to the surface of the decoration (Parkes 2016).

Weight (g): 0.4

L (mm): - W (mm): -

D (mm): - Diam. (mm): -

*Unclassified items***139 Mount**

SF 230 Context: 208

Phase: 6 Area: A

Flat decorative mount or pendant with projecting terminal, possibly in the shape of a fish or a bird. A break at the upper end has removed the top of the object, together with its putative suspension loop. The bottom edges of the side 'fins' or 'wings' are decorated with deep V-shaped incisions. Possibly a harness ornament or apron hanger. SEM analysis indicates that the mount is approx. 97% silver (Parkes 2016).

Weight (g): 1.6

L (mm): 29 W (mm): 14

D (mm): 2 Diam. (mm): -

**140 Strip**

SF 3398 Context: 3080

Phase: 1ii Area: 6

Narrow silver strip with raised edges. Both ends appear to have been cut. The broader edge is decorated with a raised wavy line and the base of the strip against the narrower edge by incised notches. SEM analysis indicates the item is approx. 95% silver, with a silver and gold alloy (50%:50% respectively) applied to the object's surface. Areas of a tin, lead and silver alloy on



the strip's reverse suggests it had been soldered onto another metal artefact (Parkes 2016).

Weight (g): 1.4

L (mm): 38      W (mm): 5  
D (mm): 1      Diam. (mm): -

**141 Stud**

SF 3249 Context: 3056

Phase: 5 Area: B

Small flat-headed stud consisting of a raised central boss and two concentric bands. SEM analysis indicates that this stud is approx. 97% silver (Parkes 2016).

Weight (g): 0.6

L (mm): -      W (mm): -  
D (mm): 4      Diam. (mm): 9

### 4.2.3 Copper-alloy Artefacts (Evan M. Chapman)

Copper-alloy artefacts (excluding coins), make up nearly half of all Registered Artefacts (901 of 1,858). Of these, 221 are published individually here with the remainder listed in the site archive. The quantity of identifiable, but not published, finds, mostly studs of undiagnostic form, is noted in the discussion of the composition of the assemblage in different phases below. The copper-alloy finds from the site are generally very well preserved, unusually so for Caerleon where burial conditions are often tough on metal artefacts. They would appear to have benefited from being preserved in the make-up or demolition layers of the store building.

The entire finds assemblage is dominated by material functionally classified as being military or domestic in nature (the composition of the copper-alloy finds is discussed in the introduction to this chapter). Given the dominance of these two categories, it would seem reasonable to suggest that, on this site, most of the objects classified as fastenings or of unknown functions are actually from items of military equipment or furniture.

The datable military artefacts suggest a second to third century date range for the majority of the assemblage. This is supported by the number of plate brooches (RA 308-14), usually indicative of a second into the third century date, compared to only two bow brooches (RA 306 from Phase 0ii and RA 307 from Phase 1ii), characteristic of the first to early second centuries (two bow brooches is a notably small number for a Roman copper-alloy assemblage of this size). There are no copper-alloy finds that are definitely of fourth century date, although the oval gilded plate brooch (RA 313) could be.

With the exception of finds from Phase 0 and Phase 1, it seems reasonable to suggest that the vast majority of the copper-alloy artefacts relate to the use of the excavated building, even if inadvertently. No copper-alloy finds were recovered from the original ground surface (Phase 0i) and only seven from the preliminary clearance and dumping (Phase 0ii). These include a T-shaped brooch (RA 306); a conical ferrule (RA 332); a handle (RA 329); plus three studs and a washer.

The construction phase (Phase 1) produced 38 copper-alloy finds, fifteen of which are included in this report (the rest being studs of various forms or plain rings of indeterminate function). Not surprisingly most of these finds come from the make-up and levelling for the floors (Phase 1ii), with only four from the wall trenches and foundations (Phase 1i). The assemblage is entirely consistent with the suggestion that the finds from this phase predominantly derive from rubbish included in

material brought in as levelling material and, where independently datable, they are compatible with the dating of the phase. The published finds from Phase 1i are RA 206, 211 and 267. Those from Phase 1ii are RA 147, 198, 199, 204, 269, 278, 285, 304, 305, 307, 328, 343.

At least in terms of the copper-alloy finds, it seems sensible to treat those coming from Phases 2 and 3 (occupation and decay / demolition), as one, representing the material stored in the rooms at the end of the building's life and, subsequently, abandoned with it. This is supported by the similar second to third century date range of the military artefacts found across both phases and the lack of any definitely fourth century copper-alloy objects. This date range, and in particular the presence of a considerable number of items relating to *lorica segmentata* (RA 144-79), suggests that some material present was at least 50 years old, or even considerably older, by the time the store building went out of use at the end of the third century (Bishop 2002, 49). As noted in the general introduction to this chapter, the material is dominated by items functionally classified as being of the Military or Household artefact categories. Given the dominance of these two groups, it would seem reasonable to suggest that most of the other copper-alloy artefacts, classified as fastenings or of unknown functions, also are derived from military equipment or domestic objects. The unpublished finds from these phases fit with this interpretation being dominated by further fastening related items, mostly studs (139 of 157 Registered Artefacts). The remaining unpublished identifiable finds include nine plain rings of indeterminate function, and nine scales from *lorica squamata* (see RA 180-183 for published examples). From Phase 2 this leaves just two items; a plate brooch (RA 308) and an earring (RA 319), both of which could easily be explained as accidental losses. The other Phase 3 items are slightly greater in number and some, at least, more significant. The three near identical fish plate brooches (RA 309-11), of a type rarely found in Britain from the same context in Room 7, must surely have been deposited as a group. Given the evidence of the number of finds that are likely to have been derived from pieces of furniture, maybe their forgotten presence in an abandoned box is a possible explanation. A similar explanation for the presence of two of the remaining three items seems equally believable: a finger ring (RA 318); a fragment of a mirror (RA 322), that also came from Room 7. The remaining item, part of a seal box lid (RA 326) comes from the entranceway (Room 4), which would seem a likely place for the accidental loss of such an item.

The copper-alloy objects from Phases 4-7 must be derived from those already on the site by the end of Phase 3. There are no copper-alloy finds that are definitely of fourth century date, although the oval

gilded plate brooch (RA 313) could be. The only copper alloy item definitely introduced to the site at a later date is a thimble (unpublished, SF 903) from the fill of a wall robbing trench in Phase 5. The composition of the finds from all these remaining phases continues to be dominated by those artefacts classed as Military or Household, while the unpublished finds also include numerous studs and related fastening items (Phase 4: 9 of 11 finds; Phase 5: 46 of 56 finds; Phase 6: 13 of 18 finds; Phase 7: all 9 finds; unstratified, all 14 finds). The slightly higher proportion of objects of other categories in Phase 5 and later is probably the result of wall robbing having disturbed the Phase 0 and Phase 1 levels.

*Military equipment*

Scabbard fittings

**142 Scabbard chape**

SF 2234 Context: 2080

Phase: 2 Area: 1

A damaged and incomplete small peltiform scabbard chape of second and third century type. Missing the ends of both its side horns, which would have curved in to meet the central projection. Cf. Caerleon (Chapman 2005, 14 Bb01).

Weight (g): 4.5

L (mm): 24 W (mm): 25  
D (mm): 8 Diam. (mm): -

**143 Scabbard slide**

SF 3275 Context: 3065

Phase: 3 Area: 7

Flat bar cast as a L-shape. Possibly a fragment of scabbard slide. Cf. Caerleon (Chapman 2005, 18-20).

Weight (g): 3.2

L (mm): 21 W (mm): 8  
D (mm): 9 Diam. (mm): -

*Lorica segmentata fittings*

**144 Hinge**

SF 740 Context: 712

Phase: 3 Area: 2/3

One leaf of a *lorica segmentata* lobate hinge still riveted to the remains of an iron plate (Bishop 2002; Thomas 2003, 62-85). Twenty-nine examples are already known from Caerleon (Chapman 2005, 63-6; Lloyd-Morgan 2000, 371 No. 129).

Weight (g): 8.3

L (mm): 40 W (mm): 37  
D (mm): 3 Diam. (mm): -

**145 Hinge**

SF 2106 Context: 2005

Phase: 5 Area: A

One leaf of a *lorica segmentata* lobate hinge still riveted to the remains of an iron plate. See 144 for type and discussion.

Weight (g): 14.5

L (mm): 28 W (mm): 10  
D (mm): 3 Diam. (mm): -

**146 Strap fitting**

SF 803 Context: 800

Phase: 7 Area: A

Buckle plate from a *lorica segmentata* hinged strap fitting. Hinged strap fittings were used to join the two shoulder units together, front and back, on both Corbridge A and B types, and the breastplates to the top girdle-plates on type A. A hinged buckle attached to one plate and a hinged strap-holder to the other (Bishop 2002, 31; Thomas 2003, 47-55). Twenty examples are already known from Caerleon (Chapman 2005, 66-73).

Weight (g): 0.9

L (mm): 21 W (mm): 13  
D (mm): 1 Diam. (mm): -

**147 Hook fastener**

SF 2552 Context: 2122

Phase: 1ii Area: 4

Vertical hook fastener from *lorica segmentata*. See 148 for type and discussion.

Weight (g): 2.9

L (mm): 27 W (mm): 9  
D (mm): 2 Diam. (mm): -

**148 Hook fastener**

SF 2370 Context: 2098

Phase: 2 Area: 2

Hook fastener consisting of a rod bent back on itself, with one end flattened out to form a plate. Remains of a *lorica segmentata* vertical hook fastener used to connect the top girdle-plates to the breastplates and backplates of Corbridge type B and Newstead type *lorica segmentata* (Bishop 2002; Thomas 2003, 86-90). Twelve examples are already known from Caerleon (Chapman 2005, 73-4).

Weight (g): 3.1

L (mm): 28 W (mm): 10  
D (mm): 2 Diam. (mm): -

**149 Hook fastener**

SF 2519 Context: 2119

Phase: 2 Area: 3

Vertical hook fastener from *lorica segmentata*. See 148 for type and discussion.

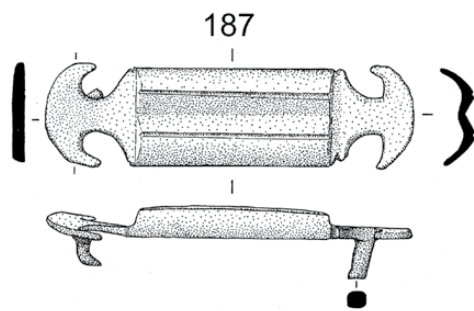
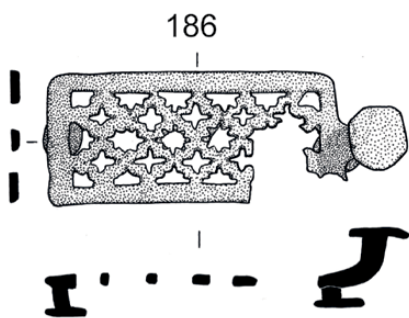
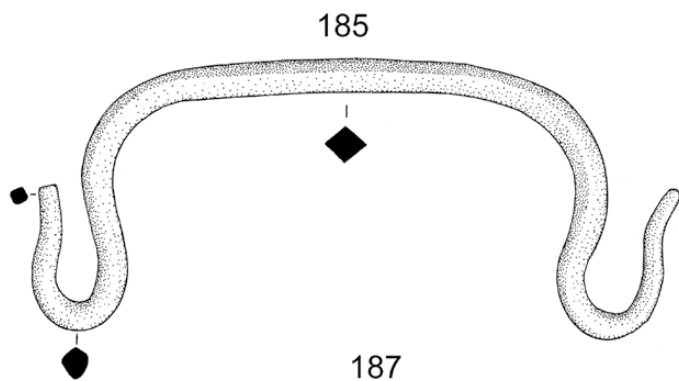
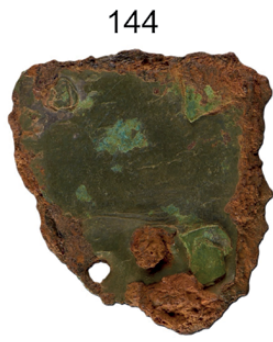
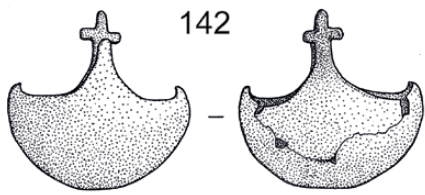
Weight (g): 3.4

L (mm): 29 W (mm): 15  
D (mm): 3 Diam. (mm): -

**150 Hook fastener**

SF 2527 Context: 2119

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Phase: 2 Area: 3

Vertical hook fastener from *lorica segmentata*. See 148 for type and discussion.

Weight (g): 7.4

L (mm): 35      W (mm): 16

D (mm): 4      Diam. (mm): -

#### 151 Hook fastener

SF 2541 Context: 2119

Phase: 2 Area: 3

Vertical hook fastener from *lorica segmentata*. See 148 for type and discussion.

Weight (g): 4.8

L (mm): 28      W (mm): 20

D (mm): 2      Diam. (mm): -

#### 152 Hook fastener

SF 3243 Context: 3027

Phase: 3 Area: 7

Vertical hook fastener from *lorica segmentata*. See 148 for type and discussion.

Weight (g): 0.8

L (mm): 30      W (mm): 6

D (mm): 2      Diam. (mm): -

#### 153 Hook fastener

SF 3270 Context: 3068

Phase: 3 Area: 6

Vertical hook fastener from *lorica segmentata*. See 148 for type and discussion.

Weight (g): 3.3

L (mm): 25      W (mm): 10

D (mm): 3      Diam. (mm): -

#### 154 Hook fastener

SF 3143 Context: 3004

Phase: 5 Area: B

Vertical hook fastener from *lorica segmentata*. See 148 for type and discussion.

Weight (g): 1.4

L (mm): 32      W (mm): 6

D (mm): 2      Diam. (mm): -

#### 155 Hook fastener

SF 2281 Context: 2045

Phase: 7 Area: A

Vertical hook fastener from *lorica segmentata*. See 148 for type and discussion.

Weight (g): 2.1

L (mm): 30      W (mm): 12

D (mm): 2      Diam. (mm): -

#### 156 Hook fastener

SF 3578 Context: u/s

Phase: - Area: -

Vertical hook fastener from *lorica segmentata*. See 148 for type and discussion.

Weight (g): 5.5

L (mm): 33      W (mm): 14

D (mm): 3      Diam. (mm): -

#### 157 Tie-loop

SF 2270 Context: 2080

Phase: 2 Area: 1

Fragment of a *lorica segmentata* girdle-plate tie-loop. See 158 for type and discussion.

Weight (g): 1.5

L (mm): 32      W (mm): 14

D (mm): 1      Diam. (mm): -

#### 158 Tie-loop

SF 3311 Context: 3071

Phase: 3 Area: 5

Complete *lorica segmentata* girdle-plate tie-loop. Tie-loops were used in pairs, joined by individual leather laces, down the centre back and centre front of Corbridge A and B types to close the girdle plates (Bishop 2002, 31; Thomas 2003, 91-108). Thirty-seven examples are already known from Caerleon (Chapman 2005, 74-77; Lloyd-Morgan 2000, 372 Nos 131-2).

Weight (g): 2.7

L (mm): 46      W (mm): 15

D (mm): 1      Diam. (mm): -

#### 159 Tie-loop

SF 3329 Context: 3074

Phase: 3 Area: 6

Fragment of a *lorica segmentata* girdle-plate tie-loop. See 158 for type and discussion.

Weight (g): 0.8

L (mm): 16      W (mm): 11

D (mm): 6      Diam. (mm): -

#### 160 Tie-ring

SF 2423 Context: 2098

Phase: 2 Area: 2

Cast circular ring with basal transverse rib which extends beyond the line of the circle at the point of junction and with a short flat shank of rectangular cross-section. A *lorica segmentata* girdle-plate tie-ring of type 1 (Chapman 2005, 78; Webster 1992, 116-7). The shank passed through the iron girdle-plate and was secured with a rove (Bishop 2002, 58). It appears to be an alternative fastening to the tie-loop (see 157-9), serving the same function (Bishop 2002, 57-8; Thomas 2003, 109-13). Twenty-one examples of type 1 tie-rings are already known from Caerleon (Chapman 2005, 77-83; Lloyd-Morgan 2000, 373 No. 134).

Weight (g): 5.9

L (mm): 21      W (mm): 19

D (mm): 5      Diam. (mm): -

**161 Tie-ring**

SF 2474 Context: 2106

Phase: 2 Area: 2

*Lorica segmentata* tie-ring of type 1. See 160 for type and discussion.

Weight (g): 2.9

L (mm): 18 W (mm): 14

D (mm): 2 Diam. (mm): -

**162 Tie-ring**

SF 2408 Context: 2023

Phase: 3 Area: 2

*Lorica segmentata* tie-ring of type 1. See 160 for type and discussion.

Weight (g): 2.3

L (mm): 19 W (mm): 13

D (mm): 2 Diam. (mm): -

**163 Tie-ring**

SF 3292 Context: 3063

Phase: 3 Area: 7

*Lorica segmentata* tie-ring of type 1. See 160 for type and discussion.

Weight (g): 6.3

L (mm): 21 W (mm): 19

D (mm): 4 Diam. (mm): -

**164 Tie-ring**

SF 3190 Context: 3052

Phase: 5 Area: B

*Lorica segmentata* tie-ring of type 1. See 160 for type and discussion.

Weight (g): 2.7

L (mm): 17 W (mm): 14

D (mm): 2 Diam. (mm): -

**165 Tie-ring**

SF 3520 Context: u/s

Phase: - Area: -

*Lorica segmentata* tie-ring of type 1. See 160 for type and discussion.

Weight (g): 3.1

L (mm): 19 W (mm): 15

D (mm): 2 Diam. (mm): -

**166 Tie-ring**

SF 3571 Context: u/s

Phase: - Area: -

*Lorica segmentata* tie-ring of type 1. See 160 for type and discussion.

Weight (g): 6.2

L (mm): 19 W (mm): 19

D (mm): 4 Diam. (mm): -

**167 Tie-ring**

SF 3572 Context: u/s

Phase: - Area: -

*Lorica segmentata* tie-ring of type 1. See 160 for type and discussion.

Weight (g): 2

L (mm): 18 W (mm): 14

D (mm): 2 Diam. (mm): -

**168 Tie-ring**

SF 1006 Context: 1002

Phase: 5 Area: A

*Lorica segmentata* tie-ring incorporating features of both types 1 and 2. It has a neatly modelled basal rib which extends beyond the line of the circle at the point of junction. The shaft is stepped starting as a plate, 6 by 3 mm, and then reducing to 3 by 3 mm. Cf. Caerleon (Chapman 2005, 81 Lf40).

Weight (g): 1.9

L (mm): 25 W (mm): 15

D (mm): 2 Diam. (mm): -

**169 Tie-ring**

SF 2259 Context: 2080

Phase: 2 Area: 1

Cast circular ring with basal transverse rib which extends beyond the line of the circle at the point of junction and with a long shank of circular cross-section. A *lorica segmentata* girdle-plate tie-ring of type 2 (Chapman 2005, 78; Webster 1992, 116-7). Thirteen examples of type 2 tie-rings are already known from Caerleon (Chapman 2005, 77-83; Lloyd-Morgan 2000, 371 No. 130). See 160 for discussion of tie-rings.

Weight (g): 7

L (mm): 28 W (mm): 19

D (mm): 5 Diam. (mm): -

**170 Tie-ring**

SF 2302 Context: 2023

Phase: 3 Area: 2

*Lorica segmentata* tie-ring of type 2. See 169 for type and discussion.

Weight (g): 4.8

L (mm): 31 W (mm): 16

D (mm): 3 Diam. (mm): -

**171 Tie-ring**

SF 3279 Context: 3047

Phase: 3 Area: 7

Probably a crude, poorly cast, type 2 *lorica segmentata* tie-ring. See 169 for type and discussion.

Weight (g): 6.2

L (mm): 29 W (mm): 18

D (mm): 5 Diam. (mm): -

**172 Tie-ring**

SF 821 Context: 810

Phase: 2 Area: Ambul

Fragment of a *lorica segmentata* tie-ring of type 3/4. See 173 for type and discussion

Weight (g): 1.4  
 L (mm): 15      W (mm): 14  
 D (mm): 2      Diam. (mm): -

**173 Tie-ring**

SF 2451 Context: 2106

Phase: 2 Area: 2

Cast ring of elongated D-shape with shank of rectangular cross-section. Still attached to a fragment of iron plate.

*Lorica segmentata* girdle-plate tie-ring of type 3/4 (Chapman 2005, 78; Webster 1992, 116-7). Thirty-six examples of type 3/4 tie-rings are already known from Caerleon (Chapman 2005, 77-83; Lloyd-Morgan 2000, 373 No. 133). See 160 for discussion of tie-rings.

Weight (g): 3

L (mm): 18      W (mm): 14  
 D (mm): 2      Diam. (mm): -

**174 Tie-ring**

SF 2675 Context: 2106

Phase: 2 Area: 2

*Lorica segmentata* tie-ring of type 3/4. See 173 for type and discussion.

Weight (g): 2.3

L (mm): 20      W (mm): 16  
 D (mm): 2      Diam. (mm): -

**175 Tie-ring**

SF 3244 Context: 3027

Phase: 3 Area: 7

*Lorica segmentata* tie-ring of type 3/4. See 173 for type and discussion.

Weight (g): 3.2

L (mm): 19      W (mm): 16  
 D (mm): 3      Diam. (mm): -

**176 Tie-ring**

SF 3569 Context: 3027

Phase: 3 Area: 7

*Lorica segmentata* tie-ring of type 3/4. See 173 for type and discussion.

Weight (g): 2.8

L (mm): 18      W (mm): 18  
 D (mm): 2      Diam. (mm): -

**177 Tie-ring**

SF 3089 Context: 3014

Phase: 5 Area: B

*Lorica segmentata* tie-ring of type 3/4. See 173 for type and discussion.

Weight (g): 2.1

L (mm): 18      W (mm): 15  
 D (mm): 2      Diam. (mm): -

**178 Tie-ring**

SF 306 Context: 300

Phase: 7 Area: A

*Lorica segmentata* tie-ring of type 3/4. See 173 for type and discussion.

Weight (g): 1.2

L (mm): 18      W (mm): 15  
 D (mm): 2      Diam. (mm): -

**179 Tie-ring**

SF 3570 Context: u/s

Phase: - Area: -

*Lorica segmentata* tie-ring of type 3/4. See 173 for type and discussion.

Weight (g): 1.5

L (mm): 18      W (mm): 14  
 D (mm): 2      Diam. (mm): -

## Lorica squamata fittings

**180 Scale armour**

SF 2398 Context: 2106

Phase: 2 Area: 2

Upwards of 50 scales and fragments of scales including some of the wire used to lace them together. The collection contains mostly scales of the semi-rigid Corbridge/Musov type of *lorica squamata* (see 181) but a few of the more standard type (see 182) are also present.

Weight (g): 18.8

L (mm): -      W (mm): -  
 D (mm): -      Diam. (mm): -

**181 Scale armour**

SF 2517 Context: 2119

Phase: 2 Area: 3

Three joined scales and other fragments. Although none is complete, the combined evidence suggests that each scale had four pairs of holes: centre top and bottom, and near each edge. All these appear to have been used for wire lacing, suggesting semi-rigid Corbridge/Musov type of *lorica squamata*, where instead of a scale being wired together only to its horizontal neighbours and then sewn to a backing, it was also wired to the one above and the one below as well. Cf. Caerleon (Chapman 2005, 91 Na03).

Weight (g): 2.3

L (mm): 24      W (mm): 15  
 D (mm): 1      Diam. (mm): -

**182 Scale armour**

SF 3313 Context: 3064

Phase: 3 Area: 7

Two scales from *lorica squamata*. Still joined by a wire lacing through a pair of holes in each scale. The top of both scales is damaged, but in a way consistent with each originally having a central perforation for attachment to the backing fabric. Cf. Caerleon (Chapman 2005, 90 Na01).

Weight (g): 0.9

L (mm): 23      W (mm): 19

D (mm): 1          Diam. (mm): -

### 183 Scale armour

SF 2074 Context: 2005

Phase: 5 Area: A

Three scales from *lorica squamata*. All incomplete but still joined by a wire lacing.

Weight (g): 0

L (mm): 11          W (mm): 23

D (mm): 1          Diam. (mm): -

Helmet fittings

### 184 Handle

SF 2285 Context: 2098

Phase: 2 Area: 2

Drop-handle of square cross-section. Of a type used as a carrying-handle on a first or second century Imperial-Gallic type helmet but that could have other uses on boxes and furniture. Nine other examples are already known from Caerleon (Chapman 2005, 99-101).

Weight (g): 4.1

L (mm): 56          W (mm): 3

D (mm): 3          Diam. (mm): -

### 185 Handle

SF 3337 Context: 3027

Phase: 3 Area: 7

Drop-handle of diamond shaped section. See 184 for type and discussion.

Weight (g): 12.1

L (mm): 86          W (mm): 5

D (mm): 5          Diam. (mm): -

Belt fittings

### 186 Belt-plate

SF 2035 Context: 2023

Phase: 3 Area: 2

Openwork belt-plate, with a rod and button terminal projecting forward at one end forming a frog for the attachment of a strap. On the back there are two studs ending in discs (diam. 6 mm), to attach it to the belt. The openwork decoration takes the form of a lattice of interlocking crosses. Thirteen other belt-plates decorated in this style are already known from Caerleon, making them by far the most common form of mid-second to third century belt-plate recovered (Chapman 2005, 109-11; Lloyd-Morgan 2000, 374 No. 144).

Weight (g): 4.6

L (mm): 38          W (mm): 17

D (mm): 1          Diam. (mm): -

### 187 Belt-plate

SF 3263 Context: 3047

Phase: 3 Area: 7

Belt-plate with a slightly sunken centre and flat pelta-shaped terminal at each end. The plate is hollow on the underside, with two struts for attachment to the belt. Cf. Caerwent (Chapman 2005, 115 Sf07).

Weight (g): 6.9

L (mm): 51          W (mm): 14

D (mm): 4          Diam. (mm): -

### 188 Belt-plate

SF 3372 Context: 3047

Phase: 3 Area: 7

Belt-plate with a raised curved terminal at one end and a rivet hole near either end. Similar in general form, but flatter, to another belt-plate from Caerleon (Chapman 2005, 115 Sf05; Brewer 1986d, 178 No. 76).

Weight (g): 15

L (mm): 53          W (mm): 23

D (mm): 2          Diam. (mm): -

### 189 Belt-plate

SF 264 Context: 210

Phase: 4 Area: A

Small fragment of an openwork belt-plate. Just enough survives to indicate a lattice of interlocking crosses. See 186 for type and discussion.

Weight (g): 0.6

L (mm): 9          W (mm): 20

D (mm): 2          Diam. (mm): -

### 190 Belt-plate

SF 3568 Context: u/s

Phase: - Area: -

Belt-plate with sunken openwork lattice panel, formed by circular perforations Cf. Stockstadt (Oldenstein 1976, 267 787).

Weight (g): 13.9

L (mm): 56          W (mm): 30

D (mm): 4          Diam. (mm): -

### 191 Buckle

SF 2570 Context: 2098

Phase: 2 Area: 2

Hinged buckle with an enamelled crescentic hoop continuing into an internal scroll at the surviving end, which also has a perforated tag (Chapman 2005, 117 Sg19; Lloyd-Morgan 2000, 377 No. 158).

Weight (g): 6.3

L (mm): 31          W (mm): 37

D (mm): 3          Diam. (mm): -

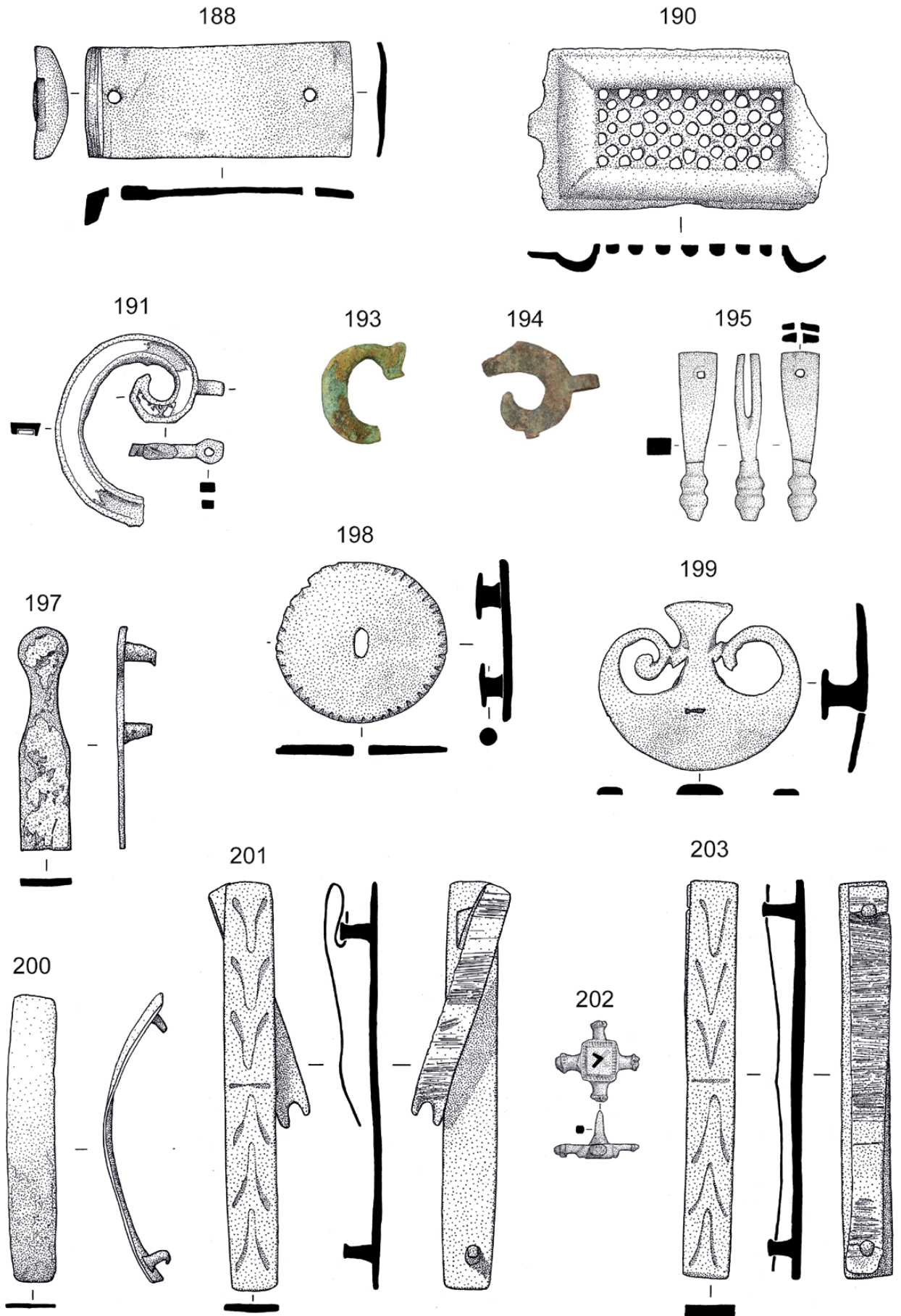
### 192 Buckle

SF 3358 Context: 3047

Phase: 3 Area: 7

Hoop from a D-shaped buckle, ends pierced for attachment to an axial bar Cf. Caerleon (Chapman 2005, 116 Sg13).

Weight (g): 4.1



L (mm): 29      W (mm): 31  
D (mm): 3      Diam. (mm): -

**193 Buckle**

SF 3271 Context: 3067

Phase: 3 Area: 6

Fragment of a small buckle. A plain curved hoop with a slight outward projection in line with where the axial bar would have sat.

Weight (g): 2.4

L (mm): 20      W (mm): 14  
D (mm): 4      Diam. (mm): -

**194 Buckle**

SF 754 Context: 706

Phase: 6 Area: A

One lug and an internal scroll from a buckle, containing traces of enamel decoration. See 191 for type.

Weight (g): 2

L (mm): 20      W (mm): 17  
D (mm): 2      Diam. (mm): -

**195 Strap end**

SF 2403 Context: 2098

Phase: 2 Area: 2

Strap-end consisting of a rod with a simple knob and collar terminal at one end and a bifurcated shank secured by a single rivet at the other end. Cf Caerleon (Chapman 2005, 124 Sp01).

Weight (g): 3.8

L (mm): 30      W (mm): 7  
D (mm): 5      Diam. (mm): -

**196 Strap end**

SF 907 Context: 905

Phase: 5 Area: A

Simple plain strap-end with curved end and a single rivet hole.

Weight (g): 2

L (mm): 27      W (mm): 14  
D (mm): 3      Diam. (mm): -

**197 Strap end**

SF 2054 Context: 2005

Phase: 5 Area: A

Strap-end in the form of a narrow straight sided plate. At one end it is slightly waisted before expanding again to form a circular terminal. The other end is broken. The front is silvered or tinned. Two studs project from the back. One from the terminal and one just before the plate starts to narrow.

Weight (g): 3.7

L (mm): 42      W (mm): 10  
D (mm): 1      Diam. (mm): -

**198 Belt or strap mount**

SF 3392 Context: 3080

Phase: 1ii      Area: 6

Flat circular mount with slot (6 by 3 mm) in centre and notched decoration around the edge. Two studs project from the back, one at each end of the slot, both have discs at the end (diam. 8 mm). Cf Caerleon (Chapman 2005, 128 Sr36).

Weight (g): 9.5

L (mm): -      W (mm): -  
D (mm): 2      Diam. (mm): 31

**199 Belt or strap mount**

SF 3425 Context: 3080

Phase: 1ii      Area: 6

Peltiform belt or harness mount with a central stud on the back ending in a disc terminal. Cf. Caerleon (Chapman 2005, 126 Sr17).

Weight (g): 8

L (mm): 32      W (mm): 38  
D (mm): 1      Diam. (mm): -

**200 Belt or strap mount**

SF 2243 Context: 2080

Phase: 2 Area: 1

Long thin mount, now slightly bent. The front face is plain but retains evidence of silvering or tinning. A stud projects from the back near each end.

Weight (g): 2.8

L (mm): 53      W (mm): 9  
D (mm): 1      Diam. (mm): -

**201 Belt or strap mount**

SF 2298 Context: 2098

Phase: 2 Area: 2

Long thin mount decorated, rather crudely, on the front face by a line of incised V-shapes pointing inwards from either end, along the length of the mount. A stud projects from the back near either end. These were originally joined by a second plate, slightly narrower than the front plate. This plate is now bent and remains attached only at one end. SEM analysis indicates that the mount's surface is tinned and silvered (silver was found overlying the tin). The tin is perhaps from the silvering process, or it could have been applied selectively to certain areas in order to present a decorative final appearance with contrasting areas of shiny silver and dull tin (Buxey Brown 2011).

Weight (g): 9

L (mm): 72      W (mm): 10  
D (mm): 9      Diam. (mm): -

**202 Belt or strap mount**

SF 3229 Context: 3027

Phase: 3 Area: 7

Small cruciform mount. A square central panel has a short arm projecting from each edge. The arms are D-shaped in section, being flat on the back. The ends of three of the arms are damaged but all appear originally

to have ended in a rounded end beyond a slight collar, decorated with transverse grooves. The central panel has a similarly grooved border, inside which are the remains of what appears to have been a saltire cross shape in blue enamel.

Weight (g): 1

L (mm): 15          W (mm): 15

D (mm): 2          Diam. (mm): -

### 203 Belt or strap mount

SF 819 Context: 2014

Phase: 6 Area: A

Long thin mount decorated, rather crudely, on the front face, by a line of incised V-shapes pointing inwards from either end, along the length of the mount. A stud projects from the back near each end. These are joined by a second plate, slightly narrower than the front plate.

Weight (g): 9

L (mm): 72          W (mm): 9

D (mm): 3          Diam. (mm): -

#### Harness fittings

### 204 Junction loop

SF 3377 Context: 3082

Phase: 1ii Area: 6

Harness junction loop of 'double spectacle' type. The front plate has a pronounced moulded decoration between two pairs of rivet holes. The area around each rivet hole is slightly sunken and surrounded by a slight groove. At one end the plate flares slightly before the junction with the loop, the back of which is slightly concave. The other end is broken just below the rivet holes. Cf. Corbridge (Bishop 1988, 124 7).

Weight (g): 6.8

L (mm): 46          W (mm): 14

D (mm): 6          Diam. (mm): -

### 205 Junction loop

SF 3269 Context: 3059

Phase: 7 Area: B

Harness junction loop. A flat plate with circular perforations, in slightly sunken circular areas, at either end. The junction between plate and loop is decorated by a pair of collars. The loop starts as D-shaped in section but flattens out as it bends over. Cf. Caerleon (Chapman 2005, 134-5, Td09 and Td21).

Weight (g): 5

L (mm): 54          W (mm): 12

D (mm): 13          Diam. (mm): -

### 206 Harness mount

SF 823 Context: 818

Phase: 1i Area: -

Flat circular harness or belt stud with a disc terminal at the other end of the shaft.

Weight (g): 1.9

L (mm): 7          W (mm): -

D (mm): -          Diam. (mm): 19

### 207 Harness mount

SF 2241 Context: 2080

Phase: 2 Area: 1

A thin disc with a ridge slightly in from the edge and central rectangular sectioned shaft, which passes through a circular washer, on the back. Probably a harness mount. Cf. Caerleon (Chapman 2005, 138 Tg17).

Weight (g): 4.5

L (mm): -          W (mm): -

D (mm): 3          Diam. (mm): 44

### 208 Harness mount

SF 2006 Context: 2002

Phase: 3 Area: 4

Harness mount. Plain, curve sided central panel with rounded terminals to either end. One terminal is markedly more pointed than the other, but both are decorated by a series of grooves running in from the edge. Convex face and hollow back. The remains of two studs project from the back where the terminals start. Lacking a close parallel but there is a mount of similar general form from Caerleon (Chapman 2005, 138 Tg12).

Weight (g): 7.7

L (mm): 42          W (mm): 18

D (mm): 4          Diam. (mm): -

### 209 Harness mount

SF 322 Context: 338

Phase: 4 Area: A

Disc with concentric grooved decoration. Possibly a phalera, although no evidence for the means of attachment survives (Bishop 1988, 94-5).

Weight (g): 20.1

L (mm): -          W (mm): -

D (mm): 3          Diam. (mm): 38

### 210 Harness mount

SF 405 Context: 401

Phase: 6 Area: A

One corner of a large openwork plate. One stud for attachment survives on the back. Given the suggested size, probably a harness fitting rather than from a belt.

Weight (g): 4.8

L (mm): 28          W (mm): 25

D (mm): 2          Diam. (mm): -

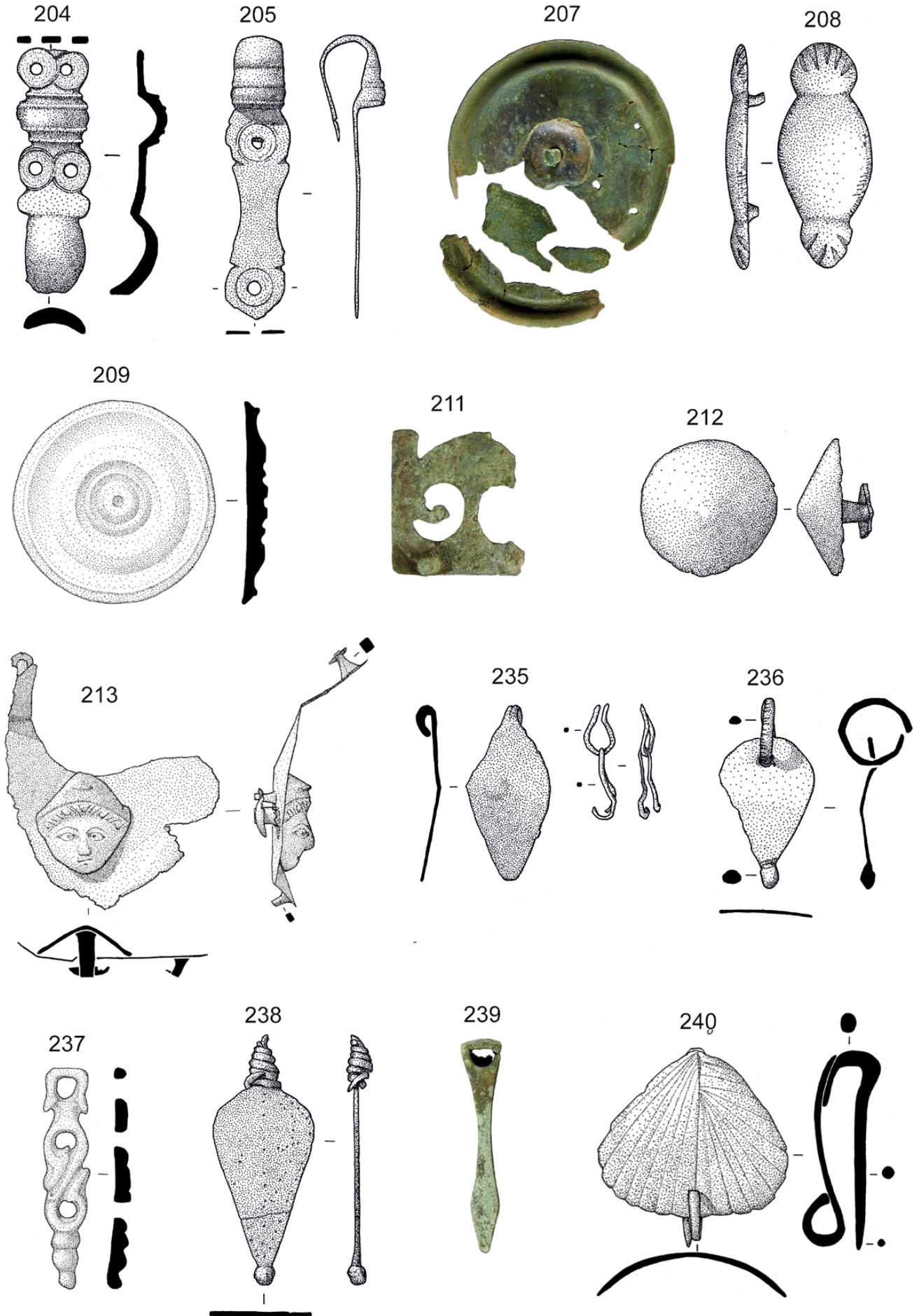
### 211 Harness stud

SF 824 Context: 818

Phase: 1i Area: -

Circular harness or belt stud with a disc terminal at the other end of the shaft. The head is flat but has a slightly downturned edge. Cf Caerleon (Lloyd-Morgan 2000, 361 No. 86).

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0 50 mm

Weight (g): 2.1

L (mm): 7      W (mm): -  
D (mm): -      Diam. (mm): 19

**212      Harness stud**

SF 431      Context: 410

Phase: 6      Area: A

Conical headed harness or belt stud with a disc terminal at the other end of the shaft. Cf. Caerleon (Webster 1992, 129 No. 120; Chapman 2005, 138 Tg13).

Weight (g): 5.9

L (mm): -      W (mm): -  
D (mm): 13      Diam. (mm): 26

Chamfron fittings

**213      Decorative sheet**

SF 2604      Context: 2106

Phase: 2      Area: 2

Cast lozenge shaped decorative stud depicting a human face shown looking forwards and wearing a Phrygian cap, from the bottom of which protrude locks of hair, attached to a plate in the shape of a stylised leaf. Three pins protrude from the back around the edge of the plate to attach it to the backing material. The shaft of the decorative stud would also have attached to the backing material. A washer is still attached to the end of its shaft, and evidence of washers also remain for the pins of the plate. A decorative earpiece from the fragmentary chamfron in Room 2. Cf. Vindolanda (van Driel-Murray 1989, 290 Fig. 6).

Weight (g): -

L (mm): 50      W (mm): 40  
D (mm): 12      Diam. (mm): -

**214      Stud**

SF 2404      Context: 2098

Phase: 2      Area: 2

Dome-headed stud, probably from the fragmentary chamfron in Room 2.

Weight (g): 2

L (mm): -      W (mm): -  
D (mm): 4      Diam. (mm): 26

**215      Stud**

SF 2410      Context: 2098

Phase: 2      Area: 2

Dome-headed stud, probably from the fragmentary chamfron in Room 2.

Weight (g): 0.3

L (mm): 8      W (mm): -  
D (mm): 3      Diam. (mm): 12

**216      Stud**

SF 2424      Context: 2098

Phase: 2      Area: 2

Flat-headed stud, probably from the fragmentary chamfron in Room 2.

Weight (g): 0.3

L (mm): 4      W (mm): -  
D (mm): 1      Diam. (mm): 12

**217      Stud**

SF 2445      Context: 2098

Phase: 2      Area: 2

Lead filled dome-headed stud, probably from the fragmentary chamfron in Room 2.

Weight (g): 7.6

L (mm): 14      W (mm): -  
D (mm): 10      Diam. (mm): 20

**218      Stud**

SF 2462      Context: 2098

Phase: 2      Area: 2

Flat-headed stud, probably from the fragmentary chamfron in Room 2.

Weight (g): 0.2

L (mm): 5      W (mm): -  
D (mm): 1      Diam. (mm): 10

**219      Stud**

SF 2483      Context: 2098

Phase: 2      Area: 2

Flat-headed stud, probably from the fragmentary chamfron in Room 2.

Weight (g): 0.5

L (mm): 5      W (mm): -  
D (mm): 1      Diam. (mm): 15

**220      Stud**

SF 2485      Context: 2098

Phase: 2      Area: 2

Flat-headed stud, probably from the fragmentary chamfron in Room 2.

Weight (g): 1.4

L (mm): 6      W (mm): -  
D (mm): 3      Diam. (mm): 27

**221      Stud**

SF 2487      Context: 2098

Phase: 2      Area: 2

Flat-headed stud, probably from the fragmentary chamfron in Room 2.

Weight (g): 3.7

L (mm): 20      W (mm): -  
D (mm): 2      Diam. (mm): 27

**222      Stud**

SF 2498      Context: 2098

Phase: 2      Area: 2

Flat-headed stud, probably from the fragmentary chamfron in Room 2.

Weight (g): 1

L (mm): 8      W (mm): -  
D (mm): 2      Diam. (mm): 20

- 223 Stud**  
SF 2501 Context: 2098  
Phase: 2 Area: 2  
Lead filled dome-headed stud, probably from the fragmentary chamfron in Room 2.  
Weight (g): 7.8  
L (mm): - W (mm): -  
D (mm): 11 Diam. (mm): 19
- 224 Stud**  
SF 2518 Context: 2098  
Phase: 2 Area: 2  
Dome-headed stud, probably from the fragmentary chamfron in Room 2.  
Weight (g): 0.4  
L (mm): 7 W (mm): -  
D (mm): 3 Diam. (mm): 10
- 225 Stud**  
SF 2534 Context: 2098  
Phase: 2 Area: 2  
Flat-headed stud, probably from the fragmentary chamfron in Room 2.  
Weight (g): 0.6  
L (mm): 5 W (mm): -  
D (mm): 2 Diam. (mm): 18
- 226 Stud**  
SF 3612 Context: 2098  
Phase: 2 Area: 2  
Flat-headed stud with indented ring around downturned edge. A rove remains attached to its shaft. Probably from the fragmentary chamfron in Room 2.  
Weight (g): 1.5  
L (mm): 7 W (mm): -  
D (mm): 2 Diam. (mm): 21
- 227 Stud**  
SF 2380 Context: 2098  
Phase: 2 Area: 2  
Flat-headed stud with a turned down edge, probably from the fragmentary chamfron in Room 2.  
Weight (g): 0.2  
L (mm): 3 W (mm): -  
D (mm): 1 Diam. (mm): 16
- 228 Stud**  
SF 2405 Context: 2106  
Phase: 2 Area: 2  
Stud, probably from the fragmentary chamfron in Room 2  
Weight (g): 0.9  
L (mm): 6 W (mm): -  
D (mm): 2 Diam. (mm): 23
- 229 Stud**  
SF 2464 Context: 2106
- Phase: 2 Area: 2  
Flat-headed stud, probably from the fragmentary chamfron in Room 2.  
Weight (g): 1.1  
L (mm): 6 W (mm): -  
D (mm): 2 Diam. (mm): 26
- 230 Stud**  
SF 2605 Context: 2106  
Phase: 2 Area: 2  
Flat-headed stud, probably from the fragmentary chamfron in Room 2.  
Weight (g): 7  
L (mm): 10 W (mm): -  
D (mm): 3 Diam. (mm): 20
- 231 Stud**  
SF 2606 Context: 2106  
Phase: 2 Area: 2  
Large flat-headed stud, possibly from the fragmentary chamfron in Room 2.  
Weight (g): ?  
L (mm): - W (mm): -  
D (mm): - Diam. (mm): ?
- 232 Stud**  
SF 2609 Context: 2106  
Phase: 2 Area: 2  
Large Flat-headed stud, probably from the fragmentary chamfron in Room 2.  
Weight (g): 2  
L (mm): 7 W (mm): -  
D (mm): 1 Diam. (mm): 34
- 233 Stud**  
SF 2611 Context: 2106  
Phase: 2 Area: 2  
Flat-headed stud, probably from the fragmentary chamfron in Room 2.  
Weight (g): 0.9  
L (mm): 4 W (mm): -  
D (mm): 1 Diam. (mm): 22
- 234 Stud**  
SF 2961 Context: 2106  
Phase: 2 Area: 2  
Dome-headed stud, probably from the fragmentary chamfron in Room 2.  
Weight (g): 1.4  
L (mm): 11 W (mm): -  
D (mm): 6 Diam. (mm): 22
- Pendants
- 235 Pendant**  
SF 2269 Context: 2080  
Phase: 2 Area: 1

Flat plain lozenge-shaped pendant with a hook for suspension at one end. Fragments of a chain were found in association with it.

L (mm): 33      W (mm): 16  
D (mm): 1      Diam. (mm): -

### 236 Pendant

SF 2329 Context: 2098

Phase: 2 Area: 2

Teardrop shaped pendant, flat but with a bi-conical terminal. As it now exists, it is suspended by a ring passing through a perforation, but this is possibly a crude repair for a broken suspension loop.

Weight (g): 1.7

L (mm): 29      W (mm): 18  
D (mm): 2      Diam. (mm): -

### 237 Pendant

SF 2394 Context: 2098

Phase: 2 Area: 2

Lanceolate pendant decorated with an openwork trumpet-motif in a S-scroll pattern. Lacking a close parallel but there is a pendant of similar general form from Caerleon (Lloyd-Morgan 2000, 380 No. 172).

Weight (g): 3.9

L (mm): 42      W (mm): 9  
D (mm): 3      Diam. (mm): -

### 238 Pendant

SF 2473 Context: 2107

Phase: 2 Area: 3

Elongated teardrop shaped pendant with remains of a twisted wire suspension loop at the top and globular terminal at the bottom. Both faces are decorated by a series of punched dots. Both appear to have a central line of dots down their length but beyond this the pattern on neither is clear.

Weight (g): 2.6

L (mm): 48      W (mm): 19  
D (mm): 3      Diam. (mm): -

### 239 Pendant

SF 2551 Context: 2119

Phase: 2 Area: 3

Lanceolate pendant. The back is flat, but the front is slightly raised with a clear central ridge. The eye is a wide U-shape. Faint traces of silvering or tinning survive on the front face. Cf. Caerleon (Chapman 2005, 149 Wa26).

Weight (g): 2.2

L (mm): 41      W (mm): 8  
D (mm): 3      Diam. (mm): -

### 240 Pendant

SF 2661 Context: 2119

Phase: 2 Area: 3

Cockleshell shaped pendant with a forward projecting loop in the centre of the curved edge and a long hook running the full length of the back, from the point of the shell. The presence of means of attachment at both ends suggests that it was one component of a larger item.

Weight (g): 6

L (mm): 38      W (mm): 35  
D (mm): 10      Diam. (mm): -

### 241 Pendant

SF 3317 Context: 3047

Phase: 3 Area: 7

Crescentic pendant with hollow back. There are the remains of a twisted wire suspension loop. A type common on Roman military sites. There is representational evidence for their use on military aprons (Bishop 1992, 81-91). The shape suggests an amulet. Nine examples are already known from Caerleon (Chapman 2005, 152 Wf02).

Weight (g): 1.2

L (mm): 32      W (mm): 20  
D (mm): 4      Diam. (mm): -

### 242 Pendant

SF 3319 Context: 3064

Phase: 3 Area: 7

Small, flat, leaf-shaped pendant. Its edges are now damaged, but it was probably always fairly crude, with a simple looped and twisted wire suspension loop.

Weight (g): 1.1

L (mm): 37      W (mm): 11  
D (mm): 1      Diam. (mm): -

### 243 Pendant

SF 3324 Context: 3072

Phase: 3 Area: 6

Flat lanceolate pendant with wide U-shaped eye. Cf. Caerleon (Chapman 2005, 149 Wa27).

Weight (g): 2.5

L (mm): 32      W (mm): 10  
D (mm): 2      Diam. (mm): -

### 244 Pendant

SF 751 Context: 718

Phase: 5 Area: A

Pointed oval pendant with a hook for suspension at one end. Crudely decorated by a row of dot round the edge. Fragments of a chain were found in association with it.

Weight (g): 2

L (mm): 31      W (mm): 16  
D (mm): 1      Diam. (mm): -

### 245 Pendant

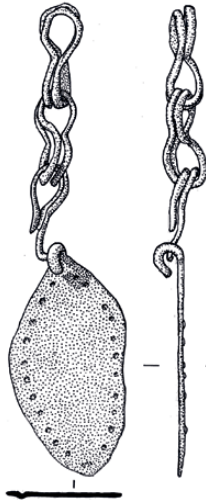
SF 3504 Context: 3060

Phase: 5 Area: B

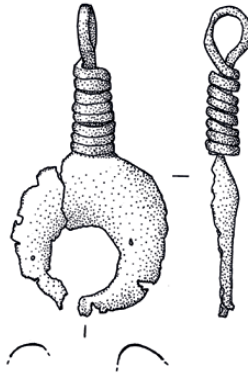
241



244



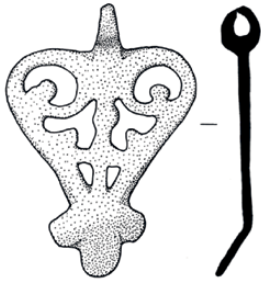
245



246



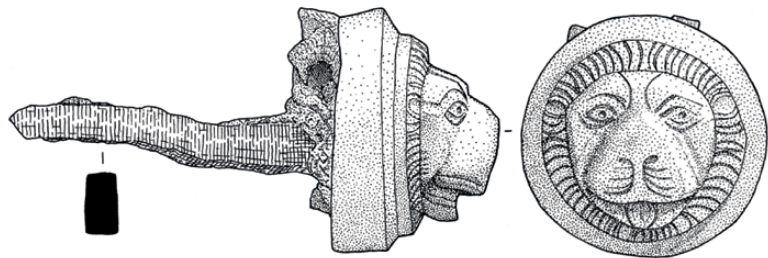
247



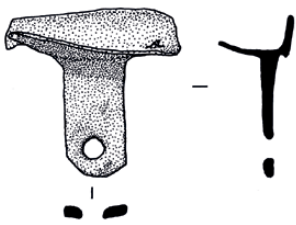
249



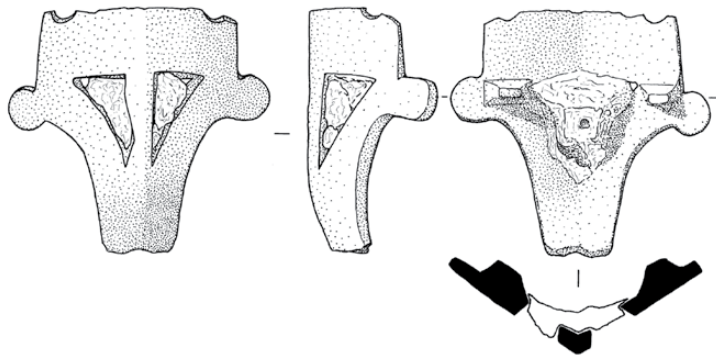
248



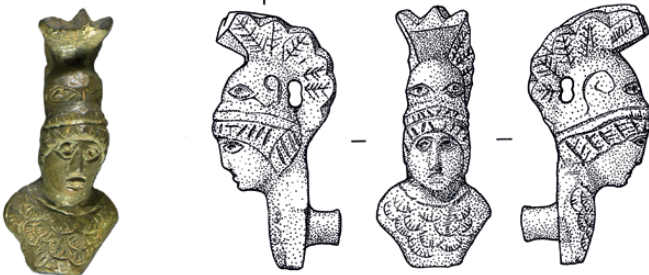
250



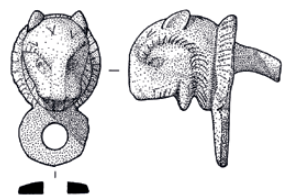
254



255



256



0 50 mm

Crescentic pendant with hollow back and a twisted wire suspension loop. See 241 for type and discussion.

Weight (g): 2

L (mm): 40          W (mm): 20

D (mm): 4          Diam. (mm): -

#### 246 Pendant

SF 028 Context: 005

Phase: 7 Area: B

Lanceolate pendant, pointed D-shaped, almost triangular in section, with a small bi-conical terminal and a large rectangular eye. Cf. Caerleon (Chapman 2005, 148 Wa16).

Weight (g): 3.1

L (mm): 45          W (mm): 11

D (mm): 3          Diam. (mm): -

#### 247 Pendant

SF 3567 Context: u/s

Phase: - Area: -

Openwork heart shaped pendant. The loop is cast in one with the pendant and is set at right-angles to the plane of the pendant. Cf. Zugmantel (Oldenstein 1976, 232).

Weight (g): 3.5

L (mm): 37          W (mm): 25

D (mm): 1          Diam. (mm): -

#### 248 Button and loop fastener

SF 2166 Context: 2023

Phase: 3 Area: 2

Triangular loop from a button-and-loop fastener. Apparently unfinished Cf. Caerleon (Chapman 2005, 162 Xh01).

Weight (g): 3.3

L (mm): 28          W (mm): 22

D (mm): 2          Diam. (mm): -

### *Household utensils and furniture fittings*

#### Furniture fittings

#### 249 Furniture mount

SF 2542 Context: 2119

Phase: 2 Area: 3

Mount in the form of a stylized lion's head with an iron shaft. A fairly common form of mount, but this is an unusually well modelled version. Cf Caerleon (Lloyd-Morgan 2000, 354-5, No. 41).

Weight (g): 7

L (mm): 65          W (mm): 32

D (mm): 8          Diam. (mm): -

#### 250 Furniture mount

SF 2619 Context: 2023

Phase: 3 Area: 2

Flat-headed furniture mount with two circular perforations, directly opposite each other, near its edge. A short, flat, shaft ends in a rounded end, with a

circular perforation near it. One side of the head is now bent up.

Weight (g): 2.7

L (mm): 22          W (mm): 23

D (mm): 10          Diam. (mm): -

#### 251 Furniture mount

SF 2199 Context: 2078

Phase: 3 Area: 2

Part of the head of a furniture stud with a flat circular head, the top of which is decorated by two widely spaced incised concentric circles. Cf. Caerleon (Webster 1992, 136, Nos 143-4).

Weight (g): 2

L (mm): 25          W (mm): 13

D (mm): 1          Diam. (mm): -

#### 252 Furniture mount

SF 2212 Context: 2088

Phase: 3 Area: 1

Flat-headed furniture mount. Shaft of flat rectangular section with an elongated perforation near its end. Cf. Caerleon (Webster 1992, 136, Nos 143-4).

Weight (g): 4.1

L (mm): 31          W (mm): 5

D (mm): 2          Diam. (mm): 21

#### 253 Furniture mount

SF 2188 Context: 2079

Phase: 4 Area: 2

Flat-headed furniture mount. Short, flat, shaft expanding slightly to a rounded end. Large circular perforation near that end. Cf. Caerleon (Webster 1992, 136, No. 145).

Weight (g): 3.5

L (mm): 25          W (mm): 7

D (mm): 1          Diam. (mm): 23

#### 254 Furniture mount

SF 304 Context: 300

Phase: 7 Area: A

Sturdy, angled openwork mount. Probably a corner strengthening for a box or casket.

Weight (g): 12

L (mm): 33          W (mm): 32

D (mm): 7          Diam. (mm): -

#### 255 Furniture mount

SF 2216 Context: 2045

Phase: 7 Area: A

Mount in the form of a bust of a figure wearing a heavily crested Corinthian helmet. A shaft of circular section projects from the back of the shoulders. The form of the crested helmet can be paralleled with that of depictions of Minerva or possibly Mars. Cf. Caerleon (Brewer 1986d, 177-8 No. 59; Webster 1992, 106 No. 2). SEM analysis indicates that the mount's body is a high

lead-tin-copper alloy and the surface is tinned (Buxey Brown 2011).

Weight (g): 16

L (mm): 35          W (mm): 16

D (mm): 9          Diam. (mm): -

#### 256 Furniture mount

SF 3523 Context: u/s

Phase: - Area: -

Mount in the form of a cat's head. A circular shaft projects from the back and there is a small, perforated plate below.

Weight (g): 7

L (mm): 20          W (mm): 19

D (mm): 11          Diam. (mm): -

#### 257 Furniture mount

SF 3589 Context: u/s

Phase: - Area: -

Mount in the form of a youthful face with stylised flowing hair. A single shaft for attachments projects from the centre of the back. The style of the depiction is similar to those identified as masks of Bacchus. Cf. Nijmegen (Zadoks-Josephus Jitta and Witteveen 1973, 69 Nos 115-7), but as it is an unstratified find a later, medieval, date cannot be ruled out.

Weight (g): 12

L (mm): 21          W (mm): 20

D (mm): 19          Diam. (mm): -

#### 258 Furniture stud

SF 2656 Context: 2119

Phase: 2 Area: 3

Furniture stud with a flat circular head, the top of which is decorated by a sunken dot at the centre and two widely spaced incised concentric circles. Slight traces of silvering or tinning survive: SEM analysis indicates that the surface of the stud's head is primarily tin with some copper and lead (Buxey Brown 2011). Shaft of flat rectangular section, broken off across the perforation.

Weight (g): 10.9

L (mm): 31          W (mm): 5

D (mm): 4          Diam. (mm): 25

#### 259 Furniture stud

SF 2715 Context: 2119

Phase: 2 Area: 3

Furniture stud with a flat circular head, the top of which is decorated by a sunken dot at the centre and two widely spaced incised concentric circles. Shaft of flat rectangular section with a circular perforation near its end. Cf. Caerleon (Webster 1992, 136, Nos 143-4).

Weight (g): 5.3

L (mm): 24          W (mm): 5

D (mm): 3          Diam. (mm): 26

#### 260 Furniture stud

SF 2311 Context: 2023

Phase: 3 Area: 2

Furniture stud with a flat circular head, notched around the edge. Shaft of flat rectangular section with a slot near its end.

Weight (g): 8.7

L (mm): 24          W (mm): 6

D (mm): 4          Diam. (mm): 24

#### 261 Furniture stud

SF 2131 Context: 2059

Phase: 3 Area: 1

Furniture stud with a plain flat circular head. Shaft of flat rectangular section with a circular perforation about two-thirds down its length. Cf. Caerleon (Webster 1992, 136 Nos 143-4).

Weight (g): 8.9

L (mm): 34          W (mm): 6

D (mm): 5          Diam. (mm): 31

#### 262 Furniture stud

SF 2144 Context: 2061

Phase: 3 Area: 1

Decorative furniture stud with a circular slightly domed head decorated by radiating grooves that divide it into eight segments. Shaft of a flat rectangle section with a circular piecing through the wider sides near its end. Cf. Caerleon (Webster 1992, 135 No. 137). SEM analysis indicates that the silvery colour of the surface, which survives particularly well in the grooves, is the result of tinning (Buxey Brown 2011).

Weight (g): 7.6

L (mm): 27          W (mm): 7

D (mm): 3          Diam. (mm): 20

#### 263 Furniture stud

SF 3285 Context: 3063

Phase: 3 Area: 7

Furniture stud with a flat circular head the top of which is decorated by a sunken dot at the centre and two widely spaced incised concentric circles. Shaft of flat rectangular section with a circular perforation near its end. Cf. Caerleon (Webster 1992, 136 Nos 143-4).

Weight (g): 5

L (mm): 5          W (mm): -

D (mm): 1          Diam. (mm): 25

#### 264 Furniture stud

SF 3209 Context: 3055

Phase: 5 Area: B

Heavy furniture stud with flat circular head, decorated by multiple concentric grooves, and a short shaft, of rectangular section, with a large circular perforation near its end.

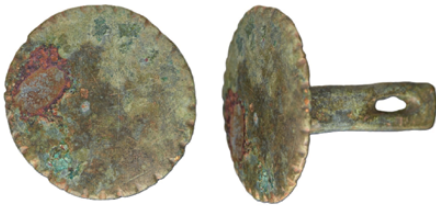
257



258



260



262



265



267



268



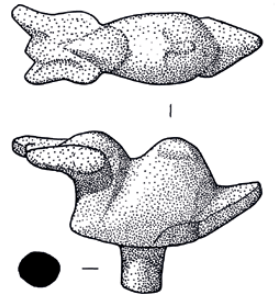
272



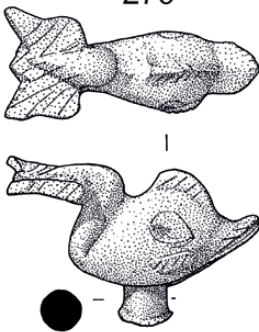
276



278



279



280



282



283



284



Weight (g): 15.5  
 L (mm): 22      W (mm): 9  
 D (mm): 3      Diam. (mm): 31

### 265 Furniture stud

SF 046 Context: u/s

Phase: - Area: -

Furniture stud with a flat circular head. The flat shaft expands slightly towards the end, where there is a rectangular perforation. The shaft is now bent right over.

Weight (g): 3.4

L (mm): 21      W (mm): 4  
 D (mm): 1      Diam. (mm): 27

### 266 Furniture stud

SF 3584 Context: u/s

Phase: - Area: -

Furniture stud with a flat circular head the top of which is decorated by a sunken dot at the centre and two widely spaced incised concentric circles. Shaft of flat rectangular section, broken off across the perforation. Cf. Caerleon (Webster 1992, 136 No. 143-4).

Weight (g): 4.6

L (mm): 14      W (mm): -  
 D (mm): 1      Diam. (mm): 25

### 267 Furniture terminal

SF 3502 Context: 3143

Phase: li Area: -

Acorn shaped terminal, possibly from a drop-handle for a box or casket. Cf. Caerleon (Lloyd-Morgan 2000, 353 No. 35).

Weight (g): 10.3

L (mm): 23      W (mm): 11  
 D (mm): 11      Diam. (mm): -

### 268 Furniture binding

SF 1010 Context: 1002

Phase: 5 Area: A

An L-shaped plate with its outer edge bent down, and slightly dished towards the inner edge. Both ends are broken so its original size and form are uncertain, but it is probably strengthening for the corner of a chest. Cf. Gorhambury (Wardle 1990, 132 No. 260).

Weight (g): 1.3

L (mm): 30      W (mm): 30  
 D (mm): 2      Diam. (mm): -

### 269 Furniture inlay

SF 2711 Context: 614

Phase: lii Area: 4

Narrow strip with a slight D-shaped profile. Segmented decoration formed of a series of transverse grooves. Cf. Caerleon (Webster 1992, 158 Nos 372-4).

Weight (g): 0.9

L (mm): 65      W (mm): 2  
 D (mm): 1      Diam. (mm): -

### 270 Furniture inlay

SF 2540 Context: 2119

Phase: 2 Area: 3

Two long narrow strips, flat on the back and beaded on the front face. Either part of a bracelet or, perhaps more likely, a piece of inlay for a box or other small item of furniture.

Weight (g): 1

L (mm): 135      W (mm): 2  
 D (mm): 1      Diam. (mm): -

### 271 Furniture inlay

SF 2033 Context: 2023

Phase: 3 Area: 2

A long narrow strip, flat on the back and beaded on the front face. See 270 for type and discussion.

Weight (g): 0.9

L (mm): 80      W (mm): 2  
 D (mm): 1      Diam. (mm): -

### 272 Furniture inlay

SF 2042 Context: 2023

Phase: 3 Area: 2

A long narrow strip, flat on the back and beaded on the front face. See 270 for type and discussion.

Weight (g): 0.9

L (mm): 41      W (mm): 3  
 D (mm): 2      Diam. (mm): -

### 273 Furniture inlay

SF 2402 Context: 2023

Phase: 3 Area: 2

A long narrow strip, flat on the back and beaded on the front face. See 270 for type and discussion.

Weight (g): 0.4

L (mm): 32      W (mm): 3  
 D (mm): 1      Diam. (mm): -

### 274 Furniture inlay

SF 2197 Context: 2079

Phase: 4 Area: 2

A long narrow strip, flat on the back and beaded on the front face. See 270 for type and discussion.

Weight (g): 1.2

L (mm): 60      W (mm): 2  
 D (mm): 1      Diam. (mm): -

### 275 Furniture inlay

SF 3183 Context: 3055

Phase: 5 Area: B

Narrow strip with a slight D-shaped profile. Segmented decoration formed of a series of transverse grooves. Cf. Caerleon (Webster 1992, 158 Nos 372-4).

Weight (g): 0.8  
 L (mm): 80      W (mm): 2  
 D (mm): 1      Diam. (mm): -

### 276 Furniture inlay

SF 419 Context: 402

Phase: 6 Area: A

A narrow strip with castellated style decoration along one long edge. Either part of a bracelet or, perhaps more likely, a piece of inlay for a box or other small item of furniture.

Weight (g): 0.7

L (mm): 50      W (mm): 3  
 D (mm): 1      Diam. (mm): -

### 277 Furniture inlay

SF 030 Context: 005

Phase: 7 Area: B

Two fragments of a narrow strip with castellated style decoration along one long edge. Either part of a bracelet or, perhaps more likely, a piece of inlay for a box or other small item of furniture.

Weight (g): 2.6

L (mm): 130      W (mm): 3  
 D (mm): 1      Diam. (mm): -

Vessel attachments

### 278 Vessel mount

SF 513 Context: 503

Phase: 1ii Area: yard

Vessel mount in the form of a squat, highly stylized dolphin on a short circular shaft.

Weight (g): 15.1

L (mm): 33      W (mm): 9  
 D (mm): 20      Diam. (mm): -

### 279 Vessel mount

SF 3522 Context: u/s

Phase: - Area: -

Vessel mount in the form of a squat stylized dolphin on a short circular shaft. Additional details have been provided by incised lines.

Weight (g): 17

L (mm): 30      W (mm): 20  
 D (mm): 10      Diam. (mm): -

### 280 Knob

SF 2143 Context: 2059

Phase: 3 Area: 1

Cylindrical knob or terminal with tapering sections between three pronounced disc collars.

Weight (g): 15.1

L (mm): 26      W (mm): -  
 D (mm): -      Diam. (mm): 15

### 281 Knob

SF 3573 Context: u/s

Phase: - Area: -

Conical knob with a deeply concave face, possibly the setting for another element. Traces of an iron shaft.

Weight (g): 7.1

L (mm): 14      W (mm): -  
 D (mm): -      Diam. (mm): 19

### 282 Ring handle

SF 3350 Context: 3065

Phase: 3 Area: 7

Simple ring handle formed by a penannular ring with a strip wrapped round it and riveted to itself.

Weight (g): 3.3

L (mm): 29      W (mm): 10  
 D (mm): 4      Diam. (mm): 20

### 283 Ring handle

SF 2169 Context: 2073

Phase: 5 Area: A

Simple ring handle formed of a solid ring with a narrow strip wrapped around it. The strip is broken across a perforation.

Weight (g): 2.9

L (mm): -      W (mm): 3  
 D (mm): 2      Diam. (mm): 19

*Fasteners and fittings*

### 284 Decorative sheet

SF 2594 Context: 2098

Phase: 2 Area: 2

Thin, roughly rectangular sheet, but with one short edge at a slant. Picked out in closely spaced punched dots is a well worked depiction of a Capricorn in a roughly rectangular frame. Short, scored lines are used to suggest the Capricorn's hair. Remains of broad, possibly enamelled, borders on its upper, lower, and right-hand sides indicate the sheet has been cut down from a larger object. It was found against an iron plate and it seems likely that it had been attached to it, although no means of fixing could be identified.

Weight (g): 11

L (mm): 87      W (mm): 42  
 D (mm): 1      Diam. (mm): -

### 285 Glass headed stud

SF 2679 Context: 2121

Phase: 1ii Area: 1

Cup shaped stud with domed blue glass insert. Cf. Caerleon (Webster 1992, 147-8 Nos 288-94; Brewer 1986d, 175 Nos 19-20).

Weight (g): 3

L (mm): 33      W (mm): -  
 D (mm): 11      Diam. (mm): 14

**286 Glass headed stud**

SF 2196 Context: 2062

Phase: 2 Area: 1

Cup shaped stud with domed clear glass insert. See 285 for type.

Weight (g): 2.9

L (mm): 33 W (mm): -

D (mm): 11 Diam. (mm): 13

**287 Glass headed stud**

SF 2497 Context: 2098

Phase: 2 Area: 2

Cup shaped stud with domed pale blue glass insert. See 285 for type.

Weight (g): 2.2.

L (mm): 16 W (mm): -

D (mm): 6 Diam. (mm): 13

**288 Glass headed stud**

SF 2030 Context: 2023

Phase: 3 Area: 2

Cup shaped stud with domed dark glass insert. See 285 for type.

Weight (g): 1.6

L (mm): 17 W (mm): -

D (mm): 9 Diam. (mm): 13

**289 Glass headed stud**

SF 3297 Context: 3047

Phase: 3 Area: 7

Cup shaped stud with domed dark green glass insert. See 285 for type.

Weight (g): 1.4

L (mm): 15 W (mm): -

D (mm): 5 Diam. (mm): 12

**290 Glass headed stud**

SF 3357 Context: 3047

Phase: 3 Area: 7

Small cup shaped stud with domed clear glass insert. See 285 for type.

Weight (g): 0.8

L (mm): 11 W (mm): -

D (mm): 6 Diam. (mm): 8

**291 Glass headed stud**

SF 3326 Context: 3063

Phase: 3 Area: 7

Cup shaped stud with domed dark glass insert. See 285 for type.

Weight (g): 2.3

L (mm): 22 W (mm): -

D (mm): 9 Diam. (mm): 13

**292 Glass headed stud**

SF 3299 Context: 3064

Phase: 3 Area: 7

Cup shaped stud with domed clear glass insert. See 285 for type.

Weight (g): 1.5

L (mm): 20 W (mm): -

D (mm): 6 Diam. (mm): 12

**293 Glass headed stud**

SF 323 Context: 338

Phase: 4 Area: A

Cup shaped stud with domed glass insert. See 285 for type.

Weight (g): 2.7

L (mm): 24 W (mm): -

D (mm): 9 Diam. (mm): 12

**294 Glass headed stud**

SF 3241 Context: 3058

Phase: 5 Area: B

Cup shaped stud with domed dark glass insert. See 285 for type.

Weight (g): 2.8

L (mm): 34 W (mm): -

D (mm): 9 Diam. (mm): 13

**295 Glass headed stud**

SF 802 Context: 800

Phase: 7 Area: A

Small cup shaped stud with domed dark glass insert. See 285 for type.

Weight (g): 0.6

L (mm): 13 W (mm): -

D (mm): 6 Diam. (mm): 8

**296 Glass headed stud**

SF 3516 Context: u/s

Phase: - Area: -

Small cup shaped stud with domed clear glass insert. See 285 for type.

Weight (g): 0.8

L (mm): 20 W (mm): -

D (mm): 6 Diam. (mm): 8

**297 Glass headed stud**

SF 3583 Context: u/s

Phase: - Area: -

Cup shaped stud with domed dark glass insert. See 285 for type.

Weight (g): 2.5

L (mm): 20 W (mm): -

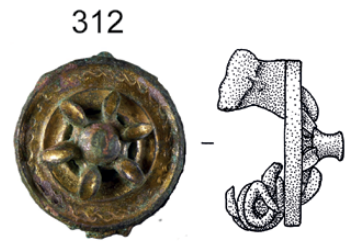
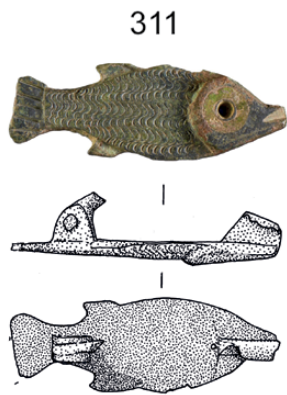
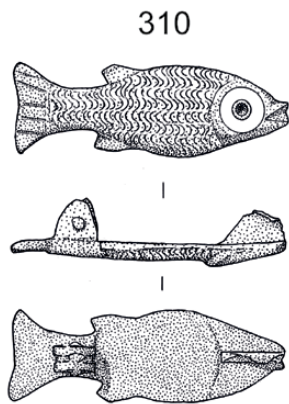
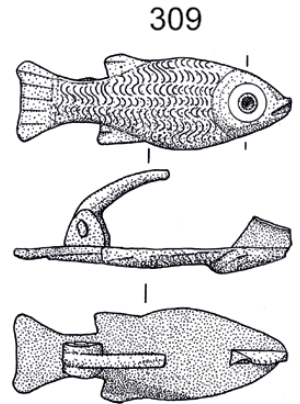
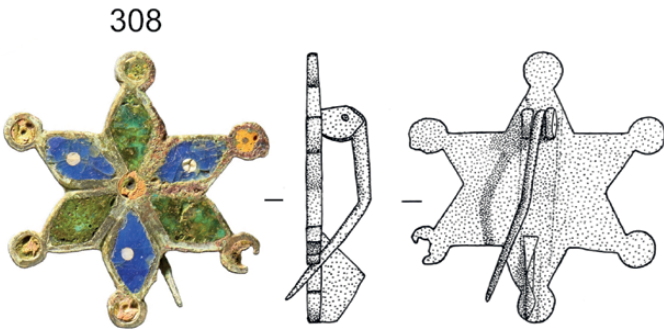
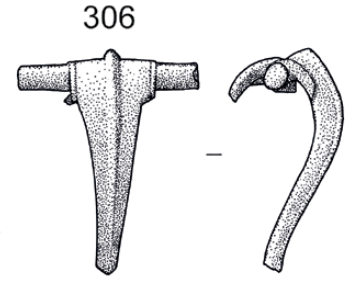
D (mm): 8 Diam. (mm): 14

**298 Bell shaped stud**

SF 2279 Context: 2080

Phase: 2 Area: 1

Circular stud, looking from the top like a very small bell-shaped stud, but more of a disc than a bell-shape behind. There are remains of a copper alloy shaft on the back.



Weight (g): 2.9  
 L (mm): 6            W (mm): -  
 D (mm): -            Diam. (mm): 12

### 299 Bell shaped stud

SF 3104 Context: 3012

Phase: 5 Area: B

Small bell-shaped stud with part of its iron shaft surviving. Cf. Caerleon (Lloyd-Morgan 2000, 361-2 Nos 88-93; Webster 1992, 135-6 Nos 139-40).

Weight (g): 21.5  
 L (mm): 13            W (mm): -  
 D (mm): -            Diam. (mm): 22

### 300 Bell shaped stud

SF 303 Context: 300

Phase: 7 Area: A

A larger, shallower, bell-shaped stud with traces of its iron shaft surviving. Cf. Caerleon (Lloyd-Morgan 2000, 361-2, Nos 88-93; Webster 1992, 135-6 Nos 139-40).

Weight (g): 68.4  
 L (mm): 29            W (mm): -  
 D (mm): -            Diam. (mm): 36

### 301 Stud

SF 243 Context: 208

Phase: 6 Area: A

Small dome headed stud with a disc terminal at the other end of the shaft. The head is decorated by six, slight, radiating ribs.

Weight (g): 5  
 L (mm): 16            W (mm): 13  
 D (mm): 4            Diam. (mm): -

### 302 Split pin

SF 2371 Context: 2091

Phase: 2 Area: 4

Short rod bent back on itself forming a small loop. Possibly the remains of a split pin.

Weight (g): 1  
 L (mm): 16            W (mm): 8  
 D (mm): 3            Diam. (mm): -

### 303 Split pin

SF 2161 Context: 2070

Phase: 3 Area: 1

Rod of flat rectangular section bent back on itself forming a loop. Tapers towards the two ends. Probably a split pin.

Weight (g): 1.3  
 L (mm): 29            W (mm): 10  
 D (mm): 3            Diam. (mm): -

### 304 Rivet

SF 2665 Context: 2121

Phase: 1ii Area: 1

Rod of flat rectangular section bent down and back out in the middle, possibly to form a rivet.

Weight (g): 1.2  
 L (mm): 43            W (mm): 6  
 D (mm): 4            Diam. (mm): -

### Textiles

### 305 Needle?

SF 2638 Context: 2123

Phase: 1ii Area: 4

Slender, slightly tapering rod of circular section. A slight groove across the wider end suggests it is possibly the remains of a needle.

Weight (g): 1.9  
 L (mm): 118            W (mm): -  
 D (mm): -            Diam. (mm): 2

### Personal adornment

### 306 Brooch

SF 3427 Context: 3090

Phase: 0ii Area: 5

Small hinged T-shaped brooch with a wide flat head and plain tubular side-wings. The only decoration are single appendages to each side of the head and a narrow moulding running down the centre of the bow. The lower part of the bow is missing. Hull Type 104, one of the several Lower Severn Valley hinged T-shaped types. Cf. Caerleon (Wheeler and Wheeler 1928, 162 No. 4); Usk (Manning, Price and Webster 1995, 81-2 No. 47; Bayley and Butcher 2004, 159).

Weight (g): 4.1  
 L (mm): 29            W (mm): 24  
 D (mm): 11            Diam. (mm): -

### 307 Brooch

SF 2667 Context: 2123

Phase: 1ii Area: 4

Brooch foot and catch-plate of a slender bow brooch. The catch-plate has a small circular piercing.

Weight (g): 0.8  
 L (mm): 22            W (mm): 11  
 D (mm): 3            Diam. (mm): -

### 308 Brooch

SF 2655 Context: 2119

Phase: 2 Area: 3

Plate brooch in the form of a six-pointed star, formed of six lozenge-shaped celled, filled alternatively by blue and green enamel. The blue enamel cells are further decorated by a dot of white enamel. The point of each lozenge-shaped cell has a small disc terminal filled with orange enamel. There is also a small circular cell of orange enamel at the centre of the brooch. No close parallel has been found for this brooch but one from Castleford has similarities, although that brooch

is considerably more complex (Cool and Philo 1998, 53 No. 110).

Weight (g): 7.6

L (mm): 36            W (mm): 32

D (mm): 2            Diam. (mm): -

### 309 Brooch

SF 3272 Context: 3047

Phase: 3 Area: 7

Plate brooch in the form of a fish. The catch plate is hidden behind the mouth and the two lugs for the hinged pin are just forward of the tail. The head is modelled with a partially open mouth, formed by an incised V, and a large circular enamelled eye. The enamel in the outer ring is now a yellowish green colour and traces of red enamel have been detected in the now largely empty central cell. The head is separated from the body by a shadow depression. The body is sinuous with a dorsal and ventral fin projecting as it starts to taper. The impression of scales is given lines of curving impressions of varying length. The tail is flared with its end slightly curved to give two slight points, and has five longitudinal grooves. Cf. Brancaster (Mackreith 1985, 203 No. 12; Mackreith 2011, 184 5.a1, No. 7953). It appears that the type is more common on the continent (Feugère 1985, 395 type 29a1a). There is a suggestion that some continental examples may be even as early as the late first century, further increasing the doubt that fish brooches should be seen to have any connection with Christianity (Mawer 1995, 78). SEM analysis indicates that the surface of the fish's body is tinned, the ring around the eye has a high lead content, while the eye contains the decayed remnants of a red enamel (Buxey Brown 2011).

Weight (g): 4.5

L (mm): 36            W (mm): 12

D (mm): 2            Diam. (mm): -

### 310 Brooch

SF 3273 Context: 3047

Phase: 3 Area: 7

Plate brooch in the form of a fish. See 309 for description and type.

Weight (g): 4.6

L (mm): 36            W (mm): 12

D (mm): 2            Diam. (mm): -

### 311 Brooch

SF 3274 Context: 3047

Phase: 3 Area: 7

Plate brooch in the form of a fish. See 309 for description and type.

Weight (g): 4

L (mm): 35            W (mm): 12

D (mm): 2            Diam. (mm): -

### 312 Brooch

SF 3105 Context: 3023

Phase: 5 Area: B

Spoked disc plate brooch with six spokes of slightly curved profile and dished tops. The central conical hub is slightly waisted and flat topped. The base plate has a raised outer rim and a second ridge at the ends of the spokes. Between the two the surface is decorated by an incised wavy line. The face is gilded. There are remains of a spring pin on the back. Cf. Mackreith (2011, 162 No. 10947); Hattatt (1987, 255 Nos 1215 and 1216).

Weight (g): 9.8

L (mm): -            W (mm): -

D (mm): 9            Diam. (mm): 23

### 313 Brooch

SF 027 Context: 001

Phase: 7 Area: A

Oval gilded plate brooch with two concentric bands of decoration round a large central setting. This would originally have had a glass boss. A third or even fourth century date is suggested for brooches of this type (Bayley and Butcher 2004, 178; Mackreith 2011, 161-2).

Weight (g): 8.7

L (mm): 33            W (mm): 26

D (mm): 4            Diam. (mm): -

### 314 Brooch

SF 3566b Context: u/s

Phase: - Area: -

Umbo brooch with one side bent in. There are traces of blue enamel in both rings of triangular cells suggesting that half the cells were blue, alternating with another colour, no trace of which survives. Cf. Usk (Manning, Price and Webster 1995, 92, No. 68); Bayley and Butcher (2004, 133 No. 182); (Mackreith 2011, 164 No. 11577). SEM analysis revealed the metal part of the brooch to be a tin, copper and lead alloy: approx. 50%:25%:25% (Buxey Brown 2011).

Weight (g): 8

L (mm): 31            W (mm): 27

D (mm): 6            Diam. (mm): -

### 315 Bracelet

SF 124 Context: 102

Phase: 6 Area: A

Fragment of a two-strand twisted wire bracelet.

Weight (g): 0.7

L (mm): 45            W (mm): -

D (mm): -            Diam. (mm): 3

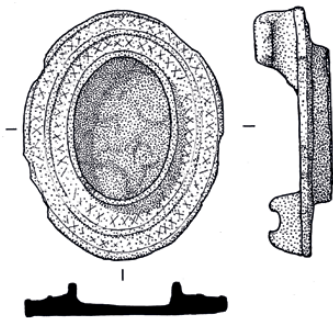
### 316 Bracelet

SF 1003 Context: 1000

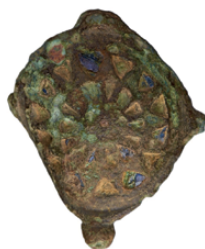
Phase: 7 Area: A

Fragment of a two-strand twisted wire bracelet.

313



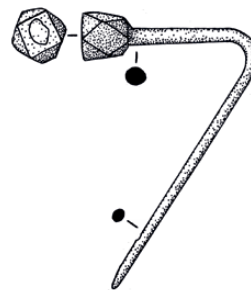
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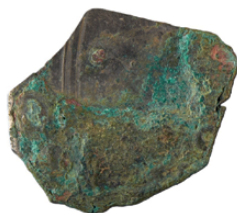
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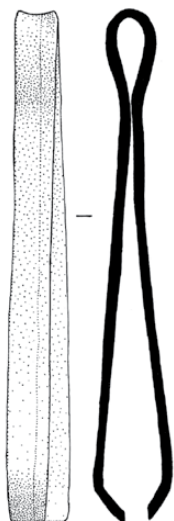
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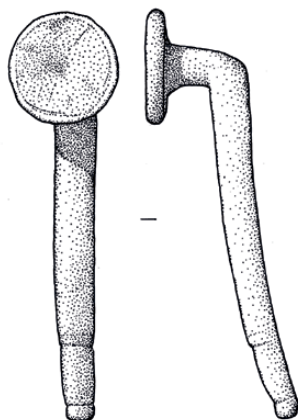
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331



333



334



338



Weight (g): 3.5

L (mm): 57      W (mm): 4  
D (mm): 3      Diam. (mm): -

### 317 Bracelet

SF 827 Context: 816

Phase: 5 Area: A

Narrow strip bracelet, crudely decorated by two lines of oval impressions. In one line the ovals are roughly parallel to the edge of the bracelet. Those of the other line are roughly at right-angles to the edge.

Weight (g): 0.8

L (mm): 44      W (mm): 14  
D (mm): 3      Diam. (mm): -

### 318 Finger ring

SF 3330 Context: 3027

Phase: 3 Area: 7

Plain ring of D-shaped section. Probably a finger ring.

Weight (g): 1

L (mm): -      W (mm): 1  
D (mm): 3      Diam. (mm): 19

### 319 Earring

SF 2153 Context: 2072

Phase: 2 Area: 1

Earring made from three strand twisted cable. Missing its hooked terminal. Cf. Gorhambury (Wardle 1990, 122 No. 74); South Shields (Allason-Jones and Miket 1984, 126 Nos 3.219-20).

Weight (g): 1.6

L (mm): -      W (mm): 3  
D (mm): 3      Diam. (mm): 18

### 320 Hair pin

SF 3145 Context: 3004

Phase: 5 Area: B

Globular headed hair pin.

Weight (g): 0.9

L (mm): 28      W (mm): -  
D (mm): -      Diam. (mm): 2

### 321 Hair pin

SF 201 Context: 200

Phase: 7 Area: A

Hair pin with a multi-faceted head, 6 by 6 mm. The tapered shaft, of circular section, has been sharply bent back about a third of the way down its length. Cf. Caerleon (Brewer 1986d, 188 No. 171).

Weight (g): 2

L (mm): 37      W (mm): 23  
D (mm): 2      Diam. (mm): -

### 322 Mirror

SF 3112 Context: 3027

Phase: 3 Area: 7

Small fragment of a circular mirror, judging by the curvature of the decorative grooves. Both faces are silvered. Cf. Caerleon (Lloyd-Morgan 2000, 345 No. 4).

Weight (g): 7.3

L (mm): 31      W (mm): 27  
D (mm): 2      Diam. (mm): -

### 323 Tweezers

SF 1011 Context: 1002

Phase: 5 Area: A

Undecorated sturdy pair of tweezers. Cf. Caerleon (Lloyd-Morgan 2000, 347 No. 9).

Weight (g): 8.3

L (mm): 67      W (mm): 5  
D (mm): 1      Diam. (mm): -

#### *Items associated with written communications*

### 324 Inkwell top

SF 807 Context: 800

Phase: 7 Area: A

Disc with a central circular hole. Possibly the top of an inkwell, but on the small side.

Weight (g): 0.9

L (mm): -      W (mm): -  
D (mm): 1      Diam. (mm): 22

### 325 Seal box

SF 3339 Context: 3059

Phase: 7 Area: B

Remains of a circular seal box base. Parts of two lugs for the hinged lid survive, as does evidence of three large circular perforation in the base.

Weight (g): 0.4

L (mm): 18      W (mm): 16  
D (mm): 8      Diam. (mm): -

### 326 Seal box lid

SF 2008 Context: 2002

Phase: 3 Area: 4

Hinge end of a pear-shaped seal box lid. The central circular panel contained an attached motif of uncertain form, possibly a stylized altar, in high relief. Round the central panel are the remains of a ring of red enamel. Cf. Lincoln (Mann 1999, 150 No. 28).

Weight (g): 2

L (mm): 25      W (mm): 19  
D (mm): 1      Diam. (mm): -

### 327 Seal box lid

SF 219 Context: 208

Phase: 6 Area: A

Circular seal box lid decorated by seven enamelled dots in a panel of blue enamel, around a larger central one, containing a diamond shaped panel of enamel. The enamel in all the dots is now a muddy green colour. A flat, curved, plate set perpendicular to the rim, projects downwards, to form one element of the hinge of the

seal box, and upwards to form a small tab. Opposite the hinge there is a small globular projection from the rim, which has a short stud on its underside. Cf. Catterick (Mould 2002, 129 No. 39).

Weight (g): 4.1

L (mm): 30 W (mm): 18

D (mm): 3 Diam. (mm): -

*Unclassified items*

**328 Hook fastener**

SF 3441 Context: 3081

Phase: Iii Area: 6

Hook fastener consisting of a rod of flat rectangular section bent into a U-shape with a perforated plate, still retaining a flat-headed stud, at one end. It has similarities to a *lorica segmentata* vertical hook fastener (see 147-56) but is riveted the wrong way round for one of these.

Weight (g): 2.3

L (mm): 26 W (mm): 5

D (mm): 2 Diam. (mm): -

**329 Handle**

SF 3451 Context: 3096

Phase: Oii Area: 6

A slender rod tapering slightly to a blunt point at one end. The other end is expanded into a circular plate, with a central perforation, set at right-angle to the line of the rest of the rod. Possibly a handle.

Weight (g): 3

L (mm): 69 W (mm): 15

D (mm): 5 Diam. (mm): -

**330 Handle**

SF 037 Context: 004

Phase: 7 Area: B

Rod tapering slightly to a blunt point at one end, delineated by a widely spaced pair of grooves. The other end is expanded into a circular plate set at right-angle to the line of the rest of the rod. Probably a handle.

Weight (g): 10.4

L (mm): 56 W (mm): 14

D (mm): 7 Diam. (mm): -

**331 Hinge**

SF 2406 Context: 2098

Phase: 2 Area: 2

Sheet fragment with two projecting lugs probably forming part of a hinge

Weight (g): 2.4

L (mm): 15 W (mm): 41

D (mm): 4 Diam. (mm): -

**332 Ferrule**

SF 3503 Context: 3133

Phase: Oii Area: 6

Conical ferrule, or similar strengthening. Oval at the wider end and plain apart from three short vertical notches at the narrow end, on one face. The other face has a square cut-out, or damage, at the narrow end and small circular perforation near wider end. Cf. Caerleon (Webster 1992, 160 No. 410).

Weight (g): 21.2

L (mm): 44 W (mm): 27

D (mm): 10 Diam. (mm): -

**333 Terminal**

SF 2437 Context: 2090

Phase: 2 Area: 4

Terminal in the form of a plain rectangular plate on a short stem of circular section.

Weight (g): 2.8

L (mm): 13 W (mm): 12

D (mm): 3 Diam. (mm): -

**334 Terminal**

SF 3347 Context: 3065

Phase: 3 Area: 7

Terminal in the form of a star-shaped plate on a short shaft of circular section.

Weight (g): 9.5

L (mm): 22 W (mm): 21

D (mm): 5 Diam. (mm): -

**335 Mount**

SF 2455 Context: 2090

Phase: 2 Area: 4

Plain disc with no obvious means of attachment to anything.

Weight (g): 2.1

L (mm): - W (mm): -

D (mm): 1 Diam. (mm): 26

**336 Mount**

SF 2427 Context: 2098

Phase: 2 Area: 2

Plain sheet dome with no obvious means of attachment to anything.

Weight (g): 4.1

L (mm): - W (mm): -

D (mm): 16 Diam. (mm): 30

**337 Mount**

SF 603 Context: 600

Phase: 7 Area: A

Slightly domed circular mount decorated by radiating ridges.

Weight (g): 5.8

L (mm): - W (mm): -

D (mm): 6 Diam. (mm): 20

**338 Plate**

SF 2511 Context: 2098

Phase: 2 Area: 2

Oval plate with dark glass setting.

Weight (g): 1.5

L (mm): 16 W (mm): 13

D (mm): 4 Diam. (mm): -

**339 Plate**

SF 3354 Context: 3065

Phase: 3 Area: 7

Small roughly rectangular plate with an ansate projection at either end, and the remains of three perforated lobes projecting from one of the longer sides. It has similarities to a plate from the Saalburg (Oldenstein 1976, 266 No. 764).

Weight (g): 2.7

L (mm): 45 W (mm): 26

D (mm): 1 Diam. (mm): -

**340 Plate**

SF 717 Context: 701

Phase: 4 Area: 2

Slightly bent sheet fragment. Probably the remains of a rectangular plate attached by an iron tack in each corner. Remains of one iron fixing survive in place and the main areas of damage suggest the other three.

Weight (g): 3.3

L (mm): 60 W (mm): 39

D (mm): 1 Diam. (mm): -

**341 Plate**

SF 2019 Context: 2005

Phase: 5 Area: A

Narrow rectangular plate, bent back on itself at one end, narrowing at the bend. Face silvered or tinned.

Weight (g): 3

L (mm): 44 W (mm): 12

D (mm): 1 Diam. (mm): -

**342 Loop**

SF 3224 Context: 3027

Phase: 3 Area: 7

Length of rectangular sectioned rod formed into a loop. Possibly the remains of a split-pin with one leg missing.

Weight (g): 1.9

L (mm): 27 W (mm): 15

D (mm): 3 Diam. (mm): -

**343 Binding**

SF 3421 Context: 3080

Phase: 1ii Area: 6

Band of binding, or possibly the remains of a ferrule. Decorated by two raised bands running round it. Cf. Caerleon (Webster 1992, 132 Nos 132-3).

Weight (g): 0.9

L (mm): 14 W (mm): 13

D (mm): 4 Diam. (mm): -

**344 Binding**

SF 2164 Context: 2071

Phase: 2 Area: 1

Strip bent back on itself at one end. That end then narrows and bends back into the original direction. There is a perforation near each end and in line with the first bend.

Weight (g): 2.3

L (mm): 52 W (mm): 18

D (mm): 7 Diam. (mm): -

**345 Binding**

SF 2622 Context: 2098

Phase: 2 Area: 2

A sheet bent round and riveted at both ends, to an iron plate. Remains of further strips project at right angles from one of the rivets, on both sides of the iron plate. The three unbound edges are broken.

Weight (g): 7

L (mm): 44 W (mm): 20

D (mm): 4 Diam. (mm): -

**346 Binding**

SF 2228 Context: 2060

Phase: 3 Area: 1

Strip, now in three pieces. One piece has the remains of a rivet still in place, with evidence that it was attached to another strip. The other substantial piece is bent back on itself, narrowing at the bend. A rivet hole passes through both layers. Traces of silvering or tinning on one face.

Weight (g): 2.2

L (mm): 57 W (mm): 16

D (mm): 6 Diam. (mm): -

**347 Binding**

SF 3220 Context: 3027

Phase: 3 Area: 7

A fragment of ribbed cylindrical binding. Now slightly curved.

Weight (g): 1.9

L (mm): 61 W (mm): 7

D (mm): 4 Diam. (mm): -

**348 Binding**

SF 3369 Context: 3065

Phase: 3 Area: 7

Strip with a flat-headed stud still attached at one end. Now bent back on itself.

Weight (g): 1.7

L (mm): 22 W (mm): 17

D (mm): 8 Diam. (mm): -

**349 Binding**

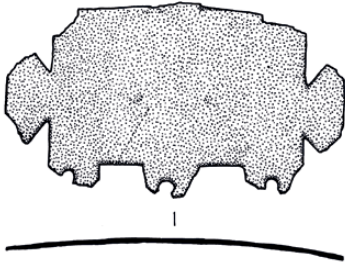
SF 2057 Context: 2005

Phase: 5 Area: A

Sheet fragment, partially folded back on itself and with mostly torn edges. There are remains of decoration,

EXCAVATION OF THE PRIORY FIELD STORE BUILDING IN CAERLEON

339



342



343



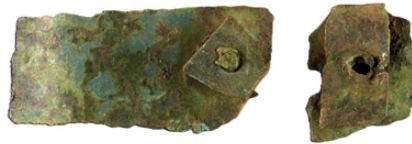
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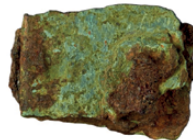
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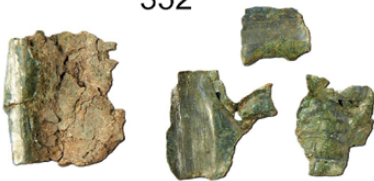
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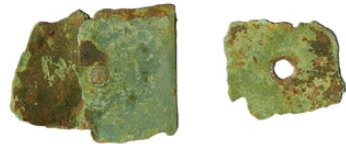
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355



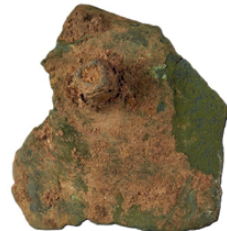
357



359



360



with parallel grooves along two edges. One circular perforation survives near one corner.

Weight (g): 5.7

L (mm): 80 W (mm): 34

D (mm): 5 Diam. (mm): -

### 350 Binding

SF 3047 Context: 3012

Phase: 5 Area: B

Strip bent round and riveted to a fragment of iron plate.

Weight (g): 4.2

L (mm): 25 W (mm): 15

D (mm): 4 Diam. (mm): -

### 351 Binding

SF 200 Context: 200

Phase: 7 Area: A

Sheet fragment with torn edges. A broad, flat bottomed, central groove with evidence of fluting to either side.

A small circular perforation survives in one corner. Suggestions of a silvered or tinned surface.

Weight (g): 1

L (mm): 32 W (mm): 12

D (mm): 2 Diam. (mm): -

### 352 Sheet

SF 2185 Context: 2062

Phase: 2 Area: 1

Small sheet fragment with lead backing. A few indications of an embossed pattern remain.

Weight (g): 2.9

L (mm): 20 W (mm): 19

D (mm): 3 Diam. (mm): -

### 353 Strip and rivet

SF 2163 Context: 2071

Phase: 2 Area: 1

Fragment of a silvered or tinned strip and small dome-headed stud. The strip has a small circular perforation near one end.

Weight (g): 0.8

L (mm): 26 W (mm): 14

D (mm): 1 Diam. (mm): -

### 354 Strip and rivet

SF 2244 Context: 2080

Phase: 2 Area: 1

Fragment of a silvered or tinned strip and small dome-headed stud. Remains of a small circular perforation near one end of the strip.

Weight (g): 0.6

L (mm): 23 W (mm): 13

D (mm): 1 Diam. (mm): -

### 355 Strip

SF 2250 Context: 2080

Phase: 2 Area: 1

Strip with a circular perforation near one end and traces of silvering or tinning on one surface. Now bent back on itself.

Weight (g): 1

L (mm): 22 W (mm): 17

D (mm): 7 Diam. (mm): -

### 356 Strip

SF 2553 Context: 2119

Phase: 2 Area: 3

Strip bent into a L-shape. The longer arm tapering to a point.

Weight (g): 1.1

L (mm): 44 W (mm): 6

D (mm): 1 Diam. (mm): -

### 357 Strip

SF 2198 Context: 2023

Phase: 3 Area: 2

Decorative strip with one possibly original end and one definitely broken end. It has beaded decoration along both edges. One edge also has two parallel grooves. A further beaded row is offset towards the other edge.

Weight (g): 3.2

L (mm): 61 W (mm): 15

D (mm): 1 Diam. (mm): -

### 358 Strip and rivet

SF 2147 Context: 2070

Phase: 3 Area: 1

Two fragments of a strip with a silvered or tinned surface. One fragment has a small circular perforation, and a very small slightly dome-headed stud was found with them.

Weight (g): 0.9

L (mm): 42 W (mm): 13

D (mm): 1 Diam. (mm): -

### 359 Strip and rivet

SF 2168 Context: 2070

Phase: 3 Area: 1

Fragment of a strip with remains of a silvered or tinned surface. A small dome-headed stud is still attached near one, probably original, end.

Weight (g): 1.5

L (mm): 46 W (mm): 14

D (mm): 1 Diam. (mm): -

### 360 Sheet and stud

SF 820 Context: 2014

Phase: 6 Area: A

Sheet fragment with the remains of an iron shafted stud still attached.

Weight (g): 3.8

L (mm): 30 W (mm): 28

D (mm): 12 Diam. (mm): -

**361 Stud**

SF 2318 Context: 2023

Phase: 3 Area: 2

Part of a disc with a raised edge. Possibly remains of a large stud.

Weight (g): 2

L (mm): - W (mm): -

D (mm): 3 Diam. (mm): 49

**362 Washer**

SF 3184 Context: 3055

Phase: 5 Area: B

Washer or head of a stud, having lost its shaft, with concentric decorative grooves.

Weight (g): 1.3

L (mm): - W (mm): -

D (mm): 1 Diam. (mm): 21

**4.2.4 Iron Artefacts (William Manning)***Military equipment*

## Spearheads

**363 Spearhead**

SF 4312 Context: 005

Phase: 7 Area: B

The blade is in two parts: at the base is an oval plate, its longer axis set at right angles to the axis of the blade, above which is a parallel-sided blade with a V-shaped tip. The lower edge of the oval is blunt, but the other edges are relatively sharp. The edges of the seam of the relatively short socket have not been welded together. An example of a relatively rare type of spearhead which may have influenced the design of the decorative military standard heads such as the fine silver example from Caerleon (Chapman 2005, 146, Va01). However, there can be little doubt that this example was a functioning weapon where the top of the blade would have acted as a normal spearhead while the sharpened edges of the oval base would have greatly increased the size of the wound. It is slightly unusual in having the two parts of the blade so sharply defined, in most examples the edges of the spiked tip have a concave curve with a slightly spiked tip. Three examples of this type are in the Newcastle Museum collection, two of which are unprovenanced, while the third is from the fort at Halton Chesters (Manning 1976, 19-20, Nos 16-18. Type 3 spearheads). Examples from other sites in Britain and Germany are cited there.

Weight (g): 62

L (mm): 153 W (mm): 54

D (mm): 3 Diam. (mm): -

**364 Spearhead**

SF 2574 Context: 2010

Phase: 2 Area: yard

Similar to the preceding spearhead with a short, damaged socket. The blade has a basal discoidal plate, the upper edges of which curve up to form a short, square-sectioned point, now lacking its tip. The whole is heavily corroded. A smaller version of the previous type of spearhead. Its context confirms its Roman date.

Weight (g): 42

L (mm): 96 W (mm): 38

D (mm): 4 Diam. (mm): -

**365 Spearhead**

SF 2139 Context: 2023

Phase: 3 Area: 2

Socket and base of the blade of a spearhead. The edges of the seam of the socket appear to have been welded together. Mineralised wood survives in the socket. The edges of the base of the blade are distinctly asymmetrical. The shoulder of one runs in an even

curve from the socket into the side of the blade, but the other has a short, curving shoulder which turns through a sharp angle into a straight edge. Although it is not well preserved both edges appear to be original. There is no midrib in the surviving fragment. Too little survives of the blade for a detailed discussion of the type, although it may well have been similar to an example from Prys Field in Caerleon, which has a similarly asymmetrical base to the blade (Chapman 2005, 31, Da15). Such asymmetry is probably the result of the fact that such weapons were mass produced and a minor asymmetry of this type in no way affected the effectiveness of the weapon.

Weight (g): 60

L (mm): 91 W (mm): 35

D (mm): 4 Diam. (mm): 21

**366 Spear or Lancehead**

SF 437 Context: 410

Phase: 6 Area: A

Slender and relatively short projectile point. The narrow blade, which has a slightly damaged tip, has a diamond-shaped cross-section, narrowing slightly as it approaches the broken socket which continues the width of the blade. An example of a Manning Type IIIA spearhead (Manning 1985, 166, V105-V109, where the type is discussed at some length and other examples cited). In Manning 1985 it is suggested that they were probably the heads of cavalry lances, although it is not impossible that they were a form of bolt-head. A generally similar head from Caerleon is figured by Chapman (2005, 30, Da13).

L (mm): 114 W (mm): 12

D (mm): - Diam. (mm): 9

## Bolts and arrowheads

**367 Bolt-head**

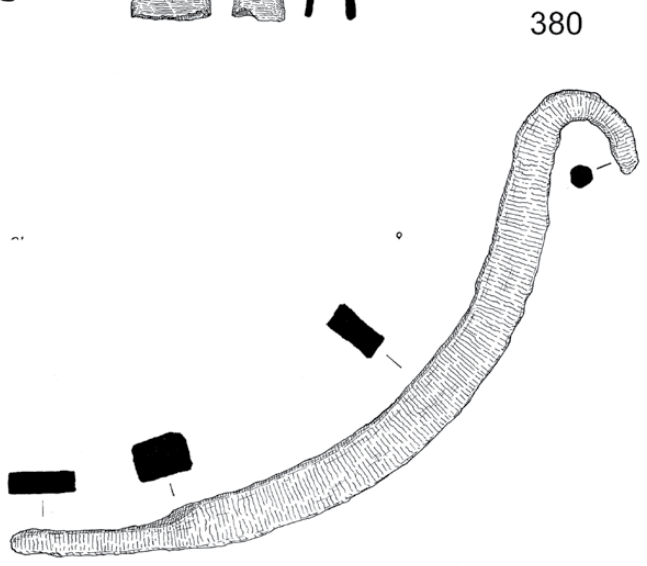
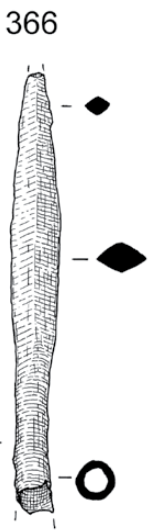
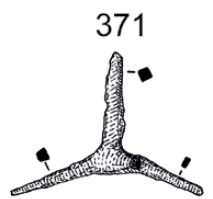
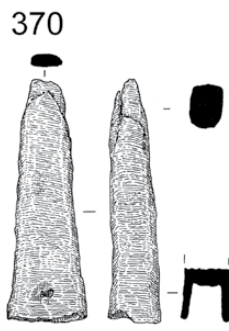
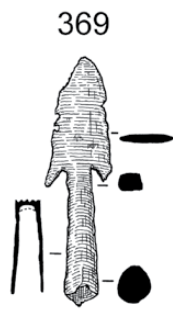
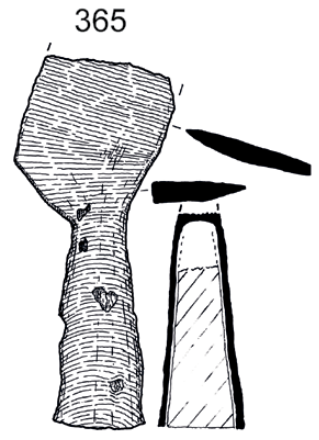
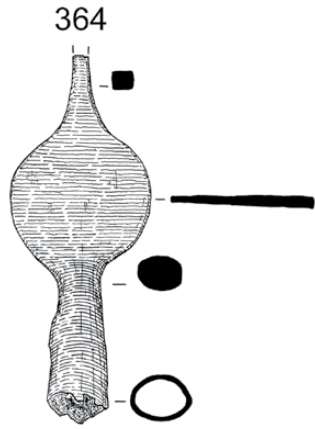
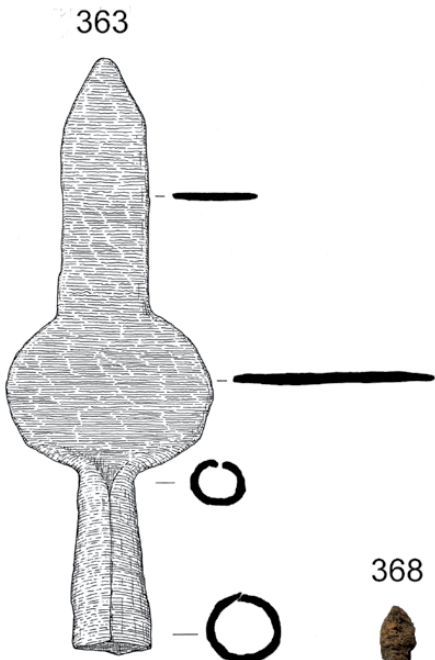
SF 205 Context: 200

Phase: 7 Area: A

Head: Length 29 mm; maximum width 16 mm. Diameter of neck 14 mm. It has a relatively short, heavy, bi-pyramidal head with a round-sectioned neck. The top of the split socket survives but the greater part is lost. Bolt-heads of this type are not uncommon finds on Roman military sites and other examples from Caerleon are published by Chapman (2005, 54ff Ja2-Ja17). The type is discussed at some length in Manning 1985 (170ff.) where a large group from the Claudian fort at Hod Hill, Dorset are catalogued, and many other examples cited. A group from Newstead is published in Curle 1911 (pl. XXXVII, 8, 9, 11, 12, 14, 16-18; Manning forthcoming A48-A60). It is generally accepted that bolt-heads of this type were fired from ballistae.

L (mm): 62 W (mm): 16

D (mm): - Diam. (mm): 14



**368 Bolt-head?**

SF 505 Context: 500

Phase: 7 Area: A

Head: Length 7 mm; maximum diameter 9 mm. Diameter of mouth 12 mm. It has a conical socket, now slightly damaged at its mouth, with a short, bi-pyramidal head. Such pieces are usually identified as the ferrules of bolts rather than bolt-heads, but it is not impossible that this is a short bolt-head. As Chapman has pointed out (Chapman 2005, 57) the use of a ferrule on what was almost certainly a single-use missile fired from a ballista would seem to be an unnecessary refinement. However, the fact remains that the heads on these pieces are short and blunt which would seem to be a strange feature in a missile presumably intended to penetrate. Bruises, no matter how painful, are rarely fatal. This is a relatively rare type. Chapman publishes five generally similar pieces (Chapman 2005, 56-7, Jc01-Jc0500), but none of the 117 bolt-heads from Hod Hill published in Manning 1985 (171ff., V141-258) are of this type. Other examples are cited in both of these publications, but it remains true to say that the form accounts for only a very small proportion of possible bolt-heads.

L (mm): 61            W (mm): -  
D (mm): 12            Diam. (mm): -

**369 Barbed missile head**

SF 2052a Context: 905

Phase: 5 Area: A

Maximum width of blade 14 mm. Maximum diameter of socket 9 mm. Maximum thickness of blade 2 mm. It has a triangular blade with slightly convex edges, now damaged, which extend to form short barbs. The round-sectioned socket widens from a narrow neck to a slightly damaged mouth. Barbed missile heads of this general type are not uncommon finds and are usually identified either as spearheads or bolt-heads, although it is possible that some of the smaller examples, including this one, were arrowheads. An example from Newstead, which has a longer socket than the present one. was identified by Curle as a barbed-spearhead (Curle 1911, pl. XXXVII; 4; Manning forthcoming A66). A small group of barbed missile heads in the Museum of Antiquities in Newcastle upon Tyne includes ones from Housesteads, Carvoran and South Shields (Manning 1976, 20-21, Nos 20-23). Of these Nos 20 and 21 have broken rod-like necks, but No 22 (from Carvoran) and No. 23 (from South Shields) have very long necks between the blade and the socket, a feature which almost certainly confirms that they were spearheads. The type is discussed in some detail in the Newcastle Museum Catalogue, where other examples are cited (Manning 1976, 20).

L (mm): 62            W (mm): 14  
D (mm): 2            Diam. (mm): 9

## Ferrule

**370 Ferrule**

SF 4310 Context: 2010

Phase: 2 Area: yard

It has an oblong mouth below which it tapers to an end which is longer than it is wide. There is a small nail hole on one face near the mouth. The shaft to which it was attached will have had a rectangular cross-section which probably rules out any form of weapon. Ferrules are not uncommon finds on Roman sites. The British Museum Catalogue includes 27 examples, largely but not exclusively from Hod Hill, but all are conical in form, as are those from Caerleon and other sites in Wales in the National Museum of Wales (Chapman, 2005, 41-2, Ga01 -Ga23).

Weight (g): 30

L (mm): 58            W (mm): 20  
D (mm): 12            Diam. (mm): -

## Caltrops

Caltrops are not particularly common finds even on military sites, and the largest groups in Britain are from Caerleon. In addition to the six catalogued here, Chapman includes sixteen others from the Prysg Field excavations (Chapman 2005, 58ff/. Ka01 - Ka16) as well as citing a handful from other British sites. By contrast the British Museum Catalogue included a single example, and that not from a Roman military context but from a native site of uncertain date at Walthamstow, Essex (Manning 1985, 178, V283). A single example came from the fort at Newstead (Curle 1911, pl. XXXVIII, 14; Manning forthcoming, A80).

**371 Caltrop**

SF 3191 Context: 3004

Phase: 5 Area: B

It has four tapering spikes, one of which has lost its tip.

Weight (g): 4

L (mm): 43            W (mm): -  
D (mm): -            Diam. (mm): -

**372 Caltrop**

SF 3034 Context: 3012

Phase: 5 Area: B

One spike is largely lost but the others are relatively complete.

Weight (g): 3

L (mm): 35            W (mm): -  
D (mm): -            Diam. (mm): -

**373 Caltrop**

SF 023 Context: 001

Phase: 7 Area: A

Caltrop with four arms, all of which are broken.

L (mm): 20            W (mm): -  
D (mm): -            Diam. (mm): -

**374 Caltrop**

SF 4308 Context: 3012

Phase: 5 Area: B

Fragmentary caltrop with one almost complete spike and stumps of the other three.

Weight (g): 3

L (mm): 33 W (mm): -

D (mm): - Diam. (mm): -

**375 Caltrop**

SF 3252 Context: 3004

Phase: 5 Area: B

Fragment with one complete spike.

Weight (g): 4

L (mm): 33 W (mm): -

D (mm): - Diam. (mm): -

**376 Caltrop**

SF 3025 Context: 3012

Phase: 5 Area: B

Now in fragments with one almost complete spike.

Weight (g): 3

L (mm): 31 W (mm): -

D (mm): - Diam. (mm): -

Lorica

**377 Breastplate**

SF 2579 Context: 2098

Phase: 2 Area: 2

Partially damaged flat rectangular iron plate, originally at least 98 mm long and 72 mm wide, the bottom part of which survived in reasonable condition. The left long side and the bottom were mostly undamaged and the corner where these sides met is rounded. Narrow raised ridges run along the undamaged edges and corner, while three other ridges divide the face of the plate into a large central panel (c. 42 mm wide) and narrower panels along the three surviving sides (the left-hand panel was c. 15 mm wide and if the panel on the left side had been the same width, the plate would have been c. 75 mm wide). X-rays suggest that the left and right long panels might have been reinforced with iron strips on the plate's underside, which were perhaps fixed with rivets. The right edge is more damaged but is pierced with three holes (probably originally arranged in pairs, the likely fourth hole would have been located where the plate had been broken), one of which still contained the remains of an iron rivet, while part of a small square aperture measuring 7 mm by 7 mm survives on the left. It is likely that this is the left breastplate from *lorica squamata* (scale armour) and it would have been attached to the scales by means of the rivets on its right-hand side. Such breastplates from scale cuirasses are known, though most are copper alloy and their central panels are invariably decorated. This has led to them being described as items of 'sports' equipment, though it has

also been suggested that they might have been used on the Alba Iulia type of hybrid armour too (Bishop 2002, 64 Fig. 7.4). The find from Manching in Bavaria was a right-sided breastplate that still had two turning pins in place with which it could be fastened to a matching plate on the left side of the chest to close the armour at the neck (Garbsch 1978, Taf. 8,1). Iron breastplates from mail or scale armour are exceedingly rare, but a similar piece was found at Carlisle still attached to rows of ferrous and copper-alloy scales by three surviving copper-alloy disc-headed rivets (Bishop 2009, 691-2 and Fig. 338). Although the surface of the Caerleon plate is very corroded, it is possible that its central panel was decorated (traces of embossed decoration survive on the surface of the Carlisle plate). Recovered from Soil Block 5 (see the discussion in Chapter 2.5.3).

L (mm): 98 W (mm): 72

D (mm): - Diam. (mm): -

**378 Segmentata plate**

SF 2598 Context: 2098

Phase: 2 Area: 2

Large mass of iron plates and narrow sheets, some of latter curved, some with edges (including rolled) and copper alloy tie-loops and other fittings. Also scale armour and wires. (Recovered from Soil Block 3, see the discussion in Chapter 2.5.3).

L (mm): - W (mm): -

D (mm): - Diam. (mm): -

**379 Segmentata plate?**

SF 2565 Context: 2098

Phase: 2 Area: 2

Incomplete large iron plate with a curve at one end, possibly from *lorica segmentata* (recovered from Soil Block 17, see the discussion in Chapter 2.5.3).

Weight (g): 31

L (mm): 120 W (mm): 47

D (mm): 3 Diam. (mm): -

*Household utensils and furniture*

## Bucket fittings

**380 Bucket handle**

SF 2512 Context: 2119

Phase: 2 Area: 3

Half of a semi-circular bucket handle. The curve of the handle has a wide, rectangular cross-section with relatively narrow edges. The central 'grip' is equally wide but its wider faces are at right angles to those of the sides. None of the edges have been rounded. The complete end takes the form of an open hook. Many handles of this type have a central U-sectioned grip. If this was the case with this handle it will have begun just beyond the break and the flattening of the handle just before the break will have been part of the grip. On the

other hand the grip may never have been more than a flattening of the centre of the handle, although such an arrangement would have been unusual. Of the nine bucket handles in the British Museum collection six have U-sectioned grips, the other three being simple round-sectioned rods (Manning 1985, 102-3, P12-P20).

Weight (g): 120

L (mm): 200      W (mm): 17

D (mm): 6      Diam. (mm): -

### 381 Bucket handle

SF 281 Context: 210

Phase: 4 Area: A

Semi-circular bar of relatively narrow cross-section which thins into a U-shaped hook at one end; the other end, which will have been similar, is lost. Handles which lack any form of grip are not uncommon. The British Museum Collection includes three such handles (Manning 1985, 102, P12-14) and others are cited there. None of the seven handles found at Newstead, one of which was still attached to a wooden bucket (Curle 1911, 310, pl. LXIX, 4), can be shown to have had a grip (Manning forthcoming O5-O11).

L (mm): 215      W (mm): -

D (mm): -      Diam. (mm): -

### 382 Handle

SF 3123 Context: 3004

Phase: 5 Area: B

Round sectioned rod which tapers to a rounded, broken end. The other end is flattened and bent to form a hooked head which now lacks its tip. It is unusual in having the hook lying under the curve of the handle rather than facing out and this, together with the relative thinness of the rod from which it is made, many indicate that it is not actually a bucket handle. However, the most obvious identification remains as the handle of a vessel of some form. Three comparable handles from Hod Hill, Dorset in the British Museum Collection are published in Manning 1985 (102, P12-14).

Weight (g): 14

L (mm): 162      W (mm): -

D (mm): -      Diam. (mm): 4

### 383 Bucket handle mount?

SF 737 Context: 711

Phase: 2 Area: 3

A straight-sided bar, which is wider than it is thick. One end is broken, the other ends in a ring terminal. A small nail runs through the bar with its head on its surface. Were it not for the nail through it, which must indicate that it was attached to wood, it would be possible to identify this as the end of poker or similar implement. However, such implements were not nailed in place and a more probable identification is as part of the mount for a drop handle on a pail or similar vessel. Such mounts are rarely as substantial as this, usually being

tapering flat plates such as those from Usk (Manning et al 1995, 198ff., 20-26), but there is no doubt that this piece would make a more than adequate mount on a large bucket or tub. As with so many iron artefacts, it may well have been forged for a specific, and slightly unusual, purpose.

L (mm): 65

W (mm): 20

D (mm): 3

Diam. (mm): -

### Knives

#### 384 Knife

SF 018 Context: 001

Phase: 7 Area: A

Length of blade: 103 mm; maximum width of blade, 33 mm. Crescentic blade with an edge which curves up from a deep heel to a pointed tip. The back has an S-shaped curve which drops from the tip of the blade to rise again to the junction of the blade and the short, pointed tang. The back of the blade is widened on each face to create a symmetrical flange some 9 mm wide. It is a typical example of a Manning Type 23 knife. No fewer than six such knives from Hod Hill are in the British Museum, although since the type has an Iron Age origin not all of these are necessarily of Roman date (Manning 1985, 118, Q66-Q71 where other examples of both Iron Age and Roman date are cited). Two examples come from late Flavian contexts in the Roman fort at Newstead (Curle 1911, 181-2, pl LX, 2 and 7; Manning, forthcoming Nos P7 and P8).

L (mm): 127      W (mm): -

D (mm): -      Diam. (mm): -

#### 385 Knife

SF 3488 Context: 3114

Phase: 0ii Area: 6

It has a relatively short socket from which projects the remains of a wooden handle. The heads of a rivet are visible on each side of the socket close to its mouth. A short neck connects the socket to the back of the blade which, initially, continues the line of the socket before sloping down to the broken tip. There is a semi-circular heel between the socket and the edge of the blade with the end of the heel projecting as a short spur. The edge rises in a convex curve to the broken tip. In its general form it resembles a Manning Type 8 knife (Manning 1985, 113, Q25-Q27 all from the fort at Hod Hill), although these are usually tanged rather than socketed.

Weight (g): 33

L (mm): 125      W (mm): 3

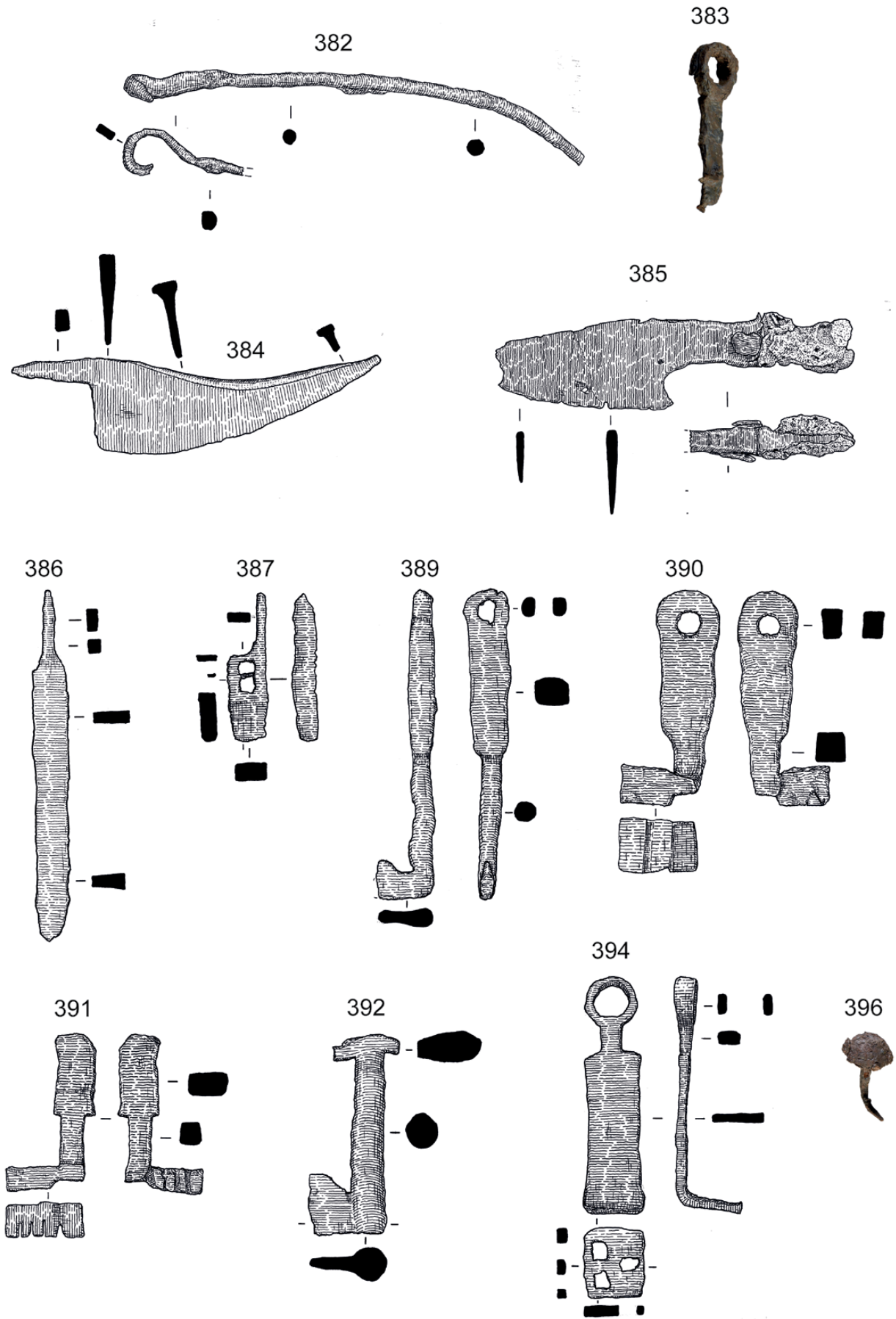
D (mm): -      Diam. (mm): -

### Spatula

#### 386 Spatula

SF 220 Context: 9208

Phase: - Area: -



It has a slightly tapering blade with straight edges and a rounded tip. The short, rectangular sectioned tang, which thickens towards its end, is set on the midline of the blade. It is probably a spatula which will have had a short, wooden handle. Spatulae with very similar blades are known from London (Manning 1985, 80, L3 and L4).

L (mm): 123      W (mm): 13  
D (mm): 4      Diam. (mm): -

#### Locks and keys

##### **387      Lock bolt**

SF 333      Context: 350  
Phase: 4      Area: A

Maximum width 15 mm. Length of 'tang' 20 mm. Thickness 8 mm. It has a short rectangular body with a back which has a very shallow S-shaped curve which runs from the square end of the body to the end of the short tang which continues the line of the back. Both body and tang are of constant thickness. The body is pierced by two square holes, one behind the other, close to its junction with the tang. Lock bolts of this type, which were moved with a slide key, are not uncommon finds although examples made of iron, as opposed to copper alloy, are extremely rare. A damaged one was found at Usk (Manning et al 1995, 270, No. 30) where other examples made of iron from Gaul and Germany are cited.

L (mm): 53      W (mm): 15  
D (mm): 8      Diam. (mm): -

##### **388      Latch-lifter**

SF 2018      Context: 2005  
Phase: 5      Area: A

Slightly curving, round-sectioned rod, broken at one end. Originally it will have a short, up-turned tip. The other end is turned up through a right angle with its before turning out at its broken end. The flat handle is now lost. Latch lifters of this type are relatively common finds on Roman sites; eleven examples are published in the British Museum Catalogue (Manning 1985, 88-89, O10-O20), of which O10 is very similar to the Caerleon example.

L (mm): 191      W (mm): -  
D (mm): -      Diam. (mm): 8

##### **389      Lift key**

SF 202      Context: 200  
Phase: 7      Area: A

L-shaped lift key. Handle: Length 60 mm; width 14 mm; thickness 10 mm. Length of bit 1.9 mm. It has a relatively long rectangular-sectioned handle with a rounded top which is pierced by a round eye. At its lower end it narrows into a short shank which is of the same thickness as the handle and is turned through a right angle at its base to form a short bit with a single tooth.

Although its condition prevents absolute certainty the bit would appear to be complete, although the fact that it has but one tooth rather than the normal pair argues against this. It is an example of a Manning Type 3 lift key (Manning 1985, 90, Fig. 25, No. 3). If it did only have a single tooth it would be very unusual, two or three being the norm (Manning 1985, 90-92, O23-O38).

L (mm): 110      W (mm): 14  
D (mm): 10      Diam. (mm): -

##### **390      Slide key**

SF 3114      Context: 3044  
Phase: 5      Area: B

Manning Type 2 slide-key. It has a solid, rectangular handle which widens slightly to an arched top which is pierced by a hole for suspension. At the bottom the handle narrows through distinct shoulders into a short neck which curves into a rectangular bit. The details of the teeth are obscured by corrosion. Keys of this type are common finds on Roman sites and may be made of copper alloy or iron. Nine examples are published in the British Museum Catalogue (Manning 1985, 93, O49-O56) and many more cited there. Of the fifteen keys of this type in the Usk excavation report, eleven were made of iron (Manning et al 1995, 267, Nos 8-23).

Weight (g): 71  
L (mm): 72      W (mm): 28  
D (mm): -      Diam. (mm): -

##### **391      Slide key**

SF 4307      Context: 2062  
Phase: 2      Area: 1

Manning Type 2 slide-key. It has a solid, rectangular handle with a crudely arched top, connected by a short, square-sectioned neck to an L-shaped bit with four simple, rectangular teeth which run across the full width of the bit. Handles of this type of key are usually pierced by a hole for suspension, but if that is the case here the hole is completely obscured by corrosion.

Weight (g): 31  
L (mm): 52      W (mm): 28  
D (mm): -      Diam. (mm): -

##### **392      Lever lock key**

SF 017      Context: 001  
Phase: 7      Area: A

Width of head 22 mm. Diameter of stem 12 mm. Width of bit 21 mm. It has a T-shaped head which is probably the much corroded remains of a ring running through the top of the stem. The free end of the shank is tubular with a plate-like bit. The front edge of the bit is straight; the back slopes out to give a widened edge which has the slight remains of four straight teeth. The lever-lock was the most advanced form of lock in use in the Roman period and has continued in use to the present day. It was also probably the least common form of lock used in Roman Britain. The British Museum Catalogue includes

eight keys of this type (Manning 1985, 94-5, O57-O64). The arrangement of the teeth on the Caerleon key may have been similar to those of a key from Hartlip in Kent, although the two differ in many other details (Manning 1985, 94, O57).

L (mm): 75 W (mm): 22  
D (mm): 12 Diam. (mm): -

### 393 Padlock key

SF 239 Context: 208  
Phase: 6 Area: A

It is formed of a thin bar which widens very slightly from top to bottom. At the top is a fragment of what was probably a rolled head of the type which is normal on keys of this type; while at the bottom a small fragment survives of the right-angle turn into the bit. For the type cf. Manning 1985, 96, O71-74.

L (mm): 116 W (mm): 17  
D (mm): 3 Diam. (mm): -

### 394 Padlock key

SF 235 Context: 208  
Phase: 6 Area: A

Length of bit 23 mm. Maximum width of handle 20 mm. Maximum width of bit 21 mm. Diameter of terminal ring 18mm. Thickness of handle 3mm. Thickness of bit 3mm. The body of the handle is formed of a straight strip with slightly concave sides. At its lower end it turns through a right angle to form a short, square bit pierced by three slightly irregular, square holes arranged in a triangle. At the top of the handle is a ring-head connected to the body of the handle by a short neck of the same thickness as the handle. It is a slightly more elaborate form of the normal type of padlock key. For other examples cf. Manning 1985, 96, O71-74

L (mm): 81 W (mm): 21  
D (mm): 3 Diam. (mm): -

#### Furniture fittings

### 395 Nail

SF 2107 Context: 2005  
Phase: 5 Area: A

It has a hollow, domed head, which was probably decorative, with a tapering shank, now bent and broken probably at the point where it emerged from the back of the wooden board on which it was mounted. It is an example of a Manning Type 8 nail (Manning 1985, 136, R101). The decorative head suggests that they were used in places where they would be visible, most obviously in upholstery.

L (mm): 80 W (mm): 7.5  
D (mm): 6 Diam. (mm): -

### 396 Tack

SF 3091 Context: 3016  
Phase: 5 Area: B

Dome-headed tack with a bent stem and slightly damaged head. A smaller example of the preceding type. The size and prominence of the head make it clear that it was decorative.

Weight (g): 3  
L (mm): 17 W (mm): -  
D (mm): - Diam. (mm): 30

#### Structural fittings

### 397 Hinge staple

SF 4320 Context: 2045  
Phase: 7 Area: A

L-shaped hinge staple. The longer arm has a round cross-section and tapers to its tip. The other arm, which will have been driven unto the wooden door jamb, is square-sectioned and broken at its tip. Although this could have been used as a simple hook, with the square-sectioned arm being driven into a beam or wall, the fact that the other arm has a circular cross-section suggests that it is a hinge staple which supported one of a pair of U-shaped drop-hinges. Staples of this type and the drop-hinges which they supported are discussed in Manning 1985, 127. Both are common finds on Roman sites, and this type of hinge-staple continued in use until relatively recent times. Other examples from Usk are discussed in Manning 1995 (284, No. 1. Fig. 91).

Weight (g): 41  
L (mm): 73 W (mm): -  
D (mm): - Diam. (mm): 12

### 398 Hinge

SF 2651 Context: 2123  
Phase: lii Area: 4

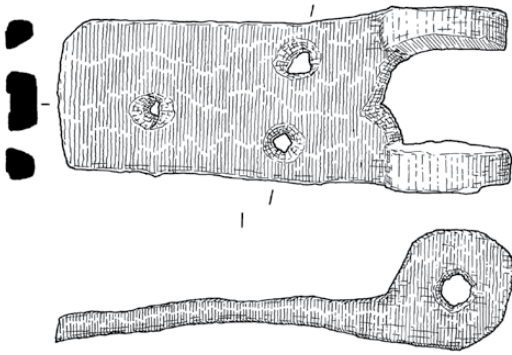
One half of a strap-hinge. It consists of a rectangular plate with parallel sides and a slightly convex end. At the opposite end are two discoidal plates or lugs, each with a central hole, set at right angles to, but on one side of, the main plate. This has three roughly rectangular nail-holes, two set in a line near the end with the lugs, the third on the midline of the plate relatively close to the other end. These holes are slightly countersunk on the face of the plate and have a slight rim around them of the opposite face, which will have lain against the wood on which the hinge was mounted. This was the most sophisticated form of hinge used in the Roman world and is still the norm today. A complete example from London is discussed in the British Museum Catalogue (Manning 1985, 127, R13) where other examples are cited.

Weight (g): 199  
L (mm): 120 W (mm): 43  
D (mm): 5 Diam. (mm): -

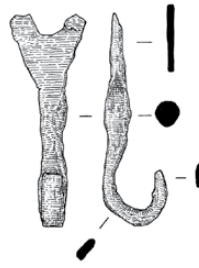
### 399 Wall-hook?

SF 433 Context: 402  
Phase: 6 Area: A

398



401



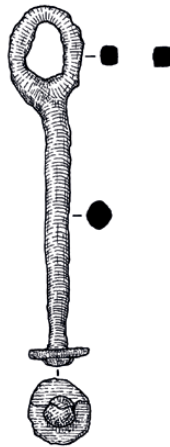
402



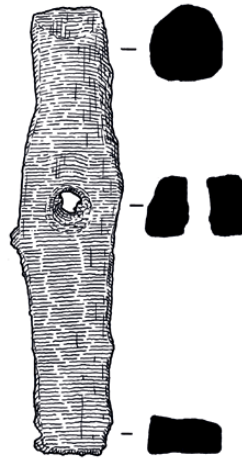
403



407



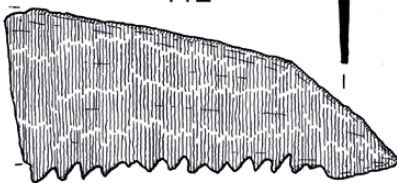
409



411



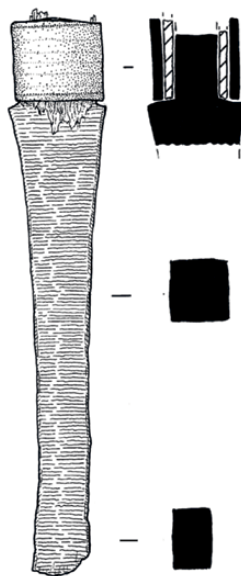
412



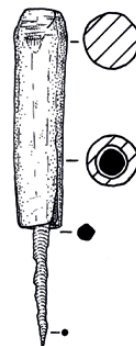
416



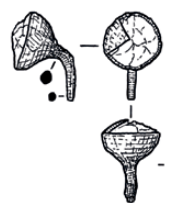
413



415



418



U-shaped hook. The longer arm turns out through a right angle but is now broken close to the bend. Originally it would have ended in a spike which was driven into a beam or the like. The tip of the hook is missing. Hooks of this general type are not uncommon finds on Roman sites, many examples having a small knob on the end of the hook, probably to prevent the tip of the hook damaging garments hung on it. Three examples with such knobs, two coming from the fort at Hod Hill, are discussed in Manning 1985 (239, R234-R25). Others, without the knob on the hook, from Usk are published in Manning et al 1995 (284, Fig. 91, 12-15)

L (mm): 52 W (mm): -  
D (mm): - Diam. (mm): -

#### 400 Hook

SF 2251 Context: 2094  
Phase: 2 Area: 1

Small hook with a broad shank which turns through a right angle at its top into what was probably a short spike. The tip of the hook is broken.

Weight (g): 6

L (mm): 37 W (mm): 8  
D (mm): 7 Diam. (mm): -

#### 401 Hook

SF 4311 Context: 3084  
Phase: 3 Area: 7

Small U-shaped hook with a wide, blunt tip, set at the bottom of a flat plate which is now damaged but which was probably oval when complete. It is more likely to have been nailed in place than suspended from the loop.

Weight (g): 5

L (mm): 55 W (mm): 16  
D (mm): 6 Diam. (mm): -

#### 402 Double-spiked loop

SF 720 Context: 704  
Phase: 6 Area: A

Height to top of loop 64 mm. Diameter of loop 34 mm. It has a round, loop head set at the end of a short stem or shank which has a square section. This ends in opposed arms, one of which is broken, set at a right-angle to the end of the shank. The end of the complete arm is bent up, but this may not be an original feature. Fragments of iron sheet adhere at right angles to the shank some 14 mm from its base. Functionally it is very similar to the common double-spiked loops which are made from a single bar, tapering to its ends, which is bent to form a looped-head with spiked arms. The arms of such pieces often splay out at right angles to the neck where they were driven through a wooden board and turned out against its back face. Three examples from Hod Hill in the British Museum (Manning 1985, 131, R49-51) are of this type, and although some doubt is expressed there as to exactly how they were mounted,

there is no reason to doubt that they were used in the conventional manner. However, the fact that double-spiked loops were made by bending a single bar, with the result that the 'stem' between the looped head and the everted spikes is formed of two parallel bars rather than the single one seen here, argues against such an identification. An alternative explanation is that it is one of a pair of suspension loops set on opposite sides of an iron vessel with the arms lying below a curved rim. If this suggestion is correct (and it is distinctly speculative) the fragments of sheet on the stem may be from the rim of the vessel.

L (mm): 76 W (mm): -  
D (mm): - Diam. (mm): -

#### 403 T-clamp

SF 222 Context: 208  
Phase: 6 Area: A

It has an anchor-shaped head and broken stem. T-clamps of this type must have been used to secure D-sectioned wooden bars. It is a common type; several are discussed in the British Museum Catalogue (Manning 1985, 132, R70-R72) where others are cited. Others of varying dates within the Roman period from Usk are discussed in Manning et al 1995 (289, 49-51, Fig. 92).

L (mm): 45 W (mm): 49  
D (mm): - Diam. (mm): -

#### 404 Holdfast

SF 4318 Context: 910  
Phase: 6 Area: A

It has a slightly domed head and a roughly round-sectioned shank. The basal plate or rove was trapezoidal but is now damaged. Holdfasts of this type are relatively common on Roman sites and several examples from Southwark are published in the British Museum Catalogue (Manning 1985, 1234, R74-R81) where other examples are cited.

Weight (g): 20

L (mm): 43 W (mm): -  
D (mm): - Diam. (mm): 20

#### 405 Rove

SF 504 Context: 500  
Phase: 7 Area: A

Square rove from a holdfast of the type discussed above (RA 404).

L (mm): - W (mm): -  
D (mm): - Diam. (mm): -

#### 406 Rove

SF 4306 Context: u/s  
Phase: - Area: -

Square rove with a large, off-centre hole from a holdfast of the type discussed above (RA 404).

L (mm): 34 W (mm): 34  
D (mm): 1 Diam. (mm): -

**407 Loop-headed spike**

SF 4323 Context: 2088

Phase: 3 Area: 1

Rod with an oval looped head and a tapering stem the end of which runs through a small 'washer' or rove to end in a small, flat head. Loop-headed spikes are not uncommon finds on Roman sites. A number are catalogued in Manning 1985 (130, R27-33), but none end with the rove seen here. In use the stem must have been set in a wooden post or board with its end emerging on the far side of its mount. The fact that it was thought necessary to secure it with the rove suggests that when in use it had been subjected to a degree of strain.

Weight (g): 16

L (mm): 72 W (mm): 5

D (mm): 5 Diam. (mm): -

**408 Double-spiked loop**

SF 3149 Context: 3004

Phase: 5 Area: B

Looped-head with short, paired spikes which have probably been cut. It is a common type which often held rings as is the case with five of the fourteen examples from Hod Hill in the British Museum (Manning 1985, 130, R34-47 where other examples are cited). A group from Usk is published in Manning et al 1995 (287, Nos 36-45, Fig. 92).

Weight (g): 28

L (mm): 50 W (mm): 8

D (mm): 7 Diam. (mm): -

*Craft tools*

## Metalworking tools

**409 Hammer**

SF 316 Context: 335

Phase: 6 Area: A

Smith's hammer. Face 1.7 mm x 1.7 mm. Cross-pene: Length 1.7 mm; width 10.7 mm. Diameter of eye 7 mm. It has a small, round eye on either side of which the otherwise straight sides swell out slightly. The underside is straight. One arm is rectangular in cross-section and remains constant in thickness to its sub-rectangular face. The upper side of the opposite arm slopes down to a rounded cross-pene which is slightly distorted by corrosion. The form of this hammer indicates that it was a sledge-hammer of the type used by the smith in the preliminary work of forging large pieces of iron. For obvious reasons such tools were rarely discarded, but a generally similar, although somewhat larger, hammer comes from the fort at Newstead (Curle 1911, 285, pl. LXIII, 11; Manning forthcoming C16, where examples from the Continent are cited).

L (mm): 119 W (mm): -

D (mm): - Diam. (mm): -

**410 Chisel**

SF 607 Context: 600

Phase: 7 Area: A

Smith's small chisel. It has a square head, with everted edges. The stem has a square cross-section for some two-thirds of its length before converging on two faces to the edge. Its small size and the fact that the head shows signs of hard use, indicate that it was a smith's tool which, in use, was almost certainly held with some form of handle, probably made of wire. A number of tools of this general type from the fort at Hod Hill are discussed and illustrated in The British Museum Catalogue (Manning 1985, 9, A23-A25), where other examples are cited, and an example from the Beddington Sewage Farm is published by Humphreys in his study of tools from Roman London (Humphreys 2021, 337, COL 09, pl.26). Such tools will have been used to cut or pierce red-hot metal and will have been held with some form of removable handle, probably made of thick wire. Whether they are regarded as chisels or punches largely depends on whether they were intended to cut the metal into pieces or pierce it, and there is no way of deciding on this today. Indeed, the same tool probably served both purposes.

L (mm): 71 W (mm): -

D (mm): - Diam. (mm): -

**411 File**

SF 2091 Context: 209

Phase: 6 Area: A

Smith's file. Tapering, rectangular-sectioned bar of even thickness. It is almost certainly broken at its wider end. Short lengths of parallel striations run across both faces of the blade at right angles to its edges. There are c. 10 striations per centimetre. Two complete files of this general type in the British Museum are discussed in Manning 1985 (11, A37-38), The first from the Waltham Abbey hoard, which is probably first century in date, has 8 or 9 teeth per centimetre. The second, which dates from the second century comes from London and has 16 teeth/cm. Other examples both from Britain and the Continent are cited there. A complete file with a square cross-section and with striations on all four faces comes from Halton Chesters (Manning 1976, 24, No 51 where other examples are cited.) It is an example of Humphrey's Type 2 files (Humphreys 2021, 234 and 339ff).

Weight (g): 14

L (mm): 101 W (mm): 9

D (mm): 4 Diam. (mm): -

## Carpenters' tools

**412 Saw**

SF 217 Context: 208

Phase: 6 Area: A

The tip of a large handsaw. The back of the surviving fragment slopes down from the break before turning sharply down to run in a straight line to the tip. The body of the blade almost certainly had the greater part of the back and edge lying parallel to each other. The triangular teeth are large and slightly irregular in shape. They are around 4 mm wide and 2 mm deep and are not set. Roman saws were of two main types, those where the blade was held in, and tensioned by, a semi-circular wooden bow or frame. These are characterised by having rivet holes at both ends of the blade, which is not the case in the current example. This, together with the fact that the end of the blade runs down to the tip, confirms that it had a wooden handle at the opposite, now missing, end. The almost complete blade of such a saw from Hambledon Hill, which is probably of Iron Age date, is discussed in the British Museum Catalogue (Manning 1985, 21, B21) where other examples are cited. As is noted there, the slight backward slope of many of the teeth is a normal feature of such saws. By using this form of teeth the makers ensured that the saw cut in the back-stroke as it was pulled towards the workman and so kept taut. Had they been the other way round and cut on the fore-stroke, the blade could have jammed in the cut as it was pushed forward and buckled under the pressure. A large part of the blade and sloping end of a rather narrower saw comes from London (Humphreys 2021, 274 and 371, pl 51, O2).

L (mm): 96 W (mm): 45  
D (mm): 3 Diam. (mm): -

#### 413 Chisel?

SF 2249 Context: 2045  
Phase: 7 Area: A

Carpenter's chisel? The face and back of the blade narrows from the tang to its now broken end, while the sides widen in an even but shallow curve from the tang before narrowing again. There are sharp shoulders between the top of the blade and the tang, which is broken at the point at which it will have emerged from the copper-alloy cylindrical binding, which enclosed the bottom of the handle. This cylinder is decorated with thin lines that run around it close to its edges. Fragments of the wooden handle survive within this binding. The fact that the blade appears to be narrowing evenly in both faces at the point where it is broken suggests that the cutting edge probably had a symmetrical V-shape, characteristic of a firmer chisel rather than the right-angle triangle of a mortice chisel. If the identification as a firmer chisel is correct the blade will have ended in a symmetrical edge. The fact that the handle was secured by means of a tang is slightly unusual, the norm being either a solid handle or a socket, but other examples with a tang are found on mortice chisels from Hod Hill (Manning 1985, 24, B41, B42 where other examples are cited).

Weight (g): 162

L (mm): 147 W (mm): 25  
D (mm): 7 Diam. (mm): 22

#### 414 Awl or Punch?

SF 021 Context: 001  
Phase: 7 Area: A

Rectangular-sectioned bar, slightly wider than it is thick, with a rounded head of the same thickness as the stem. The top half is of constant width and thickness but below that the sides, but not the faces, converge to a broken tip. It is probably an awl or punch, although the undamaged head suggests that it was not struck with the force which might have been expected with a metal-working tool. However, this might not have been necessary if it was being used on red-hot metal as would have been the case with a smith's punch. Humphreys includes a number of awls of this type from London (Humphreys 2021, 264, pl. 49, PUN 13, 15-16).

L (mm): 89 W (mm): 11  
D (mm): 9 Diam. (mm): -

#### Leatherworking tools

#### 415 Awl

SF 400 Context: 400  
Phase: 7 Area: A

Leatherworking awl. Handle: Length 61 mm; maximum diameter 15 mm. Blade: Length 30 mm; maximum diameter 0.5 mm. Short, spike-like awl with a round cross-section, which runs into a cylindrical bone handle with a rounded top. Awls such as this are generally accepted as being leather working tools used for piercing leather. They come in a number of forms, usually distinguished by the form of the handle or tang (Manning 1985, 39ff. and Fig.9). Although the survival of the handle prevents the details of the tang being clear it is almost certainly an example of Manning Type 4a, which has a simple, elongated pyramidal head or tang; a design which reduced the likelihood of the blade rotating in the handle which it was used (Manning 1985, 40ff., Fig. 9). Examples of this type of awl from London and Hod Hill are discussed and parallels cited in Manning 1985 (40, E9-E10). Humphreys includes an awl from London which has an almost identical handle to the Caerleon example (Humphreys 2021, 316, pl. 8, Awl 100).

L (mm): 88 W (mm): -  
D (mm): - Diam. (mm): 15

#### Personal adornment

#### Finger rings

#### 416 Finger-ring

SF 2520 Context: 2119  
Phase: 2 Area: 3

Iron ring with intaglio (report on the intaglio by M. Henig). The iron ring is much decayed but probably

Henig Type V and dates to the second century (Henig 1978, 35 Fig. 1 and 37-38). The intaglio is cut on a red jasper (an opaque non-crystalline chalcedony) and depicts Bonus Eventus in profile to the right. He is nude apart from the cloak (chlamys) hanging from his shoulders and stands in a relaxed pose, his right leg bent at the knee and crossed behind the left leg. He holds a covered offering dish in his right hand and two bunches of grapes in his left. These attributes represent the fruits of the earth. The type is possibly based on a statue by Euphranor mentioned by Pliny (*Nat. Hist.* XXXIV, 77). There are many variants of the type, which was very popular on gems. There are red jaspers from Silchester and Colchester showing Bonus Eventus in the same attitude, holding a dish and grapes (Henig 1978, Nos 189 and 195), and another example on nicolo from Macclesfield (No. 190). For Bonus Eventus holding corn-ears instead of grapes, note an example on cornelian from the Fortress Baths at Caerleon (Zienkiewicz 1986c, 130-131 No. 14 ) and others in red jasper from Vindolanda (Greene 2006, 111 No. 52 and 115-6 No. 61). A further variant has Bonus Eventus holding a wreath of victory in place of the dish as well as corn-ears, as on a red jasper from Ravenglass (Henig 1978, No. App. 110), emphasising the popularity of Bonus Eventus amongst soldiers who would doubtless have been concerned with victory and success in their lives. Bonus Eventus and Fortuna are both depicted upon a votive relief dedicated by Cornelius Castus and his wife Iulia Belismicus, from the site of the bath-house outside the east corner of the fortress of Caerleon (Collingwood and Wright 1965, No. 318; Brewer 1986a, 3-4, pl.1). The use of red jasper was not a coincidence. The popularity of red in the Roman world (on wall paintings and samian as well as gems) was doubtless connected with the colour being that of blood and hence of life.

L (mm): -      W (mm): -  
D (mm): -      Diam. (mm): -

#### 417 Finger-ring

SF 2075 Context: 905

Phase: 5 Area: A

The ring, which has a round cross-section, widens at its sides to form an oval bezel which has a slightly D-shaped recess for the now missing stone or intaglio. An example of Henig's Type III ring (Henig 1978, Fig. 1) which has a simple loop which expands as it approaches the oval bezel. Originally the bezel will almost certainly have held an intaglio. It is a common type which was much favoured in the first and second centuries. Six of the nine rings in the British Museum Catalogue are of this type (Manning 1985, 77, J1-J6). The quality of the intaglios found in many iron rings, including RA 416 above, makes it clear that they could be owned by at least relatively wealthy men. In fact, ancient sources, most notably Pliny the Elder (*Nat. Hist.* XXXIII, iv-xii),

make it clear that there was a long tradition of wearing iron rings by the Roman upper classes, including the aristocracy.

Weight (g): 7  
L (mm): 25      W (mm): 12  
D (mm): 3 x 3      Diam. (mm):

#### Pins

Iron pins are surprisingly rare finds on Romano-British sites. Their slightness makes them extremely vulnerable to corrosion and fragments of the stem are almost impossible to identify. However, it is also probable that they were not regarded as sufficiently decorative, when compared with ones made of copper alloy. So little metal is involved in their production that it is unlikely that they were cheaper than copper alloy ones, and iron (with the exception of finger rings) has never been a favoured metal for decorative pieces whether personal or domestic. There is a single example in the British Museum Catalogue (Manning 1985, 144, S137). It has a tapering, round-sectioned stem, but the perforated plate-like head is so anomalous as to suggest that it is a fitting of some kind rather than a decorative pin designed to be worn. It is possible that an unprovenanced piece with a round-sectioned stem and slightly conical head is a pin rather than a Type 9 nail as suggested in the British Museum Catalogue (Manning 1985, 136, R103), as could the other examples cited there, but the original identification may well be correct. A damaged pin from South Shields is in the Museum of Antiquities in Newcastle (Manning 1976, 36, No. 118). It may be significant that, as noted there, had it not been for the decorative head it would have been impossible to identify it as a pin rather than, for example, a fragment of thick wire. A very simple pin with a slightly conical head comes from an Antonine context at Usk (Manning *et al* 1995, 112, Pin No. 14, Fig. 32).

#### 418 Pin

SF 2538 Context: 2098

Phase: 2 Area: 2

It has a broken, square-sectioned stem with a barrel-shaped head with a slightly domed, light green glass inlay at its top.

Weight (g): 2  
L (mm): 22      W (mm): 3  
D (mm): 3      Diam. (mm): 13

#### 419 Pin

SF 112 Context: 100

Phase: 7 Area: A

Thin and probably broken stem with a globular head.

L (mm): 42      W (mm): 7  
D (mm): -      Diam. (mm): -

**420 Pin**

SF 4321 Context: 2095

Phase: 5 Area: A

The broken stem scarcely tapers. The head may have been globular, or conical with a domed-base; corrosion prevents certainty.

Weight (g): 25

L (mm): 123 W (mm): 5

D (mm): 6 Diam. (mm): 10

*Items used in written communications*

## Styli

**421 Stylus**

SF 4309 Context: 2052

Phase: 5 Area: B

The stem has a round cross-section and ends in a simple eraser with short, but distinct shoulders. The lower part of the stem and the tip are missing making the type uncertain, although the form of the eraser suggests that it was either Manning Type 1 or Type 2, both of which are relatively common forms (Manning 1985, 85, Fig. 24). The British Museum Collection includes four examples of Type 1 styli from London, and five from Hod Hill, and four Type 2 from London but none from Hod Hill (Manning 1985, 86). Examples in the Newcastle Museum of Antiquities Newcastle come from South Shields, Halton Chester, Housesteads and Carrawburgh (Manning 1976, 24-25, Nos 102-109).

Weight (g): 4

L (mm): 57 W (mm): -

D (mm): - Diam. (mm): 4

**422 Stylus**

SF 2535 Context: 2119

Phase: 2 Area: 3

Type 3 Stylus. It has a round-sectioned stem and a chisel-shaped eraser with well-defined shoulders. The end of the stem, which is corroded to a fragment of plate, is broken and the tip lost. The form of the eraser suggests that it may be a Manning Type 3 stylus. Type 3 styli, are slightly more elaborate than Types 1 and 2, with a more distinctly defined point and a larger eraser. The type, which is relatively uncommon, is defined and discussed in Manning 1985 (85, Fig. 24, N21-N23); the British Museum Collection contains only one example from Rushall Down, Wiltshire (Manning 1985, 26, N21). Three examples come from Newstead (Curle 1911, pl. LXXX, 3 and 4; Manning forthcoming N12-N14).

Weight (g): 4

L (mm): 101 W (mm): -

D (mm): - Diam. (mm): 3

**423 Stylus**

SF 226 Context: 2080

Phase: 2 Area: 1

The round sectioned, rod-like stem thins slightly as it approaches the short triangular eraser. Just above the now largely missing point is a slightly thickened ridge, with a band of copper alloy inlay immediately below it. Above the ridge are three more bands of inlay; the central one is of the same width as the one below the ridge, the other two slightly narrower. The decoration places it in Manning Class 4 styli (Manning 1985, 85, Fig. 24). Examples of this type of stylus from Wallsend and an unknown context are published in Manning 1976 (36, Nos 114-115), and others from various sites in Manning 1985 (86-87, Nos N24-N30) where other examples are cited.

L (mm): 94 W (mm): -

D (mm): - Diam. (mm): 5

For a possible stylus fragment, see RA 429 below.

*Transport***424 Hipposandal**

SF 2641 Context: 2123

Phase: 1ii Area: 4

The sole has slightly everted edges which widen to the upward sloping heel and down-turned hook. Too little survives for the type to be identified. The heel of a Type 1 or Type 2 hipposandal (Manning 1985, 63 ff., Fig. 16). The fact that Type 1 is the more common of the two forms in Britain may tilt the balance in its favour, but it cannot be regarded as conclusive. The types are discussed and examples cited in Manning 1985, 63ff, H1- H4 (Type 1) and H5- H6 (Type 2).

Weight (g): 81

L (mm): 85 W (mm): 67

D (mm): 4 Diam. (mm): -

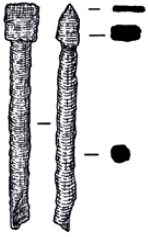
*Unclassified items***425 Fitting**

SF 704 Context: 702

Phase: 4 Area: A

Elongated plate the sides of which, viewed from above, converge from relatively wide ends to a waist which has down-turned flanges, some 60 mm long, at its sides. One end of each of these flanges is set at right angles to the edge of the plate, the other slopes down from the body of the bar to the edge of the flange. In cross-section this part of the fitting has a wide-U-shape with in-turned edges which was clearly designed to enclose part of a wooden object, although with a length of c. 65 mm, it is probably too short to have formed an effective handle. At one end a rectangular-sectioned bar extends beyond the slightly convex shoulders of the main plate. Seen from above this extension is of even thickness, but viewed from the side it widens to a, now probably broken, end. Some 15 mm from the complete end of the plate is a centrally placed, rectangular nail-hole.

421



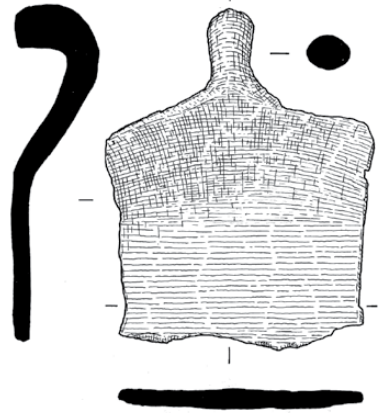
422



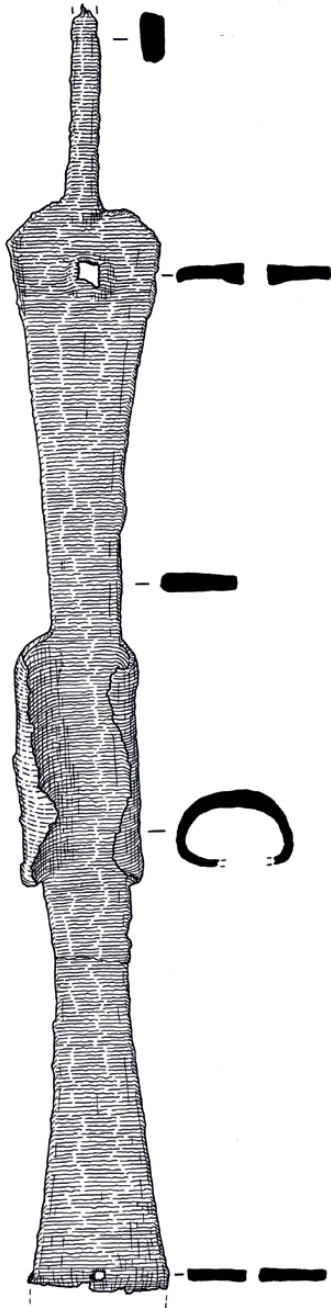
423



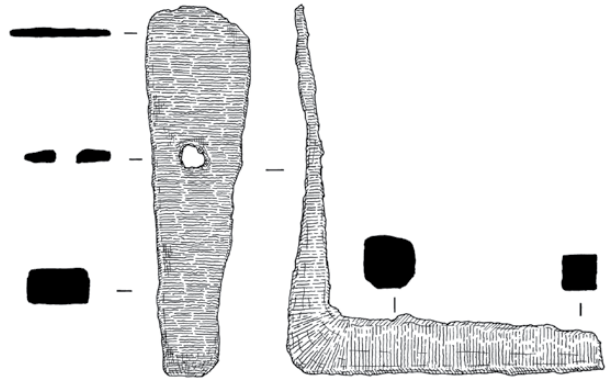
424



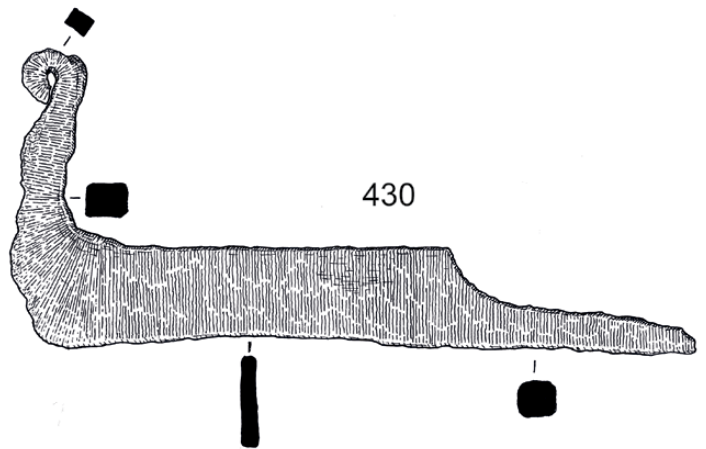
425



426



430



Originally the other end of the fitting may have been similar but it now ends in a jagged, upturned edge, which is clearly not original. Immediately below this edge is a small hole which may be a nail-hole similar to that seen at the other end of the fitting. The function of this piece is not obvious, and it was probably made for a specific and unusual purpose.

L (mm): 343      W (mm): 33  
D (mm): 19      Diam. (mm): -

#### 426 Bracket

SF 4314 Context: 005

Phase: 7 Area: B

L-shaped bracket, one of three found together. One arm has a slightly tapering, rectangular cross-section and is probably broken at its end. The other arm is flattened and splays out to a slightly rounded end, with a nail-hole 36 mm from its end. Although it has a superficial resemblance to a drop-hinge staple similar to RA 397 above, the fact that the shorter arm (which would have carried the hinge) has an almost rectangular cross-section rather than the round one which characterises such hinges indicates that this was not its function. The flat plate must have been nailed in position, which indicates that it was attached to a wooden beam or post, and it may be no more than an elaborate bracket or L-shaped wall hook such as that from Hod Hill in the British Museum collection (Manning 1985, 129, R26) where other examples are cited.

Weight (g): 124

L (mm): 83x97      W (mm): 13  
D (mm): 12      Diam. (mm): -

#### 427 Rod

SF 2260a Context: 2095

Phase: 5 Area: A

Short, conical rod which tapers from a flat head to a flat base. Found with a similar piece (RA 428, below). The fact that both are almost identical in length suggests that they are complete, although their original function is uncertain.

Weight (g): 31

L (mm): 54      W (mm): 13  
D (mm): -      Diam. (mm): 7

#### 428 Rod

SF 2260b Context: 2095

Phase: 5 Area: A

Similar to the preceding item (RA 427).

Weight (g): 29

L (mm): 53      W (mm): 11  
D (mm): -      Diam. (mm): 7

#### 429 Spatulate blade

SF 2480 Context: 2023

Phase: 3 Area: 2

Stylus or spatula? Broken at one end. Initially the edges run in parallel from the break before splaying out to a semi-circular end. Possibly the eraser of a stylus. Slightly splayed erasers of this type are not uncommon on styli, although most have straight edges and thinner stems. However, examples with relatively thick stems and elongated, splayed erasers are known (Manning 1985, 85, Fig. 24, Types 2a-4a), although the edge of the eraser is normally straight rather than convex as in this case. However, given the fact that we are dealing with a fragment rather than the complete object, certainty is probably impossible.

Weight (g): 12      L (mm): 81  
W (mm): 9-16      D (mm): 3      Diam. (mm): -

#### 430 Blade

SF 3201 Context: 3027

Phase: 3 Area: 7

The relatively long, straight blade has parallel, blunt edges, one of which runs into the top of a tapering tang. The 'back' has a slight concave curve. There is a slightly concave step between the tang and the 'edge' of the blade which ends in a short arm with blunt edges set at right angles to the blade. At its end this arm thins and is turned up and back to form a small, looped tip. None of the edges appear to have been sharpened, and its function is not obvious. Had the blade had a sharp cutting edge it could have been identified as a form of pruning hook or leaf knife similar to one from Hod Hill (Manning 1985, 58, F58), but it is not, and the terminal arm is a solid bar. Had it been intended to sharpen the edge of the blade this would almost certainly have been done at a much earlier stage in the forging of the piece, and there is no reason to doubt that what we have is a finished tool, although what that tool was designed to do is not obvious.

Weight (g): 94

L (mm): 180      W (mm): 24  
D (mm): 4      Diam. (mm): -

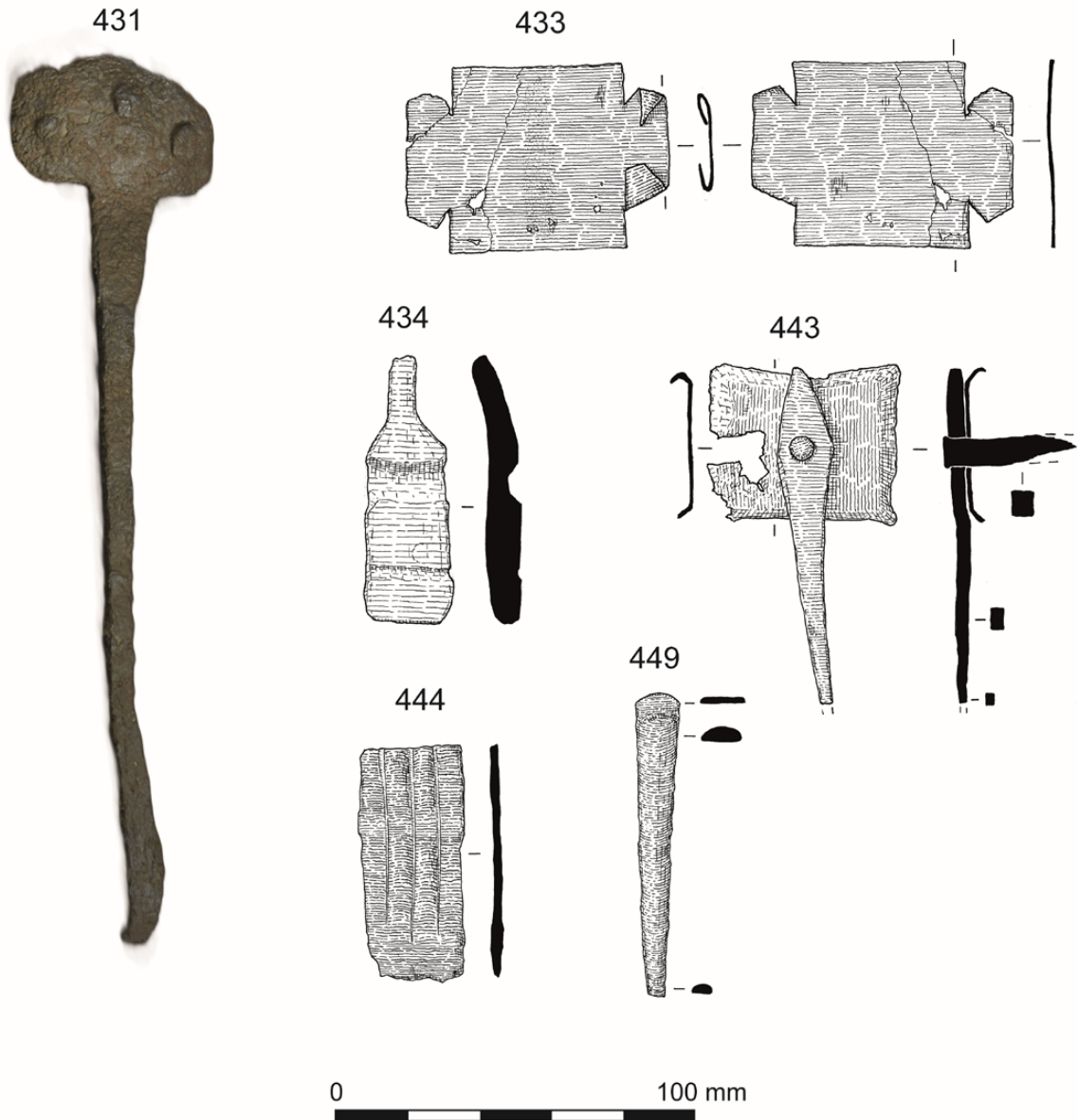
#### 431 Pan handle?

SF 508 Context: 502

Phase: 6 Area: A

It has a long, rectangular-sectioned handle or tang, slightly bent, and probably broken, at one end. At the other end it widens and turns down slightly to run into a semi-circular plate with slightly down-turned edges, straight shoulders which curve up into almost straight sides, and a convex end. Three large rivets run through the plate, one on each side and one in the centre close to the top of the curved edge. It is probably the tang, or perhaps less probably, the handle, of a pan of some kind, with the end plate being riveted to a lug on one edge of the rim of the pan.

L (mm): 242      W (mm): 60  
D (mm): 6      Diam. (mm): -



**432 Object**

SF 614 Context: 603

Phase: 6 Area: A

It has two parts. The larger is a relatively wide flat bar, with a well-formed rectangular head which overlaps the top of the bar on all sides. The other end thins to a broken end. Seen from the side the bar has a very shallow S-curve. On its upper face it appears to have split into two parts, the upper one of which is broken almost at the point where it joins the main bar. It may have been a spring. A second bar lies along the centre of the first with its head a short way below that of the first bar; it is curved to follow the S-shaped curve of the first bar. The head of this second bar (which is 25 mm long, 11 mm wide and 8 mm thick) narrows at its lower end into a tapering spike, possibly broken at its end. The function of this piece is not obvious. That the two parts

are in their original position is confirmed by the fact that they both follow the same gentle curve. The wide head and the possible spring could indicate that it was part of a lock, but if so it differs from any lock known to the writer.

L (mm): 81

W (mm): 22

D (mm): 16

Diam. (mm): -

**433 Plate**

SF 2521 Context: 2119

Phase: 2 Area: 3

Rectangular panel with wings on each side. The wings have a straight outer edge with inward sloping sides. One wing is broken; the ends of the other are folded over. A wide band of lighter coloured corrosion runs across the centre of one face, possibly the remains of adhesive? Ansate tablets of this general form were

commonly used to frame inscriptions, and it is possible that this plate was the backing for an inscription on a separate plate, possibly of copper alloy.

Weight (g): 7

L (mm): 73          W (mm): 51

D (mm): 1          Diam. (mm): -

#### 434 Blade

SF 4325 Context: 3013

Phase: 5 Area: B

Parallel-sided thick 'blade' which is probably cut at one end. The other end narrows through sloping shoulders into a short, slightly tapering, and probably broken, tang. A wide, roughly rectangular groove runs across one face of the blade close to the tang, with a second, much narrower groove close to the cut end. Its function is not obvious.

Weight (g): 46

L (mm): 73          W (mm): 24

D (mm): 9          Diam. (mm): -

#### 435 Ring

SF 2239 Context: 2080

Phase: 2 Area: 1

It has a circular cross-section. Rings such as this and those which follow are common finds on Roman sites. They could have had a myriad of functions and without additional information it is usually impossible to tell what any particular ring was used for. The British Museum Catalogue includes a group of 31 rings of varying diameters from Hod Hill (Manning 1985, 140, S18-S48) and most site collections contain similar numbers.

Weight (g): 32

L (mm): 60          W (mm): 60

D (mm): -          Diam. (mm): 7

#### 436 Ring

SF 736 Context: 711

Phase: 2 Area: 3

Small ring, possibly from a chain.

L (mm): -          W (mm): -

D (mm): -          Diam. (mm): 10

#### 437 Ring

SF 3159 Context: 3004

Phase: 5 Area: B

It has a round cross-section.

Weight (g): <1

L (mm): -          W (mm): -

D (mm): -          Diam. (mm): 8

#### 438 Ring

SF 2120 Context: 2052

Phase: 5 Area: B

It has a round cross-section and is thickened and slightly damaged on one side.

Weight (g): 13

L (mm): 38          W (mm): 38

D (mm): -          Diam. (mm): 5

#### 439 Binding

SF 4322 Context: 2098

Phase: 2 Area: 2

Rectangular binding with the ends of the strip which forms it welded together.

Weight (g): 3

L (mm): 23          W (mm): 4

D (mm): 3          Diam. (mm): -

#### 440 Double-link

SF 024 Context: 001

Phase: 7 Area: A

It is made from a narrow, rectangular-sectioned rod with tapering ends which have been turned to form loops set at right angles to each other. One of these loops is closed but the other has a gap between the end of the loop and the body of the bar. Whether this gap is intentional or not cannot be decided with certainty but the thickness of the bar would probably have made it difficult to force a closed loop open. Figure-of-eight links and chains formed of such links are common finds on Roman sites; several are catalogued in the British Museum Catalogue (Manning 1985, S8 - S17) and others may be found in most major site collections. However, the form seen here, with the loops set at right angles to one another, is unusual. If the 'hook' was originally 'closed' it was probably a flexible link connecting two pieces of metal, or a link from an unusually massive chain, but upon the whole its identification as a hook is more probable. If so, the relatively narrow gap between the tip of the hook and the main bar suggests that it was used in a position where it was important that whatever was held by the hook was not easily displaced. Some form of cart or horse fitting would seem an obvious suggestion.

L (mm): 31          W (mm): -

D (mm): -          Diam. (mm): -

#### 441 Ferrule or Collar

SF 3374 Context: 3065

Phase: 3 Area: 7

Slightly tapering cylindrical binding, possibly a ferrule although it is unusually thick for such a purpose and it may have been a simple collar intended to protect the end of a wooden rod. Generally similar collars from Hod Hill are discussed in Manning 1985 (140, S54-56) where other examples are cited.

Weight (g): 25

L (mm): 17          W (mm): -

D (mm): -          Diam. (mm): 29

#### 442 Disc

SF 218 Context: 208

Phase: 6 Area: A

Irregular disc. One face, probably the underside, is relatively smooth with the very low remains of a nail or rod at its centre. The other face is irregular with a groove running around much of it close to the edge. The head of the central 'nail' is visible at its centre. Its function is not obvious.

L (mm): -            W (mm): -  
D (mm): 5            Diam. (mm): 69

#### 443 Plate

SF 3068 Context: 3022

Phase: 1ii            Area: yard

Flat, roughly rectangular plate with short up-turned edges. On its outer face is a thin spike which tapers from a narrow trapezoidal head to a broken tip. This is held in place by a square-sectioned rod or spike with its head in the centre the outer face of both the trapezium and the rectangular plate. The end of this rod or spike is broken. The downturned edges of the sheet suggests that it may be one side of a case of some kind.

L (mm): 52            W (mm): 42  
D (mm): 1            Diam. (mm): -

#### 444 Plate

SF 3435 Context: 3081

Phase: 1ii            Area: 6

Fragment of rectangular plate with three grooves running along its longer axis creating shallow 'ribs'. One end is complete, the other probably broken.

Weight (g): 17

L (mm): 64            W (mm): 29  
D (mm): 2            Diam. (mm): -

#### 445 Rod

SF 4316 Context: 005    Phase: 7 Area: B

One end is broken; the other tapers through flat faces to a flat end which appears to be original.

Weight (g): 72

L (mm): 120            W (mm): -  
D (mm): -            Diam. (mm): 10-15

#### 446 Plate

SF 2658 Context: 2119

Phase: 2 Area: 3

The original edge, which is slightly down-turned (or up-turned) has an even curve suggesting that it is a fragment of a discoidal plate of unknown function.

Weight (g): 29

L (mm): 42            W (mm): 38  
D (mm): 2            Diam. (mm): -

#### 447 Plate

SF 3405 Context: 3080

Phase: 1ii            Area: 6

The asymmetrical plate widens from a broken, rod-like neck to a broken edge.

Weight (g): 8

L (mm): 42            W (mm): max.  
D (mm): 3            Diam. (mm): -

#### 448 Strip

SF 3107 Context: 3032

Phase: 5 Area: B

Fragment which narrows slightly from a shallow V-shaped head to a broken end. A round hole runs through the centre of the head. It is probably a fragment of binding.

Weight (g): 25

L (mm): 57            W (mm): 34  
D (mm): 35            Diam. (mm): -

#### 449 Strip

SF 029 Context: 005

Phase: 7 Area: B

D-sectioned, tapering strip with a broken tip. At the curved end is a narrow band, c. 5 mm wide, which is markedly thinner than the body of the strip. Its function is not obvious.

Weight (g): 13

L (mm): 83            W (mm): 11.5  
D (mm): 5            Diam. (mm): -

#### 4.2.5 *The Lead or Lead Alloy Artefacts (Mark Lewis)*

One-hundred-and-fifty lead, or lead alloy, Registered Artefacts were recovered from Priory Field, of which 49 are published here (approximately 25% of which were recovered by the project's metal detectorist from spoil heaps). Non-diagnostic lead off-cuts, scraps and casting waste have not been included in this catalogue (these are listed in the full Registered Artefacts archive), but they serve to demonstrate the importance of lead and lead alloys in the life of the legionary fortress. Between the first and third centuries, it is likely that lead was obtained from the Mendip Hills across the Severn Estuary (Todd 2007) and, more locally, from Draethen with its rock cut galleries with Roman pottery and a hearth associated with counterfeit coins of Tetricus I (Boon 1971; Tuck and Tuck 1965). At least some, if not all, of Draethen's lead probably reached Caerleon via Lower Machen (Barker and Mercer 2000; Giblin 1999; Nash-Williams 1937-9; Nash-Williams 1939). It may be also noted that lead was also extensively mined further to the north in Flintshire (Jones and Grant 2019; O'Leary *et al.* 1989; Petch 1936) and is unlikely to have served the legionary fortress at Chester exclusively. However, Caerleon's proximity to the Severn Estuary and Draethen make these the most likely sources for the majority of the Caerleon lead. Of the 150 Registered Artefacts, four were recognisably post-medieval, namely a pistol shot, a musket ball, a powder holder cap and a window came fragment (not published).

Whilst the number of positively identifiable Roman types published here represents a small statistical universe, significant aspects of the Priory Field lead assemblage are noted, which taken together may support a feasible over-arching interpretation. Six distinct groups of Roman lead artefacts can be identified: (i) lead plano-convex ingots; (ii) lead faceted 'balls' (possibly intended as ingots, missiles or weights); (iii) impressed and other cheese-shaped lead weights; (iv) lead patterns, archetypes or forms for casting in bronze; (v) lead casting waste, offcuts and salvaged lead; (vi) lead baggage labels or tags. Comparison with other published Caerleon excavation lead reports, as well as the lead collections preserved at the National Roman Legion Museum, suggests that the numbers of artefacts falling into each of these categories at Priory Field are unusual enough to be able to suggest that statistical significance may be ascribed to these categories at this site, but not with equal confidence elsewhere within the fortress or its canabae. Considered holistically, along with the quantities of the (otherwise ubiquitous and, admittedly, variously published or retained) lead casting waste, offcuts and possibly salvaged lead, the Priory Field lead artefacts represent the only notable concentration of the first four categories of artefact types within the fortress (or its canabae), supporting (a)

an interpretation that argues for the storage and supply of lead and lead products, as well as lead archetypes used in the manufacturing of copper alloy artefacts at this location within the fortress or nearby, (b) an interpretation which argues for the manufacturing of lead artefacts and copper alloy artefacts at this location within the fortress or nearby, (c) both of these interpretations, or (d) dumping of material from such a place within the fortress at this location. The inscribed baggage labels are described in detail in the Inscribed Material section of this chapter, section 4.2.9).

#### *Military equipment*

##### Slingshots

#### **450 Slingshot**

SF 2058 Context: 2005

Phase: 5 Area: A

Slingshot (or possibly a faceted lead weight, or an ingot). Six of these were recovered from this excavation and they are sufficiently similar to merit their consideration as a distinct type (RA 450-455). Examples conforming to this object type were recovered at Carlisle (Howard-Davis 2009, 718 and Fig. 371, No. 5) and Cramond from the upper or disturbed levels (Rae and Rae 1974, 195 No. 1) where they were, at both sites, identified and published as possible slingshot. The Carlisle examples were all dated to phase 6 or later (early to late third century AD onwards). Similar, but larger, objects from Cramond were from post-Roman contexts (Holmes 2003, 106, Illus. 88). Although evidence for the use of lead slingshot is rare in the late third and fourth centuries (Bishop and Coulston 1993, 115 and 166), biconical and piriform examples from fourth-century contexts are cited at Vindolanda (Birley 1996, 11, Fig. 2). Whilst the faceting appears to be deliberate (and might well aid flight) these objects do not conform with the conventional 'nut'-shaped glans (biconical or lentoid) Roman lead slingshot (Greep 1987; Stiebel 1997) which Howard-Davis (2009, 718) notes 'seem more typical of the Antonine period', being 'known from sites in Scotland at that date'. Birley (1996, 11 and Fig. 3) illustrates stone slingshot from Vindolanda of similar form and dimensions to these Caerleon lead objects.

Weight (g): 55.2

L (mm): - W (mm): -

D (mm): - Diam. (mm): 21

#### **451 Slingshot**

SF 228 Context: 208

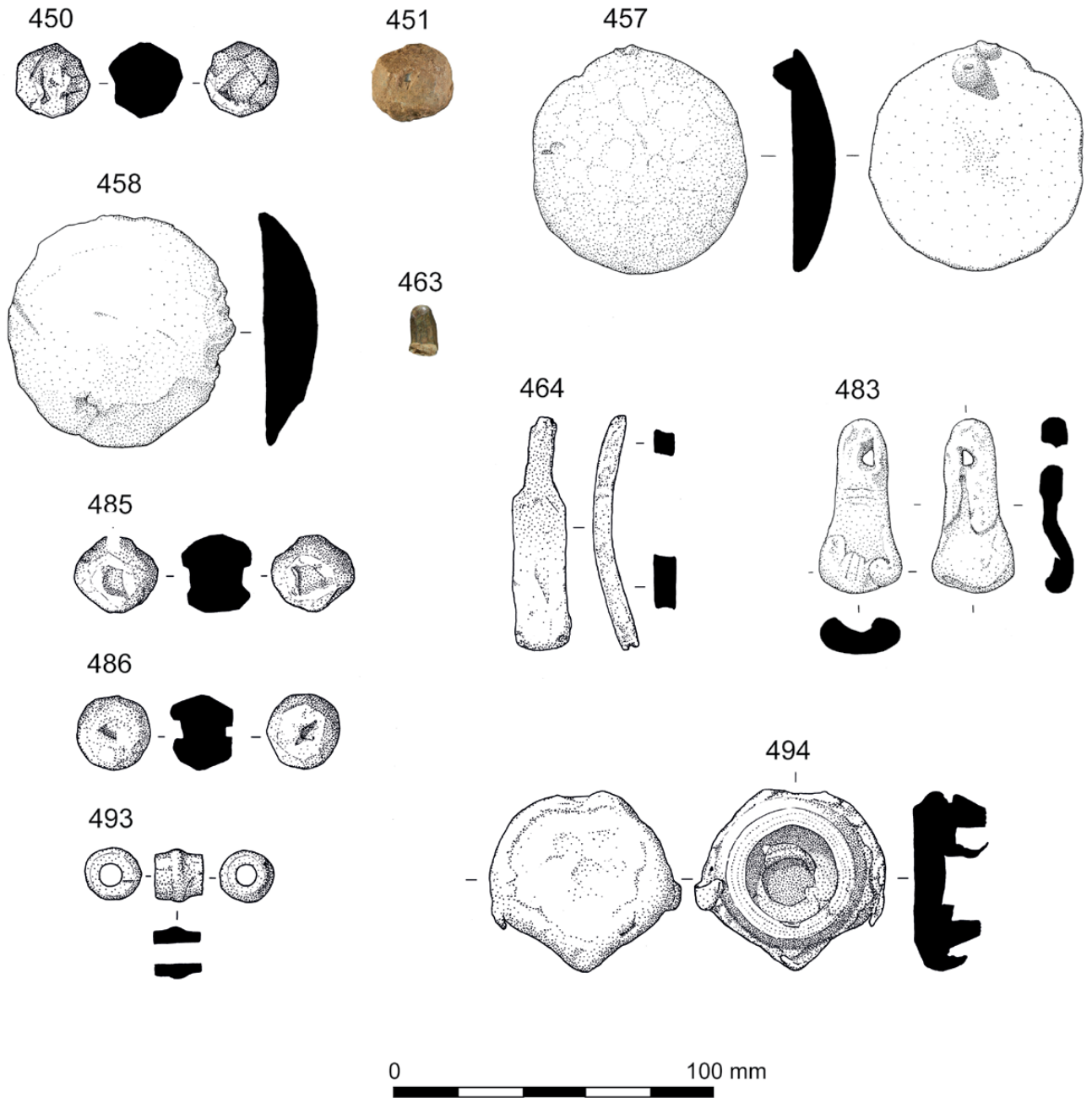
Phase: 6 Area: A

Slingshot (or possibly a faceted sub-spherical lead weight, or an ingot). See entry for RA 450.

Weight (g): 82.9

L (mm): - W (mm): -

D (mm): 23 Diam. (mm): 25.5



**452 Slingshot**

SF 2063 Context: 502

Phase: 6 Area: A

Slingshot (or possibly a faceted sub-spherical lead weight, or an ingot). See entry for RA 450.

Weight (g): 79.2

L (mm): 23 W (mm): 25

D (mm): 22 Diam. (mm): 24

**453 Slingshot**

SF 2065 Context: 502

Phase: 6 Area: A

Slingshot (or possibly a faceted sub-spherical lead weight, or an ingot), with (possibly accidental) square indentation. See entry for RA 450.

Weight (g): 52.3

L (mm): - W (mm): -

D (mm): - Diam. (mm): 22

**454 Slingshot**

SF 3178 Context: 3001

Phase: 7 Area: B

Slingshot (or possibly a faceted sub-spherical lead weight, or an ingot). See entry for RA 450.

Weight (g): 46.7

L (mm): - W (mm): -

D (mm): -           Diam. (mm): 21

**455 Slingshot**

SF 3529 Context: u/s

Phase: - Area: -

Slingshot (or possibly a faceted sub-spherical lead weight, or an ingot). The largest of the six recovered from this excavation. See entry for RA 450.

Weight (g): 132.8

L (mm): -           W (mm): -

D (mm): 26           Diam. (mm): 30

*Household utensil*

**456 Vessel**

SF 3540 Context: u/s

Phase: - Area: -

Fragment of the rim of a lead or lead alloy vessel with a decorative line moulding near the rim's edge.

Weight (g): 29

L (mm): 33           W (mm): 27

D (mm): 6           Diam. (mm): -

*Manufacturing*

*Ingot*

**457 Ingot**

SF 3394 Context: 3083

Phase: 1ii           Area: 6

Lead plano-convex ingot with one possible conical locating protrusion in its planar face. This, and the other five plano-convex ingots from this excavation (see 457-462), conform to a type identified at Caerleon and Neath (Evans 1992a, 177 Nos 21-3; Evans 2000, 414 No. 21; Evans 1992b, 255 No. 4), who notes that they have been found in contexts dated late first/early second centuries to the middle of the fourth century and could have been produced by running the smelt into a bowl-shaped hollow lined with clay (Tylecote and Merkel 1985, 10-11). The convex surface of this example is faceted and this could be as a result of an impression of finger marks from such a mould. A few knobs of lead on the convex surface suggest possible air, gas or steam holes in the original clay mould. The planar surface is flat, as-cast, and has a few knobby areas, possibly due to air in the melt? Howard-Davis (2009, 762 and Fig. 442, 5) identifies a similar object from Carlisle, which is 64 mm in diameter, as a weight and dates its context to period 4C (c. 125- c. 140/50). Use as pan or other weights seems unlikely given the range of weights represented at Priory Field (between 322.0 g and 444.8 g, a difference of 27.6% between the lightest and heaviest).

Weight (g): 330.7

L (mm): -           W (mm): -

D (mm): 12           Diam. (mm): 69.5

**458 Ingot**

SF 2479 Context: 2107

Phase: 2 Area: 3

Lead plano-convex ingot. See entry for RA 457.

Weight (g): 444.8

L (mm): -           W (mm): -

D (mm): 17           Diam. (mm): 72

**459 Ingot**

SF 2213 Context: 2088

Phase: 3 Area: 1

Lead plano-convex ingot. See entry for RA 457.

Weight (g): 344.6

L (mm): -           W (mm): -

D (mm): 13           Diam. (mm): 73.7

**460 Ingot**

SF 2052b Context: 726

Phase: 4 Area: A

Lead plano-convex ingot. See entry for RA 457.

Weight (g): 412.9

L (mm): -           W (mm): -

D (mm): 15           Diam. (mm): 70

**461 Ingot**

SF 2020a Context: 2018

Phase: 6 Area: A

Lead plano-convex ingot physically deformed following casting. See entry for RA 457.

Weight (g): 322.0

L (mm): -           W (mm): -

D (mm): 12           Diam. (mm): 70

**462 Ingot**

SF 2020b Context: 2018

Phase: 6 Area: A

Lead plano-convex ingot physically deformed following casting. See entry for RA 457.

Weight (g): 334.0

L (mm): -           W (mm): -

D (mm): 12           Diam. (mm): 70

**463 Ingot**

SF 2648 Context: 2123

Phase: 1ii           Area: 4

Semi-worked bar fragment, possibly the end of an ingot. SEM analysis of the surface's chemical composition shows that it is a lead-rich alloy (95.4% lead and 4.6% tin) (Parkes 2016).

Weight (g): 5.0

L (mm): 6           W (mm): 9

D (mm): 7           Diam. (mm): -

*Patterns*

**464 Pattern**

SF 2617 Context: 2122

Phase: 1ii Area: 4  
 Curved cast lead object. Possibly a lead pattern or form for a utensil handle or other casting? Edges have become burred through cold working. Possibly incomplete at the tapered end. See RA 465.  
 Weight (g): 62.7  
 L (mm): 72.6 W (mm): 16.9  
 D (mm): 6.9 Diam. (mm): -

**465 Pattern**

SF 3480 Context: 3047  
 Phase: 3 Area: 7  
 Possible lead palm guard (unused), ingot or cupped casting. Crudely cast with granular surfaces incorporating soil or sand. Possibly a failed pattern for a spoon or ladle bowl? Three lead 'archetypes' or patterns were recovered from a 2010 test-pit in the Southern Canabae, deposited with charcoal, slag, other lead scrap (likely to be second - third century), including a Wild type Vb button-and-loop fastener (Wild 1970), a Roman copper alloy scalpel, and an openwork decorative element, or possibly a buckle tongue (Guest, Luke and Pudney 2012, 8; Lewis forthcoming). It is possible that these patterns were used in mould production for copper-alloy casting or that, rather than lost-wax casting, lost-lead copper alloy casting at Roman Caerleon is an explanation for these lead artefacts.  
 Weight (g): 116.4  
 L (mm): 67 W (mm): 51  
 D (mm): 14 Diam. (mm): -

## Pellets and plug

**466 Pellet**

SF 2707 Context: 2163  
 Phase: 0i Area: 1  
 Lead oval object similar to RA 468.  
 Weight (g): 12.0  
 L (mm): 10 W (mm): 13  
 D (mm): 1.5 Diam. (mm): -

**467 Pellet**

SF 2705 Context: 2100  
 Phase: 3 Area: 2  
 Lead oval object similar to RA 468.  
 Weight (g): 3.8  
 L (mm): 14 W (mm): 10.5  
 D (mm): 3.5 Diam. (mm): -

**468 Pellet**

SF 3537 Context: u/s  
 Phase: - Area: -  
 Lead lentoid pellet. Molten lead dropped onto a flat surface as suggested by the one flat (lower) face and domed (upper) surface. Unmodified.  
 Weight (g): 2.4  
 L (mm): 11.5 W (mm): 9

D (mm): 3 Diam. (mm): -

**469 Plug**

SF 902 Context: 900  
 Phase: 7 Area: A  
 Lead cast plug or casting sprue. 25 mm diam. reducing to 17 mm x 10 mm oval cross section then splaying to 25 mm x 15 mm.  
 Weight (g): 31.6  
 L (mm): - W (mm): -  
 D (mm): 15 Diam. (mm): 25

*Items used in written communications***470 Label**

SF 2134 Context: 2062  
 Phase: 2 Area: 1  
 Inscribed rectangular tag with a neat hole in one corner. Only one face is inscribed (see section 4.2.9).  
 L (mm): 29 W (mm): 20  
 D (mm): - Diam. (mm): -

**471 Label**

SF 2388 Context: 2090  
 Phase: 2 Area: 4  
 Inscribed oblong lead tag, broken at the bottom edge. Both faces are inscribed in crude capitals (see section 4.2.9).  
 L (mm): 35 W (mm): 19  
 D (mm): - Diam. (mm): -

**472 Label**

SF 3294 Context: 3047  
 Phase: 3 Area: 7  
 Inscribed rectangular lead tag inscribed on one face in crude capitals to the right of the hole. Afterwards it was folded twice, which has stressed the surface, which is also quite badly corroded (see section 4.2.9).  
 L (mm): 34 W (mm): 20  
 D (mm): - Diam. (mm): -

**473 Label**

SF 3343 Context: 3074  
 Phase: 3 Area: 6  
 Inscribed rectangular lead tag with loss to one corner which has removed part of the round hole perforated for attachment. Both faces are inscribed in crude capitals (see section 4.2.9).  
 L (mm): 37 W (mm): 14  
 D (mm): - Diam. (mm): -

**474 Label**

SF 2100 Context: 2005  
 Phase: 5 Area: A  
 Inscribed narrow rectangular strip inscribed in capitals on both faces. The incisions are shallow and some are now incomplete (see section 4.2.9).  
 L (mm): 50 W (mm): 12

D (mm): - Diam. (mm): -

**475 Label**

SF 3213 Context: 3023

Phase: 5 Area: B

Inscribed rectangular tag, with a neat hole in one corner. Both faces are inscribed (see section 4.2.9).

L (mm): 49 W (mm): 19

D (mm): - Diam. (mm): -

**476 Label**

SF 276 Context: 202

Phase: 6 Area: A

Inscribed rectangular lead tag with a hole neatly punched in one corner. Both faces are inscribed, but by different hands (see section 4.2.9).

L (mm): 33 W (mm): 16

D (mm): - Diam. (mm): -

**477 Label**

SF 208 Context: 200

Phase: 7 Area: A

Inscribed oblong lead tag folded three times after being inscribed, which has stressed and damaged the surface (see section 4.2.9).

L (mm): 85 W (mm): 34

D (mm): - Diam. (mm): -

**478 Label**

SF 3245 Context: u/s

Phase: - Area: -

Inscribed lead sheet. Broadly rectangular with a rectangular nail hole at one end. Possibly inscribed but very indistinct with some surface corrosion.

Weight (g): 7.0

L (mm): 43.4 W (mm): 18.6

D (mm): 1.3 Diam. (mm): -

**479 Sheet**

SF 2359 Context: 2090

Phase: 2 Area: 4

Possible inscribed lead tag. This fragment of lead sheet has neat knife-cut edges and surface scratches but no obvious text. The extant object is encrusted and may have lost a corner where it was pierced.

Weight (g): 5.5

L (mm): 37 W (mm): 18

D (mm): - Diam. (mm): -

**480 Sheet**

SF 2429 Context: 2098

Phase: 2 Area: 2

Possible inscribed lead tag. This fragment of lead sheet has neat knife-cut edges and surface scratches but no obvious text. The extant object is folded but not apparently pierced.

Weight (g): 6.7

L (mm): 19.5 W (mm): 30

D (mm): - Diam. (mm): -

**481 Sheet**

SF 2491 Context: 2002

Phase: 3 Area: 4

Rectangular lead sheet with one circular punched hole in one corner. Some surface scratches but no obvious inscription. A possible tag blank.

Weight (g): 5.7

L (mm): 22 W (mm): 25

D (mm): - Diam. (mm): -

**482 Sheet**

SF 430 Context: 419

Phase: 6 Area: A

Rectangular lead sheet with one circular punched hole in one corner. Some surface scratches but no obvious inscription. A possible tag blank.

Weight (g): 5.1

L (mm): 41 W (mm): 15

D (mm): - Diam. (mm): -

*Weights***483 Weight**

SF 2098 Context: 901

Phase: 6 Area: A

Lead piriform hanging weight. Crudely fashioned, cast and apparently partially subsequently cold-worked. Any phallic likeness is probably accidental.

Weight (g): 62.6

L (mm): 55 W (mm): 26

D (mm): 7 Diam. (mm): -

**484 Weight**

SF 2059 Context: 2005

Phase: 5 Area: A

Roughly biconical or cheese-shaped lead weight with triangular and lentoid impressions in opposing planar faces. One of eight similar artefacts from this excavation (see 485-491 and discussion under 486 and 490).

Weight (g): 59.2

L (mm): - W (mm): -

D (mm): 18 Diam. (mm): 22

**485 Weight**

SF 3528 Context: u/s

Phase: - Area: -

Biconical lead weight. Indentations on opposing flat surfaces are square and lentoid (see 484).

Weight (g): 74.2

L (mm): 25 W (mm): 23

D (mm): 21 Diam. (mm): -

**486 Weight**

SF 3530 Context: u/s

Phase: - Area: -

Crude biconical lead weight. This object represents the purest form of this type, which is represented by another seven examples from this excavation alone. Indentations in the opposing flat surfaces of this example are triangular and lentoid respectively. Similarities are noted between these Caerleon examples and two lead weights from Castleford (Mould 1998, 121-123 and Fig. 43). See RA 484.

Weight (g): 61.3

L (mm): 23.3      W (mm): 22.1

D (mm): 19.6      Diam. (mm): -

#### 487 Weight

SF 3531 Context: u/s

Phase: - Area: -

Biconical lead weight. Indentations in the opposing flat surfaces are triangular and lunate (see 484). Possibly represents or was meant for 3 unciae (~ 82 g)?

Weight (g): 83.7

L (mm): 27      W (mm): 24

D (mm): 18      Diam. (mm): -

#### 488 Weight

SF 3532 Context: u/s

Phase: - Area: -

Faceted burred lead object only crudely fashioned through peining. This object displays similar mechanical modification exhibited by 450-455, but is more tub-like in shape rather than spherical. In this respect it is similar in form to the group of other biconical weights and could represent a 'hybrid' (intermediate) form, an unfinished item, or a roughout.

Weight (g): 79.2

L (mm): -      W (mm): -

D (mm): 20      Diam. (mm): 24

#### 489 Weight

SF 3533 Context: u/s

Phase: - Area: -

Biconical lead weight. Triangular and circular indentations in opposing planar faces (see RA 484).

Weight (g): 68.8

L (mm): 23      W (mm): 20

D (mm): 23      Diam. (mm): -

#### 490 Weight

SF 050 Context: u/s

Phase: - Area: -

Biconical or truncated spherical lead weight. Essentially cheese-shaped with flat top and bottom faces. The weight appears to have been cast initially then hammered into final shape causing some burring of the lead and some minor faceting. Two, possibly deliberate, indentations, of triangular and/or crescent shape, are found in the one flat surface and the side respectively. The weight has suffered from historic knife(?) cuts. See Mould (1998, 122 and Fig. 43, 6, 8 and 9), Frere and

Wilkes (1989: 157-8, Nos 105-6), Howard-Davis (2009, 761-2, Nos 3 and 4) and Davies and Spratling (1976, 127, No. 11). Possibly represents 3 unciae (~ 82g)?

Weight (g): 86.1

L (mm): -      W (mm): -

D (mm): 20.5      Diam. (mm): 24

#### 491 Weight

SF 3527 Context: u/s

Phase: - Area: -

Lead weight? One surface indented with square-sectioned points (see RA 484).

Weight (g): 61.5

L (mm): 23      W (mm): 23

D (mm): 20      Diam. (mm): -

#### *Unclassified items*

#### 492 Object

SF 3176 Context: 3001

Phase: 7 Area: B

Heavy, crushed cast lead ring with tapering (conical) interior surface. Lipping around the edges suggest that this object was originally cast into a stepped circular aperture of some description having a grooved interior seat below its rim. This object was subsequently crushed sideways and knife-cut, apparently at the location of a locating lug in the object into which this object had originally been cast. See RA 494 which is of similar diameter.

Weight (g): 394.7

L (mm): 73.2      W (mm): 42.7

D (mm): 23.9      Diam. (mm): -

#### 493 Object

SF 052 Context: u/s

Phase: - Area: -

Lead hollow biconical object with very smooth internal bore of 7.5mm. Very slight faceting of the two conical faces suggests that they were pared down with a knife. The two end faces are perfectly flat. All faces, including the hollow core, appear to be worn smooth in such a way as might be expected if this object had been used as a biconical bead or spacer.

Weight (g): 20.7

L (mm): 15      W (mm): 14

D (mm): 12      Diam. (mm): -

#### 494 Plug

SF 2716 Context: 2119

Phase: 2 Area: 3

Cast lead plug with five clasps(?). This cast lead object took the impression of a turned conical slot in a possibly organic (wooden?) artefact, having a circular cross-section at this end. The cast of the conical slot has machine-like qualities, including concentric rings probably the result of turning. The inner slot (<1 mm

thick) survives in one section of under-cut upstanding lead which suggests that the lead was a fill for an organic object. The upstanding lead of the inner ring, which has a bell-shaped profile in section, would not have survived removal of this plug from an inorganic object. It appears to preserve its profile as-cast but it is not clear how a slot of such thin cross-section could have been turned with this bell-shaped profile. A single locating lug appears as a lead-filled slot on the interior of the outer lead ring (i.e., the outer slot of the filled object). It appears that the extant object preserves two lead casting episodes. The first represents some form of cast spigot or pierced lead plug which reduced the bore of some form of internally tapering aperture from 45 mm to the central small diameter 'hole' of 16 mm. The second episode was a crudely cast blocking cap which sealed the central hole and formed a cap covering the end of the whole object and created five crude 'lugs' or 'clasps' down the side of it. If the extant object is considered before the blocking resulting from the second episode of casting, it has a number of similarities with an unpublished lead object of very similar dimensions from another secure Roman context at Caerleon. This object (weighing 112.4 g) was excavated in 1936 at the Jenkins Field II site and its museum label records its context as 'At 16 in charcoal of rm below pink clay, definitely P.S.'. By the convention used by Nash-Williams elsewhere at Caerleon, this would place the object in room 16 of the building excavated, and from a pre-stone phase of it, i.e., before 110-120 (Nash-Williams, 1936: 320-1). There appears to be no contextual reason to reject the Priory Field object as intrusive and, despite appearances, a Roman date is likely.

Weight (g): 313.3

L (mm): 61            W (mm): -

D (mm): 22            Diam. (mm): 44.5

#### 495 Plug

SF 3118 Context: 3027

Phase: 3 Area: 7

Lead repair. Apparently not a repair for a ceramic vessel. The two elements joined appear to have been of rectangular and triangular cross-sections respectively.

Weight (g): 11.6

L (mm): 40            W (mm): 10.1

D (mm): 10            Diam. (mm): 2.5

#### Post-roman items

#### 496 Musket ball

SF 804 Context: 800

Phase: 7 Area: A

Lead musket ball with position of casting sprue visible. The sprue was 7 mm in diameter. The ball is 19 mm in diameter around the visible casting flash and 18.5 mm in diameter perpendicular to the casting flash. Post-medieval.

Weight (g): 37.6

L (mm): -            W (mm): -

D (mm): -            Diam. (mm): 19

#### 497 Pistol shot

SF 3525 Context: u/s

Phase: - Area: -

Pistol shot with flash-line and evidence of location of casting sprue. Post-medieval.

Weight (g): 18.5

L (mm): -            W (mm): -

D (mm): -            Diam. (mm): 14.5

#### 498 Powder holder cap

SF 2001 Context: 2001

Phase: 3 Area: 4

Lead powder holder cap with two suspension loops. The cap has a lipped aperture and two opposing casting flashes running down the sides of the cap at positions 90 degrees to the two opposing integral cast suspension loops. PAS examples are dated to the seventeenth century. Powder holders were often made from wood and were sometimes called 'apostles' because there were normally twelve of them suspended from a soldier's bandoleer. They each held the correctly measured amount of gunpowder for a single musket charge. Both the holders and the caps had loops (normally two) through which the attachment cord was threaded, and which prevented either from being lost. When the powder had been used, the holders were refilled from a flask. See early copper-alloy sheet examples from the Alderney shipwreck (Monaghan and Bound 2001, 95-98).

Weight (g): 17.9

L (mm): -            W (mm): -

D (mm): 15            Diam. (mm): 20

#### 4.2.6 Glass Artefacts (Mark Lewis)

Flavian-Trajanic glass-blowing debris from Great Bulmore, just a mile from the fortress, has provided evidence that some blue-green glassware, and probably window glass too, was produced locally (Zienkiewicz 1992b, 8 footnote 2). One small piece (0.9 g) of melted blue/green glass was recovered from Priory Field, but this may have resulted from accidental melting in a fire rather than a deliberate attempt to recycle it (unpublished SF 901). It is highly likely that much of the glass was probably imported from the great production centre at Cologne, and elsewhere.

In total, 830.3 g of Roman vessel glass (119 fragments) was recovered from the excavation. Whilst finer table wares are well-represented amongst the Priory Field assemblage (76 fragments, weighing 270.4 g), blue-green glass container bottle fragments predominate by weight, number of fragments and number of vessels represented (87 fragments weighing 329.5 g).

As at the Fortress Baths, Priory Field produced very little of the brightly coloured glass popular for most of the first century. This is limited to a single small fragment of cobalt blue glass, probably part of a cylindrical neck of a blown flask or bottle (unpublished SF 3399), and 42 body fragments (40.87g) of an amber-yellow blown flask(s) from a single Phase 1ii context (C2149) in Room 1. Less-brightly coloured table wares and other finer vessel glass could be broadly divided into 43 fragments of colourless vessels (57.1 g) and 33 fragments (62.3 g) of finer blue/green vessels (including the possibly mould-blown line-decorated fragments: RA 500 and RA 502; unpublished SF 3203; and indented beaker rim fragments from two different vessels: unpublished SF 443 and SF 514). Colourless table wares include beakers with wheel-cut decoration (RA 504; unpublished SF 4335), and colourless trailed line decoration (RA 508; unpublished SF 4356). 'Snake-thread' glasses like these examples have been found elsewhere in Caerleon, from the Legionary Museum Site (Zienkiewicz 1993b, 104 Fig. 36, No. 1) and a context in the civil settlement dated c. 130-230 (Boon Unpublished b). Three fragments (RA 507 and unpublished SF 1016), exhibit milky-white glass flow lines through etching, most likely during burial. Similar fragments from the Fortress Baths came from a context dated c. 60-230 and fragments came from a civil settlement context dated to c. 130-330 (cf. Zienkiewicz 1993b: 104, Fig. 36, Nos 2 - 5). The finer blue-green vessels represented include two fragments of blue-green ribbed or 'pillar-moulded' bowls (unpublished SF 3129 and SF 3388), two fragments of pinched, ribbed, handles from blue-green flasks (RA 502 and unpublished SF 3483), and a base fragment of a blue-green conical unguent bottle (unpublished SF 442).

The limited quantity, extensive fragmentation and cross-phase distribution of fragments of the same vessels, and quality of the vessel and window glass recovered from Priory Field is indicative of a background spread resulting from residual dumping of general waste in the fortress or loss. The comparatively low value and consequent ubiquity of Roman blown glass was discussed by Boon (1985: 14).

The presence of glass gaming counters and beads is common at Caerleon excavations and is indicative of their common usage by legionary soldiers (and their families). Their presence at Priory Field probably results from stray loss and, again, residual general waste.

A paucity of medieval and post-medieval glass (14 fragments, weighing just 33.6 g) is indicative of very limited waste disposal in Priory Field during this period.

#### *Household utensils*

#### Roman vessel glass

#### 499 Vessel

SF 3462 Context: 3094

Phase: 0ii Area: 6

Cast colourless glass rim fragment of a wide-rimmed dish or plate (rim diameter 220 mm). Wheel-ground inside and out. Ground pie crust decoration at the edge of the rim with linear ground decoration across the rim perpendicular to the edge. Comes from the same vessel as RA 505. Last quarter of first century to third quarter of second century (Zienkiewicz 1992b, 3-4 No. 3; Price and Cottam 1998, 55-59).

Weight (g): 3.03

L (mm): 36 W (mm): 17

D (mm): 3 Diam. (mm): 32

#### 500 Vessel

SF 2136 Context: 2026

Phase: 1i Area: 2/3

Body fragment of a blue-green blown jug or flask with trailed decoration in the same glass as the body. Three ribs. Late first to third quarter of second century (Price and Cottam 1998, 150-154).

Weight (g): 0.78

L (mm): 24 W (mm): 15

D (mm): 2 Diam. (mm): -

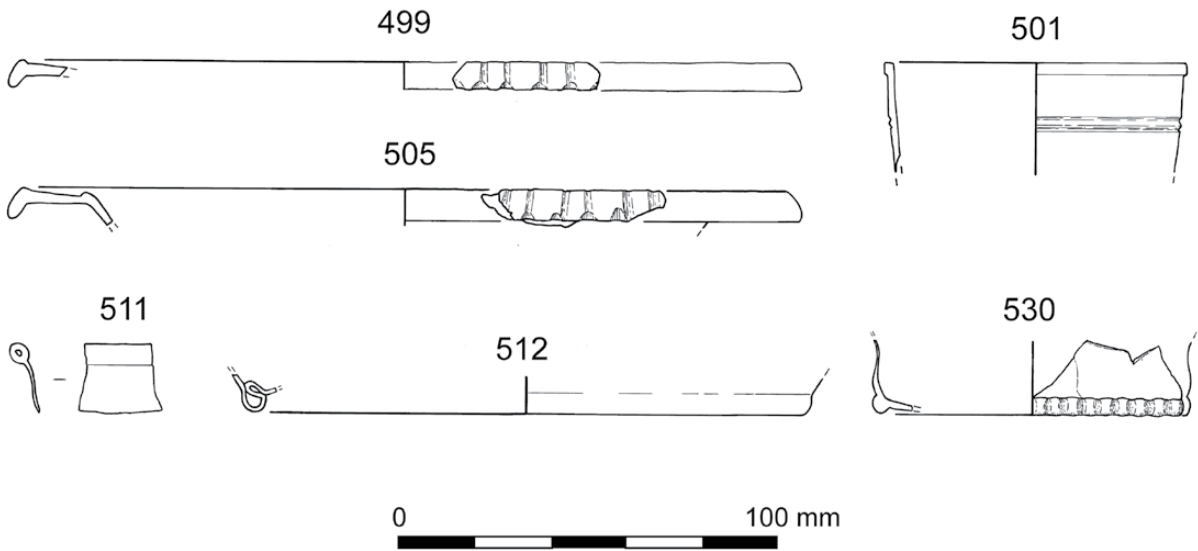
#### 501 Vessel

SF 2632 Context: 2121

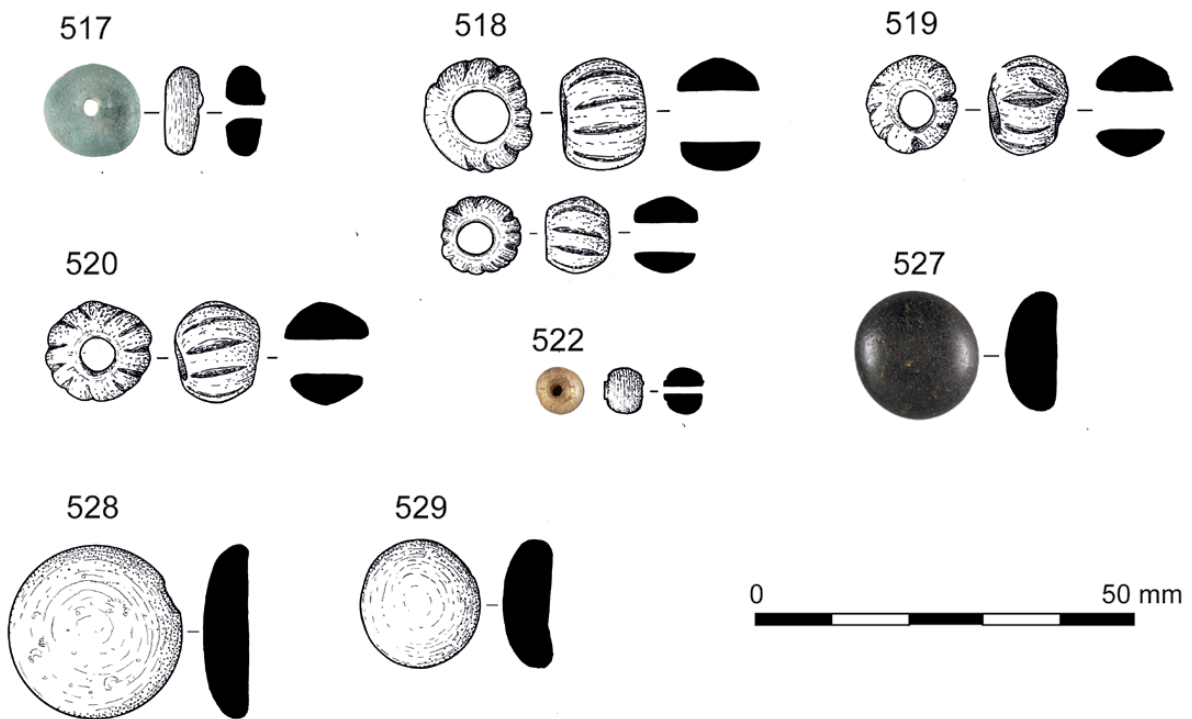
Phase: 1ii Area: 1

Rim fragment of a facet-cut colourless glass conical beaker with two projecting rim mouldings. Circa 65 - second quarter of second century (Price and Cottam 1998, 80-83).

Vessel glass



Glass beads and counters



Weight (g): 1.86

L (mm): 37      W (mm): 17  
D (mm): 2      Diam. (mm): 12

#### 502 Vessel

SF 2618 Context: 2122

Phase: 1ii Area: 4

Fragment of a ribbon handle of a blue-green glass conical jug of thin circular cross-section with pinched projections (possibly part of the same vessel as unpublished SF 2231). Last third of first century to third quarter of second century (Price and Cottam 1998, 152-7).

Weight (g): 3.75

L (mm): 20      W (mm): 17  
D (mm): 9      Diam. (mm): -

#### 503 Vessel

SF 2637 Context: 2123

Phase: 1ii Area: 4

Body fragment, colourless blown glass wheel-cut cup, with horizontal parallel engraved line decoration. Probably first to mid/late second century (Price and Cottam 1998, 88-91).

Weight (g): 5.76

L (mm): 56      W (mm): 45  
D (mm): 1      Diam. (mm): -

#### 504 Vessel

SF 2639 Context: 2123

Phase: 1ii Area: 4

Body fragment, colourless blown glass wheel-cut cup, with horizontal parallel engraved line decoration. Probably first to mid/late second century (Price and Cottam 1998, 88-91).

Weight (g): 1.05

L (mm): 27      W (mm): 26  
D (mm): 1      Diam. (mm): -

#### 505 Vessel

SF 3434 Context: 3083

Phase: 1ii Area: 6

Cast colourless glass rim fragment of a wide-rimmed dish or plate. Wheel-ground inside and out. Ground pie crust decoration at the edge of the rim with linear ground decoration across the rim perpendicular to the edge. Rim diameter 220 mm. Comes from the same vessel as RA 499. Last quarter of first century to third quarter of second century (Zienkiewicz 1992b, 3-4 No. 3; Price and Cottam 1998, 55-59).

Weight (g): 7.96

L (mm): 46      W (mm): 28  
D (mm): 3      Diam. (mm): 20

#### 506 Vessel

SF 3238 Context: 3027

Phase: 3 Area: 7

Colourless blown glass vessel fragment with trail decoration. Roman.

Weight (g): 0.17

L (mm): 11      W (mm): 8  
D (mm): 1      Diam. (mm): -

#### 507 Vessel

SF 3344 Context: 3047

Phase: 3 Area: 7

Two conjoining fragments of a blown, globular flask, colourless glass, similar to Zienkiewicz 1992b, 6-7, No. 19.

Weight (g): 1.42

L (mm): 51      W (mm): 18  
D (mm): 2      Diam. (mm): -

#### 508 Vessel

SF 440 Context: 426

Phase: 4 Area: A

Colourless body sherd, possibly of a flask, with applied trails of the same colourless glass. Second and third centuries (Allen 1986, 108-111 No. 59 and 60a).

Weight (g): 1.16

L (mm): 19      W (mm): 18  
D (mm): 1      Diam. (mm): -

#### 509 Vessel

SF 2064 Context: 2005

Phase: 5 Area: A

Blue-green rim fragment of a large bottle. Rim diameter is 130 mm. First to second century (Price and Cottam 1998, 191 No. 88a).

Weight (g): 13.06

L (mm): 27      W (mm): 22  
D (mm): 13      Diam. (mm): 130

#### 510 Vessel

SF 2116 Context: 2052

Phase: 5 Area: B

Opaque folded green and yellow glass pinched projection from a ribbon flask handle with a yellow trail. The trail was bent double and fused by pinching. Late-first to late-second century (Price and Cottam 1998, 152-7).

Weight (g): 0.45

L (mm): 9      W (mm): 8  
D (mm): 3      Diam. (mm): -

#### 511 Vessel

SF 3248 Context: 3056

Phase: 5 Area: B

Blue-green blown glass bowl tubular rim fragment (rim diameter 200 mm). 65 to third quarter of the second century (Price and Cottam 1998, 78).

Weight (g): 1.24

L (mm): 20      W (mm): 17  
D (mm): 1      Diam. (mm): 200

**512 Vessel**

SF 010 Context: 001

Phase: 7 Area: A

Blue-green tubular base ring fragment. Second to fourth century (Price and Cottam 1998, 25 and 110-1).

Weight (g): 1.92

L (mm): 30 W (mm): 12

D (mm): 6 Diam. (mm): 160

**513 Vessel**

SF 110 Context: 100

Phase: 7 Area: A

Vessel fragment, blue-green glass with horizontal trail decoration. Second to fourth century (Price and Cottam 1998, 32).

Weight (g): 0.71

L (mm): 20 W (mm): 12

D (mm): 1 Diam. (mm): -

**514 Vessel**

SF 209 Context: 200

Phase: 7 Area: A

Blue-green mould-blown bottle. Fragment of neck and handle. First to second century (Price and Cottam 1998, 191-200).

Weight (g): 33.93

L (mm): 57 W (mm): 22

D (mm): 10 Diam. (mm): -

*Personal adornment*

## Glass and faience beads

**515 Bead**

SF 3495 Context: 3128

Phase: 0i Area: 5

Fragment of a melon-shaped faience? bead in turquoise glass paste, divided into sections by vertical lines (Brewer 1986c, 151, 153; Allen 1992, 185 No. 36).

Weight (g): 0.41

L (mm): 10 W (mm): 8

D (mm): 5 Diam. (mm): -

**516 Bead**

SF 2635 Context: 2121

Phase: 1ii Area: 1

Melon-shaped faience? bead in turquoise glass paste, divided into sections by vertical lines, about a quarter remaining (Brewer 1986c, 151, 153 No. 4; Allen 1992, 185 No. 36).

Weight (g): 0.33

L (mm): 10 W (mm): 9

D (mm): 4 Diam. (mm): -

**517 Bead**

SF 3498 Context: 3010

Phase: 1ii Area: yard

Blue-green glass bead. One face shows pincer marks and a break edge suggesting core winding but separation from an adjacent bead or excess glass.

Weight (g): 0.84

L (mm): - W (mm): -

D (mm): 5 Diam. (mm): 12

**518 Bead**

SF 3395 Context: 3083

Phase: 1ii Area: 6

2 melon-shaped faience? beads in turquoise glass paste, divided into sections by vertical lines (Brewer 1986c, 151, 153, Nos 5, 17; Allen 1992, 185 No. 36).

Weight (g): 2.66

L (mm): - W (mm): -

D (mm): - Diam. (mm): 11

**519 Bead**

SF 2264 Context: 2093

Phase: 2 Area: 1

Melon-shaped bead in turquoise glass paste divided into sections by vertical lines (Brewer 1986c, 151, 153 No. 17; Allen 1992, 185 No. 36).

Weight (g): 1.16

L (mm): - W (mm): -

D (mm): 9 Diam. (mm): 12

**520 Bead**

SF 2289 Context: 2094

Phase: 2 Area: 1

Melon-shaped faience? bead in turquoise glass paste divided into sections by vertical lines (Brewer 1986c, 151, 153 No. 17; Allen 1992, 185 No. 36).

Weight (g): 1.78

L (mm): - W (mm): -

D (mm): 11 Diam. (mm): 16

**521 Bead**

SF 2340 Context: 2023

Phase: 3 Area: 2

Half of a melon-shaped faience? bead in turquoise glass paste, divided into sections by vertical lines About a half remaining (Brewer 1986c, 151, 153 No. 5; Allen 1992, 185 No. 36).

Weight (g): 1.25

L (mm): 15 W (mm): 12

D (mm): 5 Diam. (mm): -

**522 Bead**

SF 624 Context: 608

Phase: 5 Area: A

Spheroid gold-in-glass bead with sharp end or neck, showing that it was made in segmented lengths. Encased gold foil in water-white glass. A drawn tube of colourless glass was covered in gold and then dipped in

molten glass to provide the gold foil with a protective shell. Finally, the tube was threaded upon a wire, and crimped at intervals to form the segments that could be broken apart for use as a single bead unit or longer lengths. One outer section of glass casing is broken, exposing the central glass core beneath the (locally lost) gold foil layer. Similar beads from the Fortress Baths are securely dated to c. 160-230. Eleven similar beads from Castell Collen (Powys) are dated by a drain deposit of the Antonine-Severan period (Boon 1978b: 19). See Brewer (1986c, 151-2) and Boon (1977, 193-207) for a full discussion surrounding their rarity and military British distribution.

Weight (g): 0.19

L (mm): -            W (mm): -  
D (mm): 5            Diam. (mm): 5

### 523    **Bead**

SF 2506    Context: 718

Phase: 5    Area: A

Melon-shaped faience? bead in turquoise glass paste, divided into sections by vertical lines, about a quarter remaining (Brewer 1986c, 151, 153 No. 4; Allen 1992, 185 No. 36).

Weight (g): 0.51

L (mm): 11            W (mm): 10  
D (mm): 5            Diam. (mm): -

### 524    **Bead**

SF 005    Context: 001

Phase: 7    Area: A

Melon bead in cobalt blue glass, fragment representing c. 25% of bead. Cobalt blue pinched glass melon beads are less common at Caerleon and Usk than their faience or frit counterparts. However, similar examples were recovered from Old Market Street, Usk and Prysog Field, Caerleon (Nash-Williams 1932a, 92 Nos 1-4). 75-105.

Weight (g): 2.11

L (mm): 18            W (mm): 13  
D (mm): 5            Diam. (mm): -

Pin setting

### 525    **Pin setting**

SF 814    Context: 815

Phase: 6    Area: A

Blue-green glass, conical profile. A likely pin head setting unless it was set in a ring bezel (Brewer 1986b, 144 No. 12).

Weight (g): 0.22

L (mm): -            W (mm): -  
D (mm): 4            Diam. (mm): 7

*Leisure items*

### 526    **Counter**

SF 735    Context: 711

Phase: 2    Area: 3

Plano-convex cast disc of very dark glass, appearing black in reflected light. Opaque to transmitted light (Evans 2000, 439-440 No. 136).

Weight (g): 1.34

L (mm): -            W (mm): -  
D (mm): 6            Diam. (mm): 11

### 527    **Counter**

SF 421    Context: 402

Phase: 6    Area: A

Plano-convex disc of very dark glass, appearing black in reflected light. Opaque to transmitted light (Evans 2000, 439-440 No. 136).

Weight (g): 2.53

L (mm): -            W (mm): -  
D (mm): 6            Diam. (mm): 15

### 528    **Counter**

SF 721    Context: 704

Phase: 6    Area: A

Plano-convex disc of very dark glass, appearing black in reflected light but a deep cranberry pink-purple in transmitted light. Surfaces pitted and planar underside also exhibits multi-directional scratches. The size, perfectly flat, possibly polished, underside, translucency and colour differentiate this counter (or setting) from the other 'black' counters from this site. A very similar counter from the 'Viculus' is also pitted and has a perfectly planar underside, but is far more opaque and exhibits a brown colour in transmitted light only at a thin break edge (Evans 2000, 439-440 No. 135; Brewer 1986c, 156 No. 19).

Weight (g): 4.84

L (mm): -            W (mm): -  
D (mm): 6            Diam. (mm): 23

### 529    **Counter**

SF 3606    Context: u/s

Phase: -    Area: -

Plano-convex cast disc of very dark glass, appearing black in reflected light. Opaque to transmitted light (Evans 2000, 439-440 No. 136).

Weight (g): 2.73

L (mm): -            W (mm): -  
D (mm): 7            Diam. (mm): 17

*Post-roman vessels*

### 530    **Vessel**

SF 101    Context: 100

Phase: 7    Area: A

Green goblet base with beaded footing, unstable green monochrome glass, similar to Arles and Avignon goblets, dating to fourteenth century, similar composition to RA 534, probably same vessel; similar to beaker base of greenish-colourless glass with milled applied thread ring; body with mould-blown decoration of lozenges,

Netherlands, late sixteenth or early seventeenth century; surface pitting betrays an unstable chemical formula suggesting a forest glass (Waldglas) of potash, free-blown with applied tooled decoration forming a foot ring. Decorated simply with horizontal trails (Foy and Sennequier 1989, pt. II; Charleston 2015, 55-56 G4).

Weight (g): 3.80

L (mm): 45            W (mm): 20

D (mm): -            Diam. (mm): -

### 531      Vessel

SF 103    Context: 100

Phase: 7 Area: A

Fragment of tubular foot ring. Same vessel as RA 533.

Post-medieval.

Weight (g): 0.55

L (mm): 13            W (mm): -

D (mm): -            Diam. (mm): -

### 532      Vessel

SF 111    Context: 100

Phase: 7 Area: A

Mould-blown base fragment of a blue-green mould-blown glass vessel. Post-medieval?

Weight (g): 1.68

L (mm): 17            W (mm): 16

D (mm): 4            Diam. (mm): -

### 533      Vessel

SF 118    Context: 100

Phase: 7 Area: A

Green beaker base with remains of part of an integral tubular foot ring and central shallow conical basal peak similar to a Roman Dr31 samian bowl form. A pontil mark remains. The glass, typical in colour of much late medieval to seventeenth century glass and in form similar to medieval and post-medieval beakers, is chemically stable. Probably German or Dutch, sixteenth-seventeenth century (Price and Cottam 1998, 106-7; Whitehouse 2010, 82 and catalogue). Same vessel as RA 531.

Weight (g): 12.77

L (mm): 52            W (mm): 37

D (mm): 3            Diam. (mm): -

### 534      Vessel

SF 1004    Context: 1000

Phase: 7 Area: A

Green glass goblet base with beaded footing, unstable green monochrome glass, similar to Arles and Avignon goblets, dating to fourteenth and fifteenth centuries (Foy and Sennequier 1989, pt. II). Similar composition to RA 530, probably same vessel.

Weight (g): 0.23

L (mm): 13            W (mm): 12

D (mm): 1            Diam. (mm): 8

#### 4.2.7. *Artefacts of Worked Bone and Antler (Mark Lewis)*

The preservation of animal bone and antler was good at Priory Field. The Eastern Canabae excavation report states that soil conditions there were not conducive to the survival of bone (like parts of Usk) and the published catalogue of all the identifiable bone objects numbered eleven items in total (Greep 2000b, 448-50). Conversely, vast numbers of gaming counters, bone pins and needles recovered at the Fortress Baths demonstrate that their preservation there also was very good, where their use and loss there related directly to the functions of the building (Greep 1986, 196-207).

An unremarkable 19 animal bone and antler objects with obvious visible evidence of cutting or working were recovered from Priory Field (18 of which are catalogued here). They fall into commonly represented categories from other excavations at Caerleon (intramural and extramural) and demonstrate their utilitarian, often personal, nature (for example, knife or tool handles, hair and other pins or needles, and gaming counters). Complete or partially worked handles may be readily explained in terms of the domestic utensils and/or manufacturing tools made and used by the legion. Notably, no certainly military bone or antler objects were identified within the Priory Field finds.

The presence of three gaming counters could perhaps be offered as evidence for their presence in material dumped from elsewhere, stray losses, their use for gaming during downtime at most fortress locations, or their use for work-related, or other, mathematical calculations. Up to 1986, the Fortress Baths excavations had produced 65 counters, whereas all previous Caerleon excavations had produced only 35 between them. The extramural Eastern Canabae subsequently only added one, type 3, example (Greep 2000b, 449, Fig. 118 No. 4), and the intramural Roman Gates excavation (Greep 1992, 188 Nos 3 - 5) produced three more (two type 1 and one type 3).

Hair pins are an interesting fortress phenomenon, being comparatively less numerous from military contexts than civilian ones (Greep 1992, 188). Often interpreted as 'gendered' artefacts (Allason-Jones 2005, xii and 133-4; Swift 2011, 206-18; Cool 1990, 150; Woodward and Leach 1993, 323-33), their presence at the Fortress Baths in considerable numbers was offered as evidence for the presence of women within the fortress, at least at the bathhouse at certain times (Greep 1986, 197; Greep 1992, 188). Their presence, albeit in much more modest numbers (but in greater numbers than were recovered from, for example, the Eastern Canabae excavations, see Greep 2000b, 448-50), at this and many other intramural excavations is perhaps more ambiguous. Given that the Priory Field location had

no overtly domestic Roman character in terms of the building or its function(s), it is feasible that the hair pins recovered there were associated with dumping of material originating elsewhere, or stray losses falling either directly from women or, perhaps, lost by soldiers if differently utilised (perhaps as keepsakes or working artefacts with some alternative form of use not readily discernible to us today, for example as makeshift tools of some kind?). However, of the 104 complete or fragmentary bone hair pins with heads from Caerleon known in 1986, nearly 50% (48) came from the Fortress Baths, mostly from the sediments of its drain, strongly suggesting that they had been lost accidentally whilst bathing (Greep 1986). Bone hair pins at Caerleon follow wider British trends, with the majority dating from the later second to fourth centuries. Few bone hair pins have been discovered since 1986, but see Greep (1992, 188) for the two from the intramural Roman Gates excavation, where silver, copper alloy and glass-headed pins far outnumber bone hair pins, possibly suggesting a different trend or a different primary use for some of the latter at that location.

An interesting, but possibly post-Roman (Phase 7), artefact (RA 551) appears to be an unused, partially worked, lathe-turned antler artefact or component 'blank' that was abandoned or lost before its manufacturing process was complete.

#### *Manufacturing waste*

##### **535 Handle**

SF 3113 Context: 3004

Phase: 5 Area: B

Fragmentary carved bone plate or section with carved linear, probably criss-cross, decoration or grip. Probably a handle (Nash-Williams 1932a, 100 Fig. 43 No. 13; Boon unpublished a, Bone Nos 3 -4; Wheeler and Wheeler 1928, Fig. 16 No. 60).

Weight (g): <1

L (mm): 22.6 W (mm): 9.4

D (mm): 2.9 Diam. (mm): -

##### **536 Holed antler tine**

SF 2502 Context: 718

Phase: 5 Area: A

An antler tine section with a drilled hole near the intersection with the main antler shaft. The tine is worked to a faceted point but covered in cut or file marks. The main shaft remnant is apparently rounded to fit into the palm of a hand, with the shaft possibly forming a finger grip. A possible awl.

Weight (g): 122

L (mm): 150 W (mm): 42

D (mm): 28 Diam. (mm): -

##### **537 Object**

535



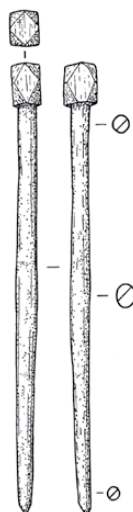
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544



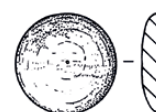
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546



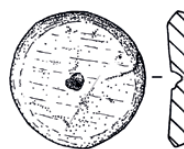
549



551



548



SF 2510 Context: 718

Phase: 5 Area: A

An antler perforated object with cut marks. Probably a tool handle with drilled suspension hole. The finished end has a finely worked three-facet head. Unpolished sections of the antler could have provided a useful grip.

Weight (g): 48

L (mm): 170 W (mm): 32

D (mm): 23 Diam. (mm): -

**538 Cut bone**

SF 3027 Context: 3009

Phase: 5 Area: B

Transversely sawn *Bos* metacarpus.

Weight (g): 61

L (mm): 84.6 W (mm): 45.7

D (mm): 20.5 Diam. (mm): -

**539 Cut bone**

SF 3037 Context: 3009

Phase: 5 Area: B

Butchered cattle rib bone. Two fragments, one has cut marks on one side

Weight (g): 16

L (mm): - W (mm): -

D (mm): - Diam. (mm): -

*Tools*

**540 Handle**

SF 2204 Context: 2062

Phase: 2 Area: 1

Probable sheep tibia handle of naturally triangular cross-section, tapering to a point. The object has a plain but polished surface and a hole for tang or awl at its narrower end.

Weight (g): 13  
L (mm): 67.4 W (mm): 18.1  
D (mm): - Diam. (mm): -

**541 Handle**

SF 2478 Context: 2107  
Phase: 2 Area: 3

Complete undecorated polished antler handle with a hole for square to circular cross-sectioned tang at the narrower end of the antler.

Weight (g): 52.4  
L (mm): 100 W (mm): 27  
D (mm): 25 Diam. (mm): -

**542 Object**

SF 2172 Context: 2073  
Phase: 5 Area: A

Fragmentary chipped or butchered long bone fragment with extensive blackening at one end. Perhaps from the same object as RA 543. A possible tool?

Weight (g): 8  
L (mm): 54.7 W (mm): 17  
D (mm): 6.4 Diam. (mm): -

**543 Object**

SF 3039 Context: 3009  
Phase: 5 Area: B

Fragmentary carved or butchered long bone fragment with blackening at one end. Perhaps from the same object as RA 542. A possible tool?

Weight (g): 3  
L (mm): 35.5 W (mm): 10.7  
D (mm): 7.5 Diam. (mm): -

*Personal adornment***544 Hair pin**

SF 2372 Context: 2098  
Phase: 2 Area: 2

Bone hair pin with globular head of Greep type B1, Jewry Wall type C and Colchester type 3. Complete. A similar example from the Fortress Baths was recovered from a context dated to c. 160/230 (Greep 1986, 198 and 199, Fig. 69 Nos 24-31).

Weight (g): 1.4  
L (mm): 78 W (mm): -  
D (mm): - Diam. (mm): 5

**545 Hair pin**

SF 2023 Context: 2005  
Phase: 5 Area: A

Bone hair pin with polyhedral cut faceted head of Greep type B4 and Colchester type 4. Complete. A similar example from the Fortress Baths was recovered from a context dated to after 100/110 (Greep 1986, 198 and 202, Fig. 70 No. 60).

Weight (g): <1  
L (mm): 59 W (mm): -

D (mm): - Diam. (mm): 4.7

**546 Hair pin**

SF 035 Context: 004  
Phase: 7 Area: B

Bone hair pin with a waisted shank and flat topped inverted conical head. Incomplete; head end only. Greep type B1, dated to after 100/110 (Greep 1986, 202 Fig. 70 No. 56).

Weight (g): 0.6  
L (mm): 26 W (mm): 8  
D (mm): 7 Diam. (mm): -

**547 Pin / needle**

SF 3138 Context: 3032  
Phase: 5 Area: B

Incomplete shank of a bone pin or needle. Tapered to a sharp point at one end.

Weight (g): 0.7  
L (mm): 80 W (mm): -  
D (mm): - Diam. (mm): 3

*Leisure***548 Counter**

SF 3370 Context: 3065  
Phase: 3 Area: 7

Bone counter with biconical profile and central circular depression in one surface. Greep Type 1 or Jewry Wall Type C (Greep 1986, 205 Fig. 71 No. 19). Both surfaces exhibit slight multi-directional abrasion. Late first to early third century.

Weight (g): 1.0  
L (mm): - W (mm): -  
D (mm): 4 Diam. (mm): 18

**549 Counter**

SF 326 Context: 338  
Phase: 4 Area: A

Bone plano-convex sectioned plain counter of Greep type 4 with ephemeral central obverse depression (see also RA 550). An example from the Fortress Baths was recovered from a drain deposit dated to c. 160-230 (Greep 1986, 205 Fig. 71 No. 31b).

Weight (g): 5  
L (mm): - W (mm): --  
D (mm): 6.5 Diam. (mm): 27

**550 Counter**

SF 006 Context: 001  
Phase: 7 Area: A

Bone plano-convex sectioned plain counter of Greep type 4 (see also RA 549). An example from the Fortress Baths was recovered from a drain deposit dated to c. 160-230 (Greep 1986, 205 Fig. 71, No. 31b).

Weight (g): 3  
L (mm): 24 W (mm): 19  
D (mm): 4.8 Diam. (mm): -

*Post-Roman item***551 Object**

SF 043 Context: 005

Phase: 7 Area: B

A sawn section of antler with two longitudinal, possibly carefully drilled opposing conical holes that only just communicate where their points meet. The centre of one side has a small, drilled, depression. The presence of obvious saw marks on the upper and lower surfaces where the tine was cut to create this length of antler suggest that the object is a waste piece and/or that at least its upper and lower surfaces are unfinished. The presence of the conical holes in both ends is therefore best explained as lathe turning (spindle) mounting centres. Yet if the conical holes are remnants of lathe-mounting, the artefact was possibly only partially lathe turned? The outer surface retains no deep blood vessel channels, but the artefact tapers and lathe-turning could have created more parallel sides. Tapering was perhaps, therefore, a deliberate design feature. Longitudinal drilling from each end is an alternative, but less likely, explanation for the conical holes. This object is similar to unfinished chess pieces from Angel Street, Northampton (one measuring 25 mm long and 15 mm in diameter and the other standing 42 mm high and 28-32 mm in diameter), dated to the late twelfth century ([www.mola.org.uk/blog/bishop-and-king-angel-street](http://www.mola.org.uk/blog/bishop-and-king-angel-street), accessed 31/03/2021). About 70 medieval stylised chess pieces are known from Britain and they have a Continental European presence also (for example, see the famous pieces found in 1932 during an excavation in S. Aniello di Venafro, Molise, Italy, near the Roman Theatre, which have been radiocarbon dated to the eighth-tenth centuries ([www.francovalente.it/2009/08/15/gli-scacchi-di-venafro-storie-ordinarie-di-ordinarie-bugie-archeologiche/](http://www.francovalente.it/2009/08/15/gli-scacchi-di-venafro-storie-ordinarie-di-ordinarie-bugie-archeologiche/), accessed 31/03/2021)). The possibility that this object represents an unfinished Roman hinge element was also briefly considered. The conical depressions may still represent lathe mounting (spindle) marks formed

whilst mounted for lathe turning. However, to function as a hinge, lathe-turning to create parallel sides would be expected. The object tapers markedly. The conical depressions may alternatively represent (possibly deliberately) incomplete attempts to hollow out a cylinder, and the small depression drilled in the side may represent the hole for a fixing peg. This said, it seems odd that the two conical depressions appear to have met and that hollowing out to create a cylinder was not completed as a manufacturing stage. Indeed, drilling in order to hollow out a cylinder need not be attempted from both ends in the hope of meeting in the middle unless importance was accorded to the holes remaining separate within the cylinder. Other examples of surviving parallel-sided cylindrical organic hinges from Caerleon are of bone (e.g., Nash-Williams 1932a, 85 Fig. 35.5, and Jenkins Field III AC-NMW Accession Number 60.482) and have no less than two drilled holes for fixing pegs. They are finished to a high standard with decorative incised lateral rings. Perhaps the safest conclusion for this artefact is as a sawn section of antler mounted for lathe turning to create a deliberately tapering artefact or component. Mounting for lathe turning created the longitudinal conical (spindle?) depressions, but, for some reason, the item was abandoned or lost during manufacture, without further modification and unutilised.

Weight (g): 3.3

L (mm): 21 W (mm): 18

D (mm): 15 Diam. (mm): -

*Unclassified item***552 Object**

SF 3393 Context: 3084

Phase: 3 Area: 7

Worked bone fragment, broken from both sides.

Weight (g): 9

L (mm): 57.7 W (mm): 25.7

D (mm): 6.7 Diam. (mm): -

**4.2.8. Stone and Shale Artefacts, including a Pigment Pellet (Mark Lewis)**

Worked stone artefacts from the Priory Field excavation include a pot lid, a possible pot lid (or stopper or weight), a partially recycled chalcedony pestle fragment (prior to its re-use), a shale vessel sherd and a fragment of a small shale bracelet. Significantly outnumbering these are the seven whetstones and a possible burnishing tool which, together, indicate their significance within both the domestic and manufacturing spheres of fortress life. Longitudinal cut marks that quarter-sectioned the, probably cosmetic, pestle fragment evidence its reuse as a source of chalcedony as a raw material. The manufactured ball of Egyptian blue pigment included here (copper silicate and chalk), could also be categorised as a part-used raw material for artwork. The whetstones, possible burnishing tool, chalcedony and pigment ball perhaps indicate legionary supply and storage of the raw materials required for its craftsmen's needs, or those of the wider community.

*Manufacturing***553 Pigment ball**

SF 2545 Context: 2121

Phase: 1ii Area: 1

An unused ball or pellet of granular Egyptian blue pigment. Pellets of this manufactured colour of calcium-copper tetra silicate mixed with quartz and a varying amount of glass were found in the upper sediments of the drain at the Fortress Baths, AD 150/60-230 (Zienkiewicz 1986b, 282) and stray examples have been recovered elsewhere (see also Clogg 1995, 309 for chemical analysis of five Usk examples and discussion of the type).

Weight (g): 4.16

L (mm): - W (mm): -

D (mm): 16 Diam. (mm): 19

*Household utensils**Whetstones***554 Whetstone**

SF 3608 Context: 3102

Phase: 1ii Area: 6

Whetstone of non-local fine-grained grey sandstone. Rectangular cross-section. Incomplete. Long surfaces waisted through use. Traces of surface iron deposit and staining.

Weight (g): 123.0

L (mm): 98.4 W (mm): 28.7

D (mm): 21.3 Diam. (mm): -

**555 Whetstone**

SF 2484 Context: 2098

Phase: 2 Area: 2

Whetstone of local fine-grained Old Red Sandstone. Rectangular cross-section. Complete. Long surfaces waisted through use.

Weight (g): 109.0

L (mm): 107.4 W (mm): 24.2

D (mm): 18.7 Diam. (mm): -

**556 Whetstone**

SF 2208 Context: 2082

Phase: 3 Area: 1

Whetstone of hard fine-grained red sandstone with two planar surfaces and a straight edge. Traces of surface iron deposits and staining, and linear surface abrasions from use. One planar surface is slightly ridged (saddlebacked) and this ridge probably indicates a one-time centre line of the artefact. Incomplete.

Weight (g): 321.0

L (mm): 116.4 W (mm): 76.6

D (mm): 20.9 Diam. (mm): -

**557 Whetstone**

SF 3371 Context: 3065

Phase: 3 Area: 7

Whetstone of utilised local brown mudstone. Complete. One end is faceted through use with other, long, surfaces waisted through use.

Weight (g): 64.0

L (mm): 70.1 W (mm): 26.7

D (mm): 19.7 Diam. (mm): -

**558 Whetstone?**

SF 3258 Context: 3067

Phase: 3 Area: 6

Whetstone or burnishing tool of local brown mudstone. Square cross-section tapering to a rounded point faceted through use. Incomplete.

Weight (g): 3.0

L (mm): 32.5 W (mm): -

D (mm): - Diam. (mm): 32.5

**559 Whetstone**

SF 116 Context: 101

Phase: 6 Area: A

Whetstone of local fine-grained Old Red Sandstone. Rectangular cross-section. Complete.

Weight (g): 84.0

L (mm): 93.5 W (mm): 25.4

D (mm): 15.1 Diam. (mm): -

**560 Whetstone**

SF 716 Context: 700

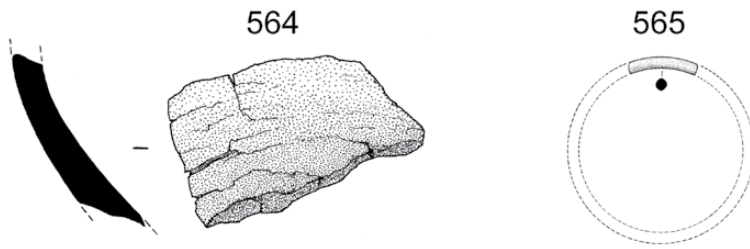
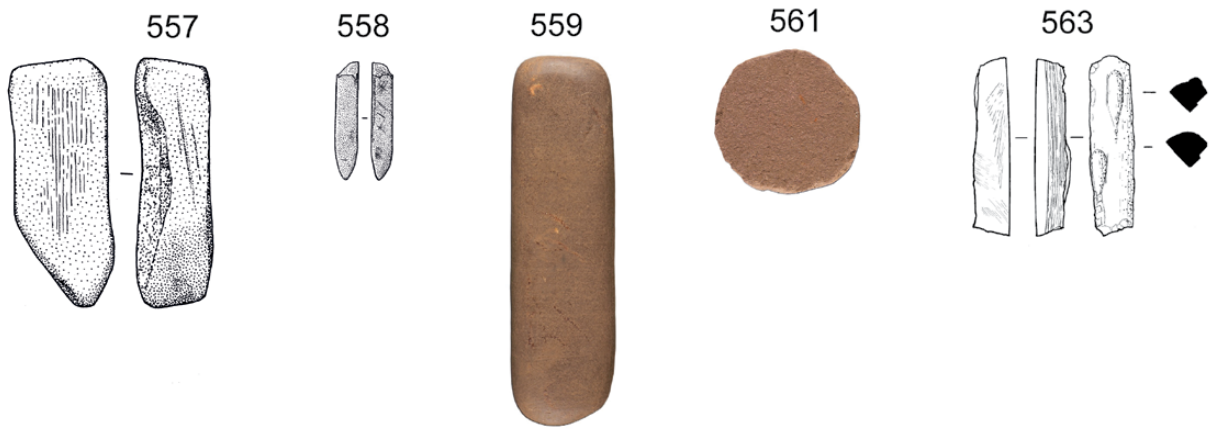
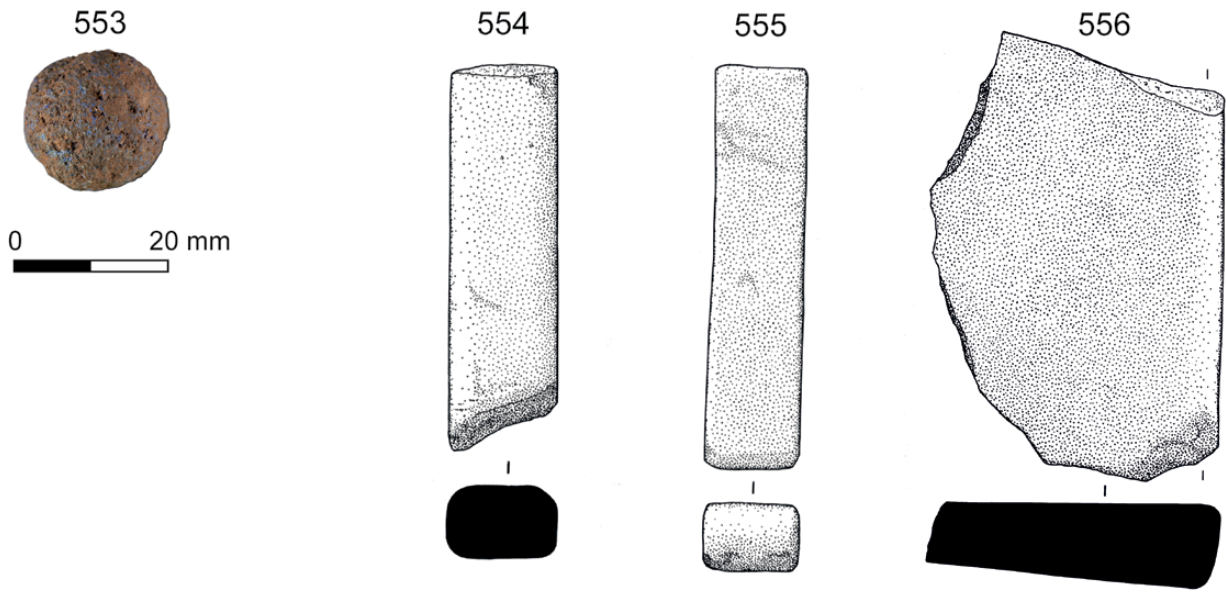
Phase: 7 Area: A

Whetstone of non-local fine-grained sandstone of rectangular cross-section. Incomplete.

Weight (g): 9.0

L (mm): 26.7 W (mm): 17.9

D (mm): 13.1 Diam. (mm): -



## Pot lids

**561 Pot lid**

SF 247 Context: 202

Phase: 6 Area: A

Worked locally sourced Old Red Sandstone circular disc. Possibly a pot lid, a counter, or weight. Complete. Three very similar examples were recovered from Bear House Field I (vicus) excavations (Boon unpublished b; NMW accession number 58.330) and one from Prysgr Field (unstratified, NMW accession number 32.60). Thirteen very similar examples were recovered during the Fortress Baths excavations, all made from greenish micaceous sandstone and with average diameters of 40 mm and thicknesses of 7 mm (Zienkiewicz 1986b, 214 Nos 25-37). Two stone spindle whorls with centrally bored perforations, also from Prysgr Field, are very similar in dimensions but far better finished in every aspect (Nash-Williams 1932a, Fig. 40 Nos 16-17). Another stone disc with finely finished bevelled edges of similar dimensions was also recovered from the Bear House Field I excavations and is likely to have been a pot lid or pot 'stopper' (Boon unpublished b, stone No. 6, F235; NMW accession number 54.389A/9.1). The range and finish of the cited examples suggests use as a pot lid for the Priory Field example.

Weight (g): 16.0

L (mm): - W (mm): -

D (mm): 7.2 Diam. (mm): 37.3

**562 Lid, stopper or weight?**

SF 015 Context: 001

Phase: 7 Area: A

Crudely worked stone object of Old Red Sandstone. Possibly a bun-shaped pot lid, stopper or weight. Complete.

Weight (g): 86.0

L (mm): - W (mm): -

D (mm): 28.7 Diam. (mm): 52.7

*Cosmetic tool***563 Pestle**

SF 2349 Context: 2090

Phase: 2 Area: 4

A pestle or cosmetic pestle in the form of a Hercules club. The pestle has been partially reused for its raw material of translucent, grey-white, chalcedony so that only a quarter section of the original cross-section of the grinding tip end survives. The original pestle surfaces are highly polished. The grinding tip displays faceting and extensive scratching from use as a pestle. The cut edges suggest that the object was sectioned using a saw and these are granular and unpolished. Hercules clubs occur elsewhere at Caerleon as apron pendants (Chapman 2005, 149 Wa18 and Wa19), and more widely as items of jewellery (Cool 1986, 235-6; Platt 1978, 23-8;

Werner 1964) or religious regalia (Alföldi 1949: 19-22). All such uses lend themselves to apotropaic or other magical use of the Hercules club motif and this may also be true for the pestle.

Weight (g): 6.38

L (mm): 46 W (mm): 11

D (mm): 7 Diam. (mm): -

*Shale artefacts***564 Vessel**

SF 435 Context: 410

Phase: 6 Area: A

A body sherd of a turned shale vessel, possibly a beaker, bowl or plate of broadly hemispherical form (Greep 2000a, 447-8 Fig. 117, esp. 38 and 44). Presumably Kimmeridge shale. Incomplete.

Weight (g): 16.0

L (mm): 59.6 W (mm): 42

D (mm): 8.1 Diam. (mm): -

**565 Bracelet**

SF 3041 Context: 3012

Phase: 5 Area: B

Shale bracelet or ring of small cross-section and diameter (c. <50 mm), suggesting probable use by a female or a child(?) as a wrist bracelet (Greep 2000a, 445 Fig. 116, Nos 5, 9, 21-25; Zienkiewicz 1986b, 213-4 Fig. 77, No. 4). Dated pre-100/110). Presumably Kimmeridge shale. Incomplete.

Weight (g): &lt;1

L (mm): 18.5 W (mm): -

D (mm): - Diam. (mm): 4.8

*Sculpted, inscribed and building stones***566 Sculpted stone**

SF 2670 Context: 404

Phase: 4 Area: A

Limestone relief fragment, identified by Prof. Martin Henig as possibly depicting a Dioscurus or heroic scene. See section 4.2.10 for a full discussion.

L (mm): 370 W (mm): 330

D (mm): 90 Diam. (mm): -

**567 Sculpted stone**

SF 3617 Context: u/s

Phase: - Area: -

Triassic yellow fine-grained sandstone sculpted relief fragment, identified by Prof. Martin Henig as depicting a triton. There is a straight cut edge on the right side of the stone, which has been recessed to take in relief the head and torso of a male figure, his body to the front and head in profile to the right looking very slightly down. His face is dominated by his large almond-shaped right eye. His nose is quite prominent and he has a rather lugubrious expression. His torso is well modelled with defined chest and pectoral muscles. His hair is long and

richly modelled and cascades down his back. His upper arms hang by his side. Unfortunately the lower part of his body is not preserved. See section 4.2.10 for a full discussion.

L (mm): 255      W (mm): 260  
D (mm): 130      Diam. (mm): -

#### 568      **Sculpted stone**

SF 3477 Context: u/s

Phase: - Area: -

Architectural fragment with raised central edge.

L (mm): 103      W (mm): 110  
D (mm): 90      Diam. (mm): -

#### 569      **Building stone**

SF 2500 Context: 2011

Phase: 2 Area: yard

Architectural fragment. Part of a larger block consisting of at least three stepped bands forming a right-angle corner. Possibly from a stylobate, or the cornice of an ornate entablature, perhaps a corner bracket that projected underneath the cornice's corona. See section 4.4 for a full discussion.

L (mm): 203      W (mm): 191  
D (mm): 109      Diam. (mm): -

#### 570      **Building stone**

SF 3466 Context: 3099

Phase: 2 Area: yard

Segmented circular limestone block with some damage but otherwise complete. A shallow U-shaped circular groove separates the rim of the block from the main face, which has two deeper straight grooves carved into it that come together to meet at the rim in a V-shape.

L (mm): 89      W (mm): 131  
D (mm): 80      Diam. (mm): -

#### 571      **Inscription**

SF 406 Context: 416

Phase: 6 Area: A

Building-stone of Old Red Sandstone. Inscribed within a recessed ansate panel in well-drawn letters now rather worn: 7 FLAVI | RVFI | P P, (*centuria*) *Flavi* | *Rufi* | *p(rimi)* *p(ili)*. 'The century of Flavius Rufus, *primus pilus*, (built this).' See section 4.2.9 below for a full discussion.

L (mm): 450      W (mm): 305  
D (mm): 170      Diam. (mm): -

#### 4.2.9. The Inscribed Material (Roger Tomlin)

##### The 'Centurial' Stone

*Britannia* 40 (2009), 314, No. 2 with Fig. 2.

**RA 571** (Figure 4.7). Building-stone of Old Red Sandstone, 450 mm by 305 mm, tapering in thickness from 140 mm (left) to 170 mm (right). Inscribed within a recessed ansate panel in well-drawn letters now rather worn: 7 FLAVI | RVFI | P P, (*centuria*) *Flavi* | *Rufi* | *p(rimi) p(ili)*. 'The century of Flavius Rufus, *primus pilus*, (built this)'

The *primus pilus* was chief centurion of the legion, commanding the first of the five centuries in the first cohort. 'Centurial' stones of *primi pili* are quite common on Hadrian's Wall, and there is also one from Holt (*RIB* 440), but they do not name the *primus pilus* concerned. They simply read 7 P P, (*centuria*) *p(rimi) p(ili)*, the only exception being *RIB* III, 3408 (duplicated by *RIB* 1510, a fragment now lost) which adds the name SERENI in the next line (this Serenus is probably the junior officer who actually supervised the work). His name follows the letters P P, and is thus not defined by them, unlike the name of Flavius Rufus on the Caerleon stone. This stone is unique in its formulation.

In dimensions and form, the Flavius Rufus stone is almost identical with *RIB* III, 3092, a 'centurial' stone from the amphitheatre inscribed (*centuria*) *Rufini*. This measures 435 mm by 310 mm by 130 mm thick, and unlike any other 'centurial' stone at Caerleon, its frame consists of the same triple border extended by a triangular *ansa* to the left and right. The lettering is also quite comparable. It was re-used in a later building, but surely belongs to the first construction of the amphitheatre, towards the end of the first century. The same date may be suggested for the Flavius Rufus stone, but is it compatible with his nomenclature?

The nomen *Flavius* indicates that Flavius Rufus or his father had gained citizenship in the Flavian period (69–96), thus qualifying him for service in the legions. In the West at least, it would have been anomalous for a legionary recruit to be granted citizenship on enlistment, even if this may have happened to another Flavius Rufus for being a specialist (see below). Most likely Flavius Rufus' father was an auxiliary veteran who achieved citizenship when he was honourably discharged, a status which (as contemporary military diplomas show) was also granted to any children he might have at the time. In a British context, it is even possible that his father was a veteran of Legion II *Adiutrix*. This was formed by Vespasian at the beginning of his reign from marines of the Ravenna fleet and brought to Britain by Petilius Cerialis, where it served under Frontinus and Agricola before being withdrawn in c. 87. Its legionaries were not necessarily Roman citizens, but diplomas show that, if they were not, they received citizenship on their discharge as veterans. Rufus might then have enlisted in his father's old legion, which was based at Chester, and in due course have been promoted to centurion and ultimately to *primus pilus* at Caerleon.

It was quite possible for Flavius Rufus to achieve the centurionate by the end of the first century, since this was achieved by the centurion Flavius Iulinus, whose stone (*RIB* 343) also belongs to the construction of the amphitheatre. A generation later, no fewer than seven centurions who built Hadrian's Wall bore the nomen *Flavius*. But since Flavius Rufus as *primus pilus* was very senior, in his 40s at least, with more than twenty years' service behind him, he must have become *Flavius* and thus a legionary in the early 70s. He is not otherwise attested at Caerleon, but a centurion of his name is known for Legion II *Augusta*, called *T(itus) Flavius T(itus) f(ilius) Pup(iena tribu) Rufus*. Since this man's sister is an *Ulpia* (implying citizenship in the reign of Trajan), he can hardly have inherited the nomen *Flavius* from



Figure 4.7. The Flavius Rufus 'centurial' stone

their father, who by implication must have been a non-citizen (*peregrinus*). Rufus' handsome tombstone at Ravenna (*CIL* xi 20 = *ILS* 2082) describes him as a military engineer, *architectus ordinatus*, which may mean that he was recruited by the Urban Cohorts as an expert and enfranchised, assuming the fictive patronym of *T(iti) f(ilius)*. In his long career he transferred from the Urban Cohorts to the Praetorian Guard, before being promoted centurion successively of Legions XIII Gemina, XI Claudia, II Augusta and VII Gemina. But he can hardly have been the *primus pilus* of II Augusta, since this legion was followed by another (VII Gemina), unless he then became *primus pilus* for the second time. This is possible, but these two very important posts would surely have been specified by his executors, since they give precise detail of his previous minor posts at Rome. But as his first centurionate was in Legion XIII Gemina, he is presumably the centurion Flavius Rufus otherwise attested at Carnuntum (*AE* 1995, 1266 b).

A more likely identification is with another homonym, the *T(itus) Flavius Rufus p(rimi) p(ilaris)* who gave permission for a tombstone to be erected at Rome to his freedwoman Flavia Daphne (*CIL* vi 18321). This belongs to the Flavio-Trajanic period, to judge by its use of *Dis Manibus* unabbreviated to D M, and even if this Flavius Rufus were not the *primus pilus* at Caerleon, the inscription proves that a man bearing the nomen *Flavius* might already be a former *primus pilus* in the early second century.

#### Inscribed Lead Labels

These eight inscribed labels or tags are small rectangles or oblongs cut from thin sheet lead (c. 1 mm thick), with a hole punched in one corner or midway down one side, through which a cord was threaded for attachment. Eleven such have already been published from Caerleon: *RIB* II.1, 2410. 5, 9 and 10 (but not counting 2410.4, a perforated lead disc 3 mm thick which, like 2410.5, names only a century); also *RIB* II.8, 2504.7 and 9; *Britannia* 21 (1990), 322, Nos 43 and 44; *Britannia* 28 (1997), 467–9, Nos 40, 41, 42 and 43.

They tend not to be fully deciphered, which is not surprising, since they are quite brief, little more than personal names, and are often corroded and incomplete. The name is a cognomen, sometimes accompanied by a nomen, and usually in the genitive case, as if to identify the owner of the object to which the label was attached. One label identifies the owner further by his century (208), and another by his military function, whether *eques* or *optio* (*Britannia* 28 (1997), 468, No. 41). But, as already noted, *RIB* II.1, 2410.4 and 5 name only a century, like the Castleford bronze label (2410.3); and like two lead tags at Chester (2410.6 and 7), which name only a century and its cohort. If labels

not only identified the property of individuals, but also the property of military bodies such as a century, its standard (*signum*) perhaps, it is unlikely that they had a single application.

Three of the previously published Caerleon labels refer to money, 3 *denarii* (*RIB* II.1, 2504.7), 1½ *denarii* (2504.8) and 1 *denarius* (*Britannia* 28 (1997), 468, No. 41). Two of these sums are preceded by the letters TR, for which *tr(iticum)* ('threshed grain') was suggested by Hassall in *Britannia* 20 (1989), 142, n. 75, an abbreviation found in the Lex Iulia Municipalis (*ILS* 6085.18). Another possibility would be 'transport' charges, *translatio* (*Tab. Vindol.* II, 255.14 with note). The Usk labels (*RIB* II.1, 2410.13–22) quite often specify a weight (*p(ondo)*), sometimes explicitly of the 'package' (*sarcina*) and noting a price in *denarii* (for example 2410.13, 14 and 15). But it is unclear whether this was its value (and the price owing), or the transport charge. Exceptionally, <208> implies it was attached to something which had been left for 'polishing'.

#### RA 471 (Figure 4.8)

*Britannia* 44 (2013), 393, No. 24 (where recorded as SF 2388).

Oblong lead tag, 35 mm by 19 mm, broken at the bottom edge. Both faces are inscribed in crude capitals.

(a) obverse, to the right of the hole:

CANDE  
DI

*Cande|di*

'(Property) of Candidus.'

In line 1, the diagonal stroke of D is curtailed by meeting the edge, and there is no sign of the (presumed) top stroke of E; but the letter is clearly cut by a medial stroke and cannot be L or I. The form *Candedi* for *Candidi* is due to the 'Vulgar' confusion between unstressed [i] and [e] found in *Candeda* for *Candida* in *ICUR* 5, 1923 and 7, 17505. Also compare *perdedi* for *perdidi* in a Bath curse tablet (*Tab. Sulis* 62.1), and *perdedit* for *perdidit* in the Lydney tablet (*RIB* 306).

(b) reverse, to the right of the hole:

LAI

The third letter consists of a downstroke tending to the left, as if for I, but LAI would be difficult (see below). The letter was originally read from photographs as N, but despite corrosion and damage to the right, there is no sign of the other two strokes. It is possible that an

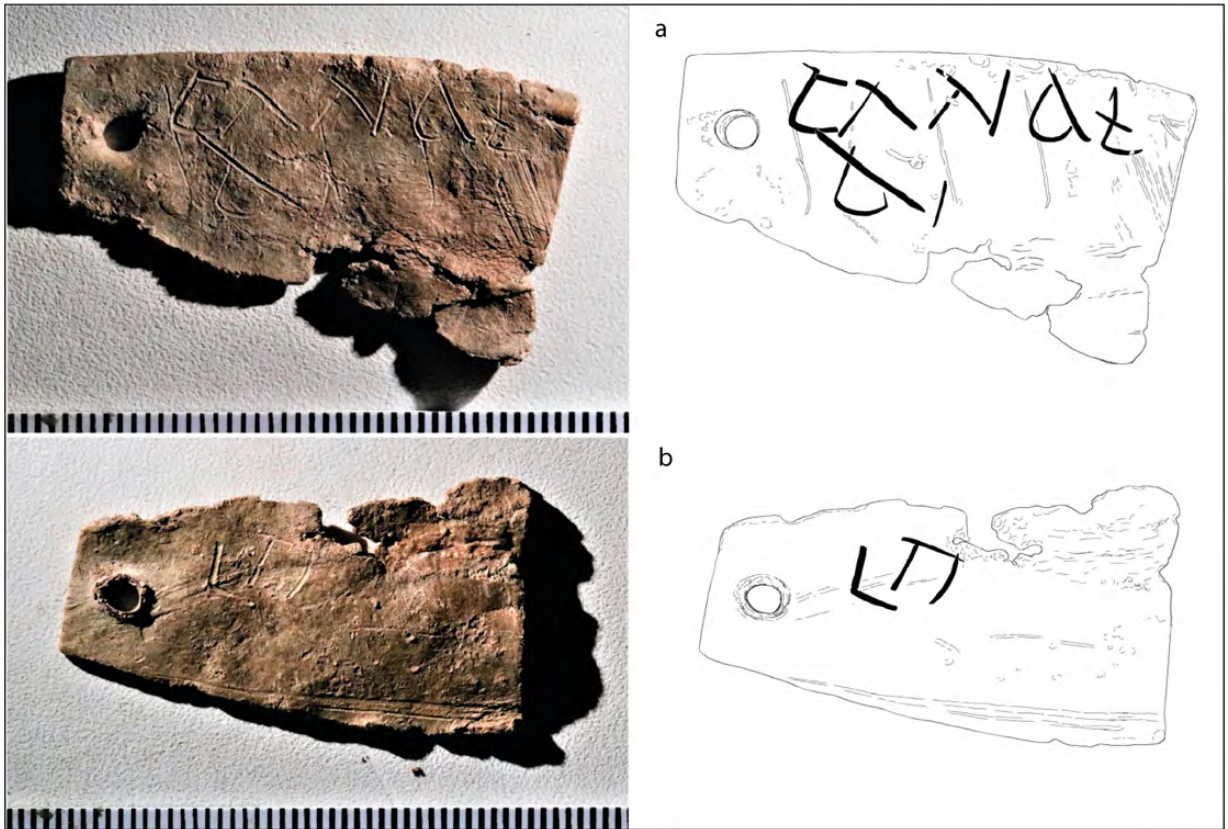


Figure 4.8. Inscribed lead label RA 471: a) obverse + b) reverse

upward stroke has been lost for S or even a cross-stroke for R, but there is no sign of any further letters.

These three letters seem to have been made with the same broad point that was used for (a), but they cannot be related to it. If they identified Candidus, they would surely have been added there (there was enough room). More likely they represent a re-use of the label, but it is difficult to see them as a name. \**Laus* (genitive *Lai*) is not attested as a name. Perhaps LAI is the three initials of a Roman citizen's *tria nomina*, *L(ucius) A(...)* *I(...)*, or even the genitive of the rare name *Lavius* with omission of the intervocalic *u*. The cognomen *Laetus* (genitive *Laeti*) is quite common, but it is difficult to see it being reduced to LAI, whether by mistake or drastic abbreviation.

**RA 477** (Figure 4.9)

*Britannia* 42 (2011), 459, No. 33.

Oblong lead tag, 85 mm by 34 mm, folded three times after being inscribed, which has stressed and damaged the surface. It is much the largest of the eight tags, and carries a four-line text, more than twice as long as any of the others. The letters inscribed on one face only to the right of the hole are described in *Britannia*

as 'cursive' like those on waxed tablets, but they are little more than crude capitals. E is written as II, as on tablets. The curves in D, G, O, R and S are reduced to several short strokes. The incomplete P which begins line 4 is cursive. R is cursive in lines 1 and (probably) 4, but capital-letter in 2. S in line 2 is distinguished from G in 3 and 4 by being, not a long zigzag, but a wavering downstroke topped by a short horizontal, a form which is essentially cursive.

7 DOMITI MATIIRNI  
AVRIILI SIIVIIRI  
LIIVGATAM IIT  
PINGATARIIM

(centuria) Domit(i)i Materni | Aurel(i)i Severi | lev(i)gatam et | pingatarem

'Century of Domitius Maternus, (property) of Aurelius Severus. Polished and ?for decoration.'

1, The centurion Domitius Maternus is not otherwise attested in Britain. He is possibly to be identified with the centurion C. Domitius Maternus of the Egyptian legion II Traiana, the only centurion discharged with veterans of the legion at Nicopolis in 157 (AE 1955, 238); his rank as centurion is confirmed by AE 1969/70,

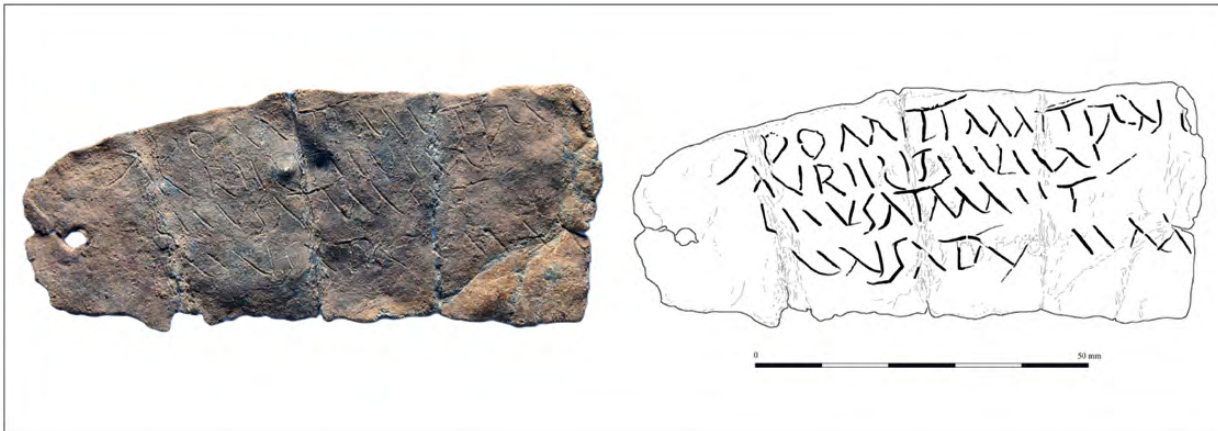


Figure 4.9. Inscribed lead label RA 477: obverse

633, Col. V. His origin is noted as *Seleuco*, presumably Mons Seleucus in Gallia Narbonensis, so he might have enlisted in a western legion such as II Augusta. If he then became a centurion at Caerleon before being transferred to Egypt, this would date the tag very closely, but the name of Aurelius Severus (see next note) makes this difficult.

2, *Aurel(i)i Severi*. This is the only Caerleon label to identify the ‘owner’ by his century, but compare *RIB* II.8, 2504.8 (Carlisle), Iulius Surlitus of the (*centuria*) *Gabiana*; and II.1, 2410.8 (Chester), which is better restored as *c(o)h(rtis) VIII [(centuria) Si]lvani* followed by the man’s name. This legionary Aurelius Severus is not otherwise attested at Caerleon. His name is colourless but requires that he or his father (or ancestor) was enfranchised in the reign of Antoninus Pius (138–61) or later, with the complication that after 140 auxiliary veterans did not gain citizenship for their existing children. Thus Severus would not have been old enough to serve under a centurion discharged in 157 in Egypt, even if the latter had previously served in Britain, unless his own father was actually discharged within the narrow period 138–40 and thus gained citizenship as an *Aurelius* for his adolescent son. Another possibility is that Severus himself was granted citizenship on enlisting in the legion, a practice attested in provinces such as Egypt where Roman citizens were in short supply, but not in Britain.

3, *lev(i)gatam*. Severus’ property, to which this tag was attached, was evidently feminine in gender. Possibly it was his military tunic (*tunica militaris*), which is associated with *levisata* [sic] in glosses quoted by *ThLL* VII.2, 1224, 15ff. s.v. *levisata*. If so, *lev(i)gatam* would mean ‘smoothed’ or ‘polished’, in the sense of finishing clothes (compare Gaius *Inst.* iii 143 = Ulpian, *Dig.* 47.2.12, *fulloni ... polienda vestimenta*). For the process of fulling, and its association with lead tickets, see Römer-

Martijnse 1990, esp. 235ff. But the glosses also refer to ‘weapons’ (*armorum*), and there may be confusion here. The craftsmen in a legionary workshop (*fabrica*) might include *lamnae levisatares* (*ChLA* x 409), and the editors of the papyrus suggest that they ‘polished’ the iron plates of *lorica segmentata*. If so, the reference would be to Severus’ armour, not his tunic.

4, *pingatarem*. The second term applied to Severus’ property does not resolve the question since it is otherwise unattested, and thus of uncertain meaning. There is some damage due to the folding, which has affected the letters under-dotted. The first letter is represented by a long diagonal unlike those in *Λ* and *M* elsewhere, but cannot be *Q* since it is not followed by *V*. It would suit cursive *P* or *R*. The first *Λ* is badly damaged, but there is sufficient trace of both diagonals. It is followed by *TA*, and then a diagonal leading into another band of damage: in view of the concluding *IIM*, this must be a consonant; more likely *R* than *N*. Since the word ends in *-em*, not *-am*, it cannot be a past-participle passive like *lev(i)gatam*, but since it is linked to it by *et*, it would have been an adjective describing another process to which Severus’ property was subjected.

Unfortunately *\*pingatarem* is not attested, but perhaps it was developed from *pingo* in the sense of ‘stitching’ or ‘darning’ (compare Pliny, *Hist. Nat.* 8.191, *lana ... ex qua vestis detrita usu pingitur*, ‘wool used to darn worn clothes’). A reference to ‘embroidery’ (also a sense borne by *pingo*) seems unlikely. On this interpretation, the tag would be the Roman equivalent of a laundry label, identifying the owner of the garment attached, and what had been done (or was to be done) to it. But in a military context, the ‘smoothing’ and ‘polishing’ of armour seems rather more likely. *Pingo* has the primary sense of to ‘paint’, which is improbable here, but it can also mean to ‘decorate’.

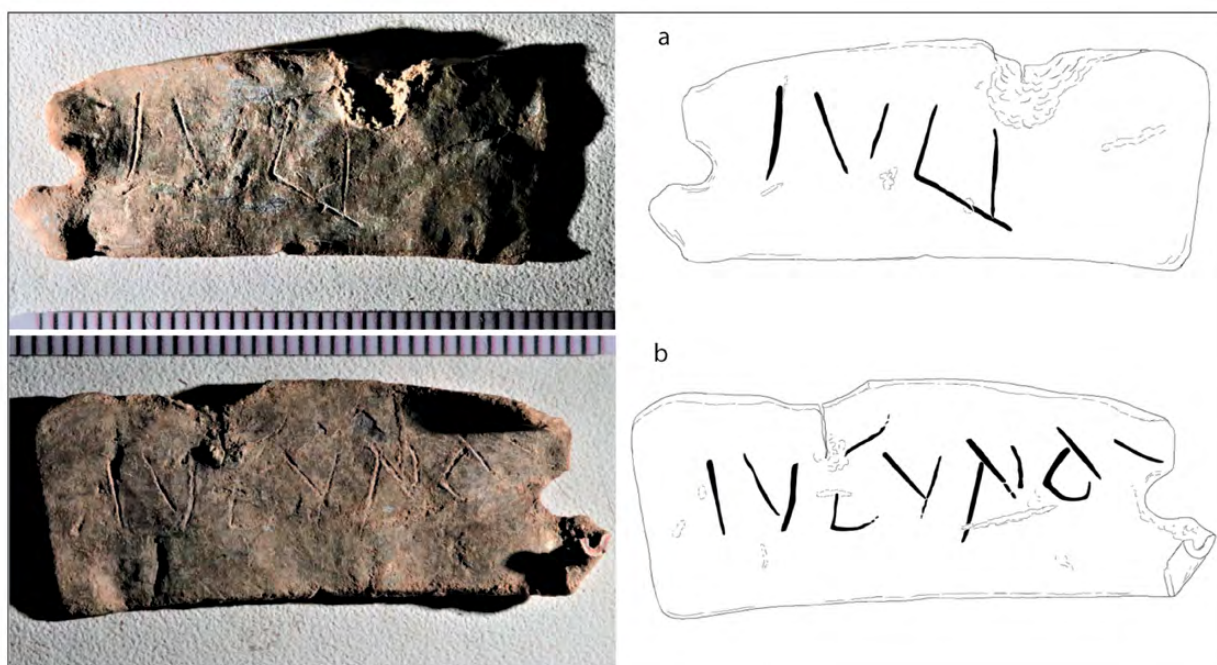


Figure 4.10. Inscribed lead label RA 473: a) obverse + b) reverse

**RA 473** (Figure 4.10)

Rectangular lead tag, 37 mm by 14 mm, with loss to one corner which has removed part of the round hole perforated for attachment. Both faces are inscribed in crude capitals.

(a) obverse, to the right of the hole:

IVLI

(b) reverse, to the left of the hole:

IVCVNDI

There was not enough room to inscribe the final I vertically, so it was inscribed diagonally, above the hole.

*Iul(i)i | Iucundi*

‘(Property) of Iulius Iucundus.’

The text is continuous from (a) to (b), consisting of the man’s nomen and cognomen in the genitive case. Unusually (see preliminary note to *RIB* II.1, 2410), the writing on the reverse is not inverted with respect to the obverse for the hole to remain the same side of the inscription. Instead, the scribe, after writing IVLI, flipped the label to the left and continued with IVCVNDI in the same alignment.

The nomen *Iulius* is frequent among legionaries, and the cognomen *Iucundus* is very common, but this Iulius

Iucundus may well be the same man as RA 472, although the reading there is not certain (see below).

**RA 472** (Figure 4.11)

Rectangular lead tag, 34 mm by 20 mm, inscribed on one face in crude capitals to the right of the hole. Afterwards it was folded twice, which has stressed the surface, which is also quite badly corroded. It reads:

IVLI  
traces VNDI

Probably *Iul(i)i | [Iuc]undi*

‘(Property) of Iulius Iucundus.’

The first half of line 2 is badly corroded and damaged by the fold, and nothing can be made of the ‘traces’, except that there is room for three letters. However, the line ends in DI, and the two preceding letters, although incomplete, are almost certainly VN. This sequence – *undi* must be the end of a cognomen in the genitive case, introduced by the nomen IVLI above. *Verecundus* would be too long, but *Facundus*, *Iucundus* and *Secundus* would all be possible. *Iucundus* and *Secundus* are much more common than *Facundus*, and the coincidence of reading with RA 473 favours *[Iuc]undi*. This cannot be certain, but it does look as if both tags name the same man, Iulius Iucundus. But if so, the handwriting is different: evidently he did not write his own labels. This would either imply that he was illiterate, or that the labels



Figure 4.11. Inscribed lead label RA 472: obverse

did not assert ownership but identified something ‘for collection’.

**RA 474** (Figure 4.12)

Narrow rectangular strip, 50 mm by 12 mm, inscribed in capitals on both faces. The incisions are shallow and some are now incomplete.

(a) obverse. To the right of the hole: IVL VE[.]IATI

*Iul(ii) Ve[.]iati*

‘(Property) of Iulius Ve[.]iatus.’

IVL is quite well preserved for the abbreviated nomen *Iulius*. It is followed by a space, and then by what must have been the cognomen. This is much fainter. AT is legible towards the end, and is followed by a faint diagonal which can be taken as I, for the expected genitive ending in *-ati*. The initial V is incomplete at

the foot and complicated by marks between its two diagonals which are probably casual. The next letter is a vertical stroke with the hint of a horizontal at its foot: probably not L, since the L of IVL is made quite differently, but more likely an incomplete E, with no sign of the other two horizontal strokes. To its right a space, where a letter has presumably been lost, and then a faint diagonal which might be I.

There is no obvious restoration. Possibilities include the cognomina *Vediatus* or *Veliatus* derived from the nomina *Vedius* or *Velius*, but unattested, or the cognomen *Veniatus*, which is barely attested.

(b) reverse. Immediately to the left of the hole:

IV

This graffito is apparently complete. Unless it was never finished, and (say) IV[L] or IV[CVNDI] was intended, this would be the numeral ‘4’.



Figure 4.12. Inscribed lead label RA 474: a) obverse + b) reverse

RA 476 (Figure 4.13)

Rectangular lead tag, 33 mm by 16 mm, with a hole neatly punched in one corner. Both faces are inscribed, but by different hands. The reading is complicated by various strokes (drawn in outline) which seem to be unrelated to the letters and sometimes underlie them, as if they were casual or traces of an earlier text.

(a) obverse, in cursive letters to the right of the hole:

ixesoromagulus

aurulus

1. The first letter is a long vertical stroke cut by a short horizontal stroke at top and bottom. This might suggest capital E, but there is no mid-stroke, and a more likely reading is I, enlarged and emphasised as the initial letter. It is followed by a cramped *xe*, not *ue* (in view of how *u* is written elsewhere), and then by distinct letters fluently written which become cramped again as the edge approaches. This is a Celtic personal name, to judge by the termination *-magulus*, from the element *magu-* 'youth, slave, vassal' (Ellis Evans 1967, 221); in Britain this occurs in the name *Taximagulus* (Caesar, *Gallic War* v.22). But no parallel has been found for the preceding *ixesoro-*

2, *aurulus*. It is unclear whether this is a second name, or descriptive of the man named in line 1. Since it is clearly nominative (*-lus*), it cannot be his patronymic (which would have been genitive); but he can hardly have borne a second name. However, a label naming two persons seems unlikely.

The sequence *aurulus* is un-Latin. The last three letters, *-lus*, are quite clear, the second stroke of *s* being extended to the edge to mark it as the final letter. Likewise the initial *a*, its diagonal extended downward to mark it as the first letter. It is followed by *u*. The third letter is more difficult: it is almost certainly *r*, but it is unclear whether it was made in the usual way – like *r* in the line above – by a long downstroke topped by a second, undulating stroke. It is possibly a short upward diagonal leading into a long downstroke, followed by an 'u'-like stroke, but this can hardly be read as two letters.

It would seem that *aurulus* is a scribal error. Perhaps it is a bungled *Aur(e)ll(i)us*, the nomen of the man named in line 1. If it is a descriptive word, identifying him by his rank or occupation, it is difficult to see what it might be.

(b) reverse. To the left of the hole, a medley of incisions, many of them casual, but including letters:

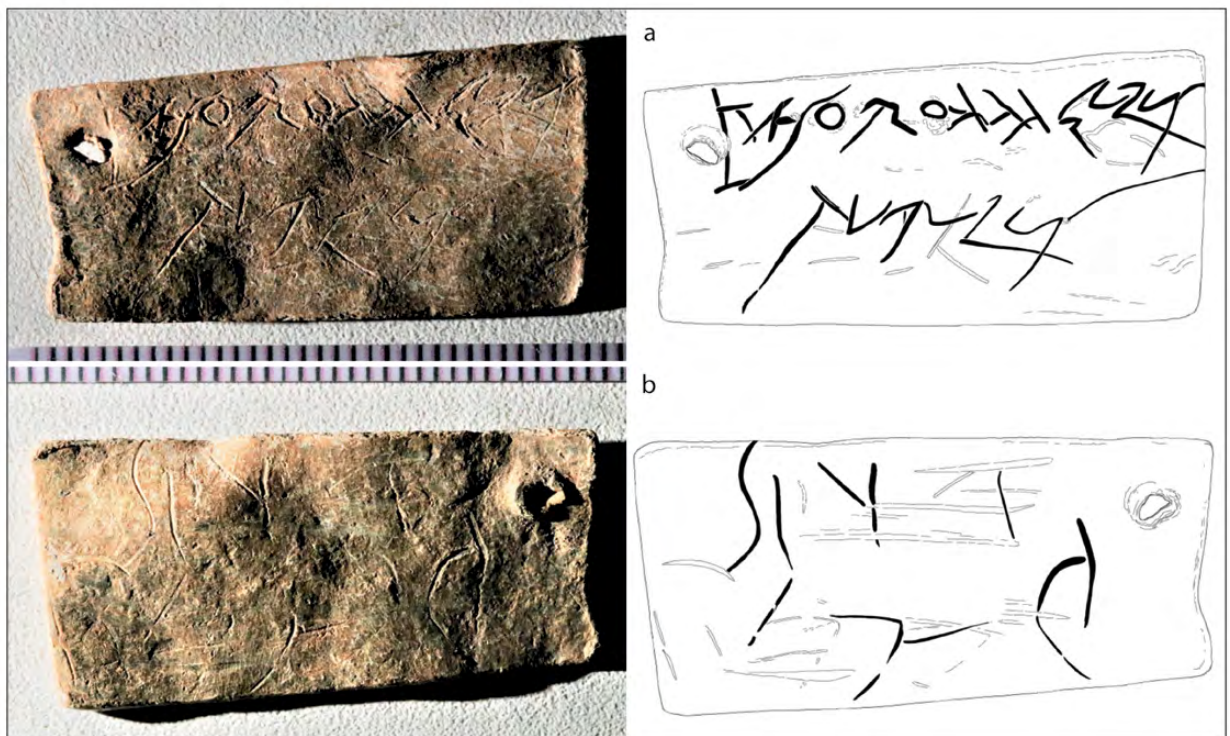


Figure 4.13. Inscribed lead label RA 476: a) obverse + b) reverse

S traces

traces

Only S is certain; perhaps followed by I and an incomplete N. Line 2 apparently ends with D or CI, the latter suggesting a name in the genitive case. But the traces are too slight and ambiguous to make any suggestions. It may even be a name erased by horizontal abrasion.

The graffito certainly seems unrelated to face (a).

**RA 470** (Figure 4.14)

Rectangular tag, 29 mm by 20 mm, with a neat hole in one corner. Only one face is inscribed. The incisions are largely filled with corrosion products, and in places must be deduced from the overlying encrustation which preserves their outline. Inscribed in capitals to the right of the hole:

MRINIA  
NI

Probably *M(a)rinia/ni*

‘(Property) of Marinianus.’

Line 2 and the last two letters of line 1 are quite clear, showing that the text ended in *-iani*, a cognomen in the genitive case. The first letter of line 1 is apparently M, but the first diagonal must be deduced from two shallow cuts in the left-hand edge; the rest has apparently been lost to corrosion. R is also uncertain, with only a hint of the loop. Since the sequence MR is impossible, it appears that the scribe omitted the intervening  $\Lambda$  by confusion

with the second half of M. The next letter(s) looks like modern ‘W’, but can easily be read as I conjoining N.

The result is *M(a)rinia/ni*, although *Varinia/ni* would be possible by supposing that the first letter is V ligatured to  $\Lambda$  (and sharing a diagonal); but this would be unlike the ample  $\Lambda$  which ends the line, and the cognomen *Varinianus* is only once attested, in Noricum (EDCS s.v. *Varinian(a)*). *Marinianus* on the contrary is well attested and has already occurred in Britain, at Bath: *Tab. Sulis* 30.5, *Marinianus Belcati (filius)*, where it is noted that Nig(...) *Marinianus*, a cavalryman seconded to the Guard in Rome (*equus singularis*) and buried there, was of British origin, *natione Britanicianus* (CIL vi 3279); his son was also called *Marinianus*.

This conclusion must be weighed against *RIB* II.8, 2504.7, the Caerleon tag which reads CALVINI in capitals, followed by two lines in a different lettering. It is not clear that they belong together, but *RIB* associates them by understanding CALVINI as a nomen; not as the cognomen *Calvinus* (in the genitive) that it appears to be, but as the rare nomen *Calvinus* derived from it. This is by reading the next line as VARENIAN, which might be a variant of *Varinian(i)*, but both reading and interpretation are uncertain.

**RA 475** (Figure 4.15)

Rectangular tag, 49 mm by 19 mm, with a neat hole in one corner. Both faces are inscribed, but with a medley of intersecting strokes indistinguishable from casual damage and crossing-out, which cannot be resolved into letters. The tag was probably used more than once, with trace of at least two texts.

(a) obverse, to the right of the hole: two lines of lettering, perhaps by different hands, since the letters



Figure 4.14. Inscribed lead label RA 470: obverse



Figure 4.15. Inscribed lead label RA 475: a) obverse + b) reverse

of line 1 are much larger than those of line 2. There is perhaps a large C in the middle of line 1.

(b) reverse. Medley of intersecting strokes which respect the hole at the bottom-left corner. Many of

them cut each other at right-angles, which suggests they are crossings-out rather than letters. There is little sign of lettering except a possible numeral (XX...) at top left.

#### 4.2.10. The Sculpted Stones (Martin Henig)

##### *Triton Relief (Figures 4.16 and 4.17)*

**RA 567.** Sandstone relief fragment depicting a triton. Height 255 mm; Width (at widest point) 260 mm; Thickness 130 mm.

There is a straight cut edge on the right side of the stone. The stone has been recessed to take in relief the head and torso of a male figure, his body to the front and head in profile to the right looking very slightly down. His face is dominated by his large almond-shaped right eye. His nose is quite prominent and he has a rather lugubrious expression. His torso is well modelled with well-defined chest and pectoral muscles. His hair is long and richly modelled and cascades down his back in a manner that is diagnostic for this type of triton. His upper arms hang by his side. Unfortunately the lower part of his body is not preserved.

The first thoughts of those who first saw the stone was that it portrays a barbarian like those depicted on the Second Legion distance slab from Bridgeness, West Lothian on the Antonine Wall (Keppie and Arnold 1984, 27-28 and pl. 21 No. 68), the bound barbarians figured on the Twentieth Legion slab from Hutcheson Hill, Dunbartonshire (Keppie and Arnold 1984, 53-54 and pl. 37 No. 149), or the bound and chained barbarians shown on a first century relief from Mainz (Selzer 1988, 241 RA No. 263 and colour pl. 47, 69). It should be noted, however, that the Caerleon figure is neither being defeated in battle nor is he bound, and that his cascading hair is not at all characteristic of portrayals of barbarians who are generally shown with stiff crew-cut hair, whereas here the hair is richly tousled and may deliberately evoke waving fronds of seaweed or even the waves of the sea. Although the lower part of the figure is lost it was probably not human at all but more like a fish; in other words the figure is a triton, a being part human and part fish.

Tritons appear in Roman art as an element in the marine thiasos as creatures in the service of *Oceanus*. The type to which the Priory Field figure belongs holds his upper body vertically wearing a seaweed skirt around his loins from which project two sinuous curving legs ending in fish-like tails. An example is depicted appropriately on the edge of the bottom right of the Bath pediment and would have been balanced by one on the left (Cunliffe and Fulford 1982, 11 and pl. 10 Nos 32-37; Cunliffe and Davenport 1985, 115-6, pl. xxxix No. 1A.5). The triton here perhaps represents either victory over Ocean or else Ocean as an ally of Roman intervention in Britain (it may be noted that the nearest legion to Bath was always *Legio Secunda Augusta*). Where the upper parts of such tritons are preserved, as they are on a number of



Figure 4.16. Photograph of the triton carved stone relief RA 567 (© Amgueddfa Cymru – National Museum Wales)

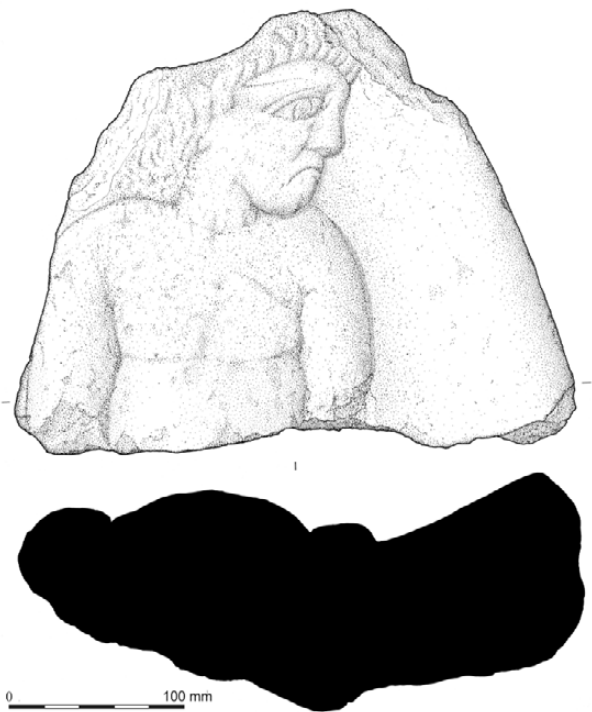


Figure 4.17. Drawing of the triton carved stone relief RA 567

marble figures in the round in various collections, all have the same tousled cascading hair of the Caerleon triton (Icard-Gianolio 1997, 75 Nos 22-24; 77 No. 45).

Another type of triton has an extended fish-like body, such as the one portrayed on a broken Antonine Wall distance slab from Hag Knowe, Dunbartonshire (Keppie and Arnold, 1984, 32 and pl. 24 No. 84). This relief depicts a bound captive, bottom left and on the top left a triton holding an anchor. The style has been thought to recall those of slabs ascribed to the Second Augustan Legion,

but in any case here is another triton, presumably of the mid-second century.

Tritons are also figured on tombstones, there recalling the journey of the soul after death to the Blessed Isles as on Curatia Dinysia's tombstone from Chester, on which a pair of tritons in the spandrels blow trumpets (Henig 2004, 21-22, pl. 21 No. 61) or the similar triton blowing a trumpet on a block of stone, likewise probably funerary, from York (Tufi 1983, 50 and pl. 22 No. 80).

A triton or tritons might have graced a pediment of a store building, which would have housed material loaded at Sea Mills on the south bank of the Severn and brought across and up the Usk, always a dangerous journey across what would have been considered one of the arms of Ocean. The artistic quality of the Caerleon relief is very high; the slightly stylised features and the prominent almond-shaped eye suggest that this is the work of a highly competent British sculptor.

*Stone with 'Fronds'*

**RA 568.** Sandstone relief fragment. 210 mm by 155 mm; Thickness 50 mm.

This has a very similar appearance in execution of the recessed relief but the back of the stone has been roughly smoothed and as it is only about a third of the thickness it is probably not from the same block. The carved device looks like a frond with a curving end. It could be part of the same composition as the last, seaweed or even part of the seaweed skirt of a triton, but that is unclear.

*Dioscurus or Hero Relief (Figures 4.18 and 4.19)*

**RA 566.** Limestone relief fragment possibly depicting a Dioscurus or heroic scene. Height 370 mm; Width 330 mm; Thickness 90 mm.

The relief is part of a striding male figure. It consists of his left leg from thigh to ankle, bent at the knee. The foot is not preserved. The relief is very assured and accomplished rising no more than 20 mm above the surface. At the top of the stone the left lower arm with the hand is preserved, in very slightly higher relief, 30 mm above the surface. The fingers are not well preserved but the thumb bent at the joint is clearly differentiated. It is possible that the figure is holding an object or possibly a horse's bridle. Red pigment at the top of the thigh is possibly the end of the figure's cloak.

There is very little to go on. The leg action is to be seen on the battling gods in a Gigantomachy on a sandstone column drum from Hausen-an-der-Zaber north of



Figure 4.18. Photograph of the Dioscurus carved stone relief RA 566 (© Amgueddfa Cymru – National Museum Wales)

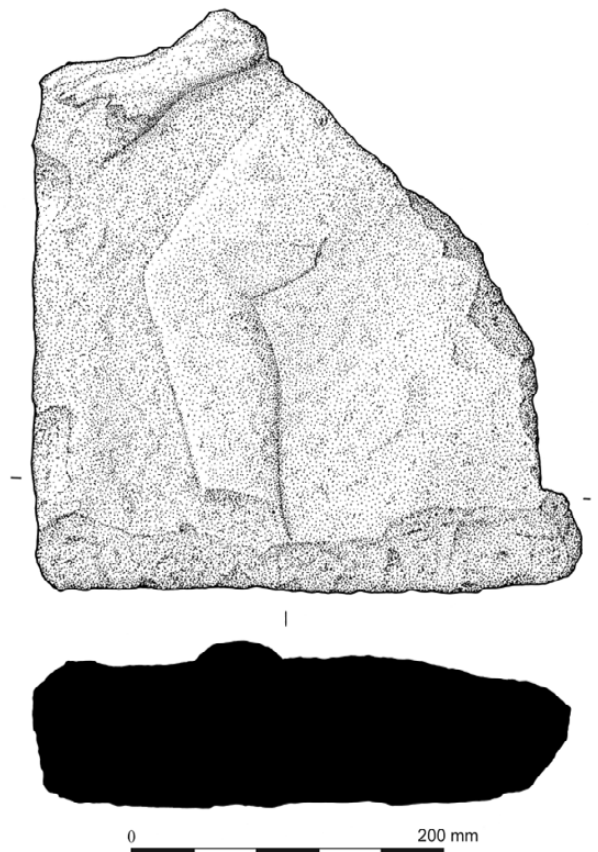


Figure 4.19. Drawing of the Dioscurus carved stone relief RA 566

Stuttgart (Toynbee 1977, 343-4 and pl. iii). There is, however, no indication that the Caerleon figure is engaged in combat. One possibility is that the figure was a Dioscurus holding his horse's bridle as is the case on a far less accomplished relief from Corbridge (Phillips 1977, 20 and pl. 16 No. 55). That Dioscurus was wearing a cloak and, remarkably, the upper thigh of the Caerleon fragment preserves an area of red pigment, best interpreted as the end of a cloak (see below). A pair of Dioscuri with their mounts are also depicted on one side of an *aedicula* from Mainz-Kastel, which housed a figure of Jupiter (Bauchhenss 1984, 76-8 and Taf, 122 No. 93; Selzer 1988, 210 No. 188, col. pl. 37 on p. 55).

The Dioscuri, or Castores as they were sometimes known, were important gods who were regarded as protectors of Roman soldiers. The twins were believed to have helped the Roman army at the Battle of Lake Regillus in 495 B.C., as a result of which a Temple of Castor and Pollux was built in the Roman Forum, and the twins are depicted on horseback upon the reverses of early Republican Roman coins from the late third century BC, inscribed with the legend ROMA (Sutherland 1974, figs 49, 51, 56, 57, 62, 63). An intaglio excavated from the drain in the Fortress Baths at Caerleon (Zienkiewicz 1986c, 136 and pl. XII No. 49) and another, set in a gold ring from east of Pentre in the Rhondda (Henig 2007, 103 and pls iii and xxxiii No. 96) are both relevant to the Second Augustan Legion.

The main objection to an identification is that no element from a horse is preserved, and we would need to envisage our Dioscurus holding out his arm to his horse beyond him as is the case of the Dioscurus depicted on a frieze from Corbridge, said to be from a temple of Jupiter Dolichenus (Phillips 1977, 18-19 pl. 15 No. 52). In any case, this is highly skilled and distinguished sculpture in low relief. There are other low relief sculptures from Caerleon, notably the encounter of a hound and a more ferocious beast, carved in sandstone and dated to the second or third century (Brewer 1986a, 41-42, pl. 22 No. 60), but the new fragment looks earlier. This relief could have graced the same building as the one from which the triton came, or another official building. It certainly attests heroic virtue and is of high quality as would have been appropriate for the official art of the legion.

The reddish pigment at the top of the thigh was examined with a Scanning Electron Microscope (SEM), and tested using Fourier transmission infrared spectroscopy (FTIR) and energy dispersive x-ray fluorescence (EDXRF). Samples tested with the SEM were inconclusive, while the EDXRF indicated the presence of lead and zinc (Barton nd). *Rubrica*, or red ochre (iron haematite) was a common red pigment in Roman Britain, whereas Pliny (35. 20) and *Virtuvius*

(*De Architectura*, 7.7) also mention *minium secundarium/usta*, which is an orange/red colour made with lead (Morgan 1992, 19). The presence of both iron and lead in the EDXRF scans indicate that the pigment may be a combination of *rubrica* and *usta*.

#### *Circular Stone with Lanceate Leaves (Figure 4.20)*

**RA 570.** Dimensions: 131 mm long, 89 mm wide, 80 mm thick.

Segmented circular limestone block with some damage but otherwise complete. A shallow U-shaped circular groove separates the rim of the block from the main face, which has two deeper straight grooves carved into it that come together to meet at the rim in a V-shape.

The unusual stone, which was presumably originally circular, has coarse lanceate leaves on its upper surface. Although the outer curved edge is plain, the leaves could have surrounded the shaft of a small column. Blagg (2002, 49-50 and 229 pl. LIX Nos 41 and 57-9) depicts decorated bases all from Cirencester but the decoration here is on the outer curving edge (though No. 41 has an incised circular groove on the top).

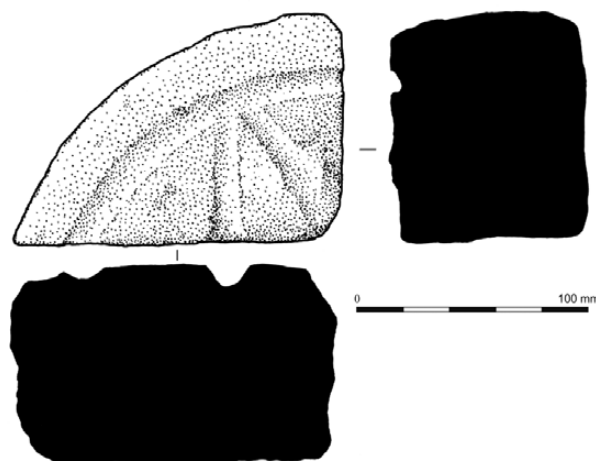


Figure 4.20. Drawing of the circular stone with lanceate leaves RA 570

### 4.3 Soil Blocks lifted from Room 2

Numerous metal artefacts were found overlying the final floor surface in Room 2, often sealed by, and mixed in with, debris from the building's subsequent demolition or collapse. After the extent of the artefact scatter had been established and the individual finds exposed as far as possible with the trowel, temporary Small Find numbers were allocated before specialist staff from the National Museum of Wales lifted the finds in a total of 38 soil blocks.<sup>2</sup> This involved wrapping the artefacts and the surrounding soil in clingfilm and then encasing them with linen sheets coated in plaster of Paris so that the blocks could be moved without damaging their contents. These were taken to the National Museum Cardiff where they were first x-rayed before the plaster casings were cut away and the contents excavated under laboratory conditions.<sup>3</sup> The list of soil blocks from Room 2 is provided in Appendix 6.2.

The artefacts were found mostly on the western side of the room (i.e., towards the back of the room opposite the door from the portico), and consisted of two groups: a large mass consisting of hundreds of iron and copper-alloy finds in the northwestern corner (including the two largest soil blocks), and a more scattered group of artefacts in the southwestern corner, mostly individual iron finds (Figures 4.21 and 4.22). The distribution of the blocks suggests that the objects to which the artefacts originally belonged had been stored probably on shelves or on furniture of some kind that, by the time of the building's demise, had collapsed, causing the objects to tumble onto the floor.

The careful lifting and excavation of the soil blocks indicates that Room 2, immediately prior to the building's abandonment, was used to store items of military and ceremonial equipment, including horse headgear (*chamfron*) and various types of *lorica*. The remains of these objects were highly fragmentary and the iron had suffered particularly badly in Caerleon's soil, often leaving only completely mineralised remnants of the original artefacts that were too fragile to be fully excavated and, therefore, were consolidated as far as possible and left in their blocks. Although the numerous individual artefacts are listed in the Registered Artefacts catalogues, this section describes the most significant of the blocks.

<sup>2</sup> This work was undertaken in two days by Evan Chapman, Penny Hill and Dr Mark Lewis.

<sup>3</sup> The excavation of the 38 soil blocks in the museum's laboratories took seven years to complete and the work was undertaken by Mary Davies, Penny Hill, Mark Lewis, Louise Mumford and Conservation interns Alaina Schmisser and Julia Tubman. Some of the smaller blocks were excavated from the bottom up (i.e., they were inverted and excavated).

#### 4.3.1 Soil Block 1 (*chamfron and lorica*)<sup>4</sup>

This was the second largest block lifted from Room 2 (Figure 4.23) and it received five separate temporary Small Find numbers on site, allocated to adjacent groups of finds of different types:

- SF 2600: fragmentary iron plates;
- SF 2604: a copper-alloy plaque with attached decorative stud;
- SF 2606: a plain copper-alloy disk;
- SF 2607 and SF 2608: multiple copper-alloy pins and studs, many of which were undisturbed.

The block was completely excavated in the Museum's conservation laboratory, a challenging task made easier by dividing it into three 'sub-blocks', each consisting of discrete groups or clusters of artefacts (Figure 4.24). The sub-blocks correspond with the temporary Small Finds numbers as follows:

- Sub-block A: SF 2600;
- Sub-block B: SF 2604, SF 2607, SF 2608;
- Sub-block C: SF 2600, SF 2606, SF 2607.

The artefacts contained in the soil block and its subdivisions are described by their material and types, with copper-alloy finds first before the fragmentary remains of iron plates (all finds were allocated new Registered Artefact numbers during the post-excavation stage of the project). A small collection of vole bones (*arvicolinae* sp.) was found while excavating Soil Block 1.

##### *Copper-alloy plaque with decorative attachment*

[RA 213 - sub-block B; SF 2604]

This consists of a bent sheet with a decorated cast stud in its centre. The stud is lozenge shaped and depicts a human face shown looking forwards and wearing a Phrygian cap, from the bottom of which protrude locks of hair (Figure 4.25). Although the sheet's edges show some wear and limited damage in places, it was clearly leaf shaped and four pins projecting from the back of the sheet would have affixed it to some kind of backing material (Figure 4.26). Three of these pins were located towards the edge of the sheet, while the one in the centre belongs to the decorative stud that pierces the sheet and would have been driven through the backing material too. An intact washer was in place on the end of the central pin, whereas the washers for the other three had become detached and were found

<sup>4</sup> This section summarises the findings of the conservation work undertaken by Penny Hill and her colleagues, set out in the Conservation Report written in 2013 (see also Lewis 2016).

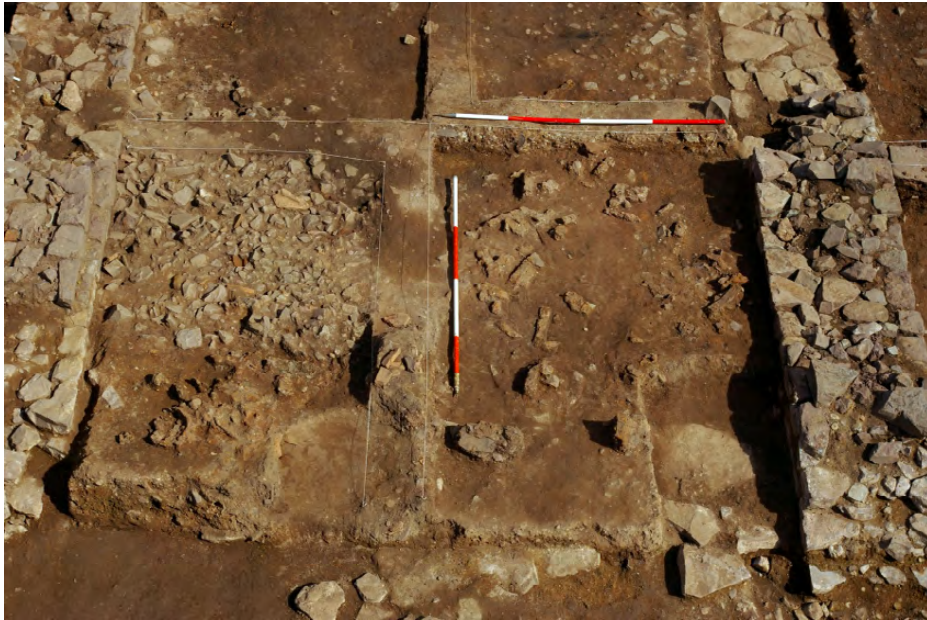


Figure 4.21. Photograph of the western side of Room 2, showing artefact scatter (lifted as 38 soil blocks)

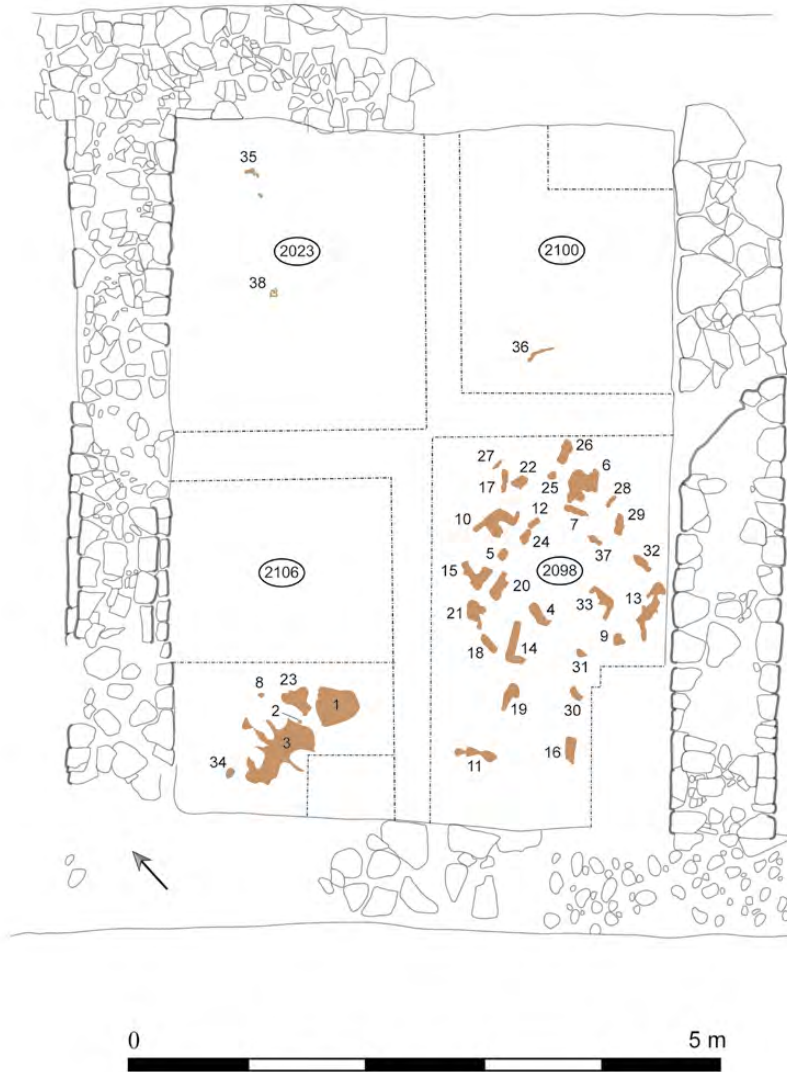


Figure 4.22. Plan of Soil Blocks in Room 2 prior to lifting



Figure 4.23. Soil Block 1 prior to lifting

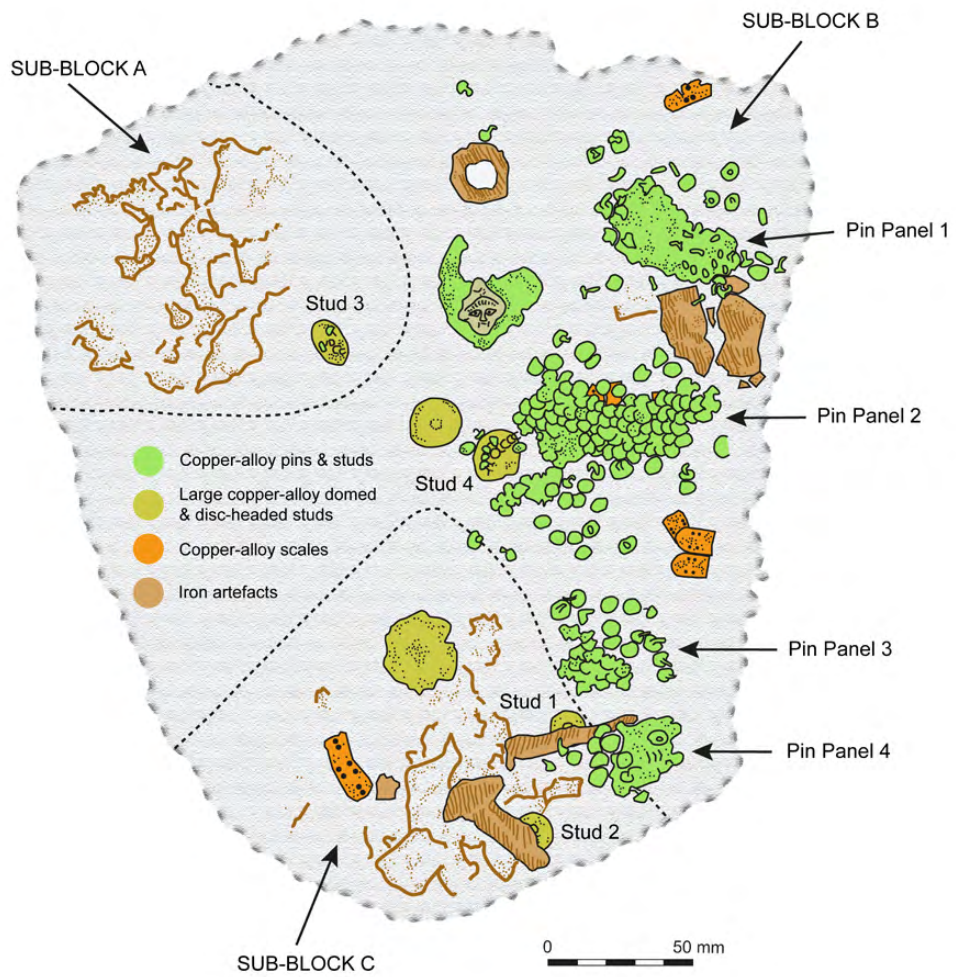


Figure 4.24. Plan of Soil Block 1 prior to laboratory excavation



Figure 4.25. Copper-alloy decorative plaque after conservation – front view (© Amgueddfa Cymru – National Museum Wales)



Figure 4.27. Copper-alloy decorative plaque after conservation – side view (© Amgueddfa Cymru – National Museum Wales)



Figure 4.26. Copper-alloy decorative plaque after conservation – rear view (© Amgueddfa Cymru – National Museum Wales)

in fragments beneath the plaque after it was removed from the block. The sheet was creased in two places to either side of the central stud, giving it an angular concave shape. The creasing had occurred before the patina formed on the sheet's surface, indicating that this was its original shape when deposited (Figure 4.27). After conservation, the central stud had a grey appearance in contrast to the sheet, which was much greener in colour, and it is likely that the stud was made from a copper alloy akin to gunmetal (i.e., copper, tin and zinc), which would have contrasted with the more bronze colour of the sheet it was attached to.

#### *Copper alloy pins and studs*

[RA 623-679, RA 682-686 - sub-blocks B and C; mainly SF 2607 and SF 2608 but also SF 2600]

The soil block contained approximately 250 copper alloy pins and studs (another 150 or so came from deposits around where the soil block was lifted). A few small dome-headed pins (3-3.5 mm in diameter), were also recovered from the soil block, most of which seem to have been closely associated with the larger domed studs with attached chains (see below).

Four incomplete patches of overlapping flat-headed pins were excavated and removed from the soil block: pin panels 2 and 3 were found face up, while panels 1 and 4 were upside down (Figure 4.28). The largest of these (panel 2) consisted of 97 pins arranged in eight rows, with the pins set diagonally to produce a fish-scale pattern, an effect that was repeated on the other three panels too (Figure 4.29).

Four larger domed studs (Figure 4.30) and two large disc-headed studs also were found in the soil block (the disc-headed studs, RA 230 and RA 232, were approximately 20 mm and 34 mm in diameter; the domed studs 1 and 2 have diameters of 17 mm and 15 mm; and domed



Figure 4.28. Flat-headed pins in situ - Panels 1, 2 and 4  
(© Amgueddfa Cymru – National Museum Wales)

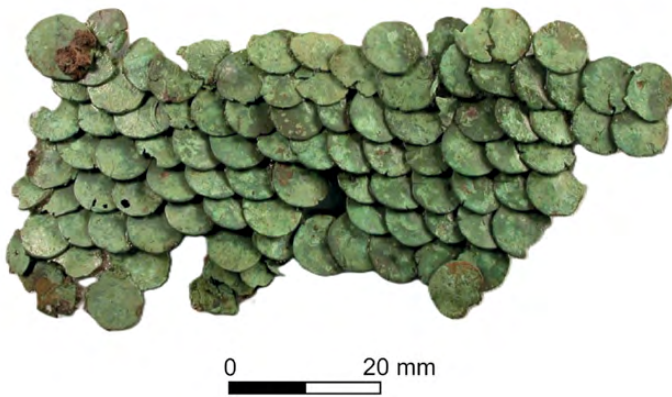


Figure 4.29. Panel 2 of flat-headed pins after excavation  
(© Amgueddfa Cymru – National Museum Wales)

studs 3 and 4 were both 19 mm in diameter). Studs 1 and 2 are more rounded and domed than 3 and 4, and both have washer fragments still attached to the ends of their shafts. Studs 3 and 4 had fragments of copper-alloy chain attached to loops on the inside faces of their heads and 4 still had a washer in place at the end of its shaft. The surfaces of both domed studs with chains (i.e., 3 and 4) were more silvery in appearance than the other studs, suggesting the application of a white metal coating to create this effect (XRF analysis detected a coating of tin).

*Copper alloy scale*

[RA 180-183 - sub-blocks B and C]

Approximately 80 copper-alloy scales were found in and around the soil block. The scales were very thin and came in two different types (Figure 4.31): a long narrow form with a more pronounced rounded lower end (approx. 23 mm long and 9 mm wide), and a short wide form with a slightly rounded lower end (approx. 14 mm long and 12 mm wide). The long narrow type had eight holes altogether arranged in pairs on their upper and lower ends as well as on the long sides (von Groller type VII), whereas the short and wide type had five holes in total, including pairs on each of the long sides as well as a larger hole in the centre of the upper end (von Groller type III). Most of the scale from this soil block was of the wide type and examples generally were found either singly or in groups of two or three scattered throughout the block, often with the copper ties still in place (Figure 4.32).

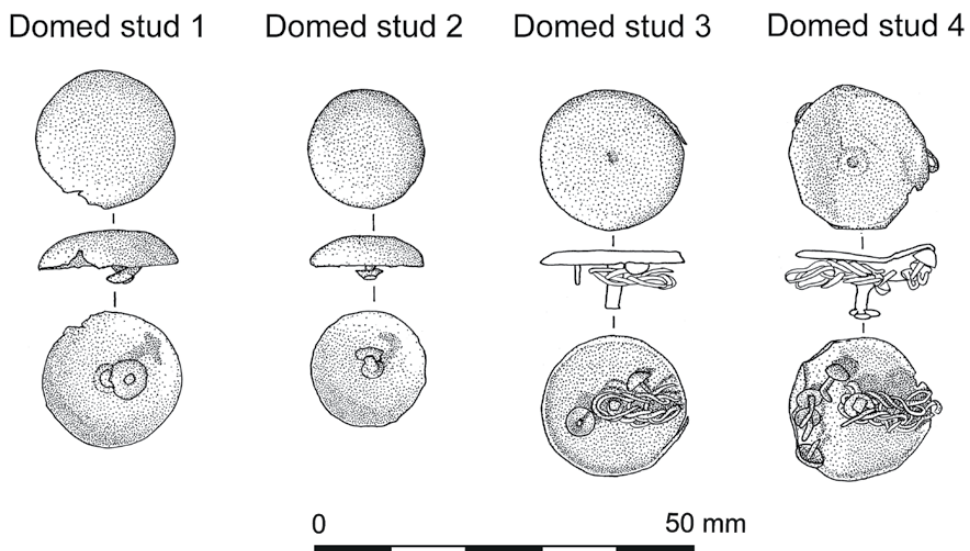


Figure 4.30. Four large domed studs, two with attached chains



Figure 4.31. Two types of copper-alloy scale (© Amgueddfa Cymru – National Museum Wales)



Figure 4.32. Scale in situ showing ties in place (© Amgueddfa Cymru – National Museum Wales)

#### Iron plates

[RA 1264 – mainly sub-blocks A and C but some from sub-block B]

The remains of iron objects lay adjacent to the clusters of copper alloy artefacts, but particular in sub-blocks A and C. The more robust artefacts, such as nails, survived reasonably intact, although the pieces of thinner plate were highly mineralised and fragmented, meaning it is often difficult to identify the original form of these artefacts from the mass of mineralised remnants. The x-rays of the sub-blocks proved to be more effective in detecting the presence of individual objects and a few thicker sections of plate in sub-block B were identified, some with holes associated with copper alloy fittings that were common in the adjoining Soil Block 3 (Figure 4.33).

#### 4.4.2 Soil Block 3 (iron plates and scale)<sup>5</sup>

This was the largest soil block from Room 2, measuring over 1 m long, and was located adjoining Soil Block 1 in the northwest corner of Room 2 (Figures 4.34 and 4.35). Its micro-excavation revealed an enormous amount of new information, which, when combined with the x-radiography, justifies the time and resources this process consumed. The block contained large quantities of mineralised and fragmentary thin iron plates that probably came from multiple sets of disarticulated Newstead type *lorica segmentata*. Most of the copper-alloy fittings had already been removed (leaving some

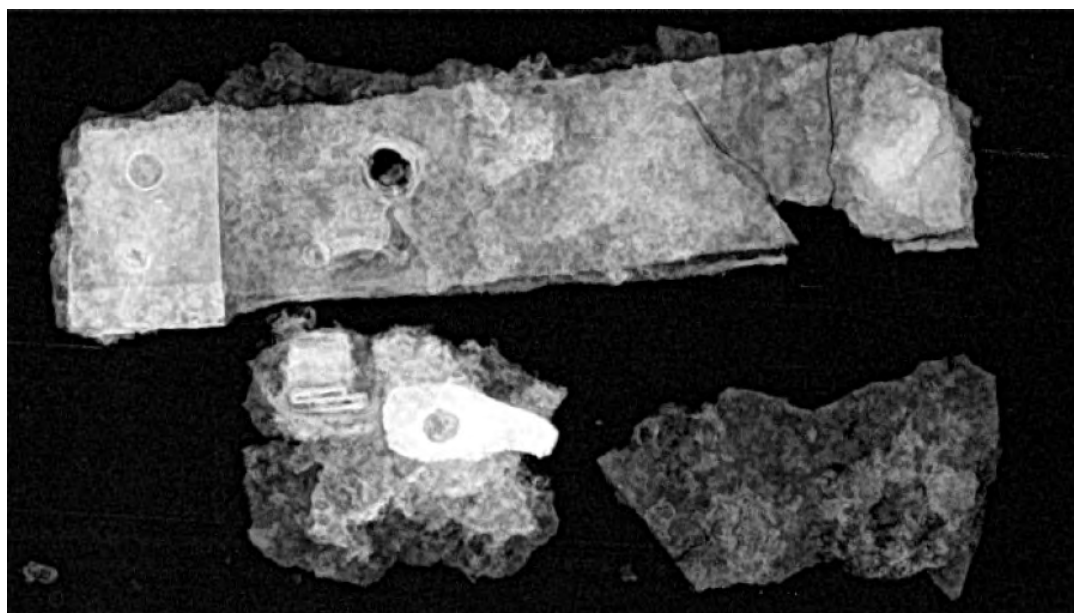


Figure 4.33. X-ray plate showing iron plates in Soil Block 1, sub-block B (© Amgueddfa Cymru – National Museum Wales)

<sup>5</sup> This section summarises the findings of the conservation work undertaken by Julia Tubman, described in Julia's Conservation Internship Portfolio written in 2015.



Figure 4.34. Soil Block 3, prior to excavation in the laboratory  
(© Amgueddfa Cymru – National Museum Wales)

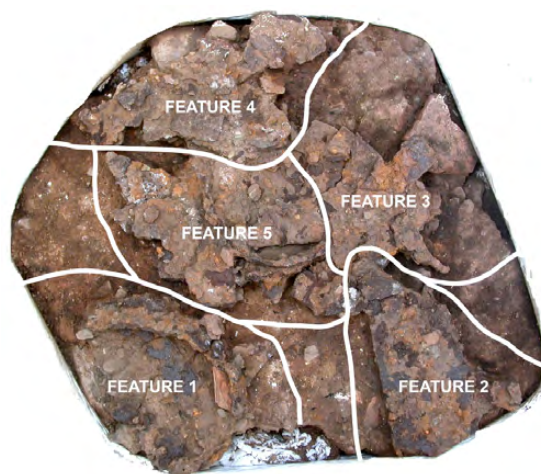


Figure 4.35. Soil Block 3, post-initial excavation with Features  
(photo: Amgueddfa Cymru – National Museum Wales)

stud shafts in their holes in the iron plates), although a few remained among the mineralised iron remnants. Copper-alloy *lorica squamata* scales were also found in one area of the block, which could have belonged to the chamfron recovered close by, or might have been from a separate object altogether.

The soil block was investigated in five 'Features', each of which consisted of a more-or-less discrete group of artefacts. Because of the nature of the surviving remains, the block was excavated to the uppermost finds or the original floor level beneath them. X-radiography was undertaken of the block before the mineralised iron and other objects were consolidated. The following description of Soil Block 3 refers to artefacts identified physically as well as those only seen on the digital x-ray plates, and will follow the same arrangement of five Features established during its excavation.

#### Feature 1

This lay towards the northern edge of the block and consisted of at least two fragmentary girth hoops, one with a tie-ring close to its original position, as well as fragments of other iron plates (Figures 4.36 and 4.37). One of the girth hoops was found lying on its side on the floor, preserving its semi-circular form. It was clearly broken in the centre and the uppermost edge had been damaged, but otherwise the plate appears to be complete. A copper alloy tie-ring was found at one end of the plate, which is likely to be where it was originally attached. The tie-ring would have been held in place by a washer or rove attached to its shank on the inside of the plate (the washer/rove might well have been iron rather than copper alloy), and it would have passed through a slot in a matching girth hoop and held in place with a split pin through the ring. The other end of this girth hoop should have a similar slot at the opposite end to the tie-ring, where the matching plate's own tie-ring would have been inserted. This highly mineralised artefact was very fragile, however, and could not be fully revealed in the laboratory. There was no evidence of the copper-alloy plate that it is believed would have been attached to the slot's face at the opposite end (although this already could have been removed).

Part of a second plate lay flat within and underneath the first girth hoop. This survived in slightly better condition, though it had also suffered some post-depositional damage and clearly was broken in several places (Figure 4.38). The preserved edge of this plate had been rolled and it must have been either the *lorica's* upper or lower girth hoop. Its location would suggest that this was originally also a curved girth hoop that had been flattened at some point. The plate was only 45 mm wide, but its upper edge (i.e., opposite the rolled edge) was damaged and it must have been deeper than that when manufactured.

#### Feature 2

This lay at the western edge of the block and consisted of parts of perhaps five mineralised and highly fragmented narrow iron plates, four of which lay on top of one another resulting in the Feature's triangular shape (Figure 4.39). A copper-alloy hook fastener was found lying on top of one of the plates during excavation in the laboratory (Figure 4.40). It is difficult to disentangle the individual plates from the mass of corroded iron and none appear to be complete, but from the x-rays it is possible to confirm that plates 1 and 3 were c. 61 mm wide and plate 2 was c. 64 mm wide (Figure 4.41). Although the uppermost plates were flat



Figure 4.36. Soil Block 3, Feature 1 – as excavated from above (© Amgueddfa Cymru – National Museum Wales)



Figure 4.39. Soil Block 3, Feature 2 – as excavated from above (© Amgueddfa Cymru – National Museum Wales)



Figure 4.37. Soil Block 3, Feature 1 – as excavated, side view (© Amgueddfa Cymru – National Museum Wales)



Figure 4.40. Soil Block 3, Feature 2 – hook fastener (© Amgueddfa Cymru – National Museum Wales)



Figure 4.38. Soil Block 3, Feature 1 – close-up of plate with rolled edge (© Amgueddfa Cymru – National Museum Wales)

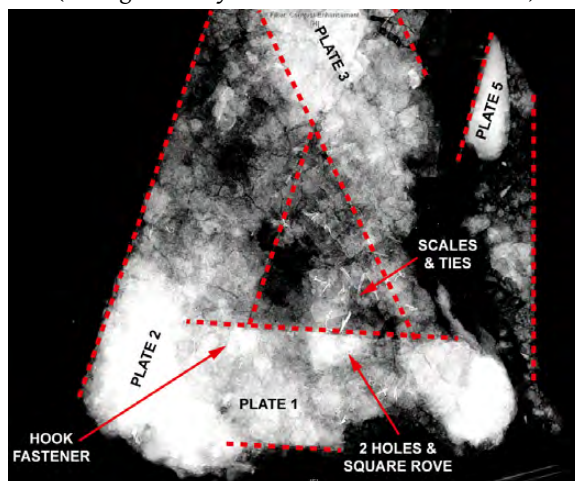


Figure 4.41. X-ray plate of Soil Block 3, Feature 2 (© Amgueddfa Cymru – National Museum Wales)

when excavated (and it is likely therefore that those below were also flat), at least two were girth hoops that originally would have been curved. The x-ray of plate 1 shows 2 holes with their iron roves still in place close to its upper edge, while the hook fastener was found on the same edge (almost certainly *in situ*), indicating that

this was probably the upper girth hoop that would have been attached to the breastplates and backplates by means of these hook fasteners. Furthermore, although



Figure 4.42. Soil Block 3, Feature 2 – photo of iron plate with rolled edge (© Amgueddfa Cymru – National Museum Wales)



Figure 4.43. Soil Block 3, Feature 3 – as excavated in plan (© Amgueddfa Cymru – National Museum Wales)



Figure 4.44. Soil Block 3, Feature 3 – as excavated showing overlapping plates (© Amgueddfa Cymru – National Museum Wales)

very fragmentary, part of the rolled lower edge of plate 4 had survived, indicating another lower girth hoop (Figure 4.42).

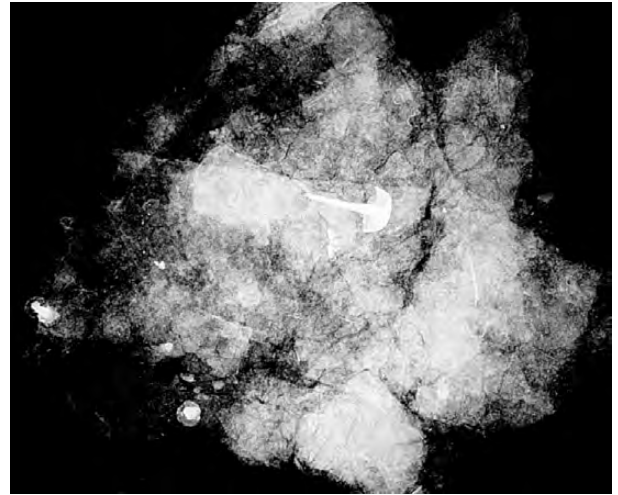


Figure 4.45. X-ray plate of Soil Block 3, Feature 3 (© Amgueddfa Cymru – National Museum Wales)

A few copper-alloy scales and their ties were discovered on the upper surface of Feature 2, but the x-rays revealed up to 20 or 30 lying beneath the iron plates. Soil Block 1 would appear to be a little too far away for the scales discovered in this block to have originated from the chamfron and it is possible that the scales identified in this Feature belonged to another piece of equipment.

#### Feature 3

This Feature was at the southern edge of the block and consisted of a mass of overlapping iron plates, all of which were mineralised and fragmentary (Figure 4.43). At least four layers of plates were identified and, although the edges of some of these can be recognised on the x-ray, it is not possible to provide estimates of their shapes or dimensions, or identify which part of a *lorica* they belonged to (Figure 4.44). The edge of one plate possibly was rolled, while the x-rays (Figure 4.45) revealed the presence of two copper-alloy studs (whose heads were c. 7 mm in diameter), as well as a large copper-alloy domed pin with a square shank (the head was approx. 15 mm in diameter and the length of the pin was c. 30 mm). At least two pairs of empty holes can be identified on the x-rays close to the edges of plates and one other hole appears to contain the copper-alloy shaft of its original fitting, while the outlines of two square iron roves are also visible.

#### Feature 4

Located towards the eastern edge of the block, this feature also consisted of a mass of overlapping iron plates, all of which were mineralised and fragmentary (Figure 4.46). At least two layers of plates were identified



Figure 4.46. Soil Block 3, Feature 4 – as excavated in plan (© Amgueddfa Cymru – National Museum Wales)



Figure 4.47. Soil Block 3, Feature 4 – as excavated showing overlapping plates (© Amgueddfa Cymru – National Museum Wales)

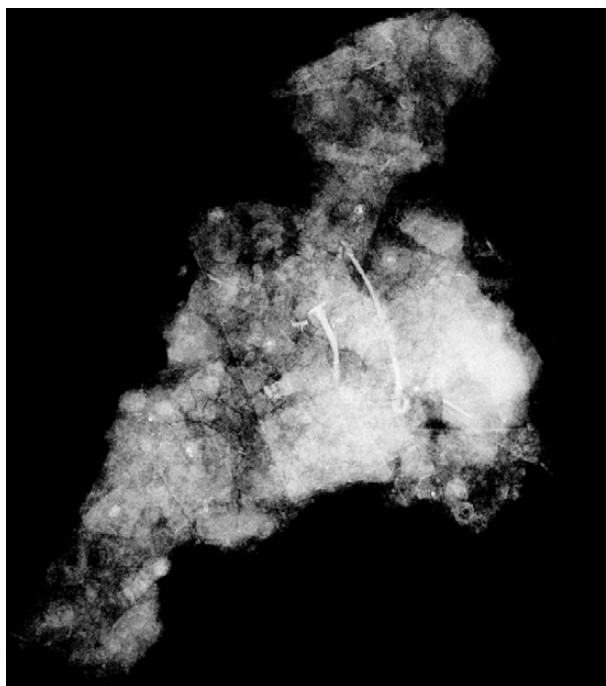


Figure 4.48. X-ray plate of Soil Block 3, Feature 4 (© Amgueddfa Cymru – National Museum Wales)

and, as with Feature 3, although these were certainly part of *lorica segmentata*, unfortunately it is not possible to provide estimates of their shapes or dimensions (Figure 4.47). The iron plates, however, sat directly on top of a thick layer of stony debris overlying the floor surface that contained animal bone, broken bricks, nails and other objects, suggesting a period of abandonment and decay before the *lorica* was deposited. The edge of one plate appears to be rolled and the x-rays revealed the presence of several copper-alloy studs (a large dome-headed example with a square shank was revealed close to the surface, whose head was c. 14 mm in diameter), and their washers (Figure 4.48).

#### Feature 5

The central part of the soil block included a curved iron plate and fragments of other heavily corroded iron plates, several of which were overlapping (Figure 4.49). The curved plate was lying on its side and other than



Figure 4.49. Soil Block 3, Feature 5 – as excavated in plan (© Amgueddfa Cymru – National Museum Wales)



Figure 4.50. X-ray plate of Soil Block 3, Feature 5 (© Amgueddfa Cymru – National Museum Wales)

damage to its uppermost edge, it would appear to be complete. No fittings were attached but its curvature suggests either a shoulder plate or, more likely, a girth hoop. Beneath this was another narrow plate that was broken in several places, but whose preserved edges indicate a width of c. 68 mm (Figure 4.50). The x-ray also reveals the presence of further fragmentary iron plates, an iron ring attached to an iron split-pin, a second loose iron split-pin and a large copper-alloy stud. Unlike other plates in this block, there are few signs of holes for fittings, the fittings themselves, or the washers and roves that would have secured them in place.

#### 4.3.3 Other Soil Blocks containing iron plate

Numerous other soil blocks contained the remains of iron plate. Although some of these were almost certainly from *lorica segmentata*, in several cases it was not possible to determine the shape or function of the original objects that might have derived from this type of armour.

##### Soil Block 4

This small soil block consisted of at least two layers of fragmentary iron plates, an iron nail and a copper-alloy sheet. After lifting, the block was inverted and excavated from the bottom upwards, revealing that the copper-alloy sheet had an obtuse trapezoidal shape and was decorated with a Capricorn within a right-angled trapezoid panel (RA 284; Figure 4.51). The decorative scheme was achieved with closely-spaced small punch impressions and scored lines, while the presence of broad, possibly enamelled, borders on its upper, lower and right-hand sides suggests the sheet had been cut down from a larger object (Figure 4.52). The sheet was found face down beneath at least one iron plate and it is likely that it had been attached to the plate, perhaps with rivets through holes along its edges. The plates in this block were corroded and highly fragmented and the x-rays did not indicate the presence of copper-alloy fittings, holes, roves or other attachments noted on identifiable pieces of *lorica* from Room 2. Nevertheless, the presence of so many pieces of body armour from the room suggests that the block may well have contained the remains of a decorated breastplate.

##### Soil Block 5

This soil block consisted of the fragmented remains of a single rectangular iron plate, the bottom half of which survived in reasonable condition (RA 377; Figure 4.53). The left long side and the bottom were mostly undamaged and the corner where these sides met was rounded. Vertical ridges ran along the sides of the plate, while another ridge along the bottom divided the face of the plate into a large central panel and narrower



Figure 4.51. Soil Block 4 - as excavated (inverted)  
(© Amgueddfa Cymru - National Museum Wales)



Figure 4.52. Soil Block 4 - Capricorn decorated sheet  
(© Amgueddfa Cymru - National Museum Wales)



Figure 4.53. Soil Block 5 - *lorica* breastplate (RA 377) after conservation (photo: Mark Lodwick © Cardiff University)

panels along the three surviving sides. The right edge was more damaged but was pierced with three holes, probably originally arranged in pairs (the likely fourth hole would have been located where the plate had been broken), one of which still contained the remains of its iron rivet. A small square aperture measuring 7 mm by 7 mm on the left side is most likely a slot through which a turning pin or other attachment would have passed to join two plates together. The x-ray suggests that the left and right long panels could have been reinforced with iron strips on the plate's underside, which were perhaps fixed with rivets (Figure 4.54). It is likely that this is the left breastplate from scale armour (*lorica squamata*).

#### Soil Block 6

Adjacent groups of artefacts, that originally might well have been joined, were lifted in this soil block. The iron was fragmentary and highly mineralised, but x-rays indicate that the main part contained at least one large rectangular plate next to incomplete narrower plates, some of which had been stacked together (Figure 4.55). The x-rays indicate two holes close to the edge of one of the narrow plates and a possible hole with a rove along the possible side of the larger plate. A coin of Carausius was found between the lowest narrow plates stacked together, while part of an enamelled crescentic buckle protruded from the same part of the soil block (Figure 4.56).

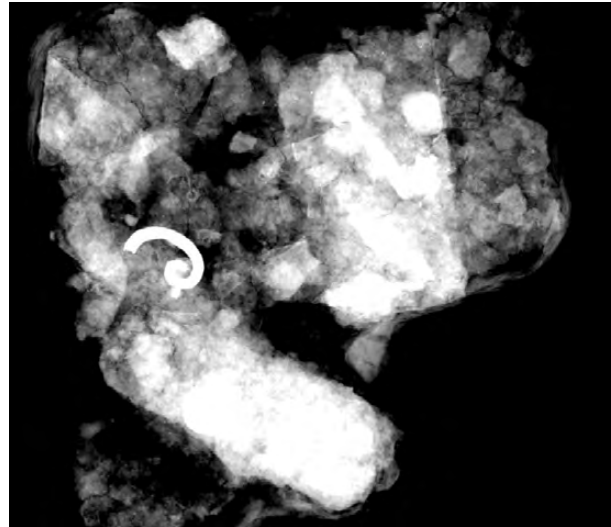


Figure 4.55. X-ray plate of Soil Block 6 (© Amgueddfa Cymru – National Museum Wales)



Figure 4.56. Soil Block 6 – buckle RA 191 in situ (© Amgueddfa Cymru – National Museum Wales)

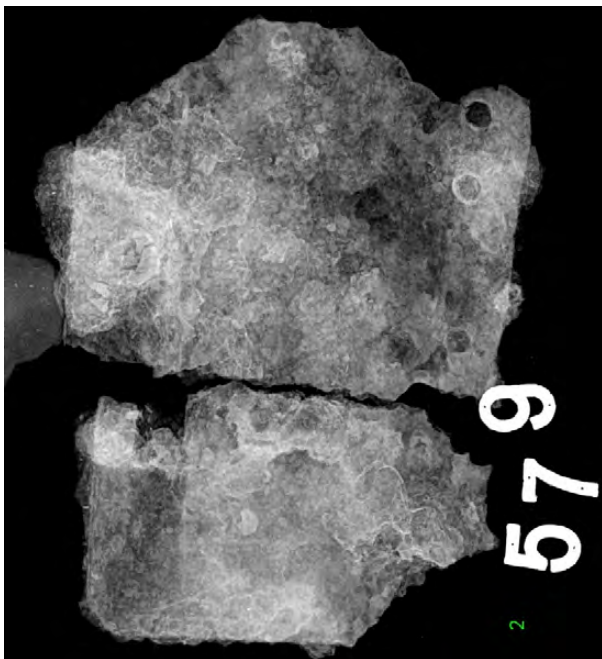


Figure 4.54. X-ray plate of *lorica* breastplate (RA 377) from Soil Block 5 (© Amgueddfa Cymru – National Museum Wales)

#### Soil Block 7

Among a stack of very fragmentary and mineralised narrow iron plates, the x-ray showed what appeared to be a bent nail. Conservation, however, revealed that it is possibly an incomplete iron swan-necked fastener (Figure 4.57), an object that is most commonly associated with mail armour (*lorica hamata*).

#### Soil Blocks 8-12

These five soil blocks contained fragmentary and often mineralised iron plates, some of which included surviving edges, roves and rivet holes (Figures 4.58 and 4.59). All of these are likely to have derived from *lorica segmentata*. A narrow plate in Soil Block 12 was 51.5 mm wide, while a second incomplete plate from the same block with four closely-spaced holes may well have been where a hinge plate had been attached (Figures 4.60 and 4.61).

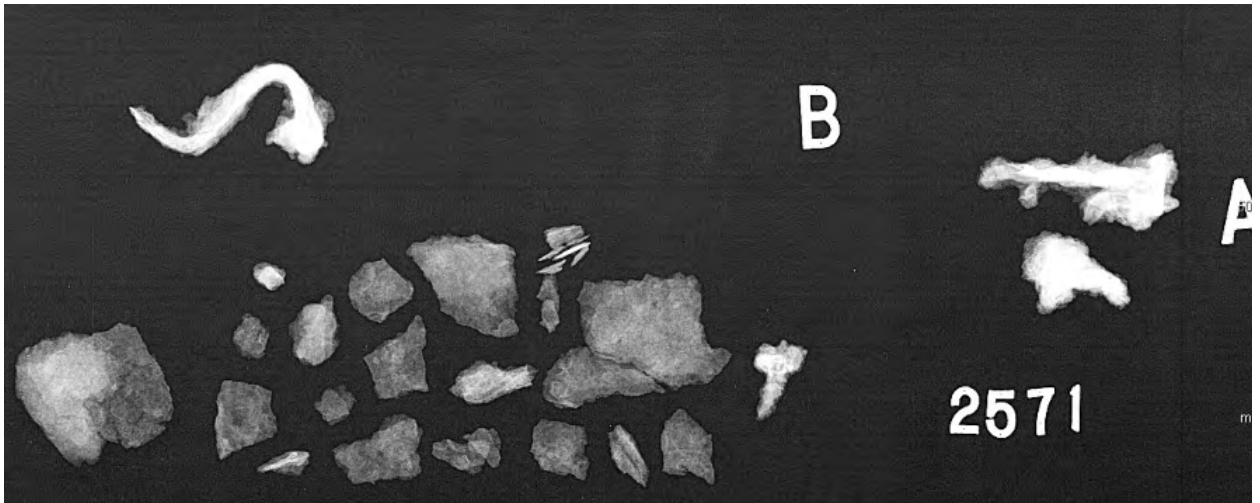


Figure 4.57. X-ray plate of Soil Block 7 post-excitation (© Amgueddfa Cymru – National Museum Wales)

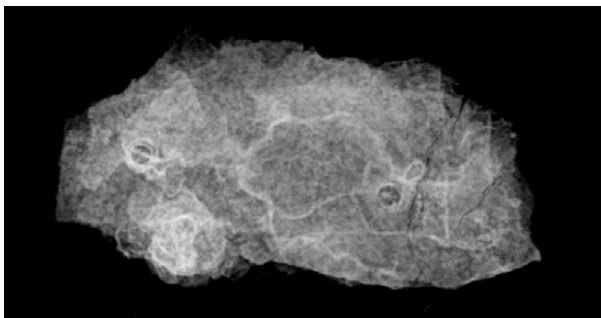


Figure 4.58. X-ray plate of Soil Block 8 (© Amgueddfa Cymru – National Museum Wales)



Figure 4.59. Soil Block 10 – as excavated (© Amgueddfa Cymru – National Museum Wales)

#### Soil Blocks 13-15

Three soil blocks contained narrow iron plates that appear to have been stacked on top of one another. These are all fragmentary and mineralised, but

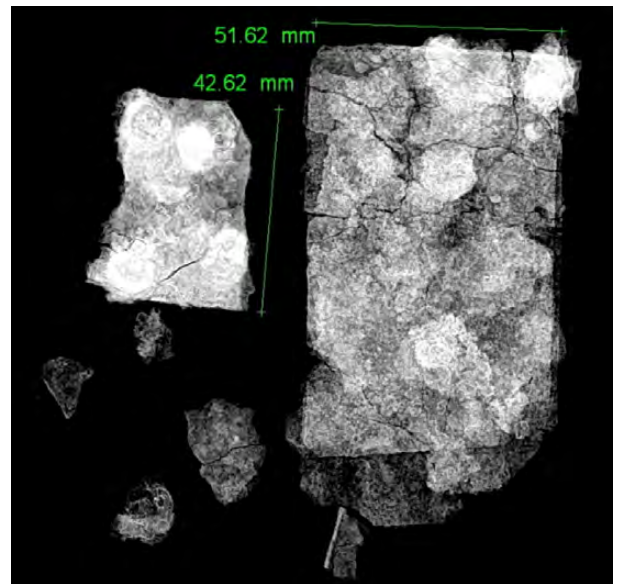


Figure 4.60. X-ray plate of Soil Block 12 (© Amgueddfa Cymru – National Museum Wales)

the combination of x-rays and micro-excavation demonstrate that these are derived from *lorica segmentata*.

Soil Block 13 included at least seven narrow plates that had mostly survived in reasonably intact condition, one of which had a rolled edge while another three were slightly curved and had been stacked together (Figures 4.62 and 4.63). It was not possible to estimate any of these plates' lengths, but their widths were measured as 46 mm, 47.5 mm, 63 mm (2), 64 mm (2) and 65 mm (the stacked curved plates were 46 mm, 47.5 mm and 64 mm wide). The x-rays showed that several of the plates had holes or pairs of holes on their long edges (some of which still contained copper-alloy rivets), while remnants of two copper alloy plate-like fittings



Figure 4.61. Soil Block 12 – 1st plate as excavated  
(© Amgueddfa Cymru – National Museum Wales)

were found attached to two of them, possibly from hinges. Also, a large copper alloy flat-headed stud with the remains of its washer was found in-between two incomplete plates on the edge of the soil block (Figure 4.64).

At least three long narrow iron plates were found stacked together in Soil Block 14. These were almost completely mineralised, but it was possible to measure their widths from the x-rays (45 mm, 49 mm and 62 mm, Figure 4.65). Although the plates were flat when excavated, it appears that at least two were originally curved and a copper alloy tie-ring was revealed on the x-ray lying towards the end of one of them (Figure 4.66). The poor condition of the iron meant that no holes or rivets could be identified on the x-rays, but a copper-alloy stud demonstrates that fittings had been attached to them.

Soil Block 15 consisted of two or three layers of very fragmentary and mineralised iron narrow plates. One of the plates had a rolled edge, while the x-rays revealed the presence of a copper alloy tie-ring and a small stud (Figure 4.67).

#### Soil Blocks 16-23

A further eight soil blocks contained fragmentary and mineralised iron plates that were possibly elements from *lorica segmentata*. In several cases the plates were stacked together like Soil Blocks 13-15 and some appeared to be curved (Block 17), while x-rays suggest that others had edges.



Figure 4.62. Soil Block 13 – stack from above (© Amgueddfa Cymru – National Museum Wales)



Figure 4.63. Soil Block 13 – stack from side (© Amgueddfa Cymru – National Museum Wales)



Figure 4.64. Soil Block 13 – stud being excavated (© Amgueddfa Cymru – National Museum Wales)

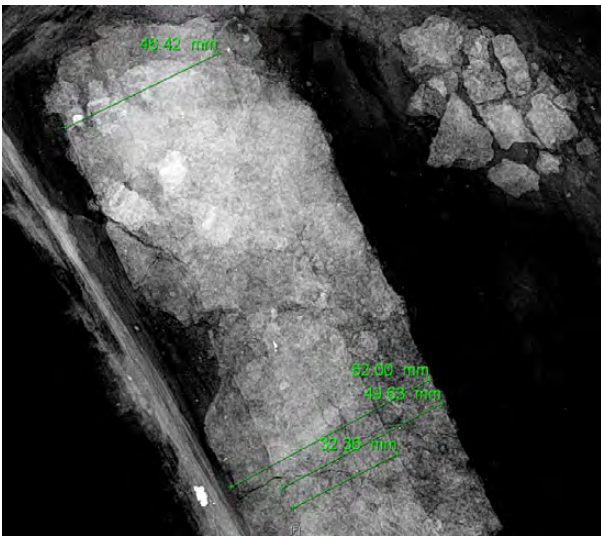


Figure 4.65. X-ray plate of Soil Block 14 (© Amgueddfa Cymru – National Museum Wales)

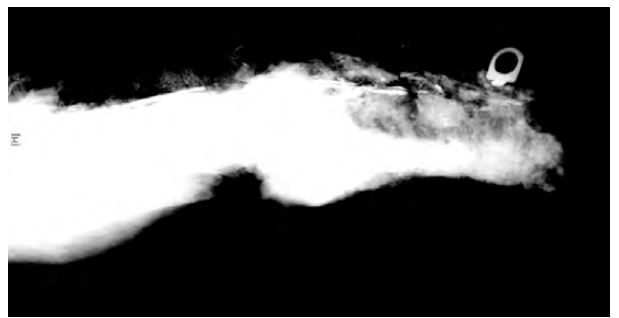


Figure 4.66. X-ray plate of Soil Block 14 showing tie-ring (© Amgueddfa Cymru – National Museum Wales)

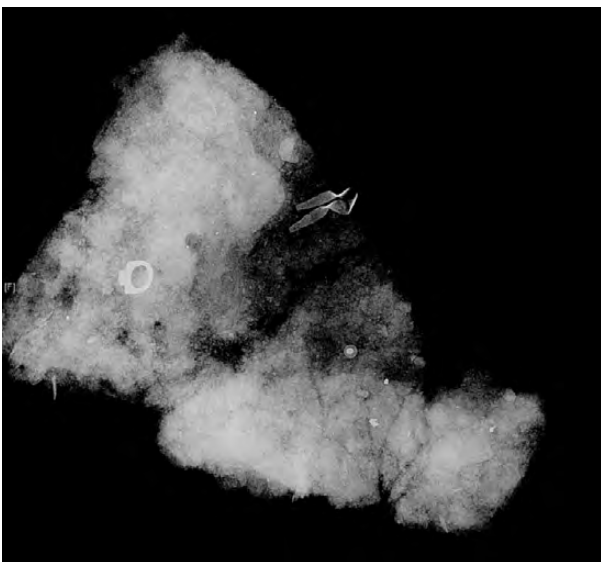


Figure 4.67. X-ray plate of Soil Block 15 showing tie-ring (© Amgueddfa Cymru – National Museum Wales)

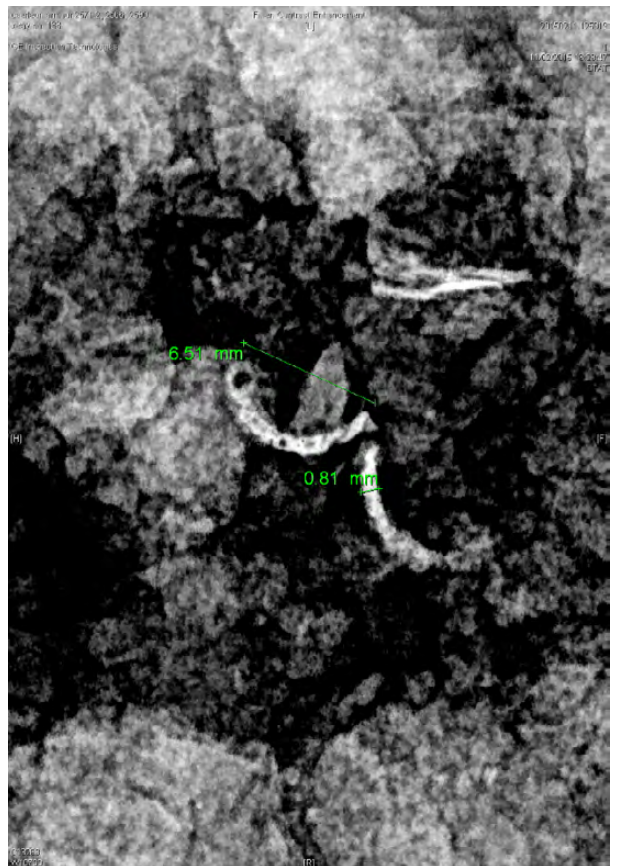


Figure 4.68. X-ray plate of Soil Block 16 showing copper-alloy twisted object (© Amgueddfa Cymru – National Museum Wales)



Figure 4.69. Soil Block 38 – 2 bent iron plates as excavated  
(© Amgueddfa Cymru – National Museum Wales)

The x-ray of Soil Block 16 revealed a small but broken, possibly penannular, object of twisted copper-alloy wire, one terminal of which was fashioned into a loop (Figure 4.68). The object was encased in very hard iron corrosion products, but it was possible from the x-rays to estimate that the wire was c. 0.8 mm thick and that the objects would have had a diameter of approximately 6.5 mm.

#### *Soil Blocks 24-36*

Highly mineralised fragments of iron plates were found in another thirteen soil blocks. Their fragile conditions meant that most could not be fully excavated and identifying the objects they contained relied mostly on x-rays. It is possible that the iron plates were derived from *lorica segmentata*, but this is not certain as no characteristic edges, holes, rivets, roves or copper alloy attachments could be positively identified. Soil Block 24 also contained a *denarius* of Septimius Severus.

#### **4.3.4 Other Artefacts from Soil Blocks**

##### *Soil Blocks 37 and 38*

Only two soil blocks produced objects that definitely were not originally part of *lorica segmentata*. Soil Block 37 contained a spearhead (RA 365), while Block 38 consisted of two narrow iron plates bent at right-angles and placed facing one another to form an approximately 6 cm square shape, whose purpose is unclear (Figure 4.69).

**4.4 Building Fabric**

**4.4.1 Architectural Stone**

The excavations produced a small assemblage of shaped and sculpted stones that most likely derived from the legionary store building. The four most important pieces are described below.

*Architectural Stone 1* (Figure 4.70/1)

Moulded limestone block, probably a corner (RA 569).

Length: 203 mm, Width: 191 mm, Thickness: 109 mm.

Fragment of a larger block, consisting of at least three stepped bands forming a right-angle corner. Surface of the block is coarse as if unfinished or damaged. The corner projects c. 30 mm, with the wider bands ascending / descending in stepped fashion, each c. 30 mm wide and high. Possibly from the cornice of an ornate entablature, perhaps a corner bracket that projected underneath the cornice's corona (Blagg 2002, 64-8).

*Architectural Stone 2* (Figure 4.70/2)

Moulded limestone block (unstratified)

Length: 610 mm, Width: 235 mm, Thickness: max. 87 mm

Single block broken into three conjoining pieces. The uppermost edge survives on the largest fragment, while at least one end is also present. The main face of the block is c. 190 mm deep with a slightly convex profile, so that the stone is thickest towards the bottom than the top. The block's outer edge is damaged but would have consisted of at least two narrow and shallow steps or bands. Possibly part of a stylobate, a door or window frame, or a cornice.

*Architectural Stone 3* (Figure 4.70/3)

Moulded limestone block (C3023)

Length: 230 mm, Width: 115 mm, Thickness 92 mm

Single block of oolitic limestone whose original ends and lower edge survive relatively undamaged. The outer face of the block was at least 60 mm deep, with two steps or bands forming the lower part. The upper edge of the first step is cut at right-angles, whereas the bottom edge curves into the deeper and narrower second step. Possibly part of a cornice, or less likely from a stylobate, or a door or window frame.

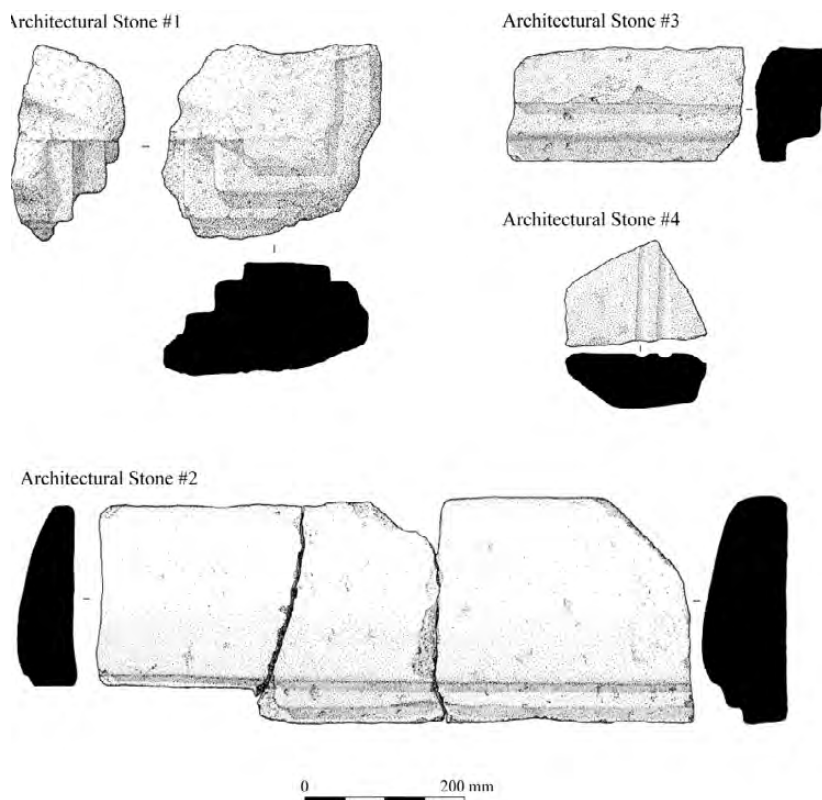


Figure 4.70. Architectural Stonework (1-4)

*Architectural Stone 4* (Figure 4.70/4)

Incised Old Red Sandstone block (C3032).

Length: 159 mm, Width 104 mm, Thickness: 60 mm

Fragment of a sandstone block with a flat surface into which two parallel straight grooves have been cut approximately 10 mm apart. The incised grooves are both U-shaped in profile and approx. 15 mm wide and 5 mm deep. Patches of orange staining in one of the grooves is perhaps evidence that it had been highlighted in red pigment. Possibly a decorated frame for a door or window, or possibly a border for a larger panel (inscription?).

#### 4.4.2 Ceramic Building Materials (CBM)

Almost six tonnes of CBM were recovered during the excavations, the distribution of which from the various rooms of the store building is shown in Table 4.22. The Priory Field CBM assemblage predominantly consisted of broken roof tiles (particularly *tegulae*, many of which bore legionary stamps), with far smaller quantities of bricks and box flue-tiles. The discussion in section 4.1 noted that roof tile was recovered mainly from post-Roman Phases 5-7 (see Table 4.9), while CBM from the Roman-period occupation is concentrated in layers associated with the store building's dereliction and destruction (Phase 3, although only in significant quantities from Rooms 2 and 7). Determining whether or not these rooms' CBM assemblages represent semi-complete collapsed roofs is difficult, but the fact that tile and, to a lesser extent, brick sealed the interiors of Rooms 2 and 7 with their contents, indicates there had been minimal removal of this material beforehand

for recycling or clearance, and also that the collapse is likely to have been a sudden unexpected event.

The near-total absence of roof tiles from Rooms 1, 3, 5 and 6 suggests that these rooms' roofs had been either dismantled, or thoroughly robbed or cleared. Deliberate dismantling of the spaces and rooms to either side of the entranceway appears the most likely explanation, suggesting a more controlled demolition of the central part of the building that could have taken place before or after the partial collapse in Rooms 2 and 7. The presence of so much Roman roof tiles in modern Phases, however, demonstrates that some of the roof of the Roman building was reused on later structures (although the robbing of masonry walls and foundations would also have brought much CBM to the surface).

#### 4.4.3 Nails

The distribution of the 2,801 fragments of nails (very few complete examples were found), is shown in Table 4.23 (see also the discussion in section 4.1). Many thousands of these objects must have been used in the store building's fabric and its internal fixtures and fittings and, likewise, in the medieval buildings too. The excavated assemblage consisted of nails of different sizes that could have performed a variety of functions, although in almost all instances they were very corroded and it is not possible to be certain if they were manufactured and used in the Roman period or later. Eighty percent of the recovered nails came from post-Roman Phases 4 to 7, but as with the roof tile, some of these are likely to have been redeposited during the robbing of masonry walls and foundations.

Table 4.22 Distribution of Ceramic Building Materials from the Priory Field store building (by weight in kilogrammes)

Area	TEGULAE		IMBRICES		BRICKS		BOX FLUE	
	No.	Weight (kg)	No.	Weight (kg)	No.	Weight (kg)	No.	Weight (kg)
Room 1	28	18	8	3	1	1.5	0	0
Room 2	728	358.5	120	31.5	38	25	0	0
Room 3	4	2	1	0.5	0	0	0	0
Room 4	852	458.5	125	32.5	28	10	0	0
Room 5	24	11.5	9	2.5	1	2	0	0
Room 6	7	5	10	4.5	0	0	0	0
Room 7	305	220.5	163	59.5	6	5	1	0.5
Area A	6441	3101	1622	473.25	367	236	11	4.75
Area B	694	448.5	264	110	21	26.5	1	1
Yard	192	82	39	11.5	11	7	0	0
<b>Total</b>	<b>9275</b>	<b>4705.5</b>	<b>2361</b>	<b>728.75</b>	<b>473</b>	<b>313</b>	<b>13</b>	<b>6.25</b>
<b>Total %</b>		<b>82%</b>		<b>13%</b>		<b>5%</b>		<b>0.1%</b>

Table 4.23 Distribution of iron nails from the Priory Field store building

PHASE	ROOMS / AREAS											Total	Total %	
	1	2	3	4	5	6	7	Yard	A	B	?			
0i				5									5	0%
0ii					2	6							8	0%
1i											1		1	0%
1ii	27	1		43	1	33		5			1		111	4%
2	54	41	44	39				18	2				198	7%
3	14	38		68	7	32	87		11				257	9%
4		23							105	30			158	6%
5									183	395			578	21%
6 & 7									1404	54			1458	52%
u/s											27		27	1%
<b>Total</b>	<b>95</b>	<b>103</b>	<b>44</b>	<b>155</b>	<b>10</b>	<b>71</b>	<b>87</b>	<b>23</b>	<b>1705</b>	<b>479</b>	<b>29</b>		<b>2801</b>	<b>100%</b>
<b>Total %</b>	<b>3%</b>	<b>4%</b>	<b>2%</b>	<b>6%</b>	<b>0%</b>	<b>3%</b>	<b>3%</b>	<b>1%</b>	<b>61%</b>	<b>17%</b>	<b>1%</b>		<b>100%</b>	

Rooms 1, 4 and 6 produce the most nails from the construction deposit levels (Phase 1), while very few came from Room 5 at any period of time. This room is thought to have been a stairwell, in which case either any staircase was constructed without using nails, or it was very thoroughly recycled. As with finds of roof tile, nails from the dereliction and destruction of the store building are concentrated in Rooms 2 and 7, which is likely to have been caused by the collapse of the roof into these rooms.

#### 4.4.4 *Opus Signinum, Tesserae and Wall Plaster*

Only Room 3 was provided with a concrete floor, which suggests this space was used for a different purpose than the other rooms. The floor was re-laid with a new concrete surface in Phase 2, which was damaged during the building's demise in Phase 3 when pieces of it ended up in Room 2. Of the 230 tesserae recovered from the excavation, 201 came from layers over the latest paved surface in the entranceway (Room 4). Most of these were large roughly-cut cubes of chalky white limestone that probably had been used to patch gaps or holes in the cobbles.

Much of the four kilogrammes of wall plaster recovered during the excavation originated from Phase 5 and it is likely that some of this material decorated the store building's rooms (Table 4.24). The smaller quantities from the store's rooms and spaces indicate that their walls were rendered, plastered and mostly painted with a whitewash or, less often, with shades of green

and pink/red. Room 3 produced 83% of the wall plaster from Phases 2 and 3, all of which was recovered from deposits below the second *opus signinum* floor (G2103). These contained quantities of animal bone, pottery and other finds that suggests this material was rubbish brought to the store to raise the level of Room 3's new floor. If so, much of the plaster from Phases 2 and 3 does not tell us about how Room 3, or the rest of the store, might have been decorated.

#### 4.4.5 *Window Glass*

238 sherds of blue-green cast window glass, almost certainly Roman, were recovered, in total weighing 780 g (Table 4.25). Like the other categories of Bulk Finds, window glass occurred most frequently in post-Roman layers and fills, while far less was recovered from deposits contemporary with the building and its destruction (for comparison, the much smaller assemblage of modern window glass was found exclusively in Phases 6 and 7). Nevertheless, the presence of these finds in all but one of the rooms suggests that glazed windows provided protection from the elements and light for the building's internal spaces (including the stairwell / Room 5). The entranceway (Room 4) produced the most window glass and it is tempting to imagine glazed openings into Room 3 (guard chamber) and Room 5 (stairwell), whose glass fell outwards into the entrance passage. Two fragments retain evidence for grozing (unpublished SF 212 and SF 311), where the grozing of the latter, larger, fragment was at a right-angle to the surviving cast edge of the pane.

EXCAVATION OF THE PRIORY FIELD STORE BUILDING IN CAERLEON

Table 4.24 Distribution of wall plaster from the Priory Field store building (by weight in grammes)

PHASE	ROOMS / AREAS											Total	Total %
	1	2	3	4	5	6	7	Yard	A	B	?		
0i												0	0%
0ii						4						4	0%
1i											5	5	0%
1ii		5				44						49	1%
2		46	805	10								861	21%
3					26	45	23		17			111	3%
4												0	0%
5									2116	525		2641	65%
6 & 7									372			372	9%
<b>Total</b>	<b>0</b>	<b>51</b>	<b>805</b>	<b>10</b>	<b>26</b>	<b>93</b>	<b>23</b>	<b>0</b>	<b>2505</b>	<b>525</b>	<b>5</b>	<b>4043</b>	<b>100%</b>
<b>Total %</b>	<b>0%</b>	<b>1%</b>	<b>20%</b>	<b>0%</b>	<b>1%</b>	<b>2%</b>	<b>1%</b>	<b>0%</b>	<b>62%</b>	<b>13%</b>	<b>0%</b>	<b>100%</b>	

Table 4.25 Distribution of Roman window glass from the Priory Field store building (by weight in grammes)

PHASE	ROOMS / AREAS											Total	Total %
	1	2	3	4	5	6	7	Yard	A	B	?		
0i												0.0	0%
0ii					12.5	6.5						19.0	2%
1i												0.0	0%
1ii	18.6			15.0		8.2						41.8	5%
2	6.1	16.6		10.8								33.5	4%
3				26.0	3.1		19.0					48.1	6%
4		4.1							247.0			251.1	32%
5									9.1	91.1		100.2	13%
6 & 7									269.8	15.8		285.6	37%
u/s											3.2	3.2	0%
<b>Total</b>	<b>24.7</b>	<b>20.7</b>	<b>0.0</b>	<b>51.8</b>	<b>15.6</b>	<b>14.7</b>	<b>19.0</b>	<b>0.0</b>	<b>525.9</b>	<b>106.9</b>	<b>3.2</b>	<b>782.5</b>	<b>100%</b>
<b>Total %</b>	<b>3%</b>	<b>3%</b>	<b>0%</b>	<b>7%</b>	<b>2%</b>	<b>2%</b>	<b>2%</b>	<b>0%</b>	<b>67%</b>	<b>14%</b>	<b>0%</b>	<b>100%</b>	

4.4.6 Other Building Materials

Eight rectangular sandstone roof slates were recovered from Phases 5, 6 and 7. A near complete example from (C419) was 206 mm tall, 139 mm wide and 13 mm thick,

with a large hole in the middle of its neatly cut semi-circular head. These must have come from one of buildings that occupied this part of Priory Field in the medieval period.

4.5 Ceramics

4.5.1 The Pottery (Peter Webster and Mark Lewis)

The Priory Field excavations yielded evidence for approximately 660 Roman vessels and some 300 medieval and post-medieval vessels in an assemblage weighing 79.6 kg, of which 4.2 kg (5.25%) was medieval and 3.9 kg (4.8%) was post-medieval. All pottery has been examined and is listed by context, fabric and type in the archive list. Quantification is by weight and sherd count. The archive list forms the basis for comments and the Catalogue below.

Chronology and Sources

A chronological overview of the material recovered is provided in Figure 4.71. The medieval and, particularly, the post-medieval assemblage contained many vessels represented by only a small number of small sherds, which tends to mask the total dominance of the Roman pottery. Even such a broad-brush overview as is provided on the chart shows some polarisation at either end of the Roman period. There is no evidence of pottery between the Roman and Norman periods, while both medieval and post-medieval material show peaks in deposition (in the thirteenth-fourteenth and eighteenth-nineteenth centuries). We may summarise the chronological evidence of the pottery as follows:

Phase 0i. Pre-store activity - original ground surface: Primary activity with very little pottery, but what there is would be suitable for the accepted date for the construction of the fortress in the mid-70s.

Phase 0ii Pre-store activity - clearance and levelling: The pottery is Flavian to Trajanic. The absence of Central Gaulish samian suggests that it does not post-date 100 and there is nothing that need be later than c. 90.

Phase 1i Construction of the masonry store building - foundation trenches, footings and walls: With the exception of some obvious intrusions, the small amount of pottery accords with construction starting c. 90-100.

Phase 1ii Construction of the masonry store building - levelling and floors: The pottery is predominantly Flavian and Flavian-Trajanic. The small amount of Central Gaulish samian could indicate that construction continued into the Hadrianic period but it seems more likely that these, with a very few later pieces, are intrusive. The suggested date of construction is, therefore, c. 90/100 - 110.

Phase 2 Occupation and alteration of the store: Overall, the pottery is late first / early second century to mid-third / early fourth century, but with polarisation at either end of this range. The military equipment in Room 2 was found with pottery covering the entire period.

Phase 3 Dereliction and demolition of the store building: There is sufficient late-third

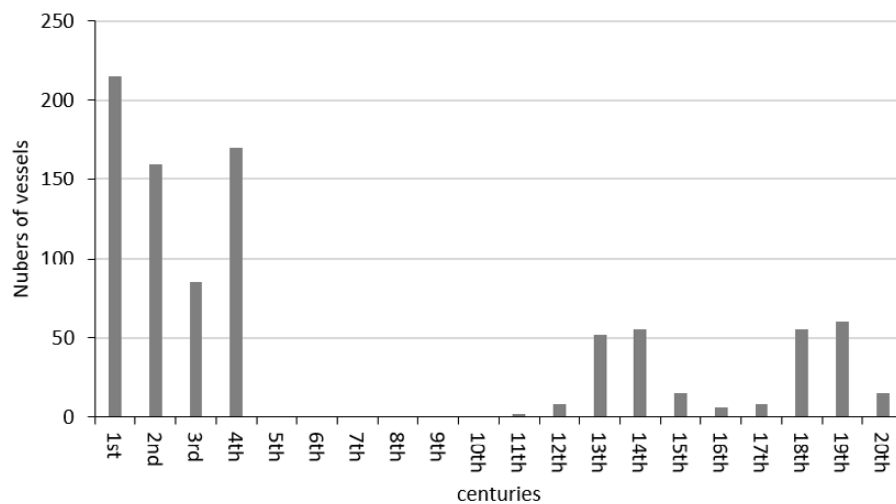


Figure 4.71. Chronological profile of the pottery from Priory Field

to fourth century pottery to suggest that demolition took place at this time. Although later stone robbing has increased the amount of potentially intrusive pieces, it is perhaps significant that the later Roman material appears to be earlier than the mid-/late-fourth century collection from Phase 4.

it is worth remembering that the period between the Roman and the Norman was largely aceramic in Wales and a building of this period cannot be ruled out.

Phase 4 Post-Roman masonry buildings: With surprisingly little intrusive material, this fairly small assemblage appears to be mid-/late fourth century (other finds include a coin struck 364-75, although radiocarbon dates indicate occupation between 430 to 600).

Phase 7. Modern activity: There is likely to have been continued stone robbing and other activity into the twentieth century and this is reflected in the latest ceramics present.

Phase 5 Wall robbing: Robber trenches inevitably contain a good deal of Roman pottery from adjacent levels. It seems likely that wall robbing extended from the demolition of the store (Phase 3 above) through into the modern period. The pottery contained in robber trenches would suggest that both the twelfth to fourteenth and the eighteenth to nineteenth centuries saw the most active stone robbing.

The basis for this summary will be found in the Catalogue below, with a more detailed discussion of the evidence from each Phase. First it will be useful to look at the chronological distribution of the Roman pottery in more detail (Figure 4.72), which reveals an interesting pattern. Clearly more pottery was deposited in the opening decades of fortress's history than at any other time. Equally clearly, there is a marked reduction in deposition in the second and especially the third centuries. A number of vessels certainly belong to the second half of the fourth century and these support the coin evidence in suggesting activity up to the 380s. This is a matter to which we shall return, but it is probably worth looking, first of all, at the samian ware which should, due to the greater precision with which it can be dated, help us to refine the earlier parts of the site's Roman ceramic profile.

Phase 6. Medieval and early-modern occupation: The most problematic element is the buildings, which produce mainly Roman material. Later pottery does appear including both medieval and post-medieval, but its small quantity makes it more likely to be intrusive. However,

*The samian ware*

Samian is not well represented at Priory Field. The overall distribution of forms divided by source and phase is shown in Tables 4.26 and 4.27. The range of forms is somewhat smaller than one might expect from the fortress, especially among vessel types common in

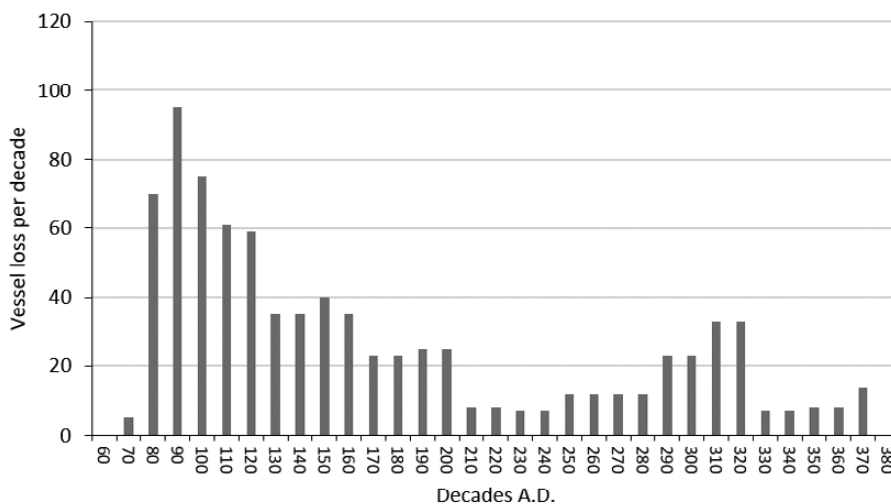


Figure 4.72. Chronological profile of the Roman pottery from Priory Field

FINDS CATALOGUES AND SPECIALIST REPORTS

Table 4.26 South Gaulish samian from Priory Field (vessels)

FORM	STRATIGRAPHIC PHASE										Vessels
	0i	0ii	1i	1ii	2	3	4	5	6	7	
15/17				1		1					2
18		1		7	3	1		1		1	14
18/31				1		2				1	4
18/18/31				1	1					1	3
23								1			1
27/27g		1		8	4	2	1	1			17
29				7							7
30				2	2						4
33					1						1
35			1	2		1					4
36				5							5
37		1		8	5	2	2	5		6	29
67				3							3
C.11				1		2				1	4
Ritt.1				1							1
Ritt.8		1									1
R12/C11		1									1
R13										1	1
<b>Total</b>		<b>5</b>	<b>1</b>	<b>47</b>	<b>16</b>	<b>11</b>	<b>3</b>	<b>8</b>	<b>0</b>	<b>11</b>	<b>102</b>

Table 4.27 Les Martres, Central and East Gaulish samian from Priory Field (vessels)

LES MARTRES-DES-VEYRE	STRATIGRAPHIC PHASE										Vessels
	0i	0ii	1i	1ii	2	3	4	5	6	7	
Form 27									1	1	2
Form 37									2	1	3
<b>CENTRAL GAULISH</b>	<b>0i</b>	<b>0ii</b>	<b>1i</b>	<b>1ii</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>Vessels</b>
Form 18/31									1		1
Form 18/31R									1		1
Form 31				1	1	1	1		1		5
Form 31R							2	2	2		6
Form 31/31R								1		3	4
Form 33					2		1		1		4
Form 36				1							1
Form 37				2			1		5		8
Form 38									1		1
Form 45						1		1		2	4
Form 79										3	3
<b>EAST GAULISH</b>	<b>0i</b>	<b>0ii</b>	<b>1i</b>	<b>1ii</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>Vessels</b>
Form 31R								1			1
Form 37						1					1
Form 72									1		1
Lud. Sb						1		1	2	1	5
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>4</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>18</b>	<b>11</b>	<b>51</b>

the second century. The four examples of the samian mortarium form 45 may, however, be noted. This form is rare in the fortress despite being well represented in the civil settlement (Webster 2013, Fig. 14.13). Most notable, however, is the predominance of South Gaulish samian (66%) when compared to the Central Gaulish samian (including Les Martres, 28%). Examples from Les Martres (exporting mainly c. 100-120) are noticeably small and, indeed, confined to levels much later than their period of use. The dominance of the products of South Gaul can be seen if we convey the date of each piece in chart form (Figure 4.73). This produces a pattern that is somewhat different from the norm for the fortress, most especially in the period c. 120-150, as can be seen by comparison with the profile of samian from Golledge's Field which is more typical of the fortress as a whole (see Figure 6.3.7 in Appendix 6.3.3, and Webster 2013, Fig. 14.4).

If we wish to get closer to the explanation for this variation from the norm, we need to look at the breakdown of the samian figures into individual phases in Tables 4.26 and 4.27. These make it possible to look at the pattern of deposition to either side of Phase 3, which saw the collapse and demolition of the store building. The pattern for South Gaulish pottery (imported into Britain up to c. 110) is much as one would expect, with the great majority concentrated in Phase 2 (associated with the construction and occupation of the store), and only about 33% of all South Gaulish vessels from later levels (i.e., Phase 3 and later). The pattern for the Central and East Gaulish wares is, however, totally different. Only seven vessels came from Phase 2 and a further four from Phase 3, while 40 (about 78% of all Central and East Gaulish samian from the site) originated from activity which must date from the late third century or later. These can hardly be residual in the sense that they derive from earlier levels on the site,

otherwise we would see more evidence for such vessels in the building. The most likely explanation for this odd pattern of distribution is that the material from the levels later than Phase 3 is not actually derived from the store, but was brought onto the site to be discarded from some other part of Caerleon. It is interesting to note that the Central and East Gaulish samian includes very few decorated sherds, but does include four examples of the mortarium form 45. This means that Priory Field produces more of the mortarium forms than any other fortress excavation except that Museum site (Zienkiewicz 1993a; Webster 2013, Appendix 14.1). Samian mortaria would, however, not be unexpected from a site in the civil settlement. Indeed, looking at the spread of later material from Priory Field one is reminded of the massive infill deposit over the culvert in the 'western vicus' excavated by Nash-Williams in the early 1950s (Museum Accession No. 54.389B). It could be that we are seeing here a similar levelling operation using material from somewhere in the civil settlement.

If we turn to the evidence of the remainder of the pottery we can summarise these by source and phase, as shown in Table 4.28.

#### *Other fine wares*

As we might expect from the tables above, fine wares other than samian belong to the beginning and end of the Roman period, with a marked dearth of those from the second and third centuries. It may be significant that, with the exception of South Gaulish samian and Oxfordshire red colour coated ware, none are particularly numerous. We find a number of pieces which belong to the very early days of the fortress, including Lyon colour coated ware, 'Pompeian red' ware and typically Flavian fine wares such as Terra Nigra and its, probably more local, derivatives (labelled

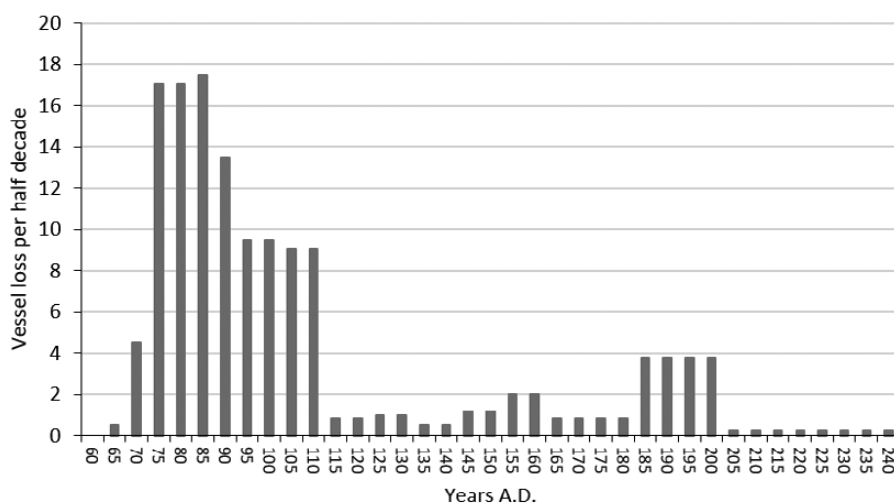


Figure 4.73. Chronological profile of the samian ware from Priory Field

FINDS CATALOGUES AND SPECIALIST REPORTS

Table 4.28 Numbers of pottery vessels from Priory Field by source and Phase

	STRATIGRAPHIC PHASE										Total	Total %		
	Oi	Oii	1i	1ii	2	3	4	5	6	7				
<b>SAMIAN</b>														
South Gaulish		5	1	47	16	11	3	8		11	102	15.2%		
Les Martres-des-Veyre									3	2	5	0.8%		
Central Gaulish				4	3	2	5	4	12	8	38	5.7%		
East Gaulish						1	1	2	3	1	8	1.2%		
<b>OTHER FINEWARES</b>	<b>Oi</b>	<b>Oii</b>	<b>1i</b>	<b>1ii</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>Total</b>	<b>Total %</b>	<b>14.1%</b>	
Lyon				2	1	1		1			5	0.8%		
Pomp. Red				3	1						4	0.6%		
Terra Nigra						1					1	0.2%		
TN type		1			1			1		1	4	0.6%		
Eggshell						2		2			4	0.6%		
Lezoux c.c.										1	1	0.2%		
Mosel cc.					1			1	1	1	4	0.6%		
Köln RC									1		1	0.2%		
Nene V.				1			1	2	1	2	7	1.0%		
Oxford c.c.					2	7	9	9	15	22	64	9.6%		
<b>CAERLEON WARE</b>	<b>Oi</b>	<b>Oii</b>	<b>1i</b>	<b>1ii</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>Total</b>	<b>Total %</b>	<b>4.5%</b>	
Mica-dust		1		1		1		1			4	0.6%		
White slip			?1	1	2			1	3		7	1.0%		
Sponged		1		2	1						4	0.6%		
Green glaze		1						2			3	0.5%		
Cln Ware				2	1	1		2	2		8	1.2%		
Cln RC				1			1		2		4	0.6%		
<b>OTHER LOCAL WARES</b>	<b>Oi</b>	<b>Oii</b>	<b>1i</b>	<b>1ii</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>Total</b>	<b>Total %</b>	<b>26.0%</b>	
Oxidised	1	7	1	20	7	7		3	3	9	58	8.7%		
Reduced	3	2		55	6	5	5	7	7	14	104	15.5%		
Cwt A-C		4									4	0.6%		
Caerwent D						4	2	1	1		8	1.2%		
<b>BRITISH COARSEWARES</b>	<b>Oi</b>	<b>Oii</b>	<b>1i</b>	<b>1ii</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>Total</b>	<b>Total %</b>	<b>22.4%</b>	
BB1		2	2	14	13	11	16	18	46	24	146	21.8%		
Late Calcite									2	1	3	0.5%		
Ver flagon				1							1	0.2%		
<b>MORTARIA</b>	<b>Oi</b>	<b>Oii</b>	<b>1i</b>	<b>1ii</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>Total</b>	<b>Total %</b>	<b>6.9%</b>	
G238				1		1	1		1		4	0.6%		
Verul.				2		1			1	1	5	0.8%		
Oxfd white				1	1	2	1	2	8	3	18	2.7%		
Oxfd red cc							1	3	1		5	0.8%		
LC1/EC2 Cln		1		2		1					4	0.6%		
Other local					1	1	1			1	4	0.6%		
SWWS				1		1					2	0.3%		
Cln Ware				1	2				1		4	0.6%		
<b>AMPHORAE</b>	<b>Oi</b>	<b>Oii</b>	<b>1i</b>	<b>1ii</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>Total</b>	<b>Total %</b>	<b>2.8%</b>	
Dressel 20							1	2	1	3	7	1.0%		

	STRATIGRAPHIC PHASE											Total	Total %	
	0i	0ii	1i	1ii	2	3	4	5	6	7	7			
D20 lid			1	2				1				4	0.6%	
Camul. 186				2	1			1	2	1		7	1.0%	
Carrot				1								1	0.2%	
OTHER FORMS	0i	0ii	1i	1ii	2	3	4	5	6	7	7	<b>Total</b>	<b>Total %</b>	<b>0.5%</b>
Lamps				1								1	0.2%	
Crucible			1	1								2	0.3%	
<b>Total</b>	<b>4</b>	<b>25</b>	<b>6</b>	<b>170</b>	<b>59</b>	<b>60</b>	<b>49</b>	<b>74</b>	<b>117</b>	<b>106</b>	<b>670</b>	<b>100%</b>	<b>100%</b>	

here 'TN type'). Also from the late first or perhaps early second centuries is eggshell ware (Greep in Zienkiewicz 1986b, 53) though the source of this is, as yet, unclear.

A variety of local fine wares are present, though in small quantities. The range at Caerleon is discussed briefly by Compton and Webster (Evans 2000, 200-1). Mica dusted ware, white slipped redware (used particularly for tazze), sponged (or 'marbled') ware and green glazed ware all seem likely to be products of local industries in the late first to early second centuries. They are, however, represented by only a few vessels at Priory Field. More notable is the dearth of Caerleon Ware. This is divided between 'Caerleon Ware', 'Caerleon Rough Cast' and 'Caerleon Ware mortaria' in the Table, but, even taken together, these amount to less than 2.5% of all finds, far short of the 16% observed in the Eastern Canabae (Evans 2000, 200, Table 12). The reason is clearly the general dearth of second century pottery from the store building. Caerleon Ware is generally dated c. 110-160/70 (Manning 1993, 256), and if we recall the samian profile with its dramatic drop in deposition c. 110 and the general absence of Les Martres pieces (imported mainly c. 110-120), then we see that the low number of Caerleon Ware products supports the general picture of a site which saw little deposition of pottery in the middle of the second century.

This pattern is also supported by the low numbers of Lezoux, Mosel and Köln colour coats and the absence of North Gaulish roughcast (even if the latter is never common at Caerleon where the rough cast beaker market was dominated by local products, at least from the early second century). Later colour coats are better represented with some Nene Valley pieces and a high number of Oxfordshire colour coats, although the great majority of these pieces are from post-Phase 3 levels and belong with the later levelling and occupation at the site post-dating the legionary store.

#### *Coarse pottery*

A range of oxidised and reduced fabrics was present. In the main, these have not been further subdivided. The majority of the oxidised wares will have been

manufactured locally, as has been observed elsewhere in connection with second century production (e.g., in Evans 2000, 200-1). The reduced wares include vessels that elsewhere would be classed as 'South Wales Reduced Ware' (Tomber and Dore 1998, 209), or 'South Wales greyware' (Evans 2000, 201) but, again, much will be local in manufacture. Two distinct fabrics, however, have been singled out:

'Caerwent Fabric A' is associated with early levels at Caerwent and may be a product of a kiln such as that excavated on the Pound Lane site. It will be discussed in the final report of the Caerwent Forum-Basilica excavation (Brewer forthcoming). The description given there is as follows:

"Typically the fabric is a pink to light buff in colour. In the break it is not smooth but examination under a lens reveals few visible inclusions. External surfaces appear to have been both smoothed and polished. Some examples show signs of a surface wash, a fine white coating which produces an off-white colour usually on the outside of the vessel. A range of vessels in light grey appear to be in the same fabric but to have been fired in a reducing atmosphere. The forms produced in this fabric include a number of derivatives of the common samian forms. Both the forms produced and the fabric itself seems to ally this production with that produced for the military in the early years of the conquest."

'Caerwent Fabric D' belongs to the later Roman period and, although also recognised at Caerwent, may well be derived from elsewhere in the Lower Severn/Bristol Channel area. It has affinities, for instance, with one of the later fabrics found at Gloucester. As with Caerwent Fabric A, it will be discussed in the Caerwent Forum-Basilica report. The description given there is as follows:

"The fabric is reduced with a sandy filler. The surface tends to be dark grey, although lighter surfaces are possible. The break is mid- to dark grey. Smoothing or burnishing of the external surface or of both surfaces brings out the micaceous nature of the clay and produces a finish which can sparkle in the light.

Imitations of Black burnished ware forms, particularly, but not exclusively, jars are common.”

It will be noted that, with the exception of Caerwent Fabric D, the mainly local oxidised and reduced ware industries tend to be more important in earlier phases than later. This is probably due to the fact that, from the second century onwards, Black-burnished ware came to dominate the kitchen wares of south Wales. That ware is, indeed, present on the Priory Field site from the start and early pieces include the so-called ‘war cemetery bowls’ recognised at Caerleon and elsewhere by Greep (Zienkiewicz 1986b, 56-7). However, what was a trickle in the Flavian became a flood by the Antonine period and the ware established a dominance in the region by the late second century, which it maintained until the end of the Roman period. On the Priory Field site the majority of the Black-burnished ware belongs to the later third and fourth centuries (only 42 or 29% of all BB1 vessels come from Phase 3 or earlier), suggesting that much of the ware was brought in with later refuse and levelling deposits (see above). Other coarse wares classed here as ‘British’ need only a brief mention. A single Verulamium flagon probably found its way to Caerleon as a make-weight in a consignment of mortaria. A late calcite-rich fabric seems related to the South Midlands Calcite Gritted pottery which tends to be a marker for later fourth century activity in south Wales.

With the exception of the white mortaria of the later third and fourth centuries from the Oxford region, all mortaria are scarce. Even among the late first and early second century assemblage there are no more than the odd example of Gillam 238 type mortaria from North Gaul, Verulamium mortaria and the white-slipped mortaria suggested as a local product by Zienkiewicz (1992a, 92-4). Caerleon Ware mortaria are particularly notable by their general absence (only four vessels noted). Apart from a few vessels also likely to be local in origin, the only other mortarium fabric noted was South-West White Slip (SWWS, cf. Hartley in Manning 1993, 415-8).

Amphorae were generally poorly represented in the assemblage. Only substantial fragments or rims have been noted in the Table but this seems a fair reflection of the number of vessels present. Only the olive oil container (Dressel 20), and the fish products one (Camulodunum 186), were noted with a few possible small sherds of South Gaulish wine amphora and one possible carrot amphora sherd. Lids for Dressel 20 amphorae have been noted separately but may, of course, come from the same vessels as the body sherds.

### *Discussion*

Overall, the Priory Field assemblage is far from ‘normal’ for a Caerleon site, but more in its chronological variation than in terms of its function. We should perhaps look at it in two parts; material belonging to the construction and occupation of the store, and material from later levels. As we have seen, deposition of pottery associated with the store building shows a preponderance of late first and early second century pieces. After about 110, deposition declined rapidly, before levels associated with demolition in the later third or early fourth centuries. Even within the later first and early second centuries, a dearth of amphorae suggests that this was not an area for storing bulk liquids, while a general absence of mortaria confirms that neither was it an area for food preparation.

The assemblages from later phases seem less remarkable. It has already been suggested that some of this material was brought onto the site as refuse from elsewhere and this seems particularly likely for those deposits containing the majority of the Central Gaulish samian (which is unlikely to have survived in use up to its deposition in Phase 4 and later). Pottery associated with the later Roman phases would be appropriate for domestic activity, but how much of that activity was on the Priory Field site itself and how much the source of rubbish from elsewhere, later imported to its position as found, is impossible to determine.

It should be emphasised that interpretation of deposition patterns depends very much on the contexts from which pottery is derived. There is no necessary correlation between a decline in the deposition of pottery and a decline in the usage of a building. Floors swept clean will produce no pottery but actually denote activity not its absence. The later history of the site included at least two building phases, both of which incorporated material rich in late Roman pottery among surfaces (although some or all of this is likely to be from the largely aceramic post-Roman period).

### *Medieval and post-medieval pottery.*

No attempt has been made to divide the post-Roman pottery by Phase in Table 4.29, although where pieces appear in phases up to Phase 6 they are noted as relevant in the Catalogue below. In chronological terms, there is very little material which appears to be eleventh-twelfth century, rather more which seems to be twelfth-fourteenth century and little late medieval and early post-medieval. The latest material is predominantly seventeenth-nineteenth century.

## EXCAVATION OF THE PRIORY FIELD STORE BUILDING IN CAERLEON

Table 4.29 Medieval and Post-Medieval pottery from Priory Field

MEDIEVAL / Fabric class	FABRIC / DATE	Max. vessels	Class total vessels	Class Total %
Cooking Pot	11th - 12th century	3		
	12th - 13th century	9		
	13th -15th century	28	40	13.0%
Glazed (mainly jugs)	13th - 14th century	45		
	13th - 15th century	42		
	14th - 16th century	14	101	32.9%
Imports	Saintonge	13	13	4.2%
Glazed ridge tile		12	12	3.9%
POST-MEDIEVAL / Fabric class	FABRIC / DATE	Max. vessels	Class total vessels	Class Total %
Early PM glazed	16th century Black glaze	4		
	Early PM green glazed	2	6	2.0%
Tin glaze		6	6	2.0%
Mottled Brown		4	4	1.3%
Slipware	Press-moulded Staffs/Bristol	2		
	Staffs/Bristol slipware	10		
	Local trailed slip	6	18	5.9%
Later PM glazed (usually in red fabric)	PM Brown & green glazed	17		
	19th century brown glaze	13		
	19th century Black glazed	2	32	10.4%
N. Devon	Gravel tempered	4		
	Sgraffito	3	7	2.3%
Stoneware	White salt-glazed	8		
	Westerwald	3		
	17th - 18th century brown	2		
	19th century stoneware bottles etc.	9	22	7.2%
Cream & pearlware	Creamware	3		
	Banded creamware	2		
	Pearlware	2		
	Mocha	1	8	2.6%
White	Transfer printed	10		
	White	10		
	Painted white	1		
	Sponged	1	22	7.2%
Porcelain		3	3	1.0%
Majolica	19th century	1	1	0.3%
Clay pipe		1	1	0.3%
Redware	Post-Med	9	9	2.9%
Red earthenware	Modern tile	1		
	Flowerpot	1	2	0.7%
<b>Total</b>			<b>307</b>	<b>100%</b>

Whether these twelfth-fourteenth century and seventeenth-eighteenth century 'peaks' in deposition reflect the periods when Priory Field was under plough, or if they are the result of different rubbish disposal regimes is unclear.

It may be noted, however, that the medieval material includes only a few glazed roof tile fragments such as one might expect from a medieval building of any status. The majority of the collection consists of cooking pots and glazed jugs, although the markedly higher proportion of jugs may be significant in suggesting an assemblage more related to the table than the kitchen. The cooking pots are likely to be mainly local in manufacture and probably need to await sites with a stratified medieval sequence before they will merit further analysis. The jugs appear to be mainly in the Bristol tradition, although there is also a grey fabric from some other, and presently unknown, source. A number of pieces of the fine imported Saintonge fabric were noted, including both the plainer *Pégaux*, the monochrome green glazed jugs and a few small fragments of the polychrome decorated jugs. The absence of medieval rubbish pits probably reinforces the view that the collection is more likely to be derived from the spreading of middens than from residential occupation.

The post-medieval pottery shows a wide range of everyday wares mainly spanning the period when pottery manufacture was gradually industrialised (so mid-eighteenth century onwards). The range itself is impressive, particularly in the period from the late seventeenth century. There are a number of examples of the slipware industry usually associated with Staffordshire but also imitated in other centres. Barton suggested a Bristol source for some of this 'decorated yellow slip ware' (1961, especially Fig. 2) and the difficulties of separating Bristol and Staffordshire products in the South-West region is recognised by Allan (1984, 148) and his use of the term 'Staffordshire/Bristol' to describe this ware has been followed here. We might note, however, that the discovery of potteries elsewhere producing very similar slipware, for example in Leeds (Allday and Millard 2009), could point to a multiplicity of slipware sources yet to be identified.

We might equally expect multiple local sources for some of the coarser post-medieval glazed wares. The gravel-tempered and sgraffito wares of North Devon are listed separately but the titles 'local slipware' and 'nineteenth century green, brown and black glazed wares' undoubtedly cover a variety of sources, both in the Monmouthshire/Glamorgan coastal region and, probably, in the corresponding area across the Bristol Channel. The stonewares will probably all have been imported into the region, although European products appear to be limited to a few pieces of Westerwald stoneware. That identified as nineteenth century stoneware was probably brought in as containers, though none were sufficiently complete to give a clue as to their contents.

The creamware, pearlware and whitewares are unexceptional for late eighteenth and nineteenth century sites. Some might be products of local industries such as that at Swansea, but others will undoubtedly derive from the massive output of the Staffordshire industry at this time. Although the range of post-medieval pottery is impressive for such a comparatively small area, it must be noted that sherd size is mainly small and that it was rare for any single vessel to be represented by more than a couple of sherds. This again suggests the spreading of middens as the source of the material. Nevertheless, it gives an interesting insight into the buying habits of the inhabitants of Caerleon in the last three centuries.

It may be noted that many post-Roman contexts contained a mixture of Roman, medieval and post-medieval material; hardly surprising given the extent of wall robbing and the closeness of structural remains to the topsoil, combined with the effects of stock grazing on fields rendered soft and muddy by the Welsh weather. On its own, the pottery pattern suggests that the medieval and post-medieval material is the result of agricultural activity rather than on-site occupation, although a non-residential building cannot be entirely ruled out.

## Pottery catalogue

The Catalogue is arranged by stratigraphic Phase, context Groups and Contexts (all listed in numerical order).

### *PHASE 0: Pre-store activity*

#### Phase 0i - original ground surface

Cats 1-4 all derive from contexts which are stratigraphically the earliest on the site. They would all suit activity at the very beginning of fortress occupation and there is no sign that these pre-date the accepted mid-70s foundation of the fortress.

#### GROUP 2152

**C2152** (Room 4, possible disturbed original ground). With a flanged rim, possibly from a flagon, and

- 1 Flanged bowl in hard light grey fabric with traces of a darker surface. The beaded lip at the flange/wall junction internally may suggest an attempt at a vessel reminiscent of the samian form Ritterling 12, in which case an early Flavian date would be appropriate.

#### GROUP 3125

**C3125** (Room 5, redeposited natural):

- 2 Hofheim type flagon in light orange fabric. The Hofheim type appears at Neronian Usk (cf. Greene in Manning 1993, 11-18 and Fig. 3, 2) and is present on Flavian foundations such as Caerleon (Nash-Williams 1929, Fig. 31,50) but was probably quickly superseded in popularity by the ring-necked flagon. Mid- to late first century.
- 3 Flanged bowl in granular grey fabric (Nash-Williams 1929, Fig. 32,81). Mid-first to early second centuries.

**C3128** (Room 5, original ground surface):

- 4 Small flanged bowl in grey fabric with an orange surface. A small example of the flanged and carinated bowls common from the mid-first to the early-second centuries (Nash-Williams 1929, Fig. 32, 79-85).

#### Phase 0ii - clearance and levelling

Evidence for pre-store activity is concentrated below Rooms 4-7 and in the yard. There are a number of pieces with early Flavian associations, but vessels such as the

local green glazed bowl (Cat 15), the vessel with sponged decoration (Cat 14) and the local mortarium (Room 6, context 3113) would be more appropriate in a later-first century context or later. The Black-burnished ware from below the yard included first century pieces and may all be first century. It is probably significant that the small amount of samian is all South Gaulish (and so should pre-date c. 110) and even that lacks the later dish form 18/31 or later versions of Curle 11, while Les Martres samian (being imported from c. 100) is missing. There is nothing that needs to be later than c. 90 and most could be earlier. The evidence available suggests that the building was constructed at an early stage in the history of the fortress, although not necessarily among the very first structures to be built. A late Flavian date might be suggested.

#### GROUP 329

**C2142** (pre-yard deposit): With a base fragment from a Black-burnished ware bowl, and

- 5 South Gaulish samian bowl, form 37, with zonal decoration. Above a substantial basal line is a zone of festoons suspended from horizontal bars and separated by pendant tassels (Knorr 1919, Tb.12, bottom right; Webster 1987, H30). Within the festoons are birds, O.2291 and O.2245. The zone above has a leaf spray (Knorr 1919, Tb.12, top centre or similar), with a running dog to the right (Mees 1995, Taf 130 has many of the elements) C. 70-100.

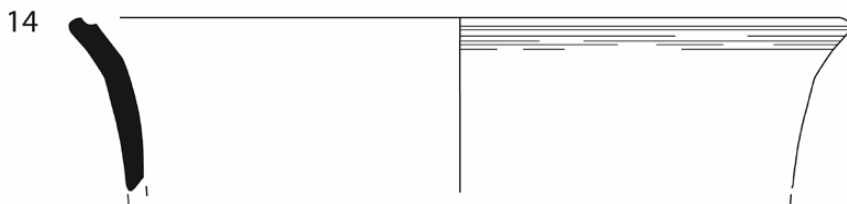
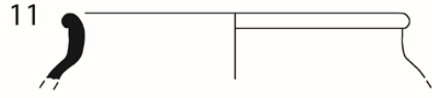
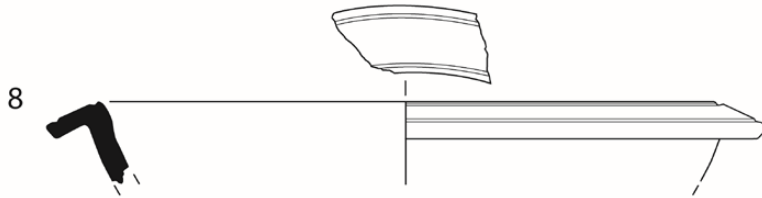
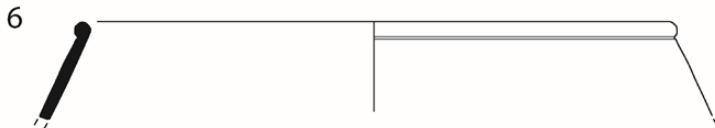
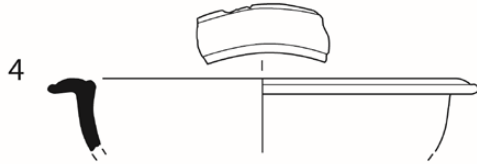
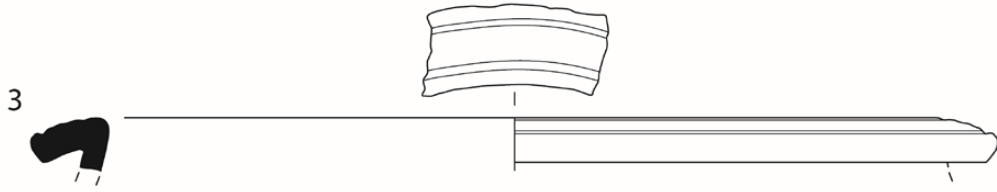
**C2145** (pre-yard deposit): With a small fragment of Black-burnished ware jar rim, probably second century, and

- 6 Bead rim bowl in Black-burnished ware. The globular form and lack of decoration externally allies this with the so-called 'war cemetery bowls' (Wheeler 1943, Fig. 72), a form which certainly survived into the Flavian period (see, for instance, Grep in Zienkiewicz 1986b, Fig. 17, also from Caerleon). Mid- to late first century.

#### GROUP 2130

**C2130** (Room 4, charcoal layer):

- 7 Jar in orange fabric with a darker surface externally.
- 8 Flanged bowl in light orange fabric shading to light grey in the core (Nash-Williams 1929, Fig. 32, 80). The fabric resembles one found in early levels at Caerwent and associated with the kiln



on the Pound Lane site (Caerwent Fabric A). An early Flavian date would be suitable.

- 9 Dish in light grey with a darker surface. The fabric is too coarse for true Terra Nigra but both the appearance and form ally the piece to that fabric (Greene 1979, 115-6, Type 10 and Fig. 48,47). Flavian.

#### GROUP 3090

**C3090** (Room 5, black deposit, immediately pre-construction): With a South Gaulish samian cup, probably form 27, and

- 10 Jar in light grey fabric. The form resembles Usk Fortress type 11.3 (Greene in Manning 1993, 22-5 and Fig. 4). As Greene points out, the basic type was in use into the Trajanic and Hadrianic periods. Mid-first to early second centuries.

#### GROUP 3112

**C3112** (Room 6, upper charcoal layer): With South Gaulish samian form 18, and

- 11 Jar in light grey fabric with a darker surface. The fabric resembles one of those associated with the early Caerwent kiln (Caerwent Fabric A, see Cat 8). Perhaps early Flavian.
- 12 Small flanged rim vessel in light orange fabric burnt grey. If a flanged bowl then the minute size suggests some special use, perhaps as a toy. However, a two-handled flagon with bulbous neck and flanged rim suggests an alternative reconstruction (Nash-Williams 1929, Fig. 30,44, see also Cat 48 below). Probably late first to early second centuries.

- 13 Lid in hard fawn fabric.

**C3113** (Room 6, upper charcoal layer): With a small sherd of ring-necked flagon and a local mortarium fragment probably of the late first to early second centuries (Zienkiewicz 1992a, 92-4), and

- 14 Bowl in light orange fabric with a grey core and traces of red slip, possibly originally sponged on. This is probably a local product. Sponged decoration appears on imitations of the samian form 37 and is presumed to have been made locally in the later first and early second centuries. Our piece may have resembled a common Terra Nigra form (Greene 1979, Fig. 46). Probably late first to early second centuries.

**C3114** (Room 6, upper charcoal layer): Included a South Gaulish samian bowl and a curved rim jar in orange fabric.

**C3115** (Room 6, upper charcoal layer):

- 15 Wall sherd of a bowl in thin grey fabric with an applied vertical strip and green glaze. Green glazed ware was produced in small quantities at or near Caerleon, probably in the later first and early second centuries (Arthur 1978, 324-334; Greene 1979, 103-5; Webster in Manning 1993, 264). Wasters from the production of green glazed pottery come from the western civil settlement (Boon 1966, Pl. 11I). The present piece appears to be an imitation of a pillar-moulded glass bowl and would thus accord with the late first to early second century date normally accorded this ware.

- 16 Everted rim jar in Black-burnished ware. The form is unusual but may imitate a common Flavian and Trajanic form in other fabrics. A late first to early second century date is suggested.

- 17 Curved rim jar in light orange, possibly a product of the Caerwent kiln (Caerwent Fabric A, see Cats 8 and 11).

#### GROUP 3121

**C3122** (Room 6, clay deposit): With a South Gaulish samian bowl either Ritterling 12 or Curle 11 (mid- to late first century), and

- 18 Curved rim jar, probably originally in orange but now largely burnt grey. Possibly a product of the early Caerwent kiln (as Cats 8, 11 and 17).

- 19 Lid in light orange fabric, burnt on the rim.

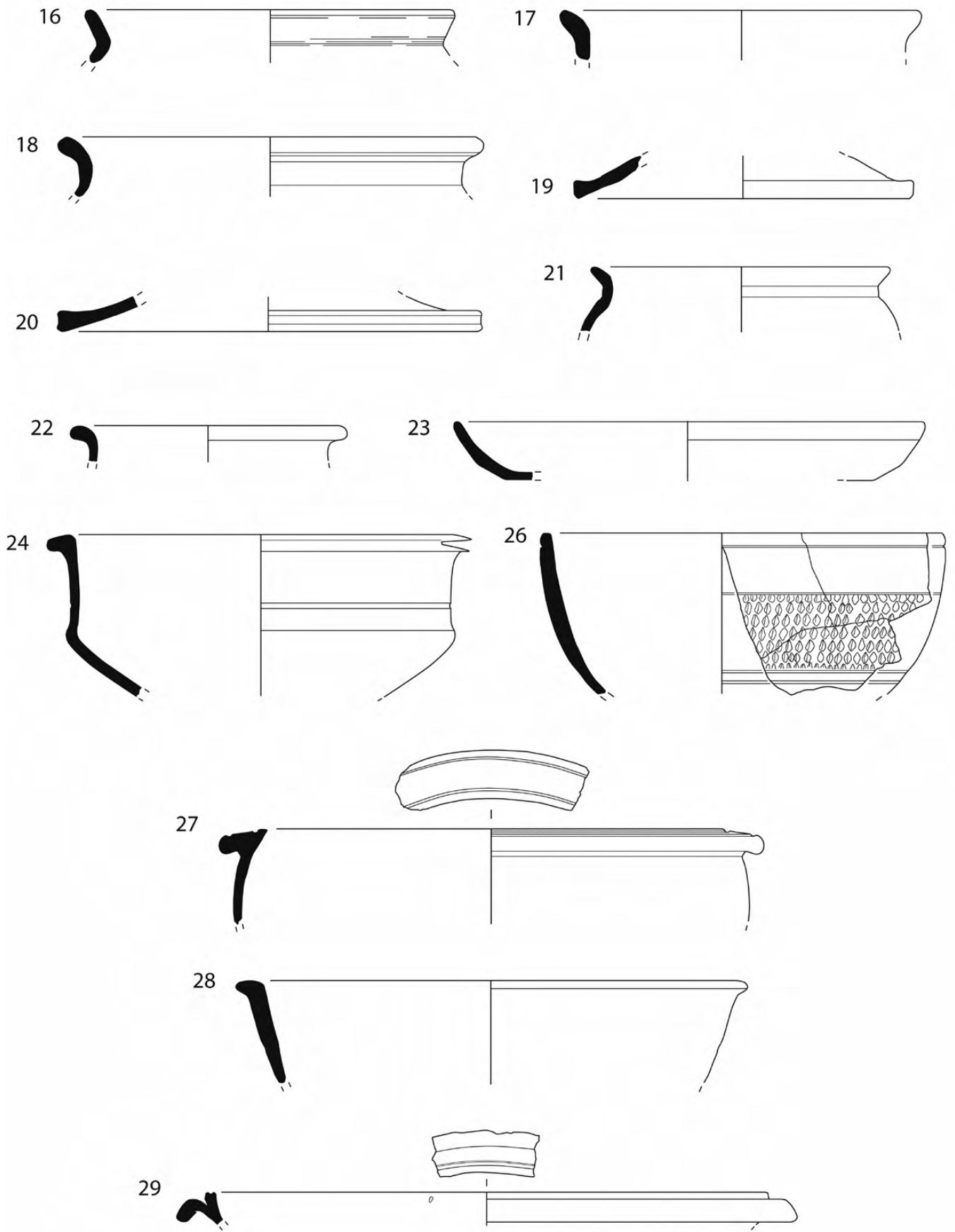
**C3126** (Room 6, clay deposit): With South Gaulish samian forms 15/17, 18, 33 and Ritterling 8 (the latter a predominantly pre-Flavian form), and

- 20 Lid in light orange fabric burnt on the rim.

#### GROUP 3127

**C3127** (Room 7, lower charcoal deposit). The context included a bead rim jar and a small flanged bowl in light orange fabric.

**C3133** (Room 6, lower charcoal deposit): With a neck fragment from a ring-neck flagon in light orange, and a



0 100 mm

wall sherd from a Black-burnished jar with acute angled decoration, and

- 21 Jar in light orange fabric.
- 22 Jar in light grey fabric.
- 23 Dish in orange-buff fabric with mica-dusting internally. Mica dusting is usually found in the Flavian or Flavian-Trajanic periods in south Wales. Local kilns probably produced it at Caerleon in the later first century, but this example seems more likely to be an import to the site.

*PHASE 1: Construction of the masonry store building*

Phase 1i – Foundation trenches, footings and walls

The small amount of material from wall trenches etc (if we dismiss the likely contamination of C2039 from later robbing), would accord with a date of construction in the late first century.

**GROUP 315**

**C3021** (cobble footings of main external W wall): Included an amphora lid (or ‘stopper’) from a Dressel 20 South Spanish oil amphora.

**GROUP 612**

**C818** (bonding for the main internal E. wall): Included a crucible fragment and a small fragment of Black-burnished ware jar.

**GROUP 2066**

**C2150** (Room 1, trench packing for wall between Rooms 0 and 1): Included South Gaulish samian form 35.

**C2039** (Wall between Rooms 1 and 2): Interstices contained a sherd of a large (and probably late) Black-burnished ware jar, burnt buff, and a medieval green glazed jug sherd, indicating intrusions (presumably derived from later robbing).

**C2151** (Room 1, trench packing for wall between Rooms 0 and 1):

- 24 Nineteen fragments of a carinated bowl in light orange fabric with what is probably a fired clay filler, giving a pimply surface. Probably a variation on the common mid-first to early-second century flanged and carinated bowl (Nash-Williams 1929, Fig. 33, 89).

Phase 1ii– Levelling and floors

The material from the construction of the store building is remarkably homogeneous (the few later sherds, particularly from C614 / G613, are intrusive). There is a predominance of Flavian vessels but also a number which seem likely to be late first to early second century. The quantity of samian present is too small to allow for certainty, but it may be noted that nearly all is South Gaulish and thus unlikely to have reached Britain after 110. The pottery, taken as a whole, suggests activity c. 90-110.

**GROUP 204**

**C205** (yard bedding): Included a Black-burnished ware straight sided dish with intersecting arc decoration (late second to third centuries).

**C3042** (deposit below courtyard surface): Contains a single sherd of Central Gaulish samian, form 37. Only a small circle and a roped panel border with blob terminal survives. An Antonine date seems likely.

**GROUP 613**

**C614** (entranceway cobbled surface): With South Gaulish samian forms 30 (rim) and 37, Central Gaulish samian forms 31R and 36, a rim fragment of Caerleon Ware beaker, an everted rim jar and a first to early second century flanged bowl:

- 25 (Not illustrated.) Six fragments of a Nene Valley box, off white fabric with rouletted decoration and a dark grey-brown colour coat (Howe, Perrin and Mackreith 1980, Fig. 7, 89). Third to fourth centuries.

The context also included a coin of c. 260-300. This, together with the box, and a small fragment of medieval buff jug with a green glaze, are presumably intrusive.

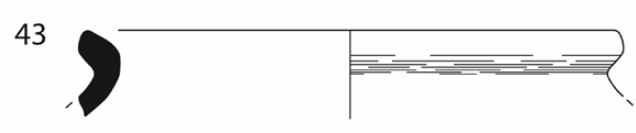
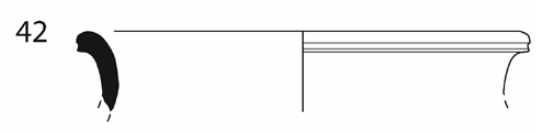
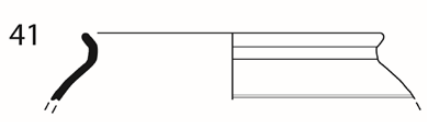
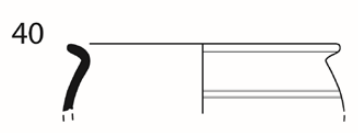
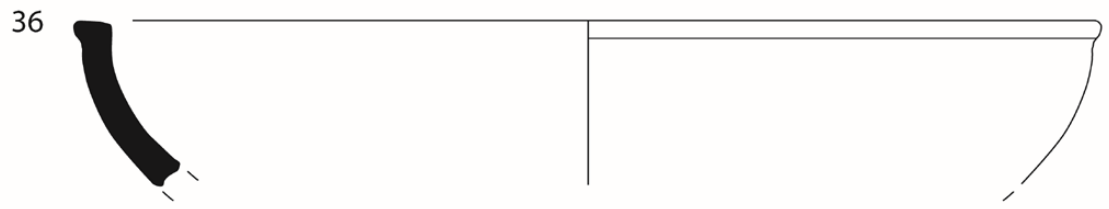
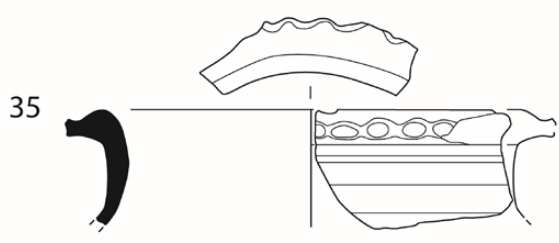
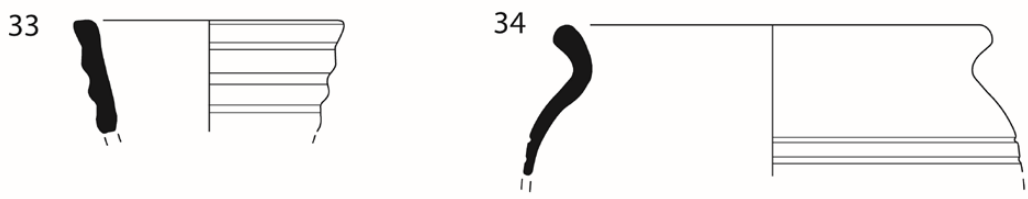
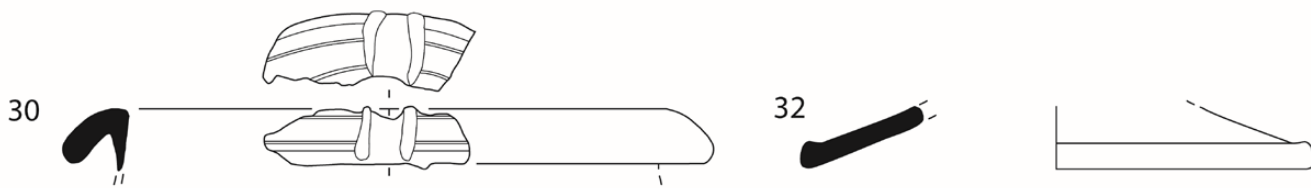
**GROUP 2115**

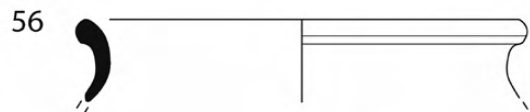
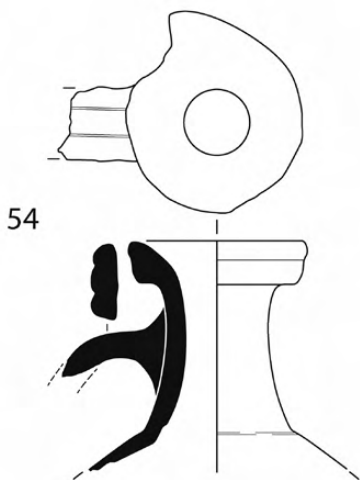
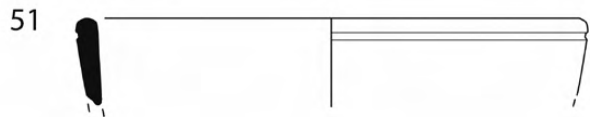
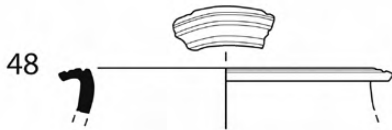
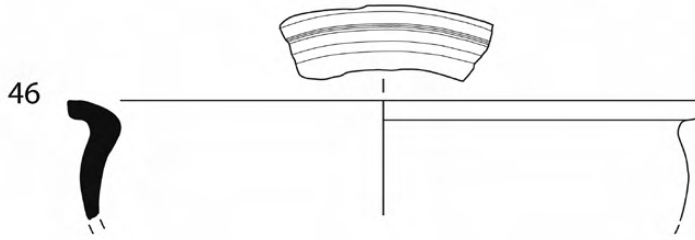
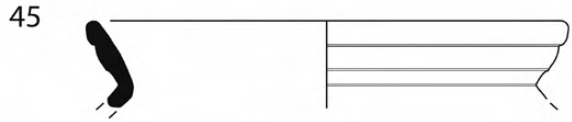
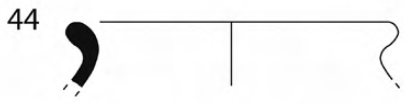
**C2097** (Charcoal deposit in Room 1): With South Gaulish samian forms 18 (joining sherds), 27 (three joining base sherds), 29 (an upper zone fragment from a dirty or very worn mould), 35 and 37 (a trident tongued ovolo and panel decoration probably of the period c. 90-110 and a rim from a separate vessel), and a first century ring necked flagon in orange fabric, and

- 26 Rouletted bowl in grey fabric with smoothed surface. Presumably intended to be reminiscent of the samian form 37. Probably Flavian.
- 27 Flanged bowl in orange fabric (two fragments). One of the mid-first to early second century series.

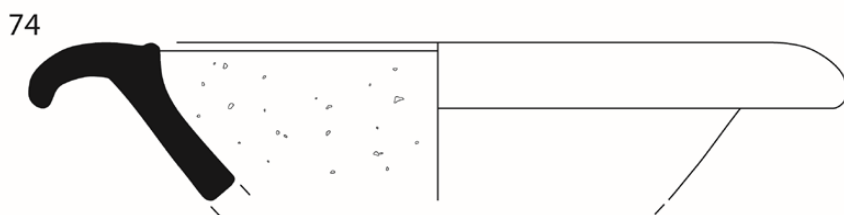
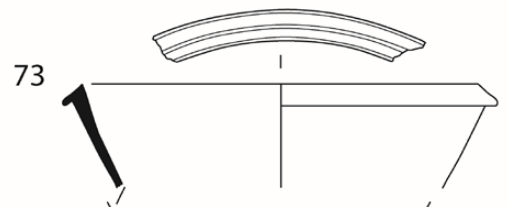
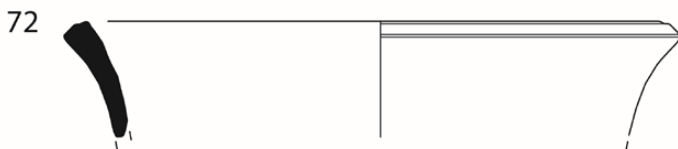
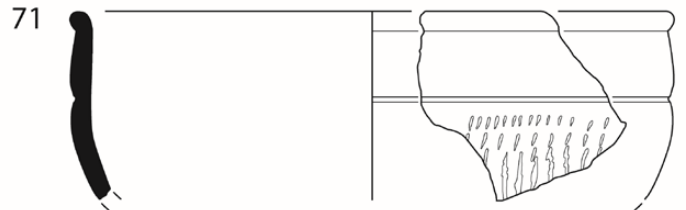
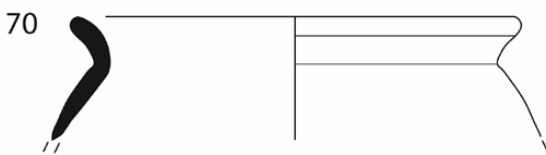
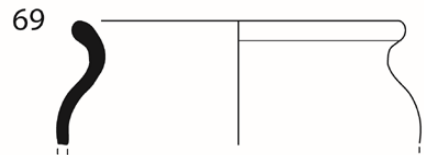
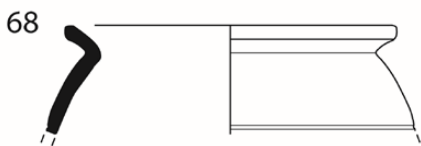
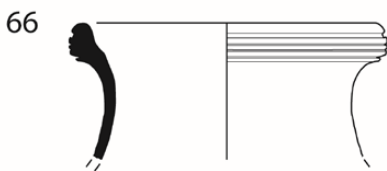
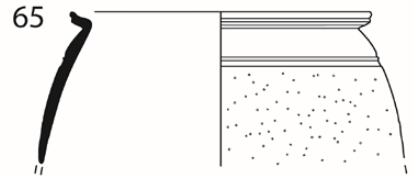
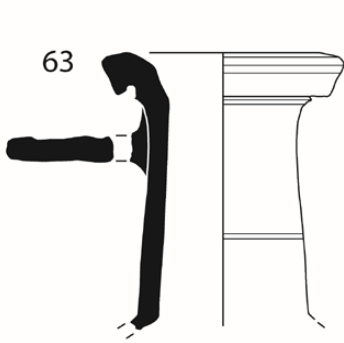
- 28 Flanged bowl in Black-burnished ware (four fragments); the very upright wall suggests a vessel as Gillam 1976, No. 34. Early to mid-second century.
- 29 Flanged bowl in cream fabric with orange discolouration on the surface. The one grit still embedded in the wall internally suggests that this is an Oxford mortarium, although it seems rather smaller than the norm (Young 1977, M17). Mid- to late third century.
- 30 Flanged bowl in orange fabric with barbotine lines and faint traces of mica dusting.
- 31 (Not illustrated.) Basal fragment from a lamp in light buff with an orange surface
- C2115** (deposit in Room 1): Included eight fragments of a grey-brown jar, well burnished externally, but burnt and with a burnt residue internally.
- C2116** (Deposit in Room 1: With a sherd from a Terra Nigra jar, and
- 32 Lid in light orange fabric.
- C2121** (deposit in Room 1: With South Gaulish samian forms 27g and 36, and
- 33 Ring neck flagon in light orange fabric with a grey core. The even rings suggest a mid- to late first century date (Manning 1993, 18-9 and Fig. 3; 148, 2-3). Mid- to late first century.
- 34 Curved rim jar in light grey fabric burnished externally. One of two similar jars.
- 35 Jar with a frilled rim in light grey. The rim resembles that found on tazze, but this appears to be a necked jar form.
- 36 Flanged shallow bowl in light orange fabric (Wheeler 1928, Fig. 20,45 dated to the early second century). It is reminiscent of a bowl form found at Neronian Usk and of earlier derivation. See Greene in Manning 1993, 38-9 and Fig. 6,22 for a discussion of widespread military parallels up to, at least, the early second century.
- 37 Shallow dish, or more probably a lid, in hard slightly granular black fabric.
- C2124** (deposit in Room 1): Included South Gaulish samian form 36 (five fragments) and a small sherd of form 29.
- C2133** (Deposit in Room 1):
- 38 Jar in light orange fabric, burnt on the rim. Similar to Usk Fortress Type 11.4 (Greene in Manning 1993, 22-5 and Fig. 4). The general type survives into the second century and is typologically the most developed of the Usk Type 11 jars. A mid-first to early second century range is possible for this vessel.
- C2140** (deposit in Room 1): With South Gaulish samian forms 27, 30, 36 and 37, and
- 39 South Gaulish samian form 29, lower zone. Four fragments, probably all from the same bowl, show a zonal design. The basal zone consists of S-shaped gadroons. Above are slightly curving chevrons. Immediately below the cordon and bead row of the carination is a 'palisade' of upright double leaves C. 65-85.
- 40 Everted rim beaker in light orange fabric.
- 41 Curved rim beaker in light orange fabric, burnt grey on the rim.
- 42 Necked jar in grey fabric with a horizontal burnished line on the neck.
- 43 Jar with a thick bead rim in light grey fabric.
- 44 Jar in light grey fabric, similar to Usk Fortress Type 11.1 (Greene in Manning 1993, 22-5 and Fig. 4). The general type survives into the second century but a mid- to late first century date seems appropriate here.
- 45 Large everted rim from a jar in black fabric with a smooth, highly burnished surface externally and over the rim. At least 32 body sherds suggest a globular form. Some influence from Terra Nigra may be suspected, and this, with the rim form, suggests a Flavian date.
- 46 Flanged bowl with a poorly defined reeded rim in orange fabric with a grey core. One of the mid-first to early-second century flanged bowl series.
- 47 Flanged bowl or dish in granular brown fabric with a grey core and dark grey burnished surface. This may be burnt Black-burnished ware but is unusually soft. Whatever the source of the fabric, the influence from Black-burnished ware flanged bowls and dishes is clear, and a second century date may be suggested.

EXCAVATION OF THE PRIORY FIELD STORE BUILDING IN CAERLEON

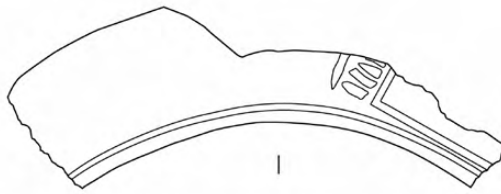




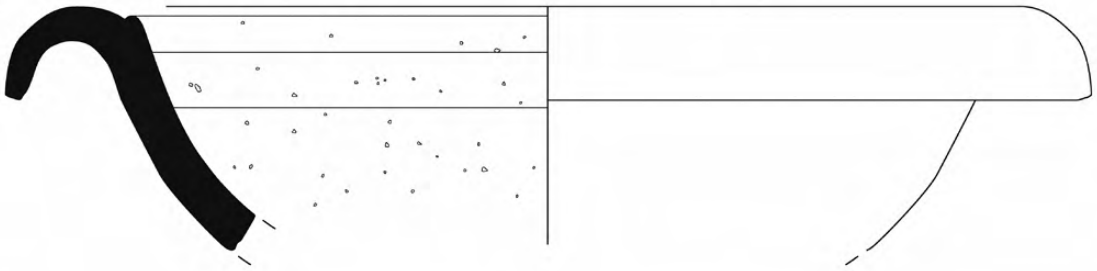
- C2149** (deposit in Room 1): With South Gaulish samian forms 18, 27 and 36, a Dressel 20 amphora stopper and a tazza fragment with red and white mottled interior, and
- 48 Flanged vessel in light orange. A small flanged bowl is possible, but this could be an example of a double handled flagon with a presumably separately made and very bowl-like neck. See Cat 12 above.
- 49 Flanged rim jar in light grey fabric.
- 50 Curved rim jar in light grey fabric.
- 51 Bowl in light orange fabric. A vessel reminiscent of the samian form 37 seems probable.
- 52 Five fragments from a shallow bowl or, more probably, a lid in granular dark grey fabric.
- The context also included two, probably intrusive, late Black-burnished ware jar rims, including:
- 53 Jar in Black-burnished ware (Gillam 1976, Nos 12-14). Fourth century.
- GROUP 2122**
- C2122** (deposit below Entranceway cobbled surface): With South Gaulish samian forms 18, 27 and 29, a Verulamium mortarium, a grey jar with applied dot decoration, a Black-burnished ware jar with acute angled lattice decoration, a Black-burnished ware bowl probably similar to the so-called 'war cemetery bowls' (Wheeler 1943, Fig. 72), a form which certainly survived into the Flavian period (see, for instance, Grep in Zienkiewicz 1986b, Fig. 17, also from Caerleon), a flanged bowl and a bead rim bowl in grey fabric, a Caerleon ware mortar-like bowl and a strap handle in orange fabric, possibly from a bowl such as Cat 39 above, and
- 54 'Hofheim' type flagon in grey fabric. The type is predominantly pre-Flavian (cf. Usk Fortress Types 1-3, Greene in Manning 1993, 11-19 and Fig. 3) but survives into the Flavian period (for instance, Nash-Williams 1929, Fig. 31, 48-50). Mid- to late first century.
- 55 (Not illustrated) Ring neck flagon in grey fabric. The even rings suggest a mid- to late first century date.
- 56 Curved rim jar in light grey fabric. One of three curved rim jars.
- 57 Jar in light grey fabric with a darker surface (Nash-Williams 1929, Fig. 29, 16). Probably mid- to late first century.
- 58 Jar in granular grey fabric. Possibly intended to be reminiscent of first to second century Black-burnished ware jars.
- 59 Rim of a Terra Nigra bowl (Greene 1979, Fig. 46). Flavian.
- 60 Lid in Black-burnished ware (Wallace and Webster 1989, Fig. 2, 13). First to second centuries. One of two Black-burnished ware lids.
- 61 Lid in grey fabric.
- C2123** (deposit below Entranceway cobbled surface): This extensive deposit included South Gaulish samian forms 15/17, 18, 27 (2), 35, 67, the rim of a small Ritterling 1 and Central Gaulish samian form 37. Decorated samian sherds include: South Gaulish form 29 with an upper zone showing a scroll infilled with leaf tips and a lower zone with leaf spray; four fragments of South Gaulish form 37 from at least two vessels, one with zonal decoration including a running hare over a leaf spray and one with panel decoration of a saltire to the right and a Diana and hind (possibly O.104B) to the left; and
- 62 South Gaulish samian bowl, form 29. The upper zone contains festoons separated by wavy lines with tassel terminals suspended from a bar. Within are poorly impressed geese (probably O.2220 and O.2258 truncated by the rim finisher), small rosettes and a single bordered festoon with poorly impressed poppy-head like terminals. A lower zone, probably from the same vessel, has a basal wreath of small chevrons below similar festoons and tassels with a stirrup leaf within C. 70-85.
- 63 Hofheim type flagon in light orange fabric. Mid- to late first century.
- 64 Flagon in an orange-buff fabric with traces of a white slip with red slip over it. This does not appear to be the common Caerleon red slip ware and its source is unknown.
- 65 One of at least two beakers in Lyons colour coated ware (Greene 1979, Fig. 8, 20.5). This is a predominantly pre-Flavian fabric which survives in small quantities into the Flavian period (Zienkiewicz 1986b, 1i, 90-3). Mid-first century.



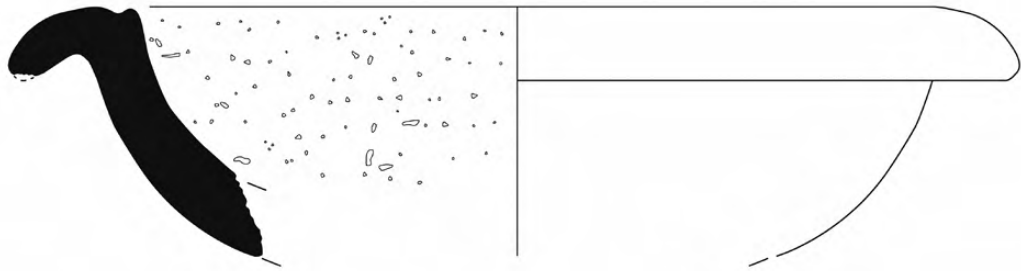
- 66 Necked jar, or perhaps a jug, in light grey fabric with a light grey-buff surface.
- 67 Necked jar in light grey fabric. The form is related to Usk fortress type 11.1 (Greene in Manning 1993, 22-5 and Fig. 4) but remained current until at least the mid-second century (Webster in Manning 1993, Fig. 110, type 25). One of at least eight similar jars from this context.
- 68 Everted rim jar in grey fabric (Manning 1993, Fig. 109, 15.5). Mid-first to early second centuries. One of at least four everted rim jars.
- 69 Curved rim jar in light grey South Wales Reduced ware (Manning 1993, Fig. 110, 25.3). First to second centuries. One of at least five similar jars.
- 70 Curved rim jar in grey South Wales Reduced ware. There is some influence from second to third century Black-burnished ware jar forms (Manning 1993, Fig. 109, 20.1). Late second to third centuries.
- Other jar fragments include four fragments of thin white ware with smooth surfaces and applied circular red-brown paint circles externally, and a fragment of rusticated ware.
- 71 Bowl in dark grey fabric with a black surface, burnished above the rouletted middle and lower wall. One of three bowls clearly derived from the samian bowl form 37. Later first or second centuries.
- 72 Bowl rim, probably from a vessel of campanulate form. The fabric is light orange with a grey core and traces of a red colour coat. Possibly local ware with sponged decoration, but not Caerleon Ware.
- 73 Mortar-like bowl with broken flange in thin off-white with orange sponged decoration. The context also included three joining fragments of a bowl in light orange fabric with a buff surface and a sponged orange slip. There is sufficient sponged ware from Caerleon to tentatively suggest a local source (Boon 1966, 64, Fig. 3,9).
- 74 Mortarium of Gillam 238 type (Hartley 1977, Fig. 2.1, 3F, Hartley 1998, 200-206; Hartley, Tomber and Webster 2006, 22-4). Mid-first to early second centuries.
- 75 Verulamium mortarium with a fragmentary and somewhat blurred stamp reading ]VI or NI (perhaps Frere 1972, Fig. 145,4 of Albinus). For the rim see Frere 1972, Fig. 110, 372. Mid- to late first century.
- 76 (Not illustrated] Mortarium in pink fabric with a grey-buff core and traces of a pinkish-white slip and white quartz trituration grits. This is a local mortarium of the Flavian and Flavian-Trajanic period of a type discussed by Zienkiewicz (1992a, 92-5).
- 77 Mortarium in a granular reddish buff fabric with traces of a white slip. Hartley's South West White Slipped ware (Hartley in Manning 1993, 415-6). The hooked rim suggests a date in the first half of the second century.
- 78 Flanged bowl in smooth light grey fabric (at least two fragments). One of at least three flanged bowls of the mid-first to early-second century series.
- 79 Flanged dish in Black-burnished ware (Gillam 1976, No. 56). Mid- to late second century.
- 80 Curve-sided dish in orange fabric. The form is found in Caerleon Ware (Manning 1993, Fig. 120, 15.3-4) but was also made in unslipped fabrics (Wheeler 1928, Fig. 30, 31; Nash-Williams 1932, Fig. 60, 322). Probably second century.
- 81 Lid in light grey fabric. With a further lid in orange-buff fabric with a grey core.
- The context also included a coin of 69-79, a neck sherd from a fish sauce amphora (probably Camulodunum 186C) with a series of diagonal scratches which may be part of a set of numerals. There is also part of a bowl with a hole probably pierced before firing and perhaps part of a sieve.
- C2125** (deposit below Entranceway cobbled surface): With South Gaulish samian, forms 27 and 37, a wall sherd of North Gaulish mortarium, a Black-burnished ware jar with acute angled lattice decoration, and the handle of a probable carrot amphora, and
- 82 Curved rim jar in orange fabric with traces of an orange-red surface. Probably a version of the vessel type characterised by Usk Fortress type 11.1. Probably mid- to late first century. One of two similar curved rim jars.
- 83 (Not illustrated] Crucible (also see Appendix 6.6).



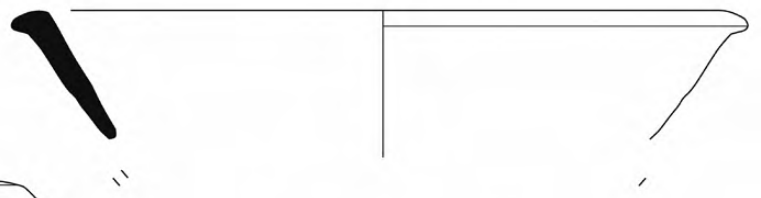
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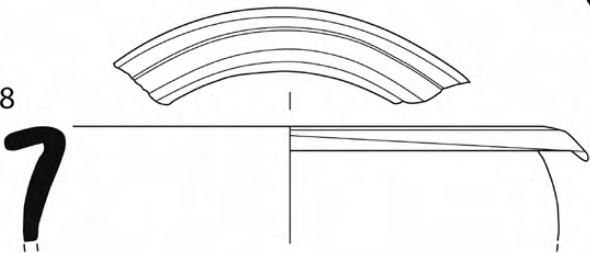
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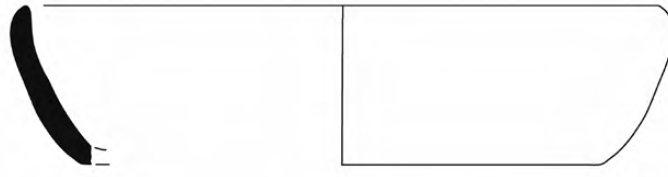
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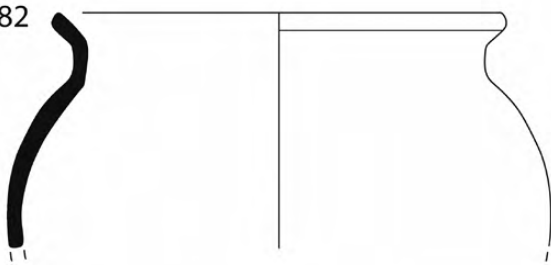
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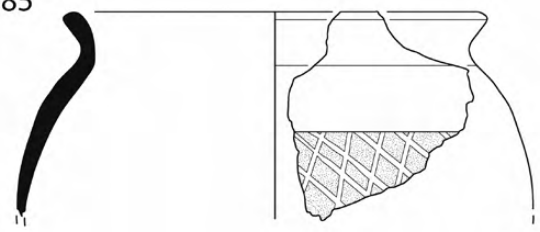
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A sherd of medieval green glazed jug is intrusive.

**C2128** (layer below entranceway cobbles): Included part of the base of a South Gaulish samian dish probably form 18/31, and a Verulamium region flagon sherd, and.

#### GROUP 2135

**C2135** (earliest floor in Room 3): With South Gaulish samian, forms 18, 27 and 36:

84 Lid or stopper for a Dressel 20, South Spanish olive oil amphora (Manning 1993, 368-9, No. 24F for a similar stopper found in position in the neck of a Dressel 20 amphora).

85 Jar in Black-burnished ware (Gillam 1976, No. 4). Late second century.

86 Flanged bowl in light grey ware.

#### GROUP 3116

**C3100** (Room 6, construction / levelling layer): With the foot-ring of a South Gaulish samian form 18 or 18/31, burnt:

87 Jar in light orange (Cat 38). Mid-first to early second centuries.

**C3102** (Room 6, construction / levelling layer):

88 Fish sauce amphora, Camulodunum 186A (Peacock and Williams 1986, 120-1, Class 17). Mid-first to early second centuries in a south Wales context.

89 South Gaulish samian form 37. Two fragments probably from the same vessel. The decoration is zonal. Above a basal guideline is a wreathed festoon within a panel. The interior of the festoon includes an ivy leaf, similar to that used by Gallicanus (Knorr 1952, Taf.26, A) while the spandrel contains the 'tulip' ornament (Knorr 1919, Tb.10, upper centre; Webster 1987, F19). The overall style is seen on bowls in the Pompeii Hoard (Atkinson 1914, Pl.7) C. 70-90.

90 Jar in grey with a near upright rim and internal lid seating.

91 Flanged rim jar in grey. Probably derived from the general class represented by Usk fortress type 11.4 (see Cat 38 above).

**C3104** (Room 6, construction / levelling layer): Contained South Gaulish samian form 18. C. 70-90.

**C3092** (deposit in Room 6): Included a small fragment of South Gaulish samian form 29.

**C3093** (deposit in Room 6): Contained only pottery of the later first and earlier second centuries, including South Gaulish samian forms 18 and 29 and a mortarium base in light orange with a grey core, white slip and quartz trituration grits, probably made locally. Late first or early second century.

**C3095** (Room 6): Included Black-burnished ware jar wall fragments with acute angled lattice (first to second centuries). Other items in the assemblage could easily belong to early levels: a Verulamium mortarium rim, a local white slipped mortarium rim, a first century ring necked flagon and two jars in grey fabric of Usk fortress type 11 form and presumed first to early second century date.

**C3094** (deposit in Room 6): included South Gaulish samian forms 29 and Curle 11.

**C3096** (Room 6): a context with undiagnostic oxidised and reduced sherds, and

92 Jar in Black-burnished ware (Gillam 1976, No. 12). Early fourth century.

**C3080** (deposit in Room 6): Included South Gaulish samian form 67. Flavian.

**C3081** (deposit in Room 6): included a flanged bowl in grey, one of the mid-first to early second century series and a Caerleon Ware bowl C. 110-160.

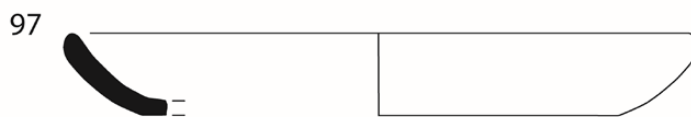
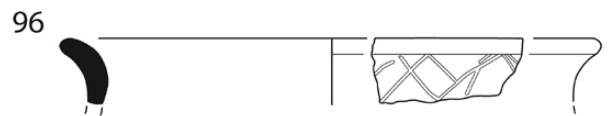
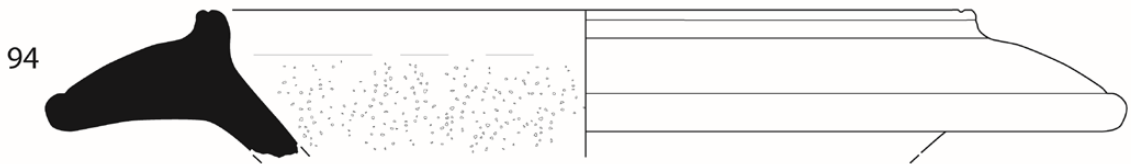
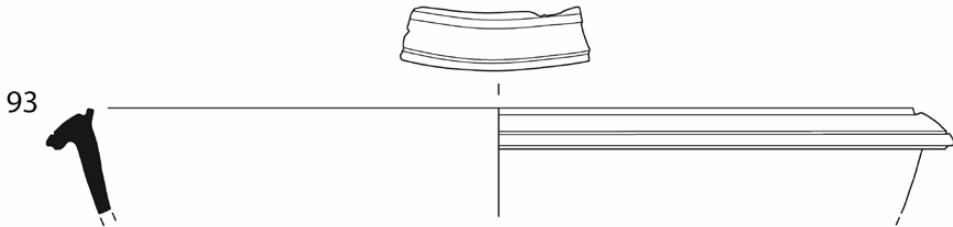
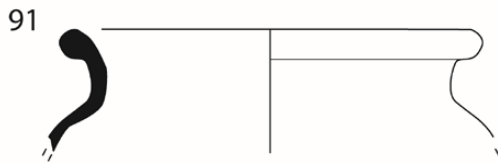
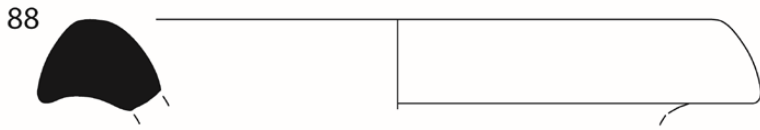
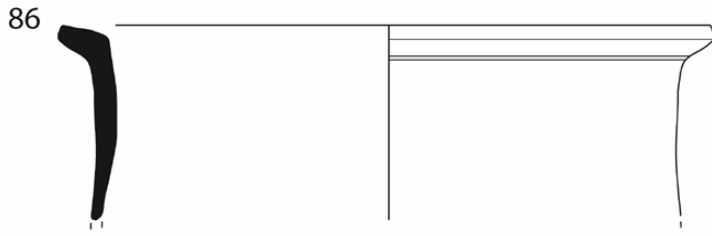
**C3082** (deposit in Room 6):

93 Flanged bowl in light grey with a grooved rim. An unusual form of the mid-first to early second century flanged and carinated bowl. One of two flanged bowls.

**C3083** (deposit in Room 6): Included South Gaulish samian form 67 (Flavian), a Terra Nigra bowl as Greene 1979, Fig. 46 (Flavian) and a probable medieval cooking pot made without the potters' wheel. Twelfth-thirteenth centuries.

#### *PHASE 2: Occupation and alteration of the store*

The material from Phase 2 appears to polarise at either end of the Roman occupation of Caerleon. Among the dateable pottery, forms of the late first and early second centuries predominate and it is noticeable that there is very little Central Gaulish samian of the period c. 120-200 and very few pieces of Caerleon Ware, c. 110-160. If we discount the few fragments of medieval



and later pottery (which presumably come from later disturbance, most likely during the robbing of walls), the latest pieces are mid-third century or later. The coins are mainly third century, with the latest 286-293.

#### GROUP 423

**C507** (patch in the main yard): Included a Caerleon mortarium (probably originally colour coated and Caerleon Ware), and

94 Large mortarium in brown fabric with a red core. The fragment is too narrow to ascertain the diameter, but a vessel of commercial bakery size is likely (Evans 2000, Fig. 67,43). A similar vessel comes from Cardiff Castle. Probably a Caerleon product and second century.

**C2003** (rubble patch in main yard): With a South Gaulish samian bowl, possibly form 37, and

95 Curved rim jar in light grey with a darker surface (Manning 1993, Fig. 111, 32.2). Third century.

Two contexts are notable for intrusive elements:

#### GROUP 605

**C605** (entranceway flagstone surface): Included a slipware handle. Probably nineteenth century.

**C610** (bedding for entranceway flags): Included an Oxford beaker (mid-third to fourth century), fragments of two twelfth-thirteenth century green glazed jugs, and a small fragment of black glazed redware (most probably sixteenth century).

**C2090** (levelling layer below entranceway flagstones): With a Caerleon Ware bowl rim fragment (c. 110-160), and

96 Jar in Black-burnished ware (Gillam 1976, No. 3). Mid- to late second century.

#### GROUP 619

**C619** (Room 4, patch on top of flagstones): Contained a Caerleon Ware vessel, probably a large beaker C. 110-160.

#### GROUP 2010

**C2011** ('platform' in main yard): With South Gaulish samian forms 18 and 37, a flanged bowl of mid-first to early second century date, a Black-burnished ware lid (Wallace and Webster 1989, Fig. 2, 11), a Dressel 20 amphora stopper similar to Cat 84, a Black-burnished

ware jar wall with obtuse angled lattice below a horizontal line (mid-third to fourth centuries), an intrusive green glazed medieval jug (probably from Bristol) and a seventeenth or early eighteenth century rounded slipware mug, and

97 Rim and wall sherd of a dish in 'Pompeian red' fabric. The fabric is micaceous and an origin in Central Gaul seems likely (Greene 1979, 129-131). Mid- to late first century.

98 Rim of an amphora in light buff fabric; Camulodunum type 186C (Peacock and Williams 1986, 122-3, Class 17). A container for fish products. Flavian to early second century.

99 Beaker or small jar in Black-burnished ware. Indistinct acute angled lattice decoration suggests a second century date.

**C2013** ('platform' in main yard):

100 Mortar-like bowl in orange fabric with a smoothed orange-buff surface and sponged decoration. It is uncertain if this is an import or a local fine ware but in view of the other items from this group a later first or earlier second century date seems likely.

**C3129** (stone-filled feature in main yard): Included a wall sherd of Black-burnished ware with obtuse angled lattice. Late third to fourth centuries.

#### GROUP 2080

**C2062** (deposit in Room 1): Included a sherd of flanged and ridged bowl in Black-burnished ware as Gillam 1976, Nos 46-9. The flange itself is broken off. Late third to fourth centuries. The context also produced a coin of 273-4.

**C2072** (deposit in Room 1): Included a portion of the wall of a Black-burnished ware jar with obtuse angled decoration, probably from a vessel such as Gillam 1976, Nos 13-14. Fourth century.

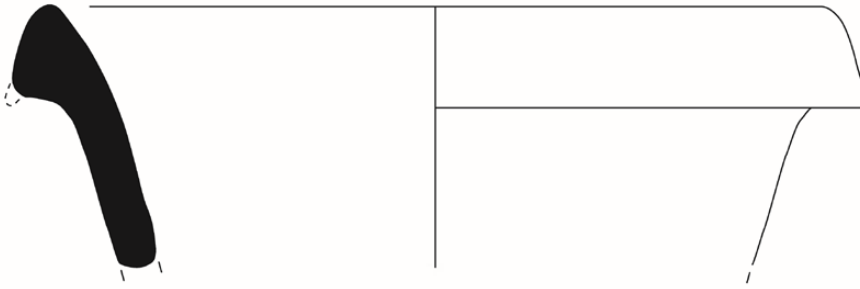
**C2074** (oyster shell deposit in Room 1): With a fragment of a rouletted bowl probably intended to be reminiscent of the samian form 37, and

101 Dish in Black-burnished ware similar to Gillam 1976, No. 79 but without decoration.

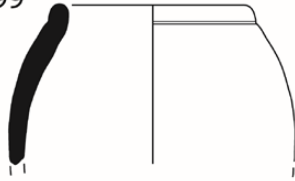
**C2075** (deposit in Room 1): With other pottery all apparently late first to early second centuries, and

102 South Gaulish samian bowl form 30, showing panel decoration divided by wavy lines below

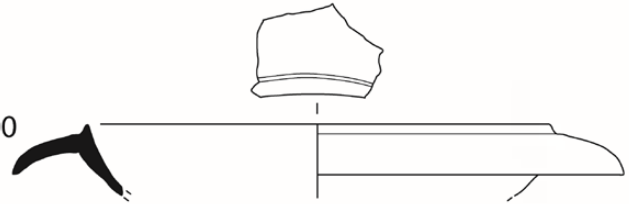
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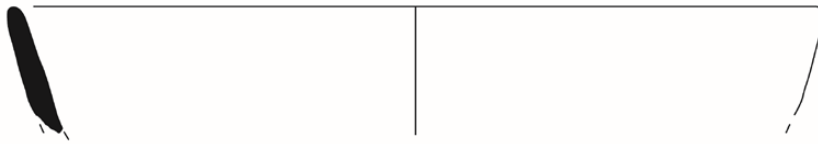


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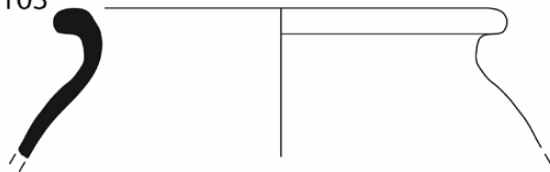


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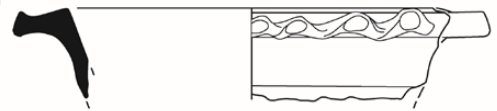
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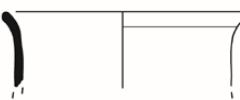
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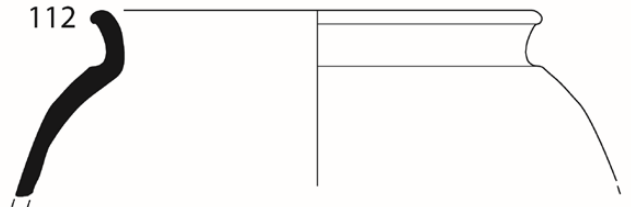
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an ovolo frieze (Dannell et al 1998, KK). The fragment is very probably from the same mould as four bowls illustrated by Mees (1995, Taf. 15) and signed by Calus ii of La Graufesenque (cf. NOTS2, 173-4). This shows that the left-hand panel consisted of the Panther and grapes motif, O.1573, although the vine leaf to the right (which just appears on our sherd) is closer to that in Hermet 1934, Pl.25, 38 from which Oswald appears to have derived his illustration. The top right corner of the panel contains an ivy leaf (a smaller version of Hermet 1934, Pl.6, 19) suspended from the panel corner by a tendril. Just visible below is the head of a goose. The right-hand panel contains a repeat of the ivy leaf and two wings, which the vessels illustrated by Mees show to belong to a griffin or Pegasus (not in O. or Hermet 1934) C. 60-80.

**C2080** (deposit in Room 1): With South Gaulish samian forms 18, 27, 30, 37 (two vessels, probably c. 90-110), a Gillam 238 mortarium flange, a fragment of Oxfordshire white mortarium and an Oxford colour coated beaker (both mid-third to late fourth centuries), and

103 Jar in light orange fabric, similar to Usk fortress type 11.2. See comments on type 11 jars under Cat 38. Mid-first to early second centuries.

104 Tazza in light orange brown, burnt internally.

**C2085** (deposit in Room 1): Included South Gaulish samian, a small form 27. Probably Flavian.

**C2093** (deposit in Room 1): Included a small sherd of South Gaulish samian form 37 from a bowl with zonal decoration with, in the lower zone, a winding scroll containing a goose (Hermet 1934, pl.28, 34, a variant of O.2220). Probably c. 70-90), and

105 Beaker in thin hard orange fabric. Perhaps from a vessel such as Nash-Williams 1929, Fig. 36, 133. Late first to early second centuries.

**C2094** (deposit in Room 1): With South Gaulish samian forms 18 or 18/31 and 27, a Black-burnished ware jar wall with what is probably obtuse angled lattice decoration of later third or fourth century date (and a coin of 286-93), and

106 Jar in light grey fabric with traces of a darker surface. Probably a version of Terra Nigra (Greene 1979, Fig. 45, 8-11). Flavian.

107 Jar in grey fabric (Manning 1993, Fig. 109, type 15). Mid-first to early second centuries.

#### GROUP 2098

**C817** (deposit in Room 2): Contained only a small sherd of, presumably intrusive, medieval glazed jug in a light grey fabric with iron-rich clay ridges below the green glaze.

**C2098** (Room 2s): Included a chronological mix of pottery with a well-preserved fragment of Lyon rough cast beaker (mid-first century), and Black-burnished ware with obtuse angled lattice (later third or fourth centuries). Also, a coin of 260-300, and

108 Everted rim jar in light orange. Probably later first or early second centuries.

109 Necked jar in South Wales Reduced ware burnt on the rim (Nash-Williams 1932b, Fig. 54,3).

**C2106** (Room 2). Included Central Gaulish samian, form 33 and a bowl, probably form 31, along with Black-burnished ware, including a jar with flaring rim which is probably late third or fourth centuries. There is also a small fragment of medieval cooking pot rim, probably twelfth-thirteenth century.

#### GROUP 2103

**C711** (Room 3, opus signinum): Included small fragments of an Oxford colour coated beaker (Young 1977, C23), late third to fourth centuries, and a colour coated beaker from the Moselle (Moselkeramik) with applied white dot (Symonds 1992, Fig. 28), probably third century, and

110 Two fragments of lid in a fairly coarse grey-brown fabric with a light grey core and grey surface.

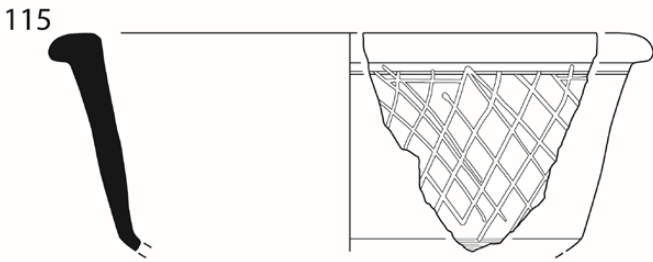
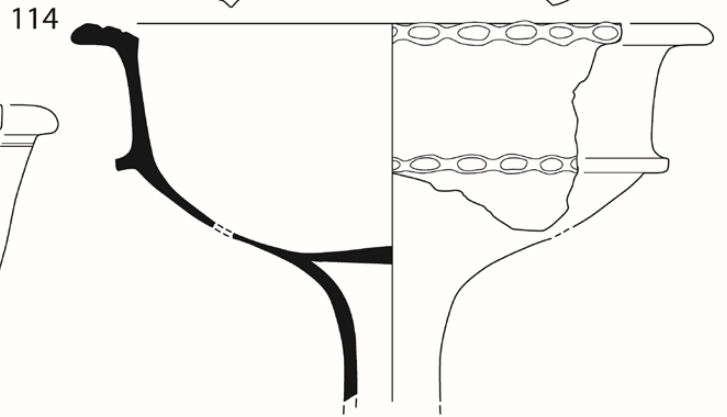
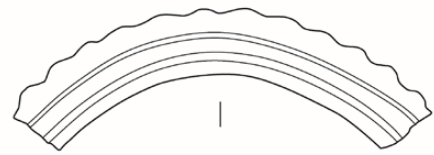
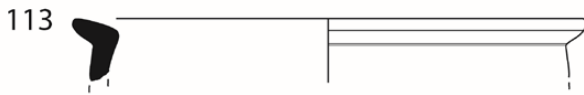
**C2119** (bedding layer for floor in Room 3): With South Gaulish samian forms 27 and 33, and

111 Flask or flagon neck in light orange (three fragments).

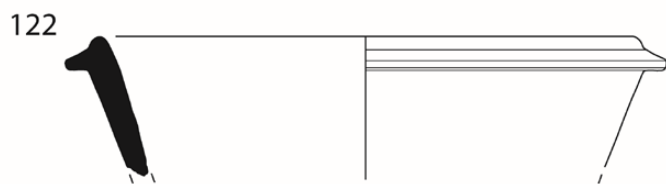
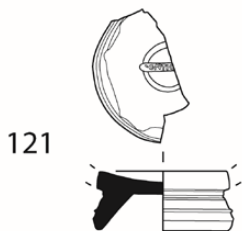
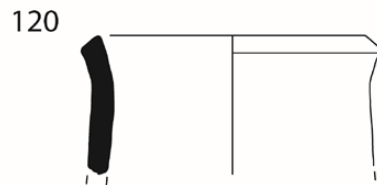
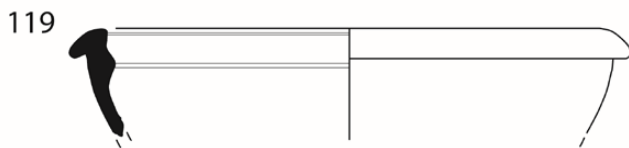
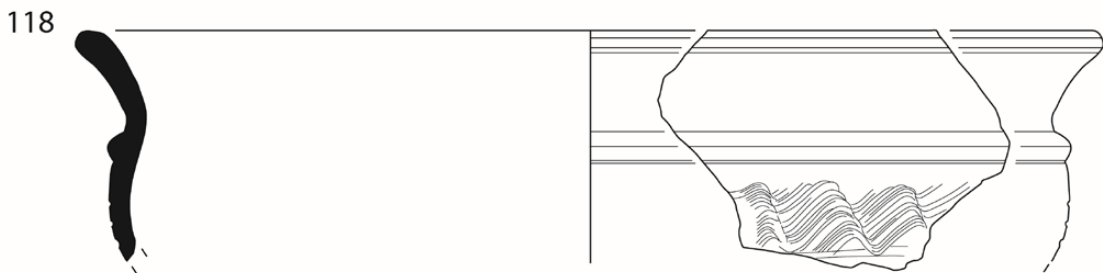
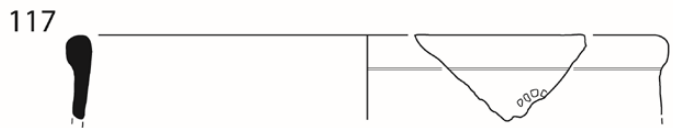
112 Jar in Black-burnished ware (Gillam 1976, Nos 4-5). Late second to early third centuries.

113 Flanged bowl in light orange fabric. Possibly part of a bowl derived from the samian form 44, popular in Caerleon Ware

114 Tazza in a hard coarse grey-brown fabric with burning on the floor internally. Further fragments come from C718 (Phase 5 robber trench). The context also included a fragment of what may be a small tazza in Caerleon ware.



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115 Flanged bowl in Black-burnished ware (Gillam 1976, No. 36). Mid-second century. One of two Black-burnished second century flanged bowls.

#### GROUP 3098

**C3107** (kerbed structure in main yard): Included a burnt Oxfordshire white mortarium. Although the flange is largely missing, this is probably Young 1977, M17. Mid- to late third century.

#### *PHASE 3: Dereliction and demolition of the store building*

This phase includes some medieval and post-medieval contamination, but is overwhelmingly late Roman (mid-third to fourth centuries). Rooms 4, 5, 6 and 7 all show some signs of such intrusions (presumably from stone robbing), whereas Rooms 1, 2 and 3 have material up to the fourth century but no further. It should be noted, however, that the Roman pottery assemblage is probably earlier than that from Phase 4. The coin from (C3027) takes this phase at least to the mid-fourth century.

#### GROUP 712

**C712** (deposit sealing the dismantled wall between Rooms 2 and 3): The context included South Gaulish samian forms 27, a probable Curle 11, and the flange from an Oxford red colour coated bowl of Young 1977, C52 type (mid-third to fourth centuries).

#### GROUP 2000

**C2001** (deposit sealing flagging in entranceway): With the exception of a fragment of late eighteenth to nineteenth century creamware, the context contained only Roman pottery. This included the base of an eggshell ware bowl (probably late first to early second centuries), third to fourth century Black-burnished ware, and

116 Samian form 37 in a bright orange fabric with an orange slip, probably from Lavoye. At the base of the design is a row of six-petal rosettes, truncated by a basal groove (cf. Chenet and Gaudron 1955, 216-7, I and 218-9, D and E). Above is what is probably part of the prancing figure, O.677A (Ricken 1934, Taf. 12,31; Chenet and Gaudron 1955, 218-9, G). The leg of another figure (possibly a repeat of O.677A) overprints a distinctive square type with dots in the corners and a toothed circle within (Chenet and Gaudron 1955, 212-3, D; Fölzer 1913, Pl.28. 439). Mid- to late second century.

117 Bowl in Oxfordshire colour coated ware, orange with traces of a red slip and with an impressed rosette design (Young 1977, C70), and dated by Young to c. 325-400+.

**C2000** (deposit sealing flagging in entranceway): Included South Gaulish samian, form Curle 11, a Black-burnished jar with obtuse angled lattice (late third to fourth centuries), a micaceous black fabric found at Caerwent in third and fourth century levels (Caerwent Fabric D) and an Oxford mortarium of Young 1977, type M17 with broken flange (mid-late third century). A single sherd from a bowl with internal green glaze is probably late medieval or early post-medieval.

**C2002** (deposit sealing flagging in entranceway): Roman pottery included South Gaulish samian form 18/31 and a highly micaceous upright rim, probably from a third-fourth century mortarium derived from the samian form 45 but much imitated in late colour coated fabrics. Also medieval green glazed jug fragments, trailed slipware of seventeenth or early eighteenth century date and post-medieval stoneware bottle fragments.

#### GROUP 2022

**C2023** (deposit in Room 2): With a fragment of Terra Nigra bowl (probably as Greene 1979, Fig. 47, 34-8, Flavian) and a flanged bowl in orange, similar to Cat 113 and a coin of 260-300:

118 Wide mouthed jar in a smooth fabric which varies from light brown externally to light grey internally. Probably a local version of a form commonly found in South Wales Reduced ware (Manning 1993, Fig. 112, 41.1). Second century.

119 Flanged bowl with internal lid seating in coarse light orange. The form is one associated by Vivien Swan with an African style of cuisine (Swan 1992, Fig. 4, 77-83 for other Caerleon examples). Swan associates these and other forms of North African derivation with African recruits to the legions. While certainly possible, modern parallels suggest that use of a particular style of cuisine or its utensils need not necessarily indicate anything about the ethnic origin of the user. In their discussion of similar vessels from Bearsden on the Antonine Wall, Bidwell and Croom suggest that this type of vessel may have been produced by potters who migrated from the Mediterranean, perhaps from a southern Gaulish offshoot of the North African potteries (in Breeze 2016, 180-1). Probably later second or third centuries.

**GROUP 2059**

**C2059** (CBM-rich deposit in Room 1): Contained a fragment of beaker in light orange fabric with traces of mica dusting externally. Also a coin dated 286-93.

**C2082** (CBM-rich deposit in Room 1): Included a Black-burnished ware jar wall sherd with obtuse angled lattice (late third-fourth centuries) and a Central Gaulish samian mortarium form 45. Samian mortaria are extremely rare in the fortress, though common in the civil settlement (Webster 2013, 217-19).

**GROUP 3028**

**C3028** (Room 8, CBM-rich deposit): Along with a fragment of Oxfordshire white mortarium (third-fourth centuries) and a Black-burnished jar sherd with obtuse angled lattice beneath a horizontal line (late third-fourth centuries) was a medieval jug sherd in light grey with a buff surface and green glaze with brown strip externally (probably thirteenth-fourteenth centuries).

**C3067** (topmost deposit in Room 6):

120 Medieval jug in a grey fabric with oxidised surface and green glaze externally thinning almost to a transparent glaze on the neck interior. Broken near the handle (Barton 1963, Fig. 1, 16). Probably thirteenth-fourteenth century.

**GROUP 3072**

**C3068** (topmost deposit in Room 6): Included Black-burnished ware with obtuse angled lattice (late third-fourth centuries) and an Oxford red colour coated bowl (Young 1977, C51.6). Mid-third to fourth centuries.

**GROUP 3077**

**C3071** (topmost deposit in Room 5) included South Gaulish samian, form 35, fragments of an Oxfordshire colour coated bowl (Young 1977, C45), late third to fourth century, a curved rim jar in orange and a flanged reed rim bowl in light grey, with a fragment of medieval cooking pot, and

121 South Gaulish samian cup base, form 27g, with the stamp DONTIO, die 10a of Dontio of La Graufesenque (NOTS3, 319-321) C. 60-85.

**GROUP 3078**

**C3078** (Room 5, decay? accumulation): Included fragments of two tazze, one orange and the other light orange with a white slip; also, a medieval green glazed

flagon base and a late medieval jar rim in orange with an applied and thumbled strip immediately below the rim.

**C3079** (Room 5, decay? accumulation): Included Central Gaulish samian form 33. c. 120-200.

**GROUP 3084**

**C3027** (rubble over CBM, Room 7). With a jar fragment joining Cat 128 below, the rim of an Oxford colour coated bowl, probably Young 1977, C51 or similar (mid-third to fourth centuries), the rim of a Black-burnished ware jar, Gillam 1976, type 11 (late third to early fourth centuries) and coins, the latest of which is dated 347-8, and

122 Flanged and ridged bowl in Black-burnished ware (Gillam 1976, No. 46). Late third-early fourth centuries.

123 Flanged and ridged bowl in a slightly micaceous dull orange fabric with a grey core. Possibly derived from the late third and fourth century Black-burnished ware bowls.

124 Straight sided dish in a micaceous light grey with a dark grey surface. This is probably Caerwent Fabric D from the later Roman period.

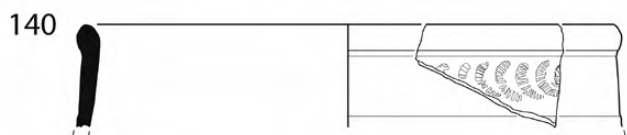
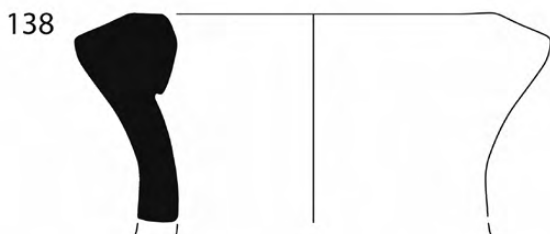
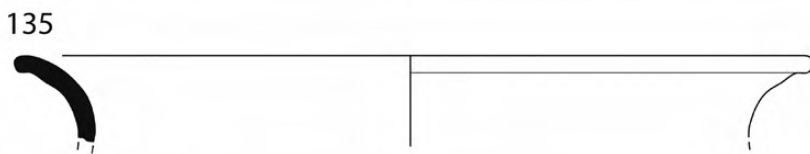
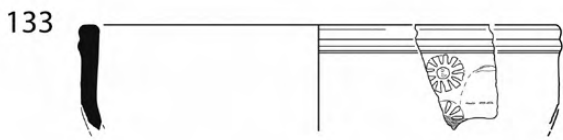
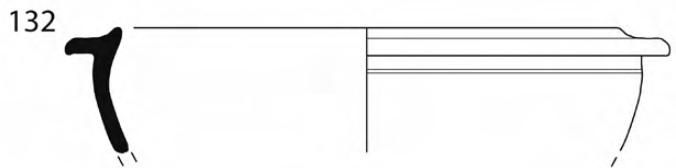
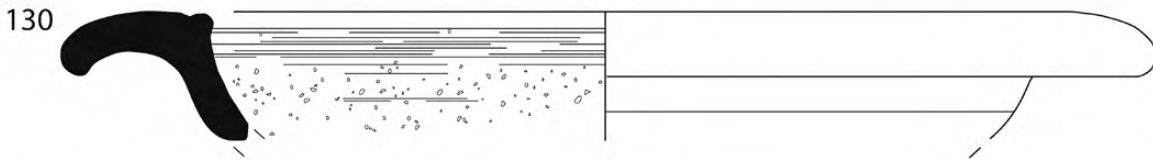
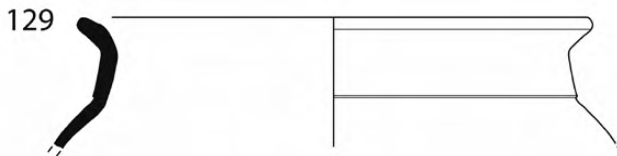
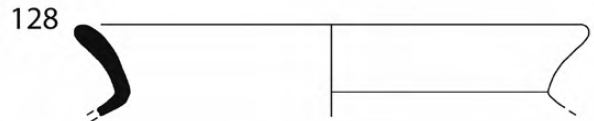
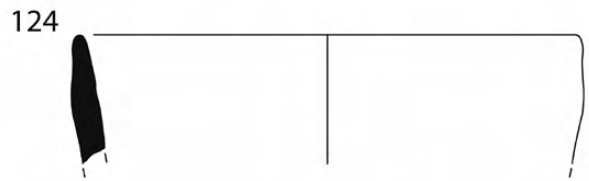
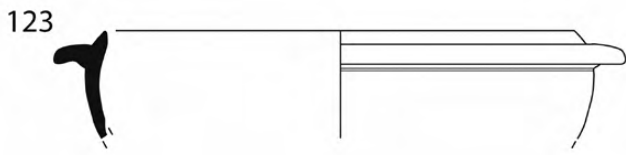
**C3047** (CBM-rich deposit in Room 7): Included a scrap of South Gaulish samian cup and a Black-burnished ware jar (Gillam 1976, No. 11), late third-early fourth centuries. Also coins, the latest of which is dated 260-300, and

125 Cup in Caerleon Ware, light orange with traces of an orange red slip. An imitation of the samian form 33 (Webster and Webster 1998, Fig. 2,32) C. 110-160.

**C3063** (CBM-rich deposit in Room 7): The assemblage is entirely Roman and mainly late first or early second century, including South Gaulish samian form 18 and a Verulamium mortarium rim. But three sherds of a jar in a dark grey micaceous fabric (Caerwent Fabric D, see Cat 124), a mortarium sherd in South West White Slipped ware, and a fragment of Black-burnished jar rim of Gillam 1976, Nos 12-14 type extend deposition into the later Roman period.

**C3065** (CBM-rich deposit in Room 7): This later Roman collection included a Black-burnished jar wall sherd with obtuse angled-lattice below a horizontal line (late third to fourth centuries) and coins including one of 286-93, and

EXCAVATION OF THE PRIORY FIELD STORE BUILDING IN CAERLEON



0 100 mm

- 126 Beaker in Oxfordshire colour coated fabric, orange with traces of an orange-red slip. Probably from a beaker such as Young 1977, C23. Late third to fourth centuries.
- 127 Jar in Black-burnished ware (Gillam 1976, No. 10) Late third century.
- 128 Jar in a micaceous grey fabric shading to brown at the core. Smoothing the surface has increased the micaceous finish. Probably Caerwent Fabric D and intended to be reminiscent of Black-burnished jars such as Cat 127 (Manning 1993, Fig. 110, 22.2). A joining fragment comes from C3027. Third century.
- C3084** (deposit in Room 7): Contained items mainly or wholly of the first and early second centuries. This included South Gaulish samian form 18/31 or 18/31R (c. 90-110), two fragments of a Lyons beaker (mid-first century), and
- 129 Necked jar in light buff fabric.
- 130 Mortarium in light buff fabric; Gillam 238 type from northern Gaul (Hartley 1977, Fig. 2.1, 3F; Hartley 1998, 200-209; Hartley, Tomber and Webster 2006, 22-4). Mid-first to early second century.
- C3086** (deposit in Room 7): The assemblage appears to be entirely first or early second century. It includes South Gaulish samian forms 15/17 and 37, curved rim jars, a flanged bowl, a mortar-like bowl, and
- 131 Beaker in thin grey fabric with a darker somewhat micaceous grey surface. This seems thin enough to class as 'eggshell' and, although perhaps related to Greene's 'Eggshell Terra Nigra' (1979, 120-2), it does not have its 'sandwich' colouration in the break.
- C3087** (deposit in Room 7): With a South Gaulish samian bowl, perhaps form 37, a local white slipped mortarium (late first to early second centuries), the base of a Black-burnished ware jar which is probably third or fourth century, two Black-burnished ware dishes as Cat 101 and coins, the latest of which is dated 270-400, and
- 132 About one third of the rim of a flanged bowl in light red, probably related to those found in Caerleon Ware (Webster and Webster 1998, Fig. 4, 69-71). Probably second century.
- 133 Bowl in light pink fabric with a dull reddish pink colour coat; presumably an Oxfordshire product in view of the stamped large rosettes
- below the double beaded rim (Young 1977, C73.2). Late third to fourth centuries.
- PHASE 4: Post-Roman masonry buildings*
- The pottery from Phase 4 deposits poses a number of problems. The total assemblage is small and dominated by residual material. There is one probably post-medieval piece (from Group 728, C728), otherwise, the collection is entirely Roman and would be compatible with a late Roman assemblage. It certainly contains some of the few vessels likely to belong to the second half of the fourth century (Cats 134-137 in Group 210, C210). The single coin from (C304 / G337) is dated 364-75. However, the occupation phase also produces radiocarbon dates between 430 and 600, which would take it into a period when new Roman coinage had ceased to reach Britain and when, it is often assumed, little if any pottery was being produced from Romano-British kilns. Even if the pottery supply dried up, those pots still in circulation are likely to have been kept in use as long as possible and probably long beyond the normal 'life-span' of pots in the first to mid-fourth centuries. It thus seems possible that those items dated 'mid-late fourth century' below did survive well into the fifth century. Equally, with increasing evidence elsewhere for the survival of Roman style structures beyond 400, it may be that pottery production did not cease as early as was once thought.
- GROUP 210**
- C210** (Occupation deposit): Included South Gaulish samian form 18, Central Gaulish samian forms 31, 31R (three sherds) and 33, a Gillam 238 mortarium base, an abraded bowl in Oxford colour coated fabric (Young 1977, C45), at least two straight-sided dishes in Black-burnished ware, two Black-burnished ware jars (Gillam 1976, type 11-12), a coin dated 330-5, and
- 134 Jar in Black-burnished ware. The extreme flare of the rim suggests a date at the very end of the Black-burnished ware jar series (Wheeler and Wheeler 1932, Fig. 26, 32). Probably second half of the fourth century.
- 135 Jar in Black-burnished ware. This appears to be from a vessel with both flaring rim and tapering body (Manning 1993, Fig. 126, 22.3). Mid- to late fourth century.
- 136 Jar in Black-burnished ware; an even more extreme example of a flaring rim. Mid- to late fourth century.
- 137 Flanged and ridged bowl in Black-burnished ware (Gillam 1976, Nos 48-9). Fourth century.

**C211** (fill of shallow pit): Contained fragments of Black-burnished ware jar and bowl, including Gillam 1976, Nos 12-14 (fourth century) and an Oxfordshire colour coated bowl. Mid-third to fourth centuries.

**C213** (possible surface in Area A): Included a Central Gaulish samian bowl form 31R (c. 160-200), a Caerleon Ware roughcast beaker, Black-burnished ware including a later third or fourth century jar rim (missing its outer edge), and

138 Dressel 20 amphora in buff with a white surface Martin-Kilcher type 36 (Peacock and Williams 1986, Fig. 66). Mid- to late second century.

#### GROUP 337

**C304** (upper fill of pit): The context contained only three sherds of pottery: a Central Gaulish samian form 37, probably by Iullinus (c. 150-180), a sherd of Black-burnished jar base and the rim of a South Wales Reduced ware jar with a flaring rim (probably third to fourth century). The context also includes a coin of c. 364-378 and a radiocarbon sample dated c. 420-575.

**C338** (lining of pit): Contained only a single sherd of Roman South Wales Reduced Ware.

#### GROUP 350

**C350** (occupation deposit / surface): Contained only small scraps of pottery including a South Gaulish samian bowl, an Oxford colour coated bowl and a grey jar with flaring rim. Probably late third or fourth centuries.

#### GROUP 403

**C307** (bonding for wall): Included a piece of what may be decorative Roman tile, a worn second century mortarium, South Gaulish samian form 18, and

139 Jar in Black-burnished ware. The angle of the rim suggests a fourth century date.

**C318** (bonding for Post-store building wall):

140 Bowl in Oxfordshire red colour coated fabric, orange with an orange-red colour coat and impressed partial rosettes (Young 1977, C84) C. 350-400.

#### GROUP 409

**C411** (wall collapse): Contained a very worn fragment of South Gaulish samian bowl, probably form 37, and a portion of the wall of a Black-burnished ware bowl.

#### GROUP 701

**C701** (rubble in Room 2, possibly reused as a surface): Included a series of post-medieval ceramics (porcelain, pearlware, eighteenth to nineteenth century stoneware, Westerwald stoneware, tin glazed earthenware and glazed redware, as well as Bristol/Staffordshire slipware and clay pipe stems with two seventeenth century pipe bowls. Medieval pottery included an unglazed fragment of a Saintonge jug, the spout of a green glazed jug probably from Bristol and other jug fragments. Roman pottery included an East Gaulish samian bowl base and a Central Gaulish samian dish form 31, Oxford red colour coated bowls (probably Young 1977, types C45 and C51) and an Oxford beaker (both mid-third to fourth century), an Oxfordshire white mortarium and a straight-sided dish in Black-burnished ware. There were also coins including one of 350-53, and

141 Jar in Caerwent Fabric D as Cat 128 and of similar date.

142 Flanged and ridged bowl in Black-burnished ware (Gillam 1976, No. 47). Fourth century.

**C2079** (rubble deposit in Room 2, possible surface):

143 Flanged and ridged bowl in Black-burnished ware (Gillam 1976, Nos 45-6). Late third to early fourth centuries.

#### GROUP 703

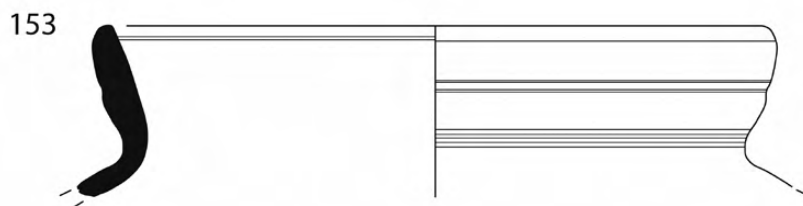
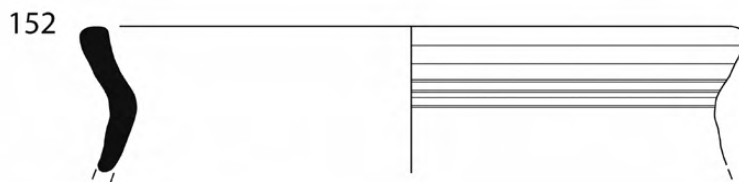
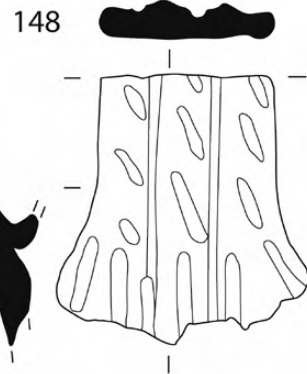
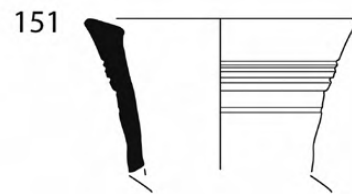
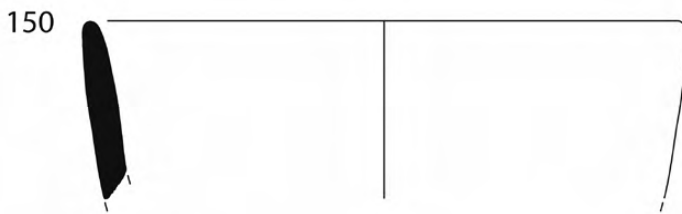
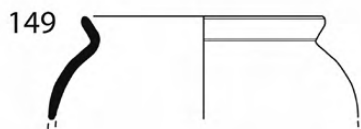
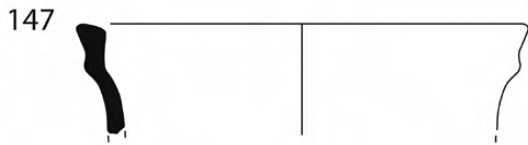
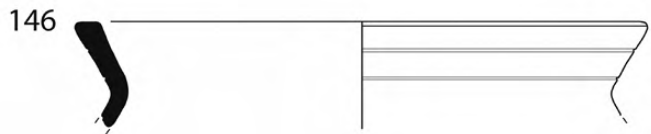
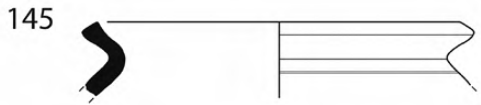
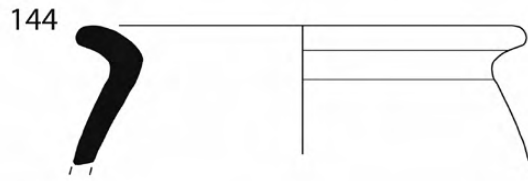
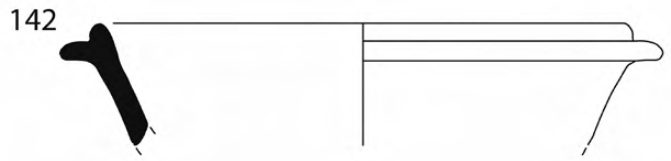
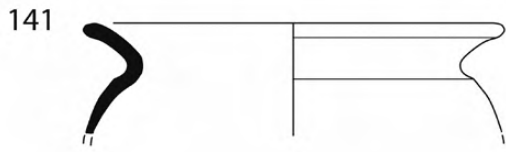
**C728** (bedding for 703 or accumulation below 703): Contained a small fragment of a very hard buff wheel-made pottery and possibly a shallow foot-ring. There are no obvious Roman parallels and a later (post-medieval) date seems possible.

**C703** (wall): Included South Gaulish samian forms 27 (a worn fragment) and 37.

#### GROUP 3006

**C3006** (topmost rubble in Room 7) contained Nene Valley colour coated ware including a folded beaker, an Oxfordshire red colour coated mortarium (mid-third to fourth centuries), the rim of an Oxfordshire colour coated bowl (cf. Young 1977, C63-6, C71-3), mostly fourth century, a curved rim jar in South Wales Reduced ware reminiscent of late third to fourth century Black-burnished ware jars, and

144 Jar in a black and burnished fabric with an angular broken stone filler. Presumably intended to be reminiscent of Black-burnished ware, in which case the angle of the rim suggests a late third or fourth



century date. A basal sherd from a similar or the same jar comes from (C3004).

#### GROUP 3008

**C3008** (Post-store building wall above courtyard) included a jar in Caerwent Fabric D and a Black-burnished ware jar with a flared rim of later third or fourth century type, and a coin dated 270-400.

#### *PHASE 5: Wall robbing*

Most of the pottery from stone robbing contexts presumably derives from Roman levels. Intrinsically interesting pieces are noted below. Otherwise, the Catalogue concentrates on items that help date the robbing activity. It is noticeable that the occupation levels of the main masonry building contain very little Central and East Gaulish samian, but that some substantial fragments of later samian forms appear in Phases 4 and 5. It seems possible that late- and post-Roman activity has moved these from elsewhere in the fortress.

The robber trenches include a mix of pottery up to the nineteenth or twentieth centuries. To some extent this must be a measure of their essentially unsealed nature, close to the modern ploughsoil. Fourth century pottery and coinage present could mean that robbing began in the late Roman period, although the amount of medieval pottery from the twelfth-fourteenth centuries seems to be significant and it may be suggested that much robbing dates from this time, continuing intermittently through the post-medieval and modern periods.

#### GROUP 315

**C315** (robbing of the main external west wall): Included the rim of a mug in banded creamware (early to mid-nineteenth century).

**C343** (robbing of the main external west wall): Included a straight-sided dish in Black-burnished ware and a fragment of medieval green glazed ridge tile.

**C2005** (robbing of the main external west wall): A few pieces of pottery coated in mortar included a grey bowl intended to be reminiscent of the samian form 37. The context also included South Gaulish samian form 37 (probably c. 90-110), a bowl, a Dressel 20 amphora stopper, a Caerleon Ware roughcast beaker (c. 110-150), a Black-burnished ware jar (Gillam 1976, Nos 12-14) from the fourth century, medieval green glazed jug fragments, a small fragment of Staffordshire/Bristol slipware (later seventeenth-earlier eighteenth centuries), and

145 Cooking pot in grey granular fabric with a brown surface internally and a grey one externally (Lewis 1966, Fig. 3,3). Probably thirteenth century.

**C2048** (robbing of the main external west wall): Included a large sherd of Black-burnished ware jar (Manning 1993, Fig. 126, 22.6), late fourth century, and a green glazed medieval jug (probably from Bristol and thirteenth-fourteenth century).

**C3009** (robbing of the main external west wall): Contained mainly Roman pottery including Dressel 20 and Camulodunum 186 amphorae, a flanged bowl in orange, a Black-burnished ware jar (Gillam 1976, Nos 12-14), fourth century, and part of a Roman green glazed bowl. In addition there were also coins, the latest of which is dated 307-18, and a small fragment of pearlware plate (nineteenth century).

**C3012** (robbing of the main external west wall): Includes a South Gaulish samian plate (?form 18) with a fragmentary stamp JCA (c. 70-90), a mid-late first century flagon neck, a reed rim flanged bowl with mortar adhering (late first to early second centuries), Caerleon Ware, a local white slipped redware mortarium, a second century Black-burnished ware jar burnt, an Oxford red colour coated bowl base (mid-third to fourth century), three later third century coins, a medieval jug handle probably from Bristol, and

146 Rim in buff fabric with a grey core and green glaze internally. Perhaps a pipkin and later medieval.

**C3020** (robbing of the main external west wall): Included two late third century coins, a medieval cooking pot sherd with applied strip decoration, and a medieval green glazed jug, probably from Bristol.

#### GROUP 608

**C608** (robbing of the ambulatory wall): Contained a fragment of similar black glazed mug to that from C1002 below as well as a Saintonge monochrome green-glazed jug (late thirteenth-fourteenth centuries) and a fourth century Black-burnished ware jar (Gillam 1976, No. 14).

**C802** (robbing of the ambulatory wall): With a large sherd of Dressel 20 amphora and a Black-burnished ware jar (Gillam 1976, No. 11), late third-fourth centuries, and other Roman sherds, a medieval or later ridge tile, green glazed redware plates (probably seventeenth-eighteenth centuries), other green and brown glazed redware (eighteenth to nineteenth centuries) and a small collection of medieval pieces including cooking pot, a twelfth century tripod pitcher, and

- 147 Jug rim in grey fabric shading to light buff on the surface with a light green-brown glaze externally. **C2052** (robbing of the main internal East wall): Included a Black-burnished ware jar with obtuse angled lattice (late third to fourth centuries).
- 148 Handle from a very large jug or pitcher in red-buff with a dark grey core and green glaze on the upper surface. The style of decoration is found at the Bristol Ham Green kilns (Barton 1963, Fig. 4). Mid-twelfth to thirteenth centuries. **C2081** (robbing of the main internal east wall): Included a basal fragment of South Gaulish samian form 23 (mid-first century). **C3044** (robbing of the main internal east wall): Included a small fragment of medieval green glazed jug, probably from Bristol, and

**C906** (robbing of the ambulatory wall) included the rim of a Black-burnished ware jar (Gillam 1976, Nos 12-14), fourth century, but also a bowl in red with speckled green glaze both internally and externally (probably late medieval) and green-glazed redware of eighteenth to nineteenth century date.

**C1002** (robbing of the ambulatory wall): Contained late Roman pottery including an Oxfordshire colour coated bowl (Young 1977, C45), a Nene Valley colour coat, and a Black-burnished ware jar (Gillam 1976, 12-14), fourth century, a coin dated 286-93 but also a range of medieval pottery. This included a fragment of a Saintonge Pégau (thirteenth-fourteenth century), a green glazed jug in grey with orange internal surface, another in buff with a grey core, medieval cooking pots and medieval glazed roofing tile. The latest piece was a small red earthenware mug with black glaze on all exposed surfaces in the 'Cistercian Ware' tradition (fifteenth-sixteenth century).

#### GROUP 709

**C709** (robbing of the main internal east wall): Included a fragment of Lyon beaker (mid-first century) and an Oxfordshire beaker base (mid-third to fourth centuries).

**C816** (robbing of the main internal east wall): With a fragment of Oxford colour coated bowl, Young 1977, C45 (mid-third-fourth century), and

- 149 Everted rim jar in light orange with traces of a mica dusted surface externally. Probably late first to early second centuries.

**C905** (robbing of the main internal east wall): Included an Oxfordshire red colour coated mortarium, a medieval green glazed ridge tile, a green glazed jug probably from Bristol (twelfth-thirteenth centuries) a medieval jug base in light grey with thin green glaze and from a very narrow vessel (thirteenth-fourteenth centuries), and

- 150 Straight sided dish in Caerwent fabric D. Probably third to fourth centuries.

- 151 Jug rim in red fabric with a grey core. The exterior has the decayed remains of green glaze. The relatively smooth fabric suggests a late medieval or early post-medieval date.

#### GROUP 715

**C716** (robbing of the ambulatory wall): Included a medieval green glazed jug, probably from Bristol, a medieval green glazed roofing tile, the rim of a sgraffito plate (probably seventeenth or early eighteenth century) and a small sherd of white tin-glazed earthenware (seventeenth-eighteenth century) and a sherd of a globular stoneware flask (probably seventeenth century).

#### GROUP 718

**C718** (robbing of the wall between Rooms 2 and 3): Contained two tazza fragments joining Cat 114.

#### GROUP 2019

**C2006** (possible robber trench for the wall between Rooms 4 and 5):

- 152 Medieval cooking pot in a grey sandy fabric with a buff/cream surface. The vessel is wheel-thrown and the original form must have been cauldron like.

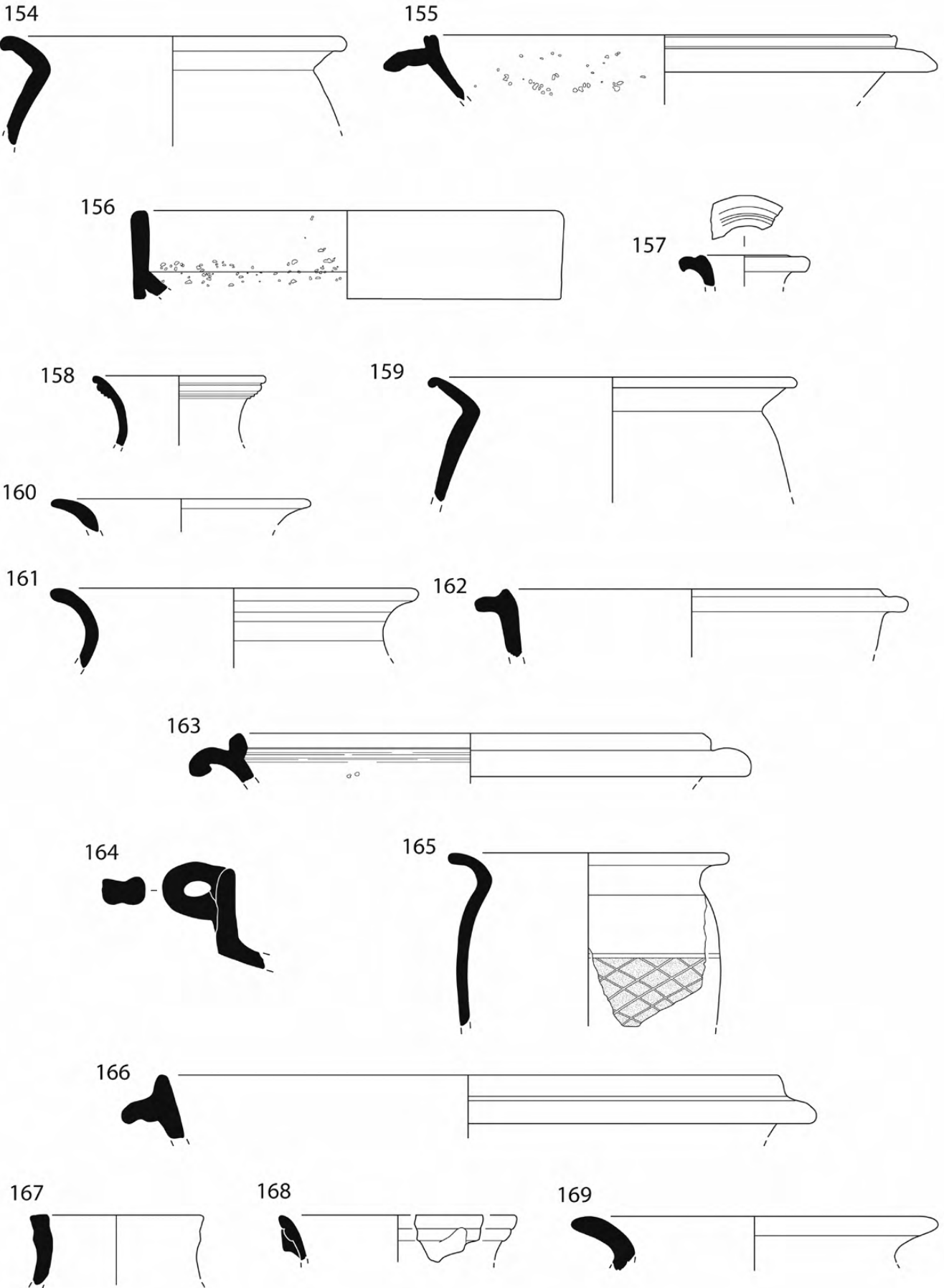
#### GROUP 2040

**C2020** (robbing of the wall between Rooms 1 and 2): Included a fragment of green glazed roof tile, a wall sherd of the calcite gritted and thin green glazed fabric associated with tripod pitchers (twelfth century), other green glazed jug fragments, and

- 153 Rim, probably of a pitcher in gritty orange fabric with a grey core and green glaze on the rim internally.

Among the late Roman pieces from this context, the following amplify the overall picture:

EXCAVATION OF THE PRIORY FIELD STORE BUILDING IN CAERLEON



- 154 Jar in Black-burnished ware (Gillam 1976, No. 13-14). Fourth century.
- 155 Oxfordshire white mortarium (Young 1977, M19). Mid-third to fourth centuries.
- 156 Mortarium in Oxfordshire red colour-coated fabric (Young 1977, C97). Mid-third to fourth centuries.
- 162 Flanged and ridged bowl in Black-burnished ware (Gillam 1976, No. 46). Late third to early fourth centuries.
- 163 Mortarium now burnt grey but probably originally buff. An Oxfordshire product (Young 1977, M17). Mid-to late third century.
- 164 Straight sided bowl in Black-burnished ware with a handle. Possibly originally an oval dish (Gillam 1976, No. 85). Probably late third to fourth centuries. The context included at least two other straight sided dishes, one with a beaded rim.

**GROUP 2057**

**C2057** (robbing of the wall between Rooms 0 and 1): Contained a small fragment of green glazed medieval jug probably from Bristol (thirteenth-fourteenth centuries).

**C2058** (robbing of the wall between Rooms 0 and 1): Contained a fragment of medieval green glazed jug in a grey fabric with a speckled glaze.

**GROUP 3004**

**C3003** (beneath the rubble in the courtyard): Included a burnt buff mortarium with grey stone trituration grit, Black-burnished ware with obtuse angled lattice (late third to fourth century) and a thin walled possible bowl in light grey fabric with olive green glaze on both surfaces, probably a local late first to early second century product. The context also yielded a coin dated 347-348.

**C3004** (robbing debris overlying yard): Included five mainly third century coins, Central Gaulish samian form 31 or 31R, Oxfordshire red colour coated bowls (Young 1977, C45 and C51 or similar), mid-third to fourth centuries, and a mortarium (Young 1977, C97 or similar), mid-third to fourth centuries, a probable Nene Valley colour coated box, a fragment of white eggshell ware, at least three curved rim jars in grey fabric, and

- 157 Flagon or flask in grey South Wales Reduced fabric.
- 158 Handled jar in an orange sandy fabric shading to a grey micaceous surface
- 159 Jar in Black-burnished ware (Gillam 1976, No. 11). Late third to early fourth centuries. One of two similar jars.
- 160 Jar in Black-burnished ware (Gillam 1976, Nos 12-14). Fourth century. One of two similar jars.
- 161 Jar in South Wales Reduced ware

A green glazed medieval ridge tile fragment appears to be intrusive in this otherwise late Roman assemblage.

**C3023** (robbing debris overlying the yard): Included the apex of a tile antefix, Central Gaulish samian form 31R (c. 160-200) and 45 (c. 180-200), four joining sherds of East Gaulish samian form Ludowici Sb (mid-second to early third century), at least one Black-burnished jar with flaring rim as Cat 136 above (mid- to late fourth century), and

- 165 Jar in Black-burnished ware (Gillam 1976, No. 13). Fourth century.
- 166 Flanged and ridged bowl in Black-burnished ware (Gillam 1976, No. 49). Fourth century. One of three flanged and ridged bowls.

Small sherds of medieval cooking pot and post-medieval brown glazed redware indicate some contamination, as does a piece of white plastic.

**GROUP 3032**

**C3032** (robbing of the wall between Rooms 5 and 6): Included South Gaulish samian form 37 with zonal decoration (c. 70-90), Central Gaulish samian form 31R (c. 160-200), Moselkeramik (mid-second to mid-third centuries), Oxfordshire red colour coated bowls (Young 1977, C45 and C51, mid-third to fourth centuries), fragments of at least three green glazed medieval jugs including one probably from Bristol with a frilled base, a coin dated 330-40, but also a small fragment of slip decorated red ware (probably seventeenth-early eighteenth centuries).

**C3052** (robbing of the wall between Rooms 5 and 6): Included a very small fragment of green glazed medieval jug, probably from Bristol.

**C3056** (robbing of the wall between Rooms 5 and 6): included a coin dated 286-93, a piece of tin-glazed earthenware (seventeenth-eighteenth centuries), blue glazed white, probably also tin glazed and of a similar date, a late medieval bowl glazed internally, and

167 Medieval jug rim in grey with a light red surface and green glaze externally.

Roman sherds included South Gaulish samian form 27 and 37, East Gaulish samian form 31R, a bowl reminiscent of the samian form 37 in a fabric akin to Terra Nigra (Flavian) and two sherds of thin whiteware.

#### GROUP 3045

**C3045** (robbing of the wall between Rooms 7 and 8): Included burnt South Gaulish samian, form 37, a coin dated 286-93, a small fragment of green glazed jug probably from Bristol, and a fragment of medieval green glazed ridge tile.

#### GROUP 3055

**C3055** (robbing of the wall between Rooms 6 and 7): Included South Gaulish samian form 37, an Oxfordshire red colour coated beaker as Young 1977, C23 (late third-fourth century, a coin of 260-300, a small fragment of Saintonge jug (thirteenth-fourteenth centuries) and what may be a modern flower pot base.

#### *PHASE 6: Medieval and early-modern occupation*

The pottery from the latest buildings on site presents a problem. Stratigraphically these contexts are close to the plough soil and some recent contamination can be expected. On the evidence of the pottery, one could argue for a date from any period from the late Roman to the recent. However, there is sufficient medieval pottery to suggest activity in the thirteenth to fourteenth centuries, and later into the post-medieval period also (although some of this material might be the result of agricultural activity and wall robbing).

#### GROUP 103

**C101** (Area A, deposit over yard): Included a Caerleon Ware beaker and part of the rim/handle junction of a Saintonge monochrome green jug, but is probably dated by a substantial fragments of a large pan with internal yellow green glaze of probably eighteenth to nineteenth century date.

**C102** (Area A, deposit over yard): Included late Roman pottery including an abraded and burnt flanged and ridged bowl in Black-burnished ware but also a mixture of medieval and some post-medieval pottery, including black glazed earthenware of 'Cistercian' type and

green glazed red earthenware (probably eighteenth to nineteenth centuries).

**C103** (Area A, deposit over yard): Contained only medieval and post-medieval pottery, including green glazed roofing tile, post-medieval green glazed ware and North Devon Gravel tempered ware (mid-seventeenth to eighteenth centuries).

#### GROUP 202

**C202** (possible surface): Post-medieval pottery included a seventeenth century clay pipe bowl fragment, mottled brown glaze on redware (possibly a tea pot), post-medieval green glaze and a Bristol/Staffordshire slipware cup, as well as medieval green glazed jugs and roof tile. Seventeenth/eighteenth century activity can be suggested. Roman pottery was mostly third-fourth century, but there was also a Les Martres samian form 37 (c. 100-120), a Central Gaulish samian bowl form 31R (six fragments), a burnt form 31 and a mid-late Antonine form 37, two fragments of East Gaulish form Ludowici Sb, along with Moselkeramik (a cup and an indented beaker). Later pottery included a base in Nene Valley colour-coated fabric (probably a late bowl) and an Oxford colour coated beaker with white painted decoration, and Black burnished ware (a deep straight sided dish, a shallower dish with intersecting arc decoration, two flanged and ridged dishes and at least one late jar and a probable tazza is in granular reddish buff fabric burnt internally. Also:

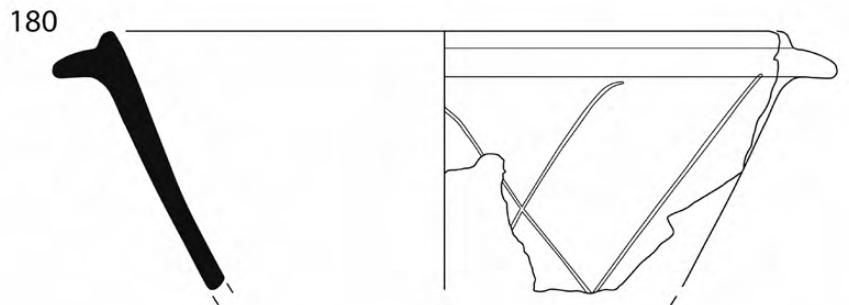
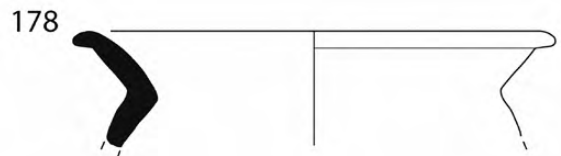
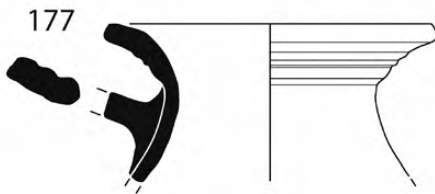
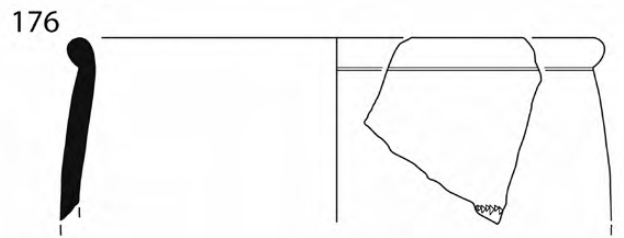
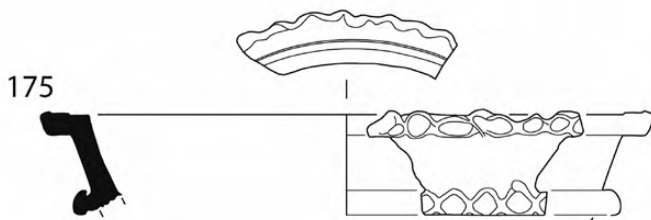
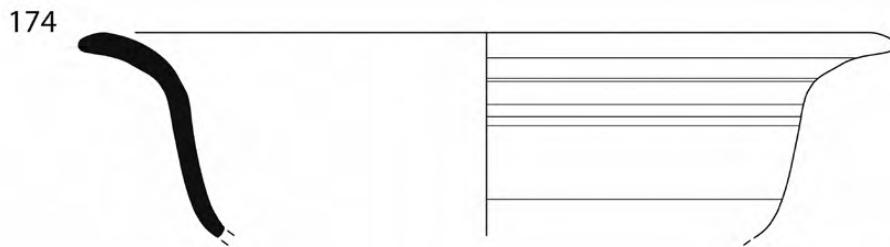
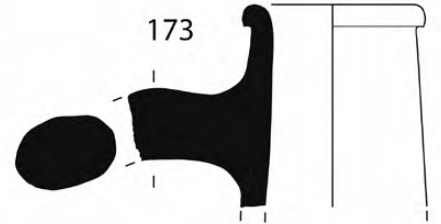
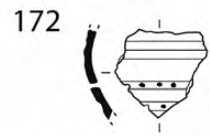
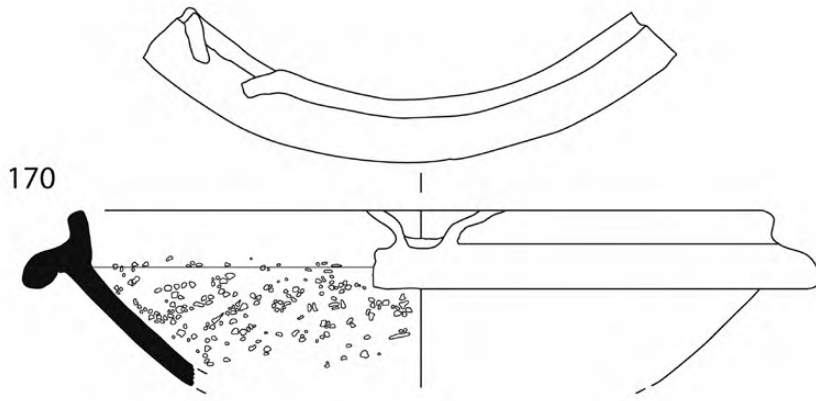
168 Handed jar in grey South Wales Reduced Ware (Manning 1993, Fig. 107, type 2). Probably third to fourth centuries.

169 Jar in Black-burnished ware. The extreme flare of the rim suggests a fourth century date, perhaps in the second half of the century.

170 Oxfordshire white mortarium (Young 1977, M22). Mid-third to fourth centuries.

**C208** (possible surface): Included Central Gaulish samian forms 18/31, 33, 37 and an East Gaulish 'cut-glass' jar, probably form 72. Also, a Dressel 20 amphora handle, at least two late Black-burnished ware jar rims and two tazza fragments, and

171 (Not illustrated] Two fragments of polychrome decorated Saintonge jug(s). One fragment is in apple green and is probably the body of a figure (perhaps a bird). The second has a single brown line from a figure outline (see Brown 2002, 26-7 and Fig. 22-23 for a recent discussion and references). Mid-thirteenth to mid-fourteenth centuries.



**C303** (post-robbing rubble): Contained only Roman pottery, including six fragments of a Les Martres samian cup form 27 (c. 100-150), the exterior of which has the top of a possible graffito.

**C305** (flagged surface): Included a Les Martres samian form 37 by Igocatus (c. 100-110), an East Gaulish samian form Ludowici Sb (c. 160-240), an Oxfordshire white mortarium (Young 1977, M18), mid- to late third century, an Oxford red colour coated flagon and a bowl (Young 1977, C45), Black burnished ware jars (Gillam 1976, Nos 12-14), fourth century, a flanged and ridged bowl (fourth century) and a straight sided dish. There were also a further two fragments of the calcite gritted grey fabric recorded under C410 below, and

172 Colander in Oxfordshire red colour coated fabric. Young records only one sieve form (Young 1977, C118). The rows of rouletted grooves suggest that this is from a different bowl type.

The rim of what appears to be a large modern flowerpot suggests some contamination.

**C308** (post-robbing rubble): With an Oxfordshire colour coated beaker sherd was:

173 Handled flagon in granular buff fabric. Source unknown.

**C334** (surface): contained an Oxfordshire red colour coated beaker (mid-third to fourth centuries) and a Black-burnished ware jar (Gillam 1976, Nos 12-14, fourth century).

**C348** (post-robbing rubble): Contained Central Gaulish samian forms 18/31R, 31, 37 and 38, a shallow bowl in Caerleon Ware, a flared rim from a Black-burnished ware jar (fourth century)

**C402** (flagged surface): Contained only Roman pottery including Central Gaulish samian forms 37 (four fragments probably from the same Antonine bowl), three Black-burnished ware jars (Gillam 1976, Nos 12-14), fourth century, and a flanged and ridged bowl (Gillam 1976, Nos 47-9), also fourth century, a Caerleon Ware mortarium and rough cast beaker an Oxfordshire colour coated flagon, and

174 At least eleven fragments of a wide mouthed jar in South Wales Reduced Ware (Manning 1993, Fig. 113, 43.1). Probably third to fourth centuries.

175 Tazza in light orange fabric with a white slip; a local product (Nash-Williams 1932, Fig. 61, 408-422).

176 Bowl in Oxfordshire red colour coated fabric (Young 1977, C81.2). Fourth century.

**C410** (flagged surface): Included a late Black-burnished ware jar rim (fourth century) and a straight sided dish, Oxfordshire white mortaria (Young 1977, M17 and M22), mid- to late third century, and mid-third to fourth centuries, Oxfordshire red colour coated ware and wall sherds of a jar in grey with calcitic grits, some leached out. The piece has the wavy line decoration found on some South Midlands shell gritted jars (Marney 1989, Fig. 27) but this is not from that source, though perhaps fourth century, and

177 Handled jar in light orange fabric with a grey core.

178 Jar in Black-burnished ware (Gillam 1976, Nos 12-14), fourth century. One of at least two examples.

179 Jar in grey micaceous fabric (Caerwent Fabric D) with a dark grey smoothed surface. Reminiscent of later third and fourth century Black-burnished ware jars and probably of a similar date.

180 Flanged and ridged bowl in Black-burnished ware. Probably fourth century. One of three examples.

181 Flanged and ridged bowl in grey South Wales Reduced ware (Manning 1993, Fig. 115, 57.3). Fourth century. One of two examples.

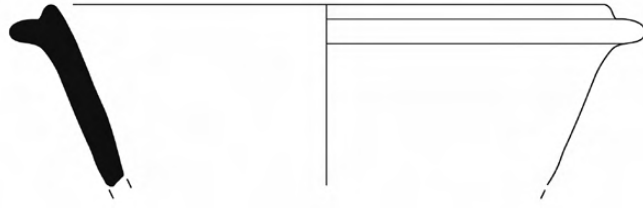
**C416** (post-robbing rubble): mainly contained Roman pottery including Central Gaulish samian forms 31R and 37 and Black burnished ware including a jar (Gillam 1976, No. 10), late third century, and two jars (Gillam 1976, Nos 12-14), fourth century. The samian form 37 has the end of a stamp in the decoration, probably that of Q.I.Balbinus (NOTS 4, 343, die 1a), illustrated as a composite drawing by Déchelette (1904, 253, No. 28) c. 150-180. Also

182 Medieval cooking pot in granular grey to light brown. The rim appears to have a recess, perhaps for a lid (perhaps a variant of Lewis 1966, Fig. 3,8). Possibly twelfth to thirteenth centuries.

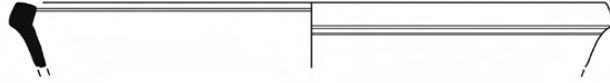
#### GROUP 207

**C302** (saw-pit): Contained a mixture of Roman pottery, including a Camulodunum 186 fish sauce amphora rim, a Black-burnished ware jar and an Oxfordshire red colour coated bowl. Also, a fragment of green glazed

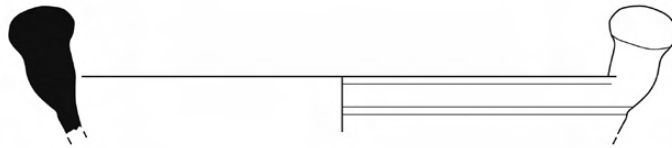
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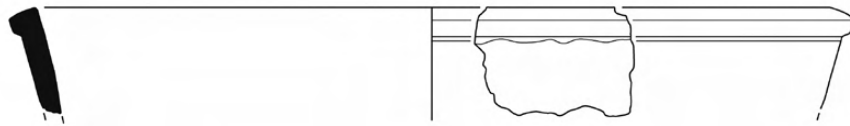
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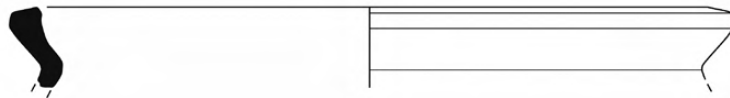
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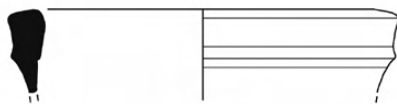
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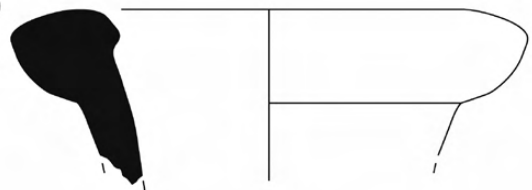
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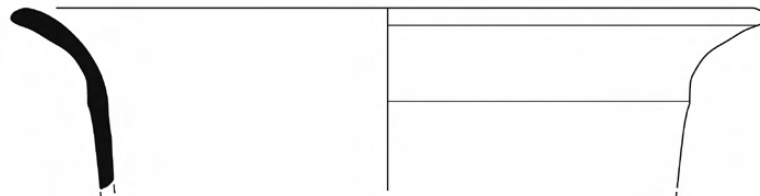
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190



0 100 mm



medieval ridge tile and green glazed jug probably from Bristol.

#### GROUP 422

**C419** (linear cut): Contained only a sherd of Oxfordshire red colour coated bowl with zonal decoration divided by a cordon and with stamped rosettes above and rosettes and lines of dots below (Young 1977, type C84-5). Second half of the fourth century.

#### GROUP 501

**C401** (Area A, post-robbing rubble): Contained fragments of two green glazed medieval jugs, one with light green applied strips.

**C501** (flagged surface): Yielded a mixture of Roman and later pottery. The latter included a fragment of green glazed medieval ridge tile, a medieval green glazed jug with frilled base and three small fragments which are probably post-medieval, a green glazed whiteware mug rim, a possible fragment of tin glazed earthenware (subsequently burnt), and a fragment of 'Whieldon' type ware (mid-eighteenth century), and

183 Chafing dish in red earthenware with a buff surface and green glaze on both surfaces. The extant fragment is broken across a small vent just below the rim. A vessel from the Donyatt kilns is closely similar (Coleman-Smith and Pearson 1988, Fig. 112, 9/46). First half of eighteenth century.

**C602** (Area A, post-robbing rubble): Included pottery from almost all periods: South Gaulish samian forms Ritterling 12 or Curle 11 (c. 60-80), and 27 (probably Flavian), Central Gaulish samian form 37 (probably Antonine), form 79 (c. 160-200), Central Gaulish black slip, a Verulamium mortarium, a Camulodunum 186 amphora, Black-burnished ware (Gillam 1976, Nos 8 and 11), late third to early fourth centuries, an Oxford red colour coated mortarium (Young 1977, C97), mid-third to fourth centuries, a medieval cooking pot, medieval green glaze including jugs, a small fragment of a Saintonge polychrome jug and a thin red tile, probably post-medieval. Among post-medieval pottery was a Staffordshire/Bristol slipware mug (late seventeenth-early eighteenth centuries) a mug with mottled brown glaze (late seventeenth-early eighteenth centuries) and Bristol or Staffordshire slipware with brown and yellow glaze (late seventeenth-eighteenth centuries). Of eighteenth to nineteenth century date were brown glazed redwares, creamware and blue transfer printed ware.

#### GROUP 607

**C607** (post-robbing rubble): Included an Oxfordshire colour coated beaker, a Black-burnished ware straight sided dish, a medieval green glazed jug in buff with a grey core and applied thumbed strip externally.

**C704** (Area A, post-robbing rubble): Contained late third to fourth century Black-burnished ware jars and a small fragment of Saintonge polychrome ware (late thirteenth to mid-fourteenth centuries).

**C705** (Area A, post-robbing rubble): Includes a fragment of wheel-thrown green glazed medieval jug probably from Bristol.

#### GROUP 706

**C706** (Area A, late deposit over the ambulatory robbing) contained Black-burnished ware, a medieval cooking pot rim and a portion of the base of a salt-glazed stoneware flagon, probably of eighteenth century date.

#### GROUP 815

**C815** (Area A, post-robbing rubble surface): Included a Gillam 238 mortarium (mid-first to early second centuries), an everted-rim jar probably of similar date, an Oxfordshire red colour coated bowl (Young 1977, C45), mid-third to fourth centuries, a fourth century Black-burnished ware flanged and ridged bowl burnt white on the surface, and also at least two green glazed medieval jugs, one with applied ridges in an arrow-like formation.

**C910** (surface deposit in Room 1): included two small fragments of green glazed jug but was otherwise late Roman with two examples of fourth century Black-burnished ware jars of Gillam 1976, Nos 12-14 type, a jar in South Wale Reduced fabric of broadly similar date, an Oxfordshire red colour coated bowl with rosette stamps (probably fourth century), an Oxford bowl of Young 1977, C45 type, and

184 (Not illustrated] Straight sided dish in Black-burnished ware (Gillam 1976, No. 83), fourth century. A further fragment comes from (C343).

#### GROUP 907

**C907** (Area A, post-ambulatory robbing): Contained only medieval and post-medieval pottery including a North-Devon sgraffito plate (later seventeenth or eighteenth centuries), mottled brown glazed tankard from Staffordshire or Bristol (late seventeenth to

early eighteenth centuries) and brown glazed redware (probably eighteenth to nineteenth centuries)

#### GROUP 1011

**C1011** (feature cutting robber trenches): Contained a range of late Roman pottery, including an Oxford colour coated bowl (Young 1977, C45), a Black-burnished ware jar (Gillam 1976, Nos 12-14), and a flanged and ridged bowl (Gillam 1976, No. 46) but also a substantial piece of medieval green glazed roof tile, medieval green glazed jug sherds, a sgraffito plate rim (seventeenth-eighteenth century) and a post-medieval green glazed jar rim. A post-medieval date for the feature seems highly likely.

#### GROUP 2034

**C824** (rubble fill of linear cut): included a first to early second century flagon, Black-burnished ware and a sherd of medieval green glazed jug.

**C901** (rubble fill of linear cut): A range of Roman pottery, including a grey flanged and carinated bowl, a late first to early second century buff ring-necked flagon, a Caerleon roughcast beaker, a Köln roughcast beaker, fourth century Black-burnished ware (Gillam 1976, Nos 12-14 and 46), a fourth century Oxford red colour coated bowl with impressed rosettes, an Oxfordshire white mortarium (Young 1977, M22), and a range of medieval vessels including:

- 185 Cooking pot in light brown granular fabric with a grey core, probably formed without the aid of the potters' wheel. The whole vessel probably resembled a metal cauldron and a eleventh-twelfth century date may be suggested (Lewis 1966, Fig. 3,5).
- 186 Cooking pot in brown granular fabric with a grey core.
- 187 Cooking pot in granular reddish-brown fabric shading to grey internally.
- 188 Jug in off white fabric with a grey core. The interior surface is pink, the outer has a thick dark green glaze. A frilled base with lighter more mottled glaze externally probably comes from the same vessel (Webster 1977, Fig. 7,16), with late thirteenth-fourteenth century pottery.

#### GROUP 2053

**C903** (fill of cut feature): Contained mainly late Roman pottery, including two Oxfordshire white mortaria

(Young 1977, M22), a probable Oxfordshire red colour coated mortarium (Young 1977, C97), a fourth century flanged and ridged Black burnished ware bowl, a fragment of medieval cooking pot and two fragments from green-glazed jugs probably from Bristol.

#### GROUP 2054

**C209** (Area A, post-robbing rubble): Included a Black-burnished ware jar (Gillam 1976, Nos 12-14), fourth century, an Oxford white mortarium (Young 1977, M22) and a wide mouthed jar in grey micaceous fabric.

#### PHASE 7: Modern activity

#### GROUP 3070

**C2045** (Area B, fill of post-medieval pit): Included a range of Roman pottery but also tin-glazed earthenware (seventeenth-eighteenth centuries), a salt-glazed stoneware cup (mid-eighteenth century), creamware (late eighteenth to nineteenth centuries), a pearlware plate rim (early to mid-nineteenth century) and brown-glazed redware (eighteenth to nineteenth centuries).

**C3005** (Area B, fill of post-medieval pit): Contained only three sherds of pottery, all Roman including the rim of a Terra Nigra bowl (Greene 1979, Fig. 47,34). Flavian.

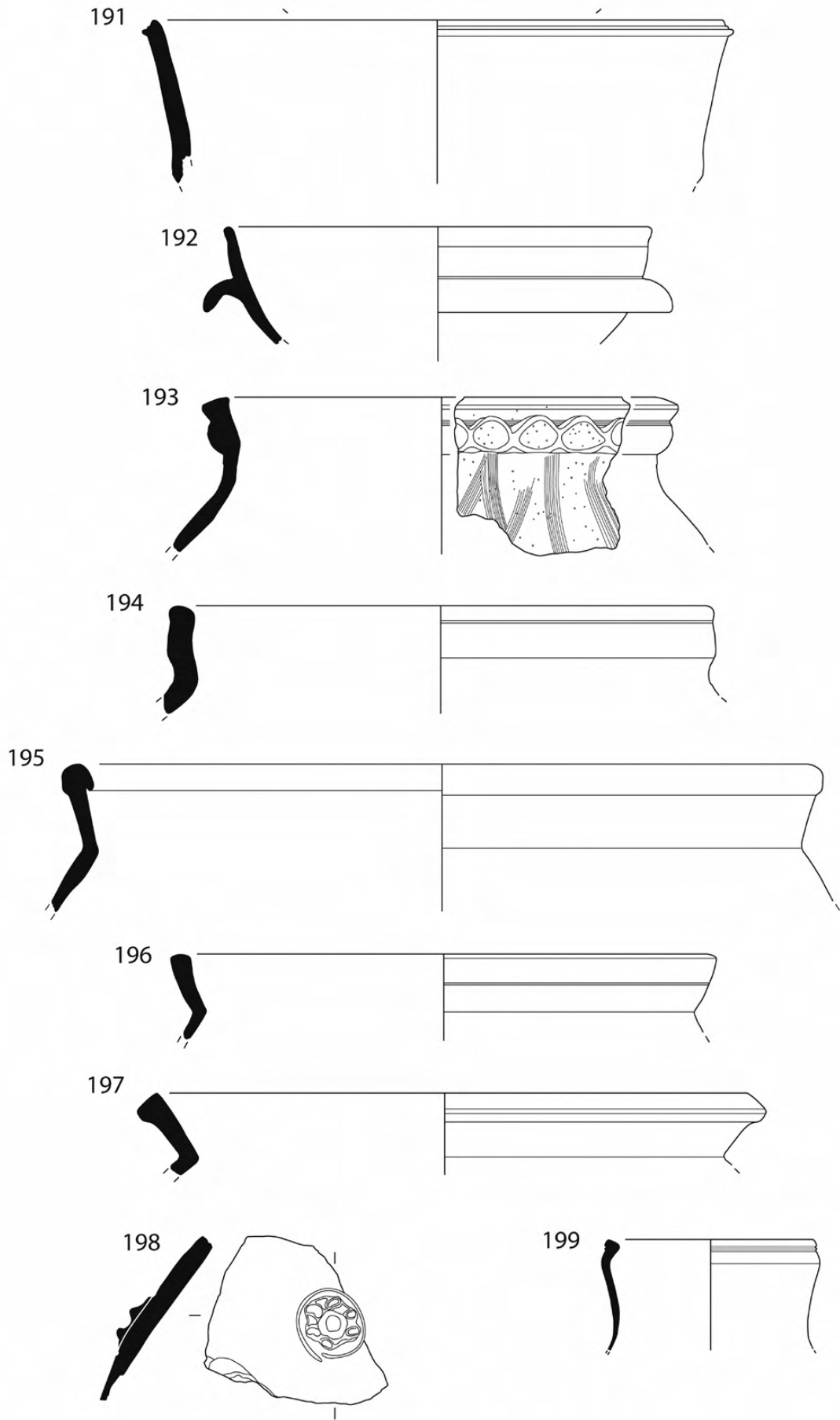
**C3059** (Area B, fill of post-medieval pit): A substantial sherd of South Gaulish samian form 37 (c. 80-100), Dressel 20 amphora, a smooth grey rouletted bowl reminiscent of the samian form 37, and an everted-rim jar in grey. The date is presumably given by the presence of a Bristol or Staffordshire yellow slipware cup, the handle of a North Devon gravel tempered handled jar, the rim of a blue transfer printed plate (probably Willow Pattern and nineteenth century) and post-medieval redware, perhaps from a flower pot.

The remaining contexts in this phase mainly comprise topsoil and subsoil layers. A summary of all contexts appears in the site archive. Here, only vessels which in some way amplify the picture of the ceramic assemblage will be catalogued.

Four Roman sherds are worthy of note:

- 189 Rim and neck of a globular Dressel 20 olive oil amphora, Martin-Kilcher type 9 (Peacock and Williams 1986, Fig. 65). Mid-first century. (C300)
- 190 Wide mouthed jar in South Wales Reduced ware (Manning 1993, Fig. 112, 43.1). Probably third or fourth century. (C400)

EXCAVATION OF THE PRIORY FIELD STORE BUILDING IN CAERLEON



0 100 mm

- 191 Conical vessel in South Wales Reduced ware. A campanulate form seems most likely, although a tankard is possible. (C600)
- 192 Bowl in Oxfordshire red colour coated fabric with its red colour coat almost completely eroded away (Young 1977, 51.1). Mid-third to fourth centuries. (C500)
- Medieval pottery is comparatively well represented in the topsoils and subsoils. The following supplement the few published pieces derived from stratified contexts:
- 193 Jar or pitcher in a calcareous grey-buff fabric. Both the fabric and the combed decoration ally this to tripod pitchers of Wiltshire origin found generally in south east Wales (Lewis 1966, 108, Nos 2-5). However, the thumbled strip below the rim has not been paralleled. Probably thirteenth century. (C900)
- 194 Cooking pot in wheel thrown light grey gritty fabric. The form resembles Lewis 1966, 112-3, Fig. 3,2. (C900)
- 195 Cooking pot in dark grey gritty fabric. (C900), with one similar vessel.
- 196 Cooking pot in grey gritty fabric with an orange surface (Lewis 1966, Fig. 3,3). (C200)
- 197 Cooking pot in orange fabric with a grey core. (C3001)
- 198 Jug in wheel thrown buff fabric with a grey core, and with a mottled green glaze externally. There is a rosette applied in iron rich clay. (C3001)
- 199 Jug in off-white Saintonge fabric, probably from a globular jug such as Platt and Coleman Smith 1975, Fig. 183, 1010-1. There is a more recent summary of fabrics and types in Brown 2002, 28-9, and Figs. 21-3. There is no evidence of glaze on our sherds but this seems most likely to be one of the monochrome green glazed jugs. Late thirteenth-fourteenth centuries. (C1000), with a body sherd of a Saintonge Pégau (Platt and Coleman-Smith Fig. 183, 1014).
- 200 (Not illustrated] Press moulded plate in buff fabric The decoration of lines of brown slip below a clear glaze internally, was probably 'feathered' elsewhere on the plate. Se Webster and Webster 1976, 39, Nos 68-70 for similar examples from elsewhere in southeast Wales. Eighteenth century. (C1000)
- 201 (Not illustrated] Westerwald stoneware jug with curvilinear design in cobalt blue. Like many of these jugs in the archaeological record, ours has been broken into small pieces. The form frequently has the initials of the reigning (English) monarch from William III through Anne (e.g., Hildyard 1999, Pl. 4 left) to a George of unspecified number (e.g., Köllmann 1971, No. 545). For the likely shape see Jennings 1981, Fig. 52, 852-3. The decoration on our piece appears to be very stylised foliage, perhaps as some of the vessels in the Hume Collection (Hume 2001, Figs.v.21-3). Probably first half of the eighteenth century. (C400).

Nos. 194-7 all belong to a class of cooking pot derived fairly clearly from metal cauldrons and found from the conquest period to the central middle Ages (eleventh-thirteenth centuries). The earliest examples tend to be formed without the use of the potters' wheel but the Caerleon series are wheel thrown and more likely to be later in the sequence, perhaps twelfth-thirteenth centuries.

#### 4.5.2 Summary of Organic Residue Analysis of Ceramics from Priory Field (Julie Dunne, Lucy Cramp and Richard Evershed)

##### Introduction

Organic residues occur widely in association with pottery, the most common artefact found at virtually all archaeological sites, offering a remarkable sink of information relating to vessel use, resource acquisition and exploitation, as well as ancient technologies. On a broader scale, residue analyses can provide insights into dietary and environmental reconstruction, animal management practices and the domestication of plants and animals (Evershed 2008b; Roffet-Salque *et al.* 2017).

Based on the ‘archaeological biomarker’ concept, the technique involves the extraction of absorbed organic residues (organic molecules called lipids, the fats, waxes and resins of the natural world) from ceramic vessels, generally deriving from the original contents either stored or processed in the vessels, whether as single use or as an accumulation of individual use events in a vessel over its life history (Evershed 2008a; Evershed *et al.* 2008b).

Organic residue analysis uses the techniques of gas chromatography (GC), GC-mass spectrometry (GC-MS) and GC-combustion-isotope ratio MS (GC-C-IRMS) to identify, at a molecular level, specific archaeological biomarkers that allow the identification of a considerable range of commodities. These include terrestrial animal fats (ruminant adipose and dairy) as proxies for carcass processing and secondary product exploitation (Copley *et al.* 2003; Dudd and Evershed 1998; Evershed *et al.* 1997a; Mottram *et al.* 1999), marine animal fats (Copley *et al.* 2004; Craig *et al.* 2007; Cramp and Evershed 2013), plant waxes (Evershed *et al.* 1991) and beeswax (Evershed *et al.* 1997b; Roffet-Salque *et al.* 2015).

The objective of this investigation was to determine whether absorbed organic residues were preserved in potsherds recovered during the Priory Field excavation (Dunne *et al.* 2020). A total of 30 potsherds were analysed, of which eight produced interpretable lipid profiles, yielding a recovery rate of 27% (Table 4.30). The eight sherds originated from the upper bodies of coarse ware jars (probably intended as cooking pots), where any lipids are more likely to be recovered (Charters *et al.* 1993).

##### Analytical methods

Lipid analysis and interpretations were performed using established protocols described in detail in earlier publications (Correa-Ascencio and Evershed 2014). Briefly, ~2 g of potsherd was sampled and surfaces cleaned with a modelling drill to remove exogenous lipids. The cleaned sherd powder was crushed in a solvent-washed mortar and pestle and weighed into a furnace culture tube (I). An internal standard was added (20 µg *n*-tetratriacontane; Sigma Aldrich Company Ltd) together with 5 mL of H<sub>2</sub>SO<sub>4</sub>/MeOH 2 to 4% ( $\delta^{13}\text{C}$  value measured) and the culture tubes were placed on a heating block for 1 hour at 70 °C, mixing every 10 min. Once cooled, the methanolic acid was transferred to test tubes and centrifuged at 2500 rpm for 10 min. The supernatant was then decanted into another furnace culture tube (II) and 2 mL of DCM extracted double-distilled water was added. In order to recover any lipids not fully solubilised by the methanol solution, 2 x 3 mL of *n*-hexane was added to the extracted potsherds contained in the original culture tubes, mixed well and transferred to culture tube II. The extraction was transferred to a clean, furnace 3.5 mL vial and blown down to dryness. Following this, 2 x 2 mL *n*-hexane was added directly to the H<sub>2</sub>SO<sub>4</sub>/MeOH solution in culture tube II and whirlmixed to extract the remaining residues, then transferred to the 3.5 mL vials and blown down until

Table 4.30 Sherds with interpretable lipid profiles

Sherd #	Context #	Form	Fabric	NMW Acc. No.
CPF04	614	Jar	Black-burnished 1 (high silica content, well-preserved)	2017.11H/22.102
CPF09	2122	Jar	Black-burnished 1 (high silica content, well-preserved)	2017.11H/22.157
CPF11	2122	Jar	Black-burnished 1 (high silica content, well-preserved)	2017.11H/22.157
CPF12	2122	Jar	Grey Ware (reduced surfaces with oxidised core, well-preserved)	2017.11H/22.157
CPF15	2123	Jar	Black-burnished 1 (high silica content, well-preserved)	2017.11H/22.175
CPF18	2123	Jar	Black-burnished 1 (high silica content, well-preserved)	2017.11H/22.175
CPF23	2097	Jar	Grey Ware (partly oxidised core with reduced core centre and surfaces, well-preserved)	2017.11H/22.148
CPF24	2097	Jar	Grey Ware (uniformly reduced core and reduced surfaces, well-preserved)	2017.11H/22.148

a full vial of *n*-hexane remained. Aliquots of the TLE's were derivatised using 20  $\mu$ l BSTFA, excess BSTFA was removed under nitrogen and the derivatised TLE was dissolved in *n*-hexane prior to GC, GC-MS and GC-C-IRMS. Firstly, the samples underwent high-temperature gas chromatography using a gas chromatograph (GC) fitted with a high temperature non-polar column (DB1-HT; 100% dimethylpolysiloxane, 15 m x 0.32 mm i.d., 0.1  $\mu$ m film thickness). The carrier gas was helium and the temperature programme comprised a 50°C isothermal hold followed by an increase to 350°C at a rate of 10°C min<sup>-1</sup> followed by a 10 min isothermal hold. A procedural blank (no sample) was prepared and analysed alongside every batch of 10 samples.

Further compound identification was accomplished using GC-MS. FAMES were introduced by autosampler onto a non-polar column (100% dimethyl polysiloxane stationary phase; 60 m x 0.25 mm i.d., 0.1  $\mu$ m film thickness). The GC-MS instrument was a ThermoFinnigan single quadrupole TraceMS run in EI mode (electron energy 70 eV, scan time of 0.6 s). Samples were run in full scan mode (*m/z* 50–650) and the temperature programme comprised an isothermal hold at 50°C for 2 min, ramping to 300°C at 10° min<sup>-1</sup>, followed by an isothermal hold at 300°C (15 min). Data acquisition and processing were carried out using the HP Chemstation software (Rev. C.01.07 (27), Agilent Technologies) and Xcalibur software (version 3.0). Peaks were identified on the basis of their mass spectra and GC retention times, by comparison with the NIST mass spectral library (version 2.0).

Carbon isotope analyses by GC-C-IRMS were also carried out using a GC Agilent Technologies 7890A coupled to an Isoprime 100 (EI, 70eV, three faraday cup collectors *m/z* 44, 45 and 46) via an Isoprime GC5 combustion interface with a CuO and silver wool reactor maintained at 850°C. Instrument accuracy was determined using an external FAME standard mixture (C<sub>11</sub>, C<sub>13</sub>, C<sub>16</sub>, C<sub>21</sub> and

C<sub>23</sub>) of known isotopic composition. Samples were run in duplicate and an average taken. The  $\delta^{13}\text{C}$  values are the ratios <sup>13</sup>C/<sup>12</sup>C and expressed relative to the Vienna Pee Dee Belemnite, calibrated against a CO<sub>2</sub> reference gas of known isotopic composition. Instrument error was  $\pm 0.3\%$ . Data processing was carried out using Ion Vantage software (version 1.6.1.0, IsoPrime).

### Results

Lipid analysis and interpretations were performed using established protocols described in detail in earlier publications (e.g., Correa-Ascencio and Evershed 2014). The mean lipid concentration from the sherds (Table 4.31) was 3.5 mg g<sup>-1</sup>, with a maximum lipid concentration of 9.3 mg g<sup>-1</sup> for sherd number CPF18. A further four sherds (CPF04, CPF09, CPF15 and CPF24), also yielded high lipid concentrations at 2.7, 6.5, 7.5 and 1.1 mg g<sup>-1</sup>, respectively. This likely indicates that these vessels were subjected to sustained use in the processing of high lipid-yielding commodities. The lipid profiles were dominated by free fatty acids, palmitic (C<sub>16:0</sub>) and stearic (C<sub>18:0</sub>), typical of a degraded animal fat (Figure 4.74) (Evershed *et al.* 1997a; Berstan *et al.* 2008).

GC-C-IRMS analyses were carried out on the sherds (see Table 4.31 and Figure 4.75) to determine the  $\delta^{13}\text{C}$  values of the major fatty acids, C<sub>16:0</sub> and C<sub>18:0</sub>, and ascertain the source of the lipids extracted. The  $\delta^{13}\text{C}$  values of the C<sub>16:0</sub> and C<sub>18:0</sub> fatty acids reflect their biosynthetic and dietary origin, allowing non-ruminant and ruminant adipose and ruminant dairy products to be distinguished (Copley *et al.* 2003; Dunne *et al.* 2012). Here, all potsherds (*n*=8) plot between the ruminant (cattle, sheep and goat) and non-ruminant ellipses (pigs), suggesting these vessels were used to process mixtures of carcass products from these animals (Figure 4.75a).

Ruminant dairy fats are differentiated from ruminant adipose fats when they display  $\Delta^{13}\text{C}$  values of less than

Table 4.31 Organic Residue Analysis results: Lipid concentrations ( $\mu\text{g g}^{-1}$ ), total lipid concentrations in extracts ( $\mu\text{g}$ ),  $\delta^{13}\text{C}$  and  $\Delta^{13}\text{C}$  values and attributions

Sherd #	Lipid concentration	Total lipid in extract	$\delta^{13}\text{C}_{16:0}$	$\delta^{13}\text{C}_{18:0}$	$\Delta^{13}\text{C}$	Attribution
CPF04	2656.4	4404.8	-27.5	-29.3	-1.8	Ruminant adipose
CPF09	6495.9	17837.1	-26.9	-27.8	-0.9	Ruminant /Non-Ruminant adipose
CPF11	304.1	413.7	-27.8	-30.2	-2.4	Ruminant adipose
CPF12	208.1	338.7	-27.7	-28.5	-0.7	Ruminant /Non-Ruminant adipose
CPF15	7459.9	8829.6	-27.3	-29.3	-2.0	Ruminant adipose
CPF18	9325.5	10562.0	-27.8	-26.9	0.9	Non-Ruminant adipose
CPF23	109.0	216.6	-25.5	-27.2	-1.6	Ruminant adipose
CPF24	1100.5	2014.6	-26.5	-26.4	0.1	Ruminant /Non-Ruminant adipose

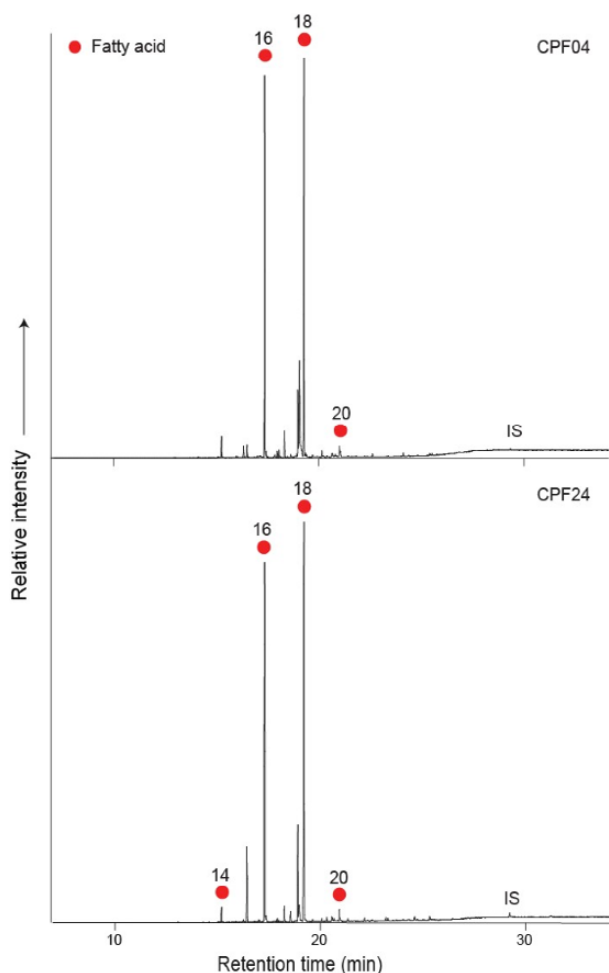


Figure 4.74. Partial gas chromatograms of trimethylsilylated FAMES from Priory Field pottery extracts CPF04 (object 614) and CPF24 (object 2097), circles, n-alkanoic acids (fatty acids, FA); IS, internal standard, C<sub>34</sub> n-tetraatriacontane. Numbers denote carbon chain length.

-3.1 ‰, known as the universal dairy proxy (Dunne *et al.* 2012; Salque 2012). However, none of the vessels plotted in this region, confirming they were not used for dairy processing. Four sherds (CPF04, CPF11, CPF15, and CPF23), with  $\Delta^{13}\text{C}$  values of -1.8, -2.4, -2.0 and -1.6 ‰, respectively, plot firmly within the ruminant adipose region (Figure 4.75b), confirming they were mainly used to process carcass products from cattle, sheep and goat. Sherd CPF18, with a  $\Delta^{13}\text{C}$  value of 0.9 ‰, plots within the non-ruminant region, confirming it was used mainly to process pig products (Figure 4.75b). The remaining three vessels plot between the ruminant and non-ruminant regions, although vessels CPF09 and CPF12 plot at the extent of the ruminant range, with  $\Delta^{13}\text{C}$  values of -0.9 and -0.7 ‰, respectively, and vessel CPF24 plots at the extent of the non-ruminant range, with a  $\Delta^{13}\text{C}$  value of 0.1 ‰.

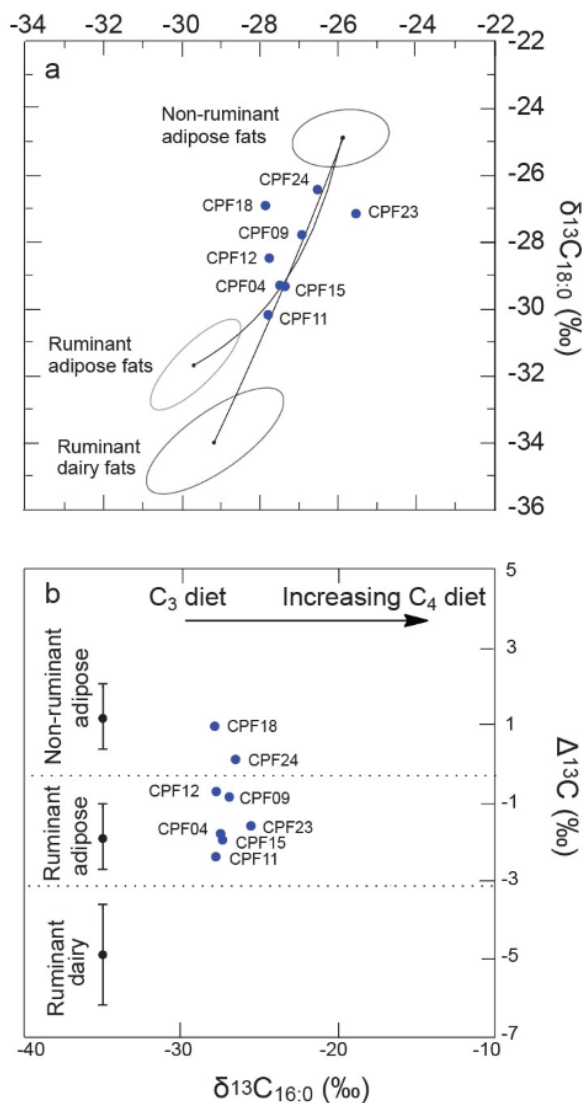


Figure 4.75. Graphs showing: **a.**  $\delta^{13}\text{C}$  values for the C<sub>16:0</sub> and C<sub>18:0</sub> fatty acids for archaeological fats extracted from Priory Field potsherds. The three fields correspond to the P = 0.684 confidence ellipses for animals raised on a strict C<sub>3</sub> diet in Britain (Copley *et al.* 2003). Each data point represents an individual vessel. **b** shows the  $\Delta^{13}\text{C}$  ( $\delta^{13}\text{C}_{18:0} - \delta^{13}\text{C}_{16:0}$ ) values from the same potsherds. The ranges shown here represent the mean  $\pm$  1 s.d. of the  $\Delta^{13}\text{C}$  values for a global database comprising modern reference animal fats from Africa (Dunne *et al.* 2012), UK (animals raised on a pure C<sub>3</sub> diet) (Dudd and Evershed, 1998), Kazakhstan (Outram *et al.* 2009), Switzerland (Spangenberg *et al.* 2006) and the Near East (Gregg *et al.* 2009), published elsewhere.

#### Discussion

The objective of this investigation was to determine whether organic residues were preserved in 30 potsherds excavated from the store in Priory Field. Of these, eight vessels yielded lipid profiles indicative of a degraded animal fat, making a lipid recovery rate

of 27%. Of the vessels analysed, one vessel from C614 (17%; Phase 1ii), five vessels from (C2122) and (C2122) (42%; Phase) and two vessels from C2097 (33%; Phase 1ii) yielded lipid residues. Vessels CPF25 to CPF30, from C3086, did not yield lipid profiles.

Analysis by GC, GC-MS and GC-C-IRMS analyses demonstrated that four potsherds were used to process predominantly ruminant carcass products, one vessel was used to process non-ruminant carcass products and the remaining three were used to process mixtures of ruminant and non-ruminant products, although it should be noted that all vessels were used to process mixtures of fats from ruminants (cattle, sheep or goat) and non-ruminants (pig). Although caution should be applied in interpreting these results as they represent a small data set, they indicate that some jars recovered from Priory Field were used as cooking pots, possibly to make meat stews from cattle, sheep, goat and pigs.

The faunal remains recovered from most military sites in Roman Britain indicate that beef was widely consumed by soldiers, who were also fond of pork and

pork products (pig bones are generally not present in rural assemblages). The consumption of pork and bacon is known to be a distinctly Roman trait, both from literary sources and the bone assemblages of central Italy (King 1999a; King 1999b). There, pig bones dominate over cattle, sheep and goat remains from the late Republic and into the early/middle Empire. This appears in part to have been due to the agricultural conditions of the period, but also because of cultural preferences, and it is thought that pork, particularly young pork and suckling pig, was considered to be a desirable and high-status dietary element.

In Britain, prior evidence of pork as a high-status food comes from military sites, for example at Caerleon from a well associated with a tribune's house, which, although dominated by cattle bones, included high numbers of pig bones, together with game and domestic fowl (Zienkiewicz 1993a). At Vindolanda, pork products (pork fat, young pig and ham) are mentioned in the accounts relating to the praetorium and the household of the commanding officer (Bowman and Thomas 1994).

#### 4.6 Animal Bone (Murray Andrews)

##### *Introduction and Methodology*

In total, 15,046 specimens of animal bone, weighing 110.3 kg, were recovered during the excavations. Most of this material was hand-collected, although a small amount (<5% of the total assemblage) derives from the sieving of deposits that were considered particularly finds-rich or important to the stratigraphic sequence. Preservation was generally poor and most of the assemblage is highly fragmentary; nearly 50% of all animal bones could only be assigned to broad size-based groups (e.g., cow-size, pig-size), while an additional 20% could only be assigned to class (e.g., *mammalia*, *aves*).

As noted in the introduction to this chapter, the Roman animal bones from Priory Field have an unusually strong association with deposits related to the store building's construction and destruction. Therefore, much of animal bone assemblage is likely to consist primarily of redeposited refuse, deliberately brought to the store site from other parts of *Isca* for use in ground levelling, or the dumping of rubbish in the abandoned and semi-derelict building. If so, this might constrain the site-specific significance of the assemblage, but would not preclude its broader contribution to an understanding of the livestock economies and environmental settings of the fortress as a whole, particularly in its earliest decades (late-first and early-second centuries), and towards the end of its history in the fourth century. This point is underlined by the relatively large size of the Priory Field assemblage, which is one of the most significant stratified animal bone assemblages recovered from Roman Caerleon.

Animal bones were identified at the UCL Institute of Archaeology using the Institute's comparative collection. Specimens were recorded on a Microsoft Access database with fields for the following attributes: taxon; element; body side; sex; age; fragmentation; size; as well as subsequent modifications including burning; butchery; digestion and gnawing; root etching and weathering; pathology; and evidence of working. Separation of sheep and goat was attempted using criteria outlined by Prummel and Frisch (1986), but given the degree of fragmentation rarely yielded practicable results (specimens of both taxa are combined as 'sheep/goat' in this report).

Age-at-death data was systematically recorded for mammalian taxa in the form of epiphyseal fusion stages, tooth eruption and wear states, and cattle horn core states. Dental classification follows Grant (1982) for cattle and pigs and Payne (1973; 1987) for sheep/goats, while cattle horn cores were classified by Armitage (1982) stages. Aged mandibles have been organised into

age classes following Hambleton (1999). Where possible, long bone measurements were taken using a measuring box and 150 mm digital Vernier calliper (the metrics adopted are those of von den Driesch 1976). Greatest length (GL) measurements from complete bones were converted into withers height estimates using separate formulae for cattle (von den Driesch and Boessneck 1974), pigs (May *et al.* 1996), sheep/goat (Teichert 1975), and dogs (Koudelka 1885).

##### *Results*

Attributes of phased animal bones from Priory Field are summarised in Tables 4.32 – 4.39, and are synthesised by occupation phase below.

##### *Phase 0: Pre-store activity*

Phase 0 contexts produced 165 animal bones (1% of the total assemblage), most of which derive from Phase 0ii levelling and clearance deposits. Just under half derive from Room 6, including significant groups from charcoal layers (G3112) and (G3127) and deposit (G3116). The assemblage is dominated by cattle, pigs, and sheep/goats, most of which were culled as adults; an exception is provided by a juvenile sheep phalanx from the charcoal deposit (C3112). Cattle and sheep/goats are represented by a wide range of skeletal elements, suggesting that animals were driven to the fortress on-the-hoof before slaughter. Cattle metapodials are particularly common, and may represent primary butchery waste from carcass processing near the Priory Field site. Pigs, meanwhile, are mainly represented by vertebrae and rib fragments, which may reflect consumption waste from pre-processed chops or loin steaks. Thick chopmarks on twelve specimens suggest that these cuts were prepared using heavy cleavers, a form of processing observed in the Flavian-Trajanic drain deposits at the Fortress Baths site (O'Connor 1986, 227). Small numbers of limb bones from chickens, mallards, and geese were also recorded from this phase. These probably represent 'snack joints' of wings and legs, a form of consumption attested at the Fortress Baths (O'Connor 1986, 227) and Museum (Hamilton-Dyer 1993, 135) sites.

##### *Phase 1: Construction of the masonry store building*

Phase 1 contexts produced 1884 animal bones (13% of the total assemblage), of which nearly 50% derived from (G2122), a group of Phase 1ii levelling deposits in the later entranceway (Room 4). Most bones are of pig, sheep/goat and cattle, whose mortality profiles evidence distinctive culling practices. Cattle were usually slaughtered as adults, a pattern that has been observed at the Fortress Baths (O'Connor 1986, 232), Museum (Hamilton-Dyer 1993, 134) and British Telecom (Hamilton-Dyer n.d.) sites, as well as other first-century

FINDS CATALOGUES AND SPECIALIST REPORTS

Table 4.32 Quantification of faunal taxa (NISP) by Phase

Taxon	0i	0ii	1i	1ii	2	3	4	5	6	7	u/s
Cattle ( <i>Bos f. domestic</i> )	4	25	9	293	52	180	93	503	261	260	2
Pig ( <i>Sus f. domestic</i> )	13	32	6	429	181	106	65	236	163	84	-
Sheep/Goat ( <i>Ovis/Capra f. domestic</i> )	10	20	13	303	99	97	52	249	155	104	7
Horse ( <i>Equus sp.</i> )	-	-	-	-	1	2	4	13	11	19	-
Dog ( <i>Canis familiaris</i> )	-	-	2	2	2	1	1	3	-	1	-
Cat ( <i>Felis catus</i> )	-	-	-	-	-	-	-	2	-	-	-
Red deer ( <i>Cervus elaphus</i> )	-	-	-	-	-	-	-	1	1	-	-
Fallow deer ( <i>Dama dama</i> )	-	-	-	-	-	-	-	3	2	-	-
Roe deer ( <i>Capreolus capreolus</i> )	-	-	-	-	-	1	-	-	-	-	-
Mouse ( <i>Mus sp.</i> )	-	-	-	-	-	1	-	4	-	-	-
Rat ( <i>Rattus sp.</i> )	-	-	-	-	-	-	-	4	1	-	-
Large mustelid ( <i>Martes sp.?</i> )	-	-	-	-	-	-	-	1	-	-	-
Cow-size	-	11	4	133	12	94	43	482	207	226	3
Pig-size	2	-	-	176	129	375	291	1870	1031	615	6
Sheep-size (medium dog to medium sheep)	8	1	2	132	83	132	53	439	248	161	7
Medium sheep to medium cattle	-	-	-	-	-	-	-	4	1	2	-
Medium dog to wild boar	-	-	-	8	-	-	-	3	16	1	-
Hare-size (rabbit to medium dog)	1	5	1	41	3	10	5	43	10	4	-
Microfauna (smaller than rabbit)	-	-	1	-	-	-	-	1	-	-	-
Uncertain mammal	5	22	14	218	298	395	307	720	801	336	-
Chicken ( <i>Gallus f. domestic</i> )	-	2	-	73	46	56	12	105	52	20	6
Mallard ( <i>Anas platyrhynchos</i> )	1	2	-	4	6	8	4	10	7	6	-
Teal ( <i>Anas crecca</i> )	-	-	-	-	4	6	5	8	10	-	-
Pheasant ( <i>Phasianus sp.</i> )	-	-	-	4	6	3	-	9	1	4	-
Snipe ( <i>Gallinago sp.</i> )	-	-	2	1	4	3	-	3	7	-	-
Goose ( <i>Anser sp.</i> )	-	1	-	-	3	1	-	2	4	-	-
Godwit ( <i>Limosa sp.</i> )	-	-	-	1	-	-	1	5	2	-	-
Woodcock ( <i>Scolopax sp.</i> )	-	-	-	-	-	-	1	4	1	1	1
Crow/Raven ( <i>Corvus sp.</i> )	-	-	-	-	1	2	-	1	2	-	-
Grouse ( <i>Lagopus sp.</i> )	-	-	-	1	2	-	-	2	1	-	-
Falcon ( <i>Falco sp.</i> )	-	-	-	4	-	-	-	-	-	-	-
Partridge ( <i>Perdix sp.</i> )	-	-	-	-	2	2	-	-	-	-	-
Crane ( <i>Grus grus</i> )	-	-	-	-	1	-	-	-	2	-	-
Lapwing ( <i>Vanellus sp.</i> )	-	-	-	-	-	-	-	1	-	1	-
Owl ( <i>Strigiformes</i> )	-	-	-	-	2	-	-	-	-	-	-
Blackbird ( <i>Turdus merula</i> )	-	-	-	-	1	-	-	-	-	-	-
Cormorant ( <i>Phalacrocorax sp.</i> )	-	-	-	-	-	-	-	-	-	1	-
Plover ( <i>Pluvialis sp.</i> )	-	-	-	-	-	-	1	-	-	-	-
Medium bird	-	-	-	1	-	-	-	1	-	2	-
Small bird	-	-	-	-	2	-	-	-	-	-	-
Uncertain bird	-	-	-	6	8	7	1	9	7	3	-
<b>Total</b>	<b>44</b>	<b>121</b>	<b>54</b>	<b>1830</b>	<b>948</b>	<b>1482</b>	<b>939</b>	<b>4741</b>	<b>3004</b>	<b>1851</b>	<b>32</b>

## EXCAVATION OF THE PRIORY FIELD STORE BUILDING IN CAERLEON

Table 4.33 Quantification of faunal taxa (MNI) by Phase

Taxon	0i	0ii	1i	1ii	2	3	4	5	6	7	u/s
Cattle ( <i>Bos f. domestic</i> )	1	1	1	7	3	5	2	8	6	5	1
Pig ( <i>Sus f. domestic</i> )	1	1	1	4	3	3	2	9	5	2	-
Sheep/Goat ( <i>Ovis/Capra f. domestic</i> )	1	1	1	4	2	4	3	11	5	2	2
Horse ( <i>Equus sp.</i> )	-	-	-	-	1	1	1	1	1	1	-
Dog ( <i>Canis familiaris</i> )	-	-	1	1	1	1	1	1	-	1	-
Cat ( <i>Felis catus</i> )	-	-	-	-	-	-	-	1	-	-	-
Red deer ( <i>Cervus elaphus</i> )	-	-	-	-	-	-	-	1	1	-	-
Fallow deer ( <i>Dama dama</i> )	-	-	-	-	-	-	-	1	1	-	-
Roe deer ( <i>Capreolus capreolus</i> )	-	-	-	-	-	1	-	-	-	-	-
Mouse ( <i>Mus sp.</i> )	-	-	-	-	-	1	-	1	-	-	-
Rat ( <i>Rattus sp.</i> )	-	-	-	-	-	-	-	1	1	-	-
Large mustelid ( <i>Martes sp.?</i> )	-	-	-	-	-	-	-	1	-	-	-
Chicken ( <i>Gallus f. domestic</i> )	-	1	-	7	3	5	3	11	3	2	2
Mallard ( <i>Anas platyrhynchos</i> )	1	2	-	1	1	2	1	2	3	1	-
Teal ( <i>Anas crecca</i> )	-	-	-	-	1	1	2	2	4	-	-
Pheasant ( <i>Phasianus sp.</i> )	-	-	-	1	3	3	-	2	1	1	-
Snipe ( <i>Gallinago sp.</i> )	-	-	2	1	1	2	-	2	2	-	-
Goose ( <i>Anser sp.</i> )	-	1	-	-	1	1	-	1	1	-	-
Godwit ( <i>Limosa sp.</i> )	-	-	-	1	-	-	1	1	1	-	-
Woodcock ( <i>Scolopax sp.</i> )	-	-	-	-	-	-	1	1	1	1	1
Crow/Raven ( <i>Corvus sp.</i> )	-	-	-	-	1	1	-	1	1	-	-
Grouse ( <i>Lagopus sp.</i> )	-	-	-	1	2	-	-	1	1	-	-
Falcon ( <i>Falco sp.</i> )	-	-	-	1	-	-	-	-	-	-	-
Partridge ( <i>Perdix sp.</i> )	-	-	-	-	1	1	-	-	-	-	-
Crane ( <i>Grus grus</i> )	-	-	-	-	1	-	-	-	1	-	-
Lapwing ( <i>Vanellus sp.</i> )	-	-	-	-	-	-	-	1	-	1	-
Owl ( <i>Strigiformes</i> )	-	-	-	-	1	-	-	-	-	-	-
Blackbird ( <i>Turdus merula</i> )	-	-	-	-	1	-	-	-	-	-	-
Cormorant ( <i>Phalacrocorax sp.</i> )	-	-	-	-	-	-	-	-	-	1	-
Plover ( <i>Pluvialis sp.</i> )	-	-	-	-	-	-	1	-	-	-	-
<b>Total</b>	<b>4</b>	<b>7</b>	<b>6</b>	<b>29</b>	<b>27</b>	<b>32</b>	<b>18</b>	<b>61</b>	<b>39</b>	<b>18</b>	<b>6</b>

Table 4.34 Cattle skeletal zones by Phase

Skeletal zone	0i	0ii	1i	1ii	2	3	4	5	6	7
Head	-	1	-	17	5	14	8	52	19	8
Vertebrae and Ribs	1	3	3	73	7	20	4	55	4	6
Shoulder and Proximal Forelimb	-	-	1	63	4	12	10	37	25	11
Distal Forelimb	1	1	2	7	2	7	3	15	10	5
Pelvis and Proximal Hindlimb	-	-	1	17	4	3	6	23	12	6
Distal Hindlimb	-	-	-	9	1	8	1	12	4	5
Metapodials, Carpals and Tarsals	1	9	2	28	9	35	9	80	52	39
Phalanges	-	2	-	9	9	27	13	101	46	34
Loose Teeth	-	-	-	14	-	45	35	117	89	146

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Table 4.35 Pig skeletal zones by Phase

Skeletal zone	Oi	Oii	1i	1ii	2	3	4	5	6	7
Head	-	-	-	30	9	8	7	17	6	5
Vertebrae and Ribs	13	23	6	284	85	28	19	31	11	2
Shoulder and Proximal Forelimb	-	-	-	7	2	5	6	16	11	5
Distal Forelimb	-	-	-	5	2	5	2	17	11	6
Pelvis and Proximal Hindlimb	-	2	-	8	7	4	2	18	8	5
Distal Hindlimb	-	-	-	4	1	2	2	5	3	1
Metapodials, Carpals and Tarsals	-	1	-	26	23	18	12	64	42	16
Phalanges	-	-	-	6	18	18	4	38	39	16
Loose Teeth	-	-	-	16	8	13	10	22	31	28

Table 4.36 Sheep/goat skeletal zones by Phase

Skeletal zone	Oi	Oii	1i	1ii	2	3	4	5	6	7
Head	-	1	-	14	6	8	8	20	7	5
Vertebrae and Ribs	8	9	6	152	40	12	9	17	7	6
Shoulder and Proximal Forelimb	-	2	-	23	8	14	3	30	25	11
Distal Forelimb	-	2	1	10	4	6	2	26	18	7
Pelvis and Proximal Hindlimb	2	-	-	18	5	8	2	15	7	1
Distal Hindlimb	-	1	-	14	2	4	4	26	12	6
Metapodials, Carpals and Tarsals	-	2	3	20	7	16	12	36	30	13
Phalanges	-	1	1	3	13	13	5	37	21	10
Loose Teeth	-	-	-	10	3	13	3	36	28	45

Table 4.37 Epiphyseal fusion counts for the three principal domestic taxa by Phase

Taxon	Fusion stage		Oi	Oii	1i	1ii	2	3	4	5	6	7
Cattle (Bos f. domestic)	Early	Fused	-	3	-	21	12	43	17	115	61	41
		Unfused	-	-	2	4	1	4	-	4	5	2
	Middle	Fused	1	1	-	19	3	19	3	31	18	11
		Unfused	-	-	1	3	1	-	1	9	4	4
	Late	Fused	2	2	1	27	7	14	5	21	6	6
		Unfused	-	-	1	26	2	7	4	20	3	4
Pig (Sus f. domestic)	Early	Fused	-	1	-	27	21	21	9	77	46	31
		Unfused	-	-	-	5	9	12	3	17	15	1
	Middle	Fused	-	1	-	4	3	3	1	8	4	2
		Unfused	-	-	-	13	12	6	4	23	15	4
	Late	Fused	-	1	-	6	4	6	1	10	3	3
		Unfused	-	-	-	10	4	6	3	12	10	2
Sheep/goat (Ovis/Capra f. domestic)	Early	Fused	-	2	1	32	13	18	6	48	21	16
		Unfused	-	1	-	3	4	3	4	14	8	3
	Middle	Fused	-	1	-	10	1	3	1	19	3	7
		Unfused	-	-	1	7	5	4	4	19	7	1
	Late	Fused	2	-	-	6	1	2	2	8	9	0
		Unfused	-	-	-	20	10	9	4	15	12	6

Table 4.38 Mandibular eruption and wear stages for the three principal domestic taxa by Phase

Taxon	Age	Oi	Oii	1i	1ii	2	3	4	5	6	7
Cattle ( <i>Bos f. domestic</i> )	0 to 1 mths	-	-	-	-	-	-	-	-	-	-
	1 to 8 mths	-	-	-	-	-	-	-	-	-	-
	8-18 mths	-	-	-	-	-	-	-	-	-	-
	18-30 mths	-	-	-	-	-	-	-	-	-	-
	30-36mths	-	-	-	-	-	3	-	1	-	-
	Young adult	-	-	-	2	1	2	-	1	2	-
	Adult	-	-	-	-	-	2	-	2	-	-
	Old adult	-	1	-	-	-	-	-	-	-	-
Pig ( <i>Sus f. domestic</i> )	Senile	-	-	-	-	1	-	-	1	-	-
	0 to 2 mths	-	-	-	-	-	-	-	1	-	-
	2 to 7 mths	-	-	-	-	-	-	-	-	-	-
	7 to 14 mths	-	-	-	-	-	-	-	-	-	-
	14 to 21 mths	-	-	-	2	1	-	-	2	1	1
	21 to 27 mths	-	-	-	2	-	1	-	-	-	1
	27 to 36 mths	-	-	-	-	-	-	-	-	-	-
	Adult	-	-	-	-	-	-	-	-	-	-
Sheep/goat ( <i>Ovis/Capra f. domestic</i> )	Old Adult	-	-	-	-	-	-	-	-	-	-
	Senile	-	-	-	-	-	-	-	-	-	-
	0 to 2 mths	-	-	-	1	-	1	2	3	-	-
	2 to 6 mths	-	-	-	1	-	-	-	2	-	1
	6 to 12 mths	-	-	-	-	-	-	-	-	1	-
	1 to 2 yrs	-	-	-	1	-	1	-	-	-	1
	2 to 3 yrs	-	-	-	-	-	-	-	-	-	-
	3 to 4 yrs	-	-	-	-	-	-	-	1	-	-
4 to 6 yrs	-	-	-	-	-	2	-	1	-	-	
6 to 8 yrs	-	-	-	-	-	1	-	-	-	-	
8 to 10 yrs	-	-	-	-	-	-	-	-	-	-	

Table 4.39 Cattle horncore age stages by Phase

Age class	Oi	Oii	1i	1ii	2	3	4	5	6	7
Juvenile	-	-	-	-	-	-	-	1	1	-
Subadult	-	-	-	-	-	-	-	1	-	-
Young adult	-	-	-	-	-	-	-	1	-	2
Adult	-	-	-	2	1	-	1	-	2	1
Old adult	-	-	-	-	-	2	-	-	1	-

military sites like Alchester (Thomas 2008, 39-41) and Loughor (Sadler 1997, 400), and which may reflect the retention of livestock as draught or milk cattle prior to slaughter. Sheep/goats and pigs, meanwhile, were mostly culled as subadults, a pattern observed at other Caerleon sites and indicative of a husbandry strategy geared towards meat production. Elemental coverage for these three taxa is broad, if uneven, and when combined with butchery evidence highlights distinctive carcass processing and consumption practices. In the case of cattle, bones of the shoulder and upper forelimb, as well as metapodials, are overrepresented; chop marks indicate the use of heavy cleaver blows to

disarticulate the humerus from the scapula, while finer cutmarks along the scapular spine reflect deliberate defleshing. Both forms of processing are familiar from the Fortress Baths site, where they were interpreted as evidence for the preparation of stewing beef steak (O'Connor 1986, 231). An alternative possibility is that they reflect the smoking of shoulder meat, a practice attested at Carlisle (Stallibrass 1991, 34) and Nijmegen (Lauwerier 2009, 161), although none of the Priory Field scapulae bear the suspension holes characteristic of this form of processing. Ribs and vertebrae are particularly common among the sheep/goat and pig

bones, and many exhibit butchery marks consistent with the processing of lamb and pork chops.

Four dog bones were also found in Phase 1 contexts. Withers height estimates derived from two complete adult long bones (a tibia from (C3033), withers height 0.21 m, and a humerus from (C2097) withers height 0.38 m), demonstrate the presence of small- and medium-sized breeds, comparable in size to modern Yorkshire Terriers and Cocker Spaniels (Sutter *et al.* 2008, 716). These results tally with observations from the Fortress Baths (O'Connor 1986, 239) and the Southern Canabae (Powell 2012, 76) sites, where dogs were of small- to medium-size, and were possibly used for pest control.

Bird bones are fairly common in this Phase, and, as previously, consist mostly of limb bones. Chickens are by far the most common bird species and the ratio of spurred to spurless tarsometatarsi (3:5) suggests a mixed source flock kept for meat and egg production. Other birds recorded from this phase include mallards, pheasants, falcons, grouse, snipe, and godwit, which may evidence opportunistic hunting and trapping.

#### *Phase 2: Occupation and alteration of the store*

Phase 2 contexts produced 948 animal bones (6% of the total assemblage), most of which derive from bedding and levelling deposits: these include (G2103), a group of pottery-rich deposits beneath the new floor in Room 3, and (G605), a group of shallow bedding layers beneath the re-laid flagstone surface in the entranceway (Room 4). The assemblage is still dominated by pigs, sheep/goat and cattle, and there are the same differences in the mortality profiles of these species: most cattle were slaughtered in adulthood, while most sheep/goat and pigs were slaughtered as subadults or young adults. An unusual skew towards foot bones hints at the presence of butchery waste, although many 'waste' bones seem only to have been discarded after having been exhausted of economic potential. Pig phalanges found in the entranceway's levelling deposits (C2091) and (C2092), for example, bore piercings in the interphalangeal area, indicating the extraction of bone marrow for dietary purposes. Similarly, cattle metacarpals ( $n=6$ ) and metatarsals ( $n=1$ ) are unevenly represented, possibly reflecting selective removal of bones for industrial use. Compared to the short and broad metacarpus, the long and slender metatarsus is well-suited to the production of tool handles and examples of objects made in this manner, including a ribbed sword-grip from the Museum site (Zienkiewicz 1993a, 118, No. 3), have been previously discovered at Caerleon. Evidence for other mammalian taxa in this phase was sparse, consisting of two dog teeth and a horse tooth found in Rooms 1, 4, and the external yard. Bird bones, however, were fairly

common and, as in the preceding phase, consisted mainly of chicken wings and legs, although a range of different hedgerow and wetland species were also recorded. A group of vole bones from Soil Block 1, that contained the decayed remnants of a horse's headpiece and iron plate armour, indicate that rodents were living in Room 2 before the building's collapse.

#### *Phase 3: Dereliction and demolition of the store building*

Phase 3 contexts produced 1482 animal bones (10% of the total assemblage), roughly 75% of which derived from two demolition deposits: a sequence of silty clay layers in the entranceway (G2000), and a rubble deposit in Room 7 (G3084). Cattle, pigs and sheep/goat dominate the assemblage, and mortality profiles continue to reveal distinctions between adult-dominated cattle stocks and younger sheep/goat and pig stocks. However, there are some exceptions to this trend: three of the five ageable sheep/goat mandibles from this phase belonged to animals aged four years or older, perhaps kept for wool and/or milk production. As previously, all skeletal elements are represented for these three taxa, but a consistent skew towards loose teeth and bones of the lower leg and foot suggests that much of the material derives from butchery waste. Many bones bear cutmarks consistent with the disarticulation of joints and one cattle phalanx from (C2002) was pierced medially along the shaft for marrow extraction. Evidence for other mammalian taxa derived exclusively from (C2001), a deposit sealing the flagged stone surface in the entranceway, and consisted of fragmentary long bones and teeth from horses, a dog, a roe deer, and a mouse. Bird bones were not uncommon in this Phase, and as before consisted mainly of chicken, supplemented by a range of hedgerow and wetland birds.

#### *Phase 4: Post-Roman masonry buildings*

Phase 4 contexts produced 939 animal bones (6% of the total assemblage), of which just under 50% was found in Area A from the occupation deposit (C210), much of which is likely to be residual from the previous phases. Cattle, pigs and sheep/goat dominate the assemblage, and the sparse ageing data reiterates the distinction between a mainly adult cattle stock and mainly subadult sheep/goat and pig stock. Element representation is skewed towards the lower limbs and feet, consistent with an assemblage dominated by butchery waste. Horses and dogs, represented by a handful of bones apiece, are the only other speciated mammalian taxa known from this phase, and the bird bones are mostly chickens, although waterfowl and wading birds are also present.

*Phase 5: Wall robbing*

Phase 5 contexts produced 4741 animal bones (32% of the total assemblage), a significant concentration of which were found scattered among robbing debris (rubble) overlying the external yard (G3004). This material closely resembles that found in Phases 3–4, and presumably also contains a significant quantity of residual waste originating from disturbed Roman deposits. The incorporation of medieval and later material, however, is implied by the presence of taxa that are otherwise absent from Roman phases; these include cats, red deer, fallow deer, and rats, the last three of which also are encountered in Phase 6 deposits (see below). Among the more interesting specimens encountered in this Phase are two cat phalanges from robbing deposits (G709) and (G2056) and the mandible of a large mustelid, probably a marten, from (G315). These may be waste material from skinning, an industry attested at Caerleon in the post-medieval period.

*Phase 6: Medieval and early modern occupation*

Phase 6 contexts produced 3004 animal bones (20% of the total assemblage), including significant concentrations associated with possible surfaces (G202) and (G815), rubble deposit (G501), and linear feature (G2034). A proportion of this material is likely to consist of residual or redeposited animal bone from earlier phases. The assemblage consists mainly of cattle, pigs, and sheep/goat, and ageing data points towards different husbandry regimes. As in the Roman Phases, pigs were typically slaughtered as subadults for meat production, whereas cattle were usually slaughtered after reaching maturity, presumably having been exploited for their secondary products. The situation for sheep/goat, however, is more complex: while epiphyseal fusion and mandibular data suggests that most were culled for meat before reaching 2.5 years, a significant minority were clearly kept into adulthood. This almost certainly reflects a shift in husbandry strategies towards wool production, a core industry of southeast Wales until the mid-sixteenth century (Kennerley 1983, 5). All anatomical zones are represented for these three species, although waste elements from the head and feet are particularly common. Evidence for carcass processing is given by heavy chop marks on carpals, tarsals, and the proximal ends of metapodials, as well as round punctures in the interphalangeal zone (indicative of marrow extraction), on all three species. Interestingly, one cattle metatarsus from (C704) exhibits fine proximal cut marks that could have resulted from hide preparation, an industry attested at Caerleon in medieval documents and pursued in the town into the nineteenth century (Kennerley 1993, 5; *Monmouthshire Merlin*, 4 February 1832, 2).

Other mammalian taxa represented in Phase 6 include red deer, fallow deer, and a rat. The presence of red and fallow deer, the latter rarely encountered in south Wales before the twelfth century (Maltby and Hambleton 2014, 195–7), may relate to the deer park established in Caerleon by 1382, which probably lay 2.6 km northwest of the site at Ponthir (Kennerley 1983, 33–4). Avian taxa are dominated by chickens, augmented by smaller numbers of mallards, teal, pheasants, geese, cranes, corvidae, grouse, woodcock, snipe, and godwit.

*Phase 7: Modern activity*

Phase 7 contexts produced a total of 1851 animal bones (12% of the total assemblage), most of which derive from topsoil and subsoil contexts in Area A, such as (C005) and (C200). Stratigraphic evidence suggests that the animal bone from this phase may include a high proportion of residual or redeposited material. Most bones derive from adult cattle and subadult sheep/goat and pigs, and head bones and loose teeth are particularly common. Small numbers of additional species are present, including horses, a dog, chickens, mallards, pheasant, woodcock, lapwing, and a probable cormorant.

**Thematic Discussion***Whose food? Diet and refuse in the Priory Field Store Building*

Previous studies of excavated animal bones from Roman Britain have identified significant differences in the pattern of meat consumption at military and civilian settlements. While assemblages from military sites are normally dominated by cattle and, to a lesser extent, pigs, those from civilian sites tend to have higher proportions of sheep/goat, a pattern familiar from the late Iron Age (King 1984; Hambleton 1999). This distinction may reflect the development of a ‘military diet’ in the Roman army by the time of the Claudian invasion, whose origins perhaps lay in the beef- and pork-heavy diets of the Gallic and Germanic legionary homelands (King 1984, 197–201; King 2001, 216–8). Evidence from the Fortress Baths and Museum sites suggests that intramural meat consumption at *Isca* broadly conformed to this military pattern, with both sites yielding animal bone assemblages dominated first by cattle and secondly by pigs (O’Connor 1986; Hamilton-Dyer 1993). In this context, the Priory Field assemblage appears unusually porcine (Figure 4.76): 35% of all speciated animal bones from Roman Phases derive from pigs, while only 28% derive from cattle and 25% from sheep/goat. This discrepancy is particularly marked in Phases 0–2, where 40% of speciated animal bones derive from pigs, compared to 27% from sheep/goat and 23% from cattle. It is not until Phase 3 that

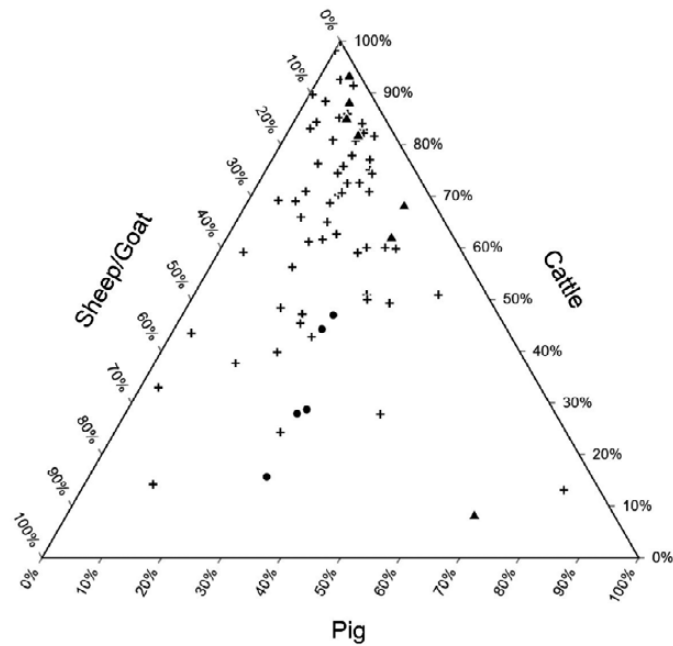


Figure 4.76. Ternary plot showing relative percentages of cattle, sheep/goat, and pig bones from Priory Field (circles), other Caerleon sites (triangles), and other Romano-British military sites (crosses). Comparative data from King 1984; 1999.

the pattern of the assemblage more closely resembles traditional military sites, with a higher proportion of cattle compared to pigs and sheep/goat.

The pig-dominated Priory Field assemblage is unusual in a military context and invites comparison with urban sites like Caerwent, Exeter, and Wroxeter (Maltby 2010, 264-5). Its closest local parallel, however, is the extramural Southern Canabae, where pig remains accounted for 61% of fragments assigned to the three main domestic taxa (Powell 2012, 77). The similarity with urban material is perhaps significant, since the

*canabae legionis* may have performed quasi-urban functions in the north-western provinces (Guest et al 2012; Franzen 2009, 1275). The similar compositions of the Priory Field and Southern Canabae assemblages gain added interest when considered against the former's contextual and taphonomic attributes. As previously noted, animal bones from Phases 0-2 at Priory Field derive primarily from make-up and levelling deposits, and have unusually high concentrations of heavily-weathered and root-etched material (Tables 4.40-4.41). These phases also yield reasonable quantities of rodent and carnivore-gnawed bones (16 out of

Table 4.40 Weathering of animal bones by Phase

Weathering	0i	0ii	1i	1ii	2	3	4	5	6	7	u/s
Very slight	-	-	-	3	-	3	-	4	6	6	-
Slight	7	17	22	466	122	483	75	1233	410	257	15
Moderate	29	75	26	1141	576	918	734	3286	2362	1407	13
Heavy	4	23	5	185	232	54	130	218	226	180	5
Extremely heavy	4	6	1	35	18	24	-	-	-	-	-

Table 4.41 Root etching of animal bones by Phase

Root etching	0i	0ii	1i	1ii	2	3	4	5	6	7	u/s
None	16	43	29	647	301	1109	559	3357	2354	1594	27
Slight	24	55	20	738	347	329	334	1357	638	248	6
Moderate	4	21	5	427	292	43	46	27	12	8	-
Heavy	-	2	-	18	8	1	-	-	-	-	-

56 gnawed bones from the site), as well as bones of scavenging birds, rodents, and small- to medium-sized dogs possibly used for pest control. This evidence suggests that the Phase 0-2 material from Priory Field consists mainly of redeposited waste sourced from open-air rubbish dumps or middens, similar to those observed in the *vicus* of the Pen-y-gaer auxiliary fort in southern Powys (Jones and Hankinson 2012, 13). If so, it seems probable that this material was originally consumed in a different part of the fortress, possibly including the Southern Canabae itself; a direct contrast to the Fortress Bath assemblage, where the animal bone assemblage derived mainly from on-site consumption of snack meat. This interpretation could suggest that the animal bones from Phases 0-2 are only indirectly linked to legionary diet within the fortress walls and may instead reflect a background pattern of high-status Roman-style consumption in the area of the *canabae legionis*. The material from Phase 3, however, has a markedly different composition, and is much more likely to indicate legionary consumption within the fortress itself, albeit perhaps up to 200 years later.

#### *Livestock Sourcing and Supply Networks*

Though perhaps not uniformly representative of legionary diet, the animal bones from Priory Field offer glimpses of the networks of livestock supply necessary for the provisioning of the permanent military installation and *canabae* at *Isca*. It is often assumed that the Roman military relied heavily on local agrarian produce to meet its food demands (Groot 2008, 23; Thomas and Stallibrass 2008, 9), and evidence from Priory Field and other Caerleon sites offers some support for this theory. The anatomical

coverage of pig, cattle, sheep/goat remains in Phases 0-3 is reasonably broad, indicating that animals were usually driven on-the-hoof to *Isca* prior to slaughter; Thomas (2008, 32) has identified this as a characteristic feature of local stock supply and biometrical data provides corroboratory evidence in this direction. In the case of cattle, measurements were taken from 47 complete long bones from Priory Field (40 metapodials, six radii, and one tibia), and a further 45 long bones from Caerleon in the collections of the National Roman Legion Museum: Museum Garden (16), British Telecom (10), Myrtle Cottage (8), Prysge Field (3), Golledge's Field, (2), Jenkins' Field (1), and unprovenanced locations (5). These were converted into withers height estimates, yielding a mean height of 1.07 m and a median of 1.06 m (Figure 4.77). Comparison with material from other Iron Age and Romano-British sites (Table 4.42) suggests that the cattle supplying Caerleon were similar in size to cattle found on sites in south Wales and the southern Marches, but were generally smaller than those found elsewhere in England and Wales. In the case of sheep/goat, measurements were taken from 17 complete long bones from Priory Field (14 metapodials, two radii and one humerus), and a further twelve long bones from Caerleon in the collections of the National Roman Legion Museum: Museum Garden (5), British Telecom (2), the Amphitheatre (1), Fortress Baths (1), Jenkins' Field (1), Prysge Field (1), and unprovenanced locations (1). Converting these into withers height estimates yields a mean and median height of 0.56 m (Figure 4.78), which is comparable to sheep/goat found at other sites in Wales and the Marches but smaller than those found in northern and southern England (Table 4.43). With the caveat of small sample sizes, the biometric similarities between cattle and sheep/goat remains

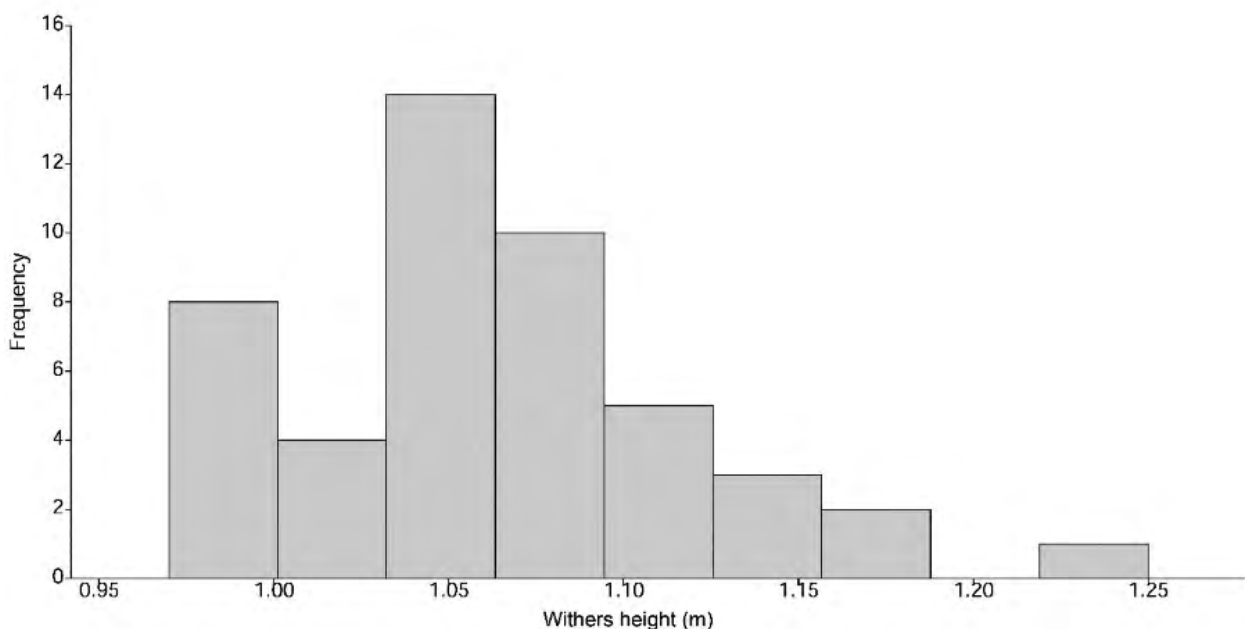


Figure 4.77. Histogram of estimated withers heights (m) of 47 Roman cattle from Caerleon sites.

Table 4.42 Withers height estimates for cattle from Caerleon and selected Iron Age and Romano-British sites

Site name	Date	Mean withers height (m)	Range (m)	Reference
Chester Delamere Street	RB	1.05	0.33	Baxter 2012, 134
Croft Ambrey	IA	1.05	0.12	Whitehouse and Whitehouse 1974, 238
Loughor	RB	1.05	0.12	Sadler 1997, 400
<b>Caerleon</b>	<b>RB</b>	<b>1.07</b>	<b>0.28</b>	-
Bagendon	IA	1.07	0.05	Jackson 1961, 269
Whitton	IA-RB	1.07	0.03	Kinnes 1981, 237
Birdlip	IA-RB	1.07	0.03	ABMAP
Coygan Camp	RB	1.07	0.13	Westley 1967, 193
Prestatyn	RB	10.7	0.22	Jones 1989, 215
Carlisle	RB	1.08	0.28	Stallibrass 1991, 7-19
Caerwent	RB	1.09	0.13	Noddle 1983, 64
Exeter	RB	1.09	0.24	Maltby 1979, 165-7
Wroxeter	RB	1.09	0.25	Noddle and O'Connor 2002, 257
York	RB	1.11	-	O'Connor 1988, 97
Beckford	RB	1.13	0.10	ABMAP
Segontium	RB	1.13	0.30	Noddle 1993, 105-7
Kingscote	RB	1.13	0.36	Maltby 1998, 421-8
Frocester	IA-RB	1.13	0.30	Noddle 2000, 221
Chichester	RB	1.15	0.27	Levitan 1989, 245

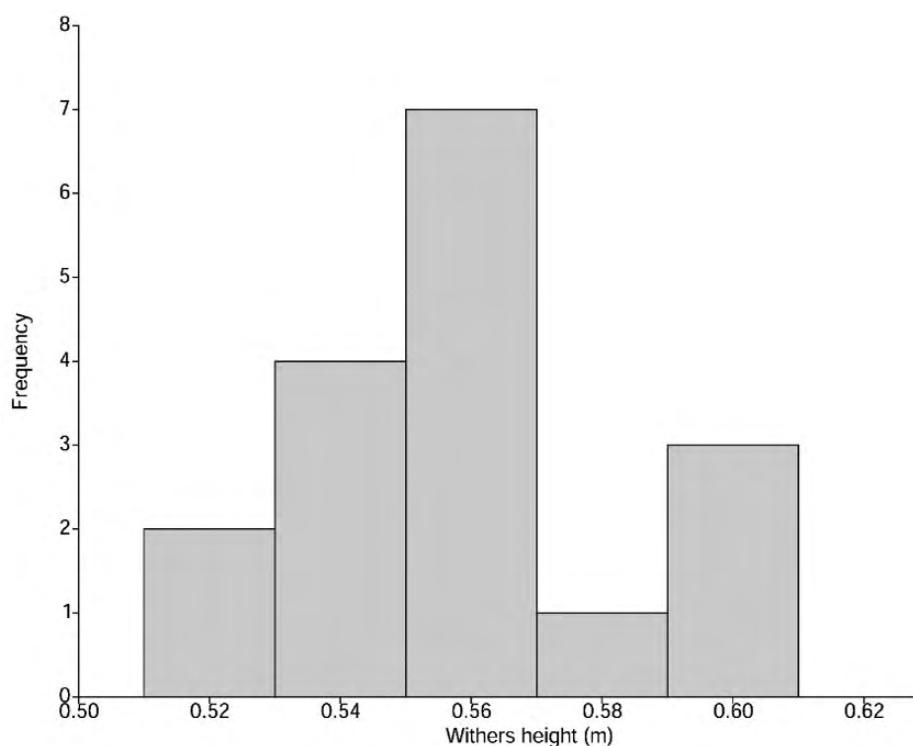


Figure 4.78. Histogram of estimated withers heights (m) of 17 Roman sheep/goats from Caerleon sites

Table 4.43 Withers height estimates for sheep/goat from Caerleon and selected Iron Age and Romano-British sites

Site name	Date	Mean withers height (m)	Range (m)	Reference
Beckford	RB	0.50	0.13	ABMAP
Whitton	IA-RB	0.55	0.17	Kinnes 1981, 237
Wroxeter	RB	0.55	0.13	Noddle & O'Connor 2002, 259
<b>Caerleon</b>	<b>RB</b>	<b>0.56</b>	<b>0.10</b>	-
Chester Delamere Street	RB	0.57	0.11	Baxter 2012, 135
Frocester	IA-RB	0.57	0.20	Noddle 2000, 227
Balksbury	IA-RB	0.57	0.14	ABMAP
Segontium	RB	0.57	0.14	Noddle 1993, 112-4
Croft Ambrey	IA-RB	0.58	0.10	Whitehouse & Whitehouse 1974, 240-1
Exeter	RB	0.58	0.12	Maltby 1979, 183-5
Cowbridge	RB	0.59	0.05	Jones a&nd Sadler 1996, 231
Prestatyn	RB	0.59	0.13	Jones 1989, 217
York	RB	0.59	0.08	O'Connor 1988, 98
Carlisle	RB	0.59	0.13	Stallibrass 1991, 25-9
Kingscote	RB	0.60	0.06	Maltby 1998, 421-8
Chichester	RB	0.60	0.20	Levitan 1989. 251

found at Caerleon and other sites in Wales and the Welsh Marches are broadly consistent with a system of local or regional livestock provisioning, suggesting that animals consumed at the site were most likely reared in its immediate hinterland.

Strontium ( $^{87}\text{Sr}/^{86}\text{Sr}$ ) isotope analysis offers an alternative, and to some extent complementary, perspective on livestock sourcing at Roman *Isca*. In a recent study by Madgwick *et al.* (2019), dental samples were taken from 37 cattle, pigs, and sheep/goats found in Phase 0-4 contexts at Priory Field, whose  $^{87}\text{Sr}/^{86}\text{Sr}$  isotope ratios were analysed using mass spectrometry. Comparison with bioavailable strontium indicates that the majority of sampled remains derived from livestock raised within 5 km of Priory Field, although two groups of non-local animals were also identified. One group is likely to have originated in southern or central England, while the other may have originated in the Malvern Hills, northern Britain, or Brittany. While these findings do not contradict a model of primarily local or regional livestock sourcing, they do provide evidence for long-distance supply networks augmenting local production, perhaps linked to systems of long-distance overland droving (Stallibrass 2009). The annual Caerleon May Fair might provide a later parallel, attracting cattle, horse, sheep and pig dealers 'from South Wales, Bristol, and the Midlands' at the turn of the twentieth century (*Monmouthshire Advertiser* 6 May 1905, 5). Exactly how livestock was acquired from local or distant sources is nonetheless unclear; potential mechanisms might include compulsory purchase (Manning 1975, 115), payments in kind (Adams 1999, 122), and forced

requisition or plunder (Roth 1999, 144-6) as well as direct military stock-raising (Elton 1996, 67-9).

#### *Legionary Provisioning and its Landscape Impact*

Given the apparently local origins of most livestock consumed at Priory Field, it seems likely that animals were routinely pastured within the legionary *territorium* or *pratum* for at least a short period of time. The extent of this hinterland is unclear, though Manning (1975, 114) speculates that as much as 260 km<sup>2</sup> (a five-mile radius of the fortress) may have been given over to arable cultivation and stock rearing for the army, while Mason (1988, 181-4) argues for a more extensive region of c. 375 km<sup>2</sup>, traversing several distinct *pays* from Cardiff to Machen and from Usk to the Gwent Levels. While the animal bones from Priory Field cannot clarify the extent of the legionary hinterland, they do provide modest evidence for its agrarian character. The presence of traction cattle in Roman phases at Priory Field echoes other indicators for local cereal production near military sites in Wales (Caseldine 2010, 154), as does the presence of partridge in Phase 2 and 3 contexts, a species normally associated with the edges of cultivated fields (Venables 2008, 101). Plovers, a species present in Roman deposits at the Fortress Baths (O'Connor 1986, 240) and recorded in Phase 4 at Priory Field, may derive from cultivated fields or riverside habitats, although the latter is more likely given evidence for other wetland and wetland-peripheral species at Priory Field, including mallards, teals, geese, cranes, snipes and godwits. Taken as a whole, this material points to a landscape of mixed arable and

meadowland, the latter of which is likely to have been used for pastoral grazing. Given the large number of pig bones found at Priory Field, it is interesting to note

the absence of any conclusively woodland bird species in Roman phases at the site, which may reflect the preferential use of sties over wood pasture or pannage.

#### 4.7 Botanical Remains (Astrid E. Caseldine and Catherine J. Griffiths)

##### *Introduction and methodology*

The excavation at Priory Field provided the opportunity to recover charred plant remains and gain information about the supply and use of cereals and other plant foodstuffs at Caerleon from before the establishment of the legionary store building through to medieval times. It was also hoped that the charred plant remains might provide specific information about the use of the store and later buildings at the site, as well as contributing to the archaeobotanical record in Wales.

Samples were recovered from selected contexts for environmental analysis during the 2008 and 2010 seasons. The sixteen samples examined from the 2008 excavation were taken from a range of post-Roman contexts, including walls, layers, a stone-lined pit and a second pit. The seven samples examined from the 2010 excavation were largely from deposits of burnt material in Rooms 1, 5 and 6 of the store, the exception being a sample from the yard. In addition to the analysis of the samples for charred plant remains, a small amount of wood charcoal was identified for dating purposes and to obtain some information about the use of wood at Caerleon and woodland resources in the area.

The samples were processed on site using a simple wash-over technique to recover the charred plant remains. The finest sieve mesh used to collect the flot was 250 µm and to retain the residues was 500 µm. The samples were sorted using a Wild stereomicroscope and the charred plant remains were identified by consulting modern reference material and standard reference texts (e.g., Cappers *et al* 2006, Jacomet 2006). The results are presented in Table 4.44. Nomenclature follows Stace (1995) and the habitat details are largely based on that volume.

Charcoal fragments were randomly selected, apart from those used for radiocarbon dating that were selected on the basis of being the most suitable available in the assemblage, and examined using a Leica microscope with incident light source. The charcoal was fractured to produce clean sections (transverse, radial longitudinal and transverse longitudinal), to enable the anatomical features to be viewed. Identification was by reference to wood anatomy atlases (Schweingruber 1978, Schoch *et al* 2004) as well as reference material. The results are presented in Table 4.45.

There is considerable overlap between the grain morphology of different types of wheat, and chaff is necessary to provide confirmation of the species present. The majority of the wheat grains from Priory Field were a free-threshing wheat with the characteristics

of a hexaploid bread wheat type (*Triticum aestivum* s.l.), rather than a tetraploid rivet wheat (*T. turgidum*). Rachis confirmed the presence of bread wheat. A small amount of grain was much flatter than the free-threshing wheat and was assigned to spelt wheat (*T. cf. spelta*), which was confirmed by the presence of a spelt glume base. Other grains could only be assigned to a broader *T. spelta/T. aestivum* category or *Triticum* sp. In general the grains of barley (*Hordeum* sp.) had the angular appearance of hulled barley. The occurrence of twisted as well as straight grains indicated the presence of six-row hulled barley (*Hordeum vulgare*), but the presence of two-row barley cannot be ruled out. Oat (*Avena* sp.) was present in small amounts but the absence of oat chaff meant that it could not be confirmed whether the oat (*Avena* sp.) was wild or cultivated. Some grain was indeterminate.

##### **Results**

##### *Phase 0ii: Clearance and levelling*

The earliest evidence comes from sample <3007> which was from a thin charcoal-rich deposit (C3090) overlying the original ground surface in Room 5, whilst sample <3008> was from a silty charcoal layer (C3114) overlying a dump of orange clay, which in turn overlay a thin charcoal layer above the old ground surface in Room 6. The layers from which the samples came probably represent clearance of the site and dumping of material to provide a level ground surface for the building.

The assemblages from both samples were similar in that they both contained substantial amounts of wood charcoal and both were dominated by barley. Although not present in large quantities, the barley reflects cereal use prior to construction of the store building which is dated to c. 90-110. Oat was also represented, though there was insufficient evidence to say whether this was present as a crop or a weed. Generally, weed seeds were scarce and may have derived from either local habitats or crop processing waste and included brome (*Bromus* sp.) in <3007>, a weed of arable fields and grassland as well as wasteland. A medicks/clover (*Medicago/Trifolium*) seed suggests grassland and rough ground, whilst the occurrence of sedge (*Carex* sp.) also from <3007>, and rush (*Juncus* spp.) in <3008>, indicates the presence of damp ground. Grass (*Poaceae*) stem and rhizome material, particularly in <3008>, may reflect burning of the local ground surface, possibly associated with site clearance and construction activity. Alternatively, the remains could represent charred material that had been brought to the site during construction work and dumped there.

Further evidence from this early phase of the site comes from the external yard. Sample <012> was from

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Table 4.44 Charred plant remains from Priory Field arranged by Phase

PHASE	Oii	Oii	Oii	1ii	1ii	1ii	1ii	2	3	4	4	4	4	4	4	6	6	6	6
SAMPLE NO.	12	3007	3008	8	3004	3005	3006	3003	4	5	6	7	11	13	16	2	3	9	10
CONTEXT	320	3090	3114	820	2096	2101	2131	2072	2001	210	304	339	349	318	203	102	602	305	907
AREA	Yard	5	6	2	1	1	1	1	4	A	A	A	A	A	A	A	A	A	A
SAMPLE SIZE (LITRES)	10	17	25	n.a.	5	45	12	8	40	40	25	25	30	15	15	40	40	n.a.	40
TAXA																			
CEREALS																			
Triticum spelta - glume base	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-
(Spelt wheat)																			
T. cf. spelta - grain	-	-	-	-	-	-	-	-	-	-	-	16	-	-	-	-	-	-	-
T. spelta/T. aestivum - grain	-	-	-	1	-	-	-	-	-	-	-	24	-	-	-	-	-	2	-
(Spelt wheat/ Bread wheat)																			
Triticum aestivum s. l. - grain	-	-	-	-	-	-	-	-	7	5	523	2137*	119	-	-	4	5	-	6
( Bread wheat type)																			
Triticum aestivum L. - rachis frag.	-	-	-	-	-	-	-	-	-	-	-	9	-	-	-	-	-	-	-
(Bread wheat)																			
Triticum sp. - grain	-	-	-	-	1	3	2	-	1	-	-	626	22	1	-	2	-	-	1
(Wheat)																			
Triticum sp. - spikelet fork	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-
Triticum sp. - rachis frag.	-	-	-	-	-	-	-	-	-	-	5	-	-	-	-	-	-	-	-
Triticum sp./ Hordeum sp. grains	-	-	-	-	-	-	-	-	-	-	23	-	-	-	-	-	-	-	-
(Wheat/barley)																			
Hordeum sp. - straight grain	6*	17*	16	-	-	5	-	-	-	-	378*	170	106*	-	-	1	-	-	2
(Barley - hulled)																			
Hordeum sp. - twisted grain	3	7	8	-	-	4	-	-	-	-	136	96	39	1	-	-	-	-	-
Hordeum sp. - indet. grain	1	5	16	-	-	6	-	-	-	3	121	25	17	1	1	-	-	-	-
Hordeum sp. - sprouted grain	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-
Hordeum sp.- rachis frag.	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-
Avena sp. - grain	-	2	-	-	-	2	-	-	8	-	65	192	28	-	1	-	1	1	4
(Wild/cultivated oat)																			
Avena sp. - awns	-	-	-	-	-	-	-	-	-	-	-	7	-	-	-	-	-	-	-
Avena/Secale cereale	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-
(Oat/rye)																			
Avena/ Poaceae	-	-	2	1	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-
(Oat/grass)																			
Cerealia indet. - grain	1	3	3	-	3	21	-	-	-	3	67	65	63	-	1	2	1	-	-
Cerealia indet. - embryo	-	-	-	-	-	-	-	-	-	-	4	1	-	-	-	-	-	-	-
Cerealia indet. - embryo sprouted	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-

EXCAVATION OF THE PRIORY FIELD STORE BUILDING IN CAERLEON

PHASE	Oii	Oii	Oii	1ii	1ii	1ii	1ii	2	3	4	4	4	4	4	4	6	6	6	6
SAMPLE NO.	12	3007	3008	8	3004	3005	3006	3003	4	5	6	7	11	13	16	2	3	9	10
CONTEXT	320	3090	3114	820	2096	2101	2131	2072	2001	210	304	339	349	318	203	102	602	305	907
AREA	Yard	5	6	2	1	1	1	1	4	A	A	A	A	A	A	A	A	A	A
OTHER PLANTS																			
Ranunculus repens type - mineralised	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-
(Creeping buttercup) DG																			
cf. Ranunculus sp. (Buttercups) DG	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-
Urtica dioica L. (Common nettle) CDn	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-
Corylus avellana L. - nut shell frags (Hazel) HSW	-	-	-	-	-	1	-	1	-	-	-	2	-	-	-	1	-	-	-
Chenopodium album L. (Fat-hen) CDn	-	-	-	-	-	1	-	-	-	-	5	22	1	-	-	-	-	-	-
Atriplex spp. (Oraches) CDn	-	-	-	-	-	-	-	-	-	-	4	1	2	-	-	-	-	-	-
Chenopodiaceae (Goosefoot family)	-	-	-	-	-	-	-	-	-	1	4	-	-	-	-	-	-	-	-
Persicaria maculosa Gray (Redshank) Cdo	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2
P. hydropiper (L.) Spach (Water-pepper) Pw	-	-	-	-	-	-	-	-	-	-	4	-	-	-	-	-	-	-	-
P. laxiflora (Weihe) Opiz (Tastless water-pepper) Pw	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-
Polygonum aviculare L. (Knotgrass) CDR	-	-	-	-	-	-	-	-	-	-	-	-	2	-	-	-	-	-	-
Fallopia convolvulus (L.) A. Love (Black-bindweed) CD	-	-	-	-	-	-	-	-	-	-	-	4	-	-	-	-	-	1	-
Rumex spp. (Docks) CDGHWw	-	-	-	-	-	1	-	-	1	3	26	70	4	-	-	-	-	-	-
Malva sylvestris L. (Common mallow) DR	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-
cf. Empetrum nigrum L. (Crowberry) E	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-
Capsella bursa-pastoris type (Shepherd's purse) CDR	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-
Rubus sect. Glandulosus (Brambles) DHSW	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-
Prunus cf. spinosa L.	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-

FINDS CATALOGUES AND SPECIALIST REPORTS

PHASE	Oii	Oii	Oii	1ii	1ii	1ii	1ii	2	3	4	4	4	4	4	4	6	6	6	6
SAMPLE NO.	12	3007	3008	8	3004	3005	3006	3003	4	5	6	7	11	13	16	2	3	9	10
CONTEXT	320	3090	3114	820	2096	2101	2131	2072	2001	210	304	339	349	318	203	102	602	305	907
AREA	Yard	5	6	2	1	1	1	1	4	A	A	A	A	A	A	A	A	A	A
(Blackthorn) HSW																			
Rosaceae - thorns	-	-	-	-	-	-	-	-	-	-	-	2	-	-	-	-	-	-	-
Vicia hirsuta L.	-	-	-	-	-	-	-	-	-	-	155	73	7	-	-	-	-	-	-
(Hairy tare) CDG																			
V. tetrasperma (L.) Schreber Gray	-	-	-	-	-	-	-	-	-	-	31	6	3	-	-	-	-	-	-
(Smooth tare) CDG																			
V. hirsuta/V. tetrasperma type	-	-	-	-	-	-	-	-	-	-	262	114	3	-	-	-	-	-	-
(Hairy tare/smooth tare type) CDG																			
V. faba L. - frags	-	-	-	-	-	1	-	-	1	-	6	4	1	-	-	-	-	-	-
(Celtic bean)																			
Vicia sp.- frag	-	-	-	-	-	-	-	-	-	-	2	-	-	-	-	-	-	-	2
(Vetches) CDGH																			
Vicia sp./Lathyrus sp.	-	-	-	-	-	-	-	-	-	-	3	-	-	-	-	-	-	-	-
(Vetches/peas) CDGHSWw																			
Medicago spp. / Trifolium spp.	-	1	-	-	1	21	3	-	-	-	4	-	-	-	-	-	-	-	-
(Medicks/ clover) DGRo																			
Ulex sp. - spine	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-
(Gorse) GEWo																			
cf. Anethum graveolens L.	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-
(Dill)																			
Conium maculatum L.	-	-	-	-	-	-	-	-	-	-	1	2	1	-	-	-	-	-	-
(Hemlock) DRw																			
cf. Conium maculatum L.	-	-	-	-	-	-	-	-	-	-	11	-	-	-	-	-	-	-	-
cf. Torilis nodosa (L.) Gaertner	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-
(Knotted hedge-parsley) C																			
Heracleum sphondylium L.	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-
(Hogweed) DGHR																			
Apiaceae sp.	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-
(Carrot family)																			
cf. Apiaceae	-	-	-	-	-	-	-	-	-	-	2	-	-	-	-	-	-	-	-
(Carrot family)																			
Stachys sylvatica L.	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-
(Hedge woundwort) DHW																			
Plantago coronopus L.	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-
(Buck's horn plantain) G																			
Galium aparine L.	-	-	-	-	-	-	-	-	-	-	3	4	3	-	-	-	-	-	-
(Cleavers) CDHSo																			
Sambucus nigra L.	-	-	-	-	-	-	-	-	-	-	18	4	5	-	-	-	-	-	-

## EXCAVATION OF THE PRIORY FIELD STORE BUILDING IN CAERLEON

PHASE	Oii	Oii	Oii	1ii	1ii	1ii	1ii	2	3	4	4	4	4	4	4	6	6	6	6
SAMPLE NO.	12	3007	3008	8	3004	3005	3006	3003	4	5	6	7	11	13	16	2	3	9	10
CONTEXT	320	3090	3114	820	2096	2101	2131	2072	2001	210	304	339	349	318	203	102	602	305	907
AREA	Yard	5	6	2	1	1	1	1	4	A	A	A	A	A	A	A	A	A	A
(Elder) DHSWn																			
Lapsana communis L.	-	-	-	-	-	-	-	-	-	-	51	36	1	-	-	-	-	-	-
(Nipplewort) CDHRWo																			
Lapsana communis L. - mineralised	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-
(Nipplewort)																			
Picris hieracioides L.	-	-	-	-	-	-	-	-	-	-	6	3	-	-	-	-	-	-	-
(Hawkweed oxtongue) DGo																			
cf. Picris hieracioides L.	-	-	-	-	-	-	-	-	-	-	1	2	-	-	-	-	-	-	-
(Oxtongues)																			
Anthemis cotula L.	1	-	-	-	-	-	-	-	-	-	26	11	-	-	-	-	-	-	-
(Stinking chamomile) ADR																			
Tripleurospermum inodorum (L.) Schultz-Bip	-	-	-	-	-	-	-	-	-	-	1	3	-	-	-	-	-	-	-
(Scentless mayweed) AD																			
Asteraceae	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-
(Daisy family)																			
Juncus spp.	-	-	3	-	-	>50	-	-	-	-	-	1	-	-	-	-	-	-	-
(Rush) CDGMRw																			
Juncus spp. - fruit	-	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-
Luzula sp.	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-
(Wood-rush) EGHw																			
Eleocharis palustris (L.) Roemer & Schultes/E. uniglumis (Link) Schultes	-	-	-	-	-	1	-	-	1	-	-	-	-	-	-	-	-	-	-
(Common spike-rush/Slender spike-rush) MPw																			
Carex sp. - biconvex	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
(Sedge) GMPWw																			
Carex sp. - trigonous	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
(Sedge) GMPWw																			
Bromus spp.	-	2	-	-	1	4	-	-	-	-	30	33	1	-	-	-	-	-	1
(Bromes) CDG																			
Poaceae	-	-	-	-	1	24	3	-	-	2	31	56	5	-	1	-	-	-	-
(Grass family) CDG																			
cf. Poaceae	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Poaceae - stem, rhizome, root	-	5	34	-	-	9	-	-	-	-	-	-	3	-	1	-	-	-	-
Poaceae - mineralised stem	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-

FINDS CATALOGUES AND SPECIALIST REPORTS

PHASE	Oii	Oii	Oii	1ii	1ii	1ii	1ii	2	3	4	4	4	4	4	4	6	6	6	6
SAMPLE NO.	12	3007	3008	8	3004	3005	3006	3003	4	5	6	7	11	13	16	2	3	9	10
CONTEXT	320	3090	3114	820	2096	2101	2131	2072	2001	210	304	339	349	318	203	102	602	305	907
AREA	Yard	5	6	2	1	1	1	1	4	A	A	A	A	A	A	A	A	A	A
Pteridium aquilinum (L.) Kuhn - pinnule frag.	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-
(Bracken) Egw																			
cf. flower buds	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
cf. fruit frag.	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Moss frag.	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-
Indets.	-	-	-	5	1	-	-	-	-	-	4	1	-	-	-	-	-	-	-
Organic material indet.	-	4	-	5	8	29	-	16	5	13	-	-	-	-	-	2	2	-	4
Wood charcoal	+++	++++	++++	+	+++	++++	++++	+++	+	+++	++++	++++	++++	+	+	+	+	+	+++
<b>Total (excl. organic indet.)</b>	<b>14</b>	<b>45</b>	<b>85</b>	<b>7</b>	<b>8</b>	<b>163</b>	<b>9</b>	<b>3</b>	<b>20</b>	<b>17</b>	<b>2021</b>	<b>3827</b>	<b>437</b>	<b>3</b>	<b>6</b>	<b>10</b>	<b>7</b>	<b>6</b>	<b>18</b>
Items/litre (excl. organic indet.)	1.4	2.6	3.4	n.a.	1.6	3.6	0.75	0.4	0.5	0.4	80.7	153	14.6	0.2	0.4	0.25	0.2	n.a.	0.5

Key: \* = radiocarbon dated; + = 1-25; ++ = 26-50; +++ = 51-75; ++++ = 76-100; +++++ = > 100

Habitat preference: C = arable, cultivated; D = disturbed, rough ground; E = heath, moorland; G = grassland; H = hedgerow; M = marsh; P = ponds; R = roadsides, waysides; S = scrub; W = woodland; n = nutrient rich; o = open; w = wet

Table 4.45 Charcoal identifications arranged by Phase

PHASE	Oii	Oii	Oii	1ii	4	4	4	4	4	4	4	4	4	5	Total
SAMPLE	12	3007	3008	3006	5	6	7	11	13	14	15	16	3002		
CONTEXT	320	3090	3114	2131	210	304	339	349	318	353	404	203	3023		
AREA	Yard	5	6	1	A	A	A	A	A	A	A	A	B		
Quercus spp.	98	114	120	125	30 (28rw)	1	-	9	-	-	-	-	-	2(2rw)	499
(Oak)															
Betula spp.	4 (1rw)	5	-	-	-	2 (1 rw)	7 (2 rw)	4 (1rw)	-	-	-	-	-	-	22
(Birch)															
Alnus glutinosa (L.) Gaertner	-	-	5 (3rw)	-	-	-	-	-	1	-	-	-	-	-	6
(Alder)															
Corylus avellana L.	7 (2rw)	2 (1rw)	2 (2rw)	-	-	22 (3 rw)	2	4 (rw)	1	1*	-	1*	-	42	
(Hazel)															
Fagus sylvatica L.	-	-	-	-	-	-	12	2	-	-	1*	-	-	15	
(Beech)															
Prunus spinosa L.	3 (1 rw)	3	-	-	-	5	7*	11 (2rw)	-	-	-	-	-	29	
(Blackthorn)															
Prunus spp. (Cherries, blackthorn)	-	-	-	-	-	-	-	-	1*	-	-	-	-	1	
Fraxinus excelsior L.	2 (1rw)	-	-	-	-	-	2	-	-	-	-	-	-	4	
(Ash)															
Indeterminate	5	1	1	-	-	-	-	-	-	-	-	-	-	7	
<b>Total</b>	<b>119</b>	<b>125</b>	<b>128</b>	<b>125</b>	<b>30</b>	<b>30</b>	<b>30</b>	<b>30</b>	<b>3</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>2</b>	<b>625</b>	

Key: \* = radiocarbon dated; rw = round wood

a thin charcoal layer (C320) which overlay and sealed a sequence of make-up deposits (G321) which in turn overlay a thin charcoal layer lying on the original ground surface (C328). As with the previous samples, the charred assemblage consisted of a large amount of wood charcoal, and the cereal assemblage, although small, was dominated by barley. Only a few other seeds occurred but once more a sedge seed was present indicating damp ground, whilst a seed of stinking chamomile (*Anthemis cotula*), a common weed of cereal crops, possibly suggests cultivation on heavier, clay soil (although it is not confined only to them). Barley itself can be grown on a wide variety of soils ranging from heavy clays to light or sandy loams. Another weed seed, redshank (*Persicaria maculosa*), can also be found on a wide range of soils and is a weed often encountered on cultivated ground as well as occurring in waste places and other habitats. Once more the charred plant remains reflect general waste and could represent cereal grain accidentally burnt during food preparation and/or the deliberately burning of cereal processing waste.

The charcoal assemblages from all three Phase Oii samples comprised mainly oak (*Quercus* spp.) with small amounts of other species present, including birch (*Betula* spp.), alder (*Alnus glutinosa*), hazel (*Corylus avellana*), blackthorn (*Prunus spinosa*) and ash (*Fraxinus excelsior*). The curvature of the growth rings of the oak charcoal from all three samples, at most weakly curved, suggests large calibre wood, namely trunk wood or large branches and could either be from wood collected as fuel or wood that had been used for structural purposes prior to being burnt. Evidence of splitting along the rays in a few of the oak fragments from <3007> and <3008> may be related to the dampness of the wood, whilst some of the charcoal from <012> showed a degree of vitrification which may relate to the state of the wood before combustion or the conditions of combustion. The other taxa included fragments of roundwood with strong ring curvature indicating small calibre stems or branches that had been collected for fuel. The range of species suggests the exploitation of oak-hazel woodland, as well as scrub or hedgerows in the local area, together with alder, the latter perhaps growing along the edge of the River Usk or Afon Llwyd.

#### Phase Iii: Levelling and floors

Samples from this phase were from floors and dumps of material brought in to level the site. Three of the samples were from Room 1 and were from deposits of general rubbish (G2115) used to raise the level of the interior of the room. Two of the samples, <3004> and <3005>, were from layers (C2096) and (C2101) respectively, thought to be remnants of the room's first floor surface. Both these samples yielded wood charcoal, but very few other

charred plant remains were recovered from <3004>. Rather more was recovered from <3005>, although much of the cereal was indeterminable. As in the earlier deposits, barley was again present, as was oat, at least in <3005>. In addition, wheat was present in both samples and Celtic bean (*Vicia faba*) also occurred in <3005>. The range and number of other seeds was much greater in <3005> than <3004> with medicks/clover, grass and rush being the most frequent seeds in the former sample.

The cereal and Celtic bean may have been accidentally charred during food preparation or deliberately burnt as waste material. The weed seeds may represent crop processing waste or, given the nature of the deposits, derive from other sources prior to being used for fuel. Fat hen (*Chenopodium album*) is commonly a weed of cultivated or waste land, whilst other seeds such as grass seeds, including bromes, as well as seeds of medicks/clovers, buck's horn plantain (*Plantago coronopus*) and dock (*Rumex* sp.) could derive from crop processing waste but are also typical of grassland and, along with charred grass stem/rhizome fragments, could indicate burning of plant remains gathered for other purposes such as hay or tinder. Once again the presence of rush seeds suggests damp conditions as do seeds of common spike-rush/slender spike-rush (*Eleocharis palustris*/*E. uniglumis*) and tasteless water-pepper (*Persicaria laxiflora*). Although fat hen indicates the cultivation of nitrogen-rich soils, the frequent medick/clover seeds are suggestive of soils with low soil fertility (leguminous plants such as clovers occur in soils with low nitrogen levels and bacteria in their root nodules help to fix nitrogen, thereby increasing soil fertility). Equally, the presence of wet-ground taxa may indicate cultivation up to the edge of the river floodplain. Confirmation of the range of habitats around Caerleon is provided by the waterlogged seed assemblages from Mill Street (Jones 2000) in the Eastern Canabae which include weed species indicative of damp meadows as well as better-drained and drier soils, including disturbed ground.

The presence of a fragment of hazelnut shell and a fruitstone of bramble (*Rubus* sect. *Glandulosus*) may indicate the use of wild food resources, but they could have entered the assemblage accidentally along with wood gathered for fuel. Similarly, the presence of a gorse spine could indicate collection of gorse for fuel. Certainly the latter three taxa could all indicate scrub or rough ground in the area. Overall the remains from these samples would seem to reflect general waste.

The third sample associated with Room 1, <3006>, was from a dump of charcoal (C2131) used to fill a slight depression in the northeastern corner of the room. The sample produced substantial amounts of wood charcoal, basically oak but again with a few other plant remains, namely wheat grains, grass and clover/medick

seeds and a fragment of bracken frond (*Pteridium aquilinum*). It is possible that bracken might have been used for animal bedding. The assemblage is similar to those of the previous two samples and once more reflects general waste probably used for fuel and which could have been derived from several sources. The ring curvature of the oak charcoal suggested large calibre stems and could represent wood that had been used in a structure prior to being burnt. The final sample from this phase, <008>, was from the floor surface (C820) in Room 2 and produced a very limited assemblage, comprising a spelt/bread wheat grain and an oat/grass grain. As with the previous samples, the remains may have been either deliberately thrown onto a fire or accidentally charred.

#### *Phase 2: Occupation and alteration of the store building*

The only sample from the period of occupation of the building, <3003>, was from a patch of burning (C2072) in the southwestern quadrant of Room 1. Apart from wood charcoal, other charred plant remains were confined to a glume base of spelt, a hazelnut shell fragment and a seed possibly of dill (cf. *Anethum graveoloens*). The possible dill seed suggests the use of herbs and spices that were introduced into Britain during the Roman period, adding diversity to the British diet (Van der Veen 2008; Van der Veen *et al.* 2007; Van der Veen *et al.* 2008). The limited assemblage is in keeping with the suggested interpretation of the deposit as a mixed rubbish layer, reflecting either occupation or deposition of rubbish in the room.

#### *Phase 3: Dereliction and demolition of the store building*

Sample <004> was the only sample from the phase of decay and demolition, which came from a silty clay deposit (C2001) sealing the flagged stone surface in the entranceway (Room 4). Although the assemblage was small, it provides further information about the cereals being used within the fortress, although whether the remains were contemporary with this phase is less certain. Rather than spelt wheat, free-threshing bread wheat type was present. Oat was also present along with a fragment of Celtic bean. Other seeds included dock and common spike-rush as well as a fruitstone fragment possibly of blackthorn (cf. *Prunus spinosa*). The evidence is too limited to draw any firm conclusions but may hint at a change to free-threshing wheat from the glume wheats.

#### *Phase 4: Post-Roman masonry buildings*

The samples from this phase were from walls and occupation deposits associated with the post-store Building 1, four of which were from the earth bonding of the building's walls. Sample <013> was from the clay

bonding (C318) of the southern internal wall (C306) and yielded a few wheat and barley grains. Sample <014> was from bonding (C353) of the northern internal wall (C307). Sample <015> was from the bonding (C404) of the front wall (C309/403). Sample <016> was from the fill of the south wall (C203) of the building and contained small quantities of charcoal as well as a grain of barley and of oat, a nettle (*Urtica dioica*) seed, a grass caryopsis and a stem/rhizome fragment.

Samples from deposits associated with Building 1's occupation included <005>, which was from a dark silty deposit (C210) sealing deposits in a shallow feature outside its southern wall. The deposit yielded a large charcoal-rich flot, in which all of the identified charcoal was oak and most of it was roundwood (six or seven years old), perhaps indicating coppicing and also that the remains possibly were originally from a structure such as a hurdle rather than wood purely collected for fuel. Other charred plant remains were scarce and comprised a small quantity of cereals, barley and free-threshing wheat, and a few weed seeds which included dock and grass and a mineralised seed of creeping buttercup (*Ranunculus repens*) type.

The remaining three samples were associated with a large stone-lined pit [C337] in the middle room of Building 1, which were the richest samples recovered from the site. Samples <007> and <011> were from the charcoal-rich primary fills (C339), which alternated with white-ash deposits and covered most of the pit's base, while sample <006> was from the overlying thick rubbly fill (C304).

Sample <007> was very rich in cereal grain compared to <006> and <011>, although these also contained significant quantities. Cereal grain (c. 88%) dominated the sample compared with chaff (<1%) and weed seeds (12%). The majority of the cereal determinable to genus was wheat but small amounts of barley and oats were also present. Most of the wheat was free-threshing bread wheat but spelt wheat was present as well. The sample probably represents a crop of bread wheat with barley, oats and spelt wheat present as contaminants (though they could have become mixed with the crop after harvesting). The low incidence of chaff and weed seeds suggest the cereal had largely been processed. Rachis and straw of free-threshing cereals are removed during the early stages of crop processing (Hillman 1981; Jones 1984) but chaff, particularly from free-threshing cereals, is also more susceptible to charring and more likely to be destroyed than grain (Boardman and Jones 1990). The relatively small amount of weed seeds (12%) again suggests that the grain had largely been processed, though the fine-sieving was perhaps not very thorough.

Sample <011> was again from a charcoal-rich deposit and was similarly dominated by cereal grain (c. 92%), whilst chaff was absent and weed seeds were again present in relatively small quantities (c. 8%) suggesting that the grain had been fine-sieved. However, whereas wheat dominated sample <007>, barley was marginally more frequent than wheat in <011>. Once again oat was present only in low amounts and was probably present as a contaminant of the other crops. Wood charcoal included oak, birch, hazel, beech and blackthorn and made up a higher proportion of the plant remains than in <007>. The sample probably represents waste either accidentally or deliberately burnt.

In contrast to samples <007> and <011>, weed seeds were much more frequent (c. 32%) and cereal grain less abundant (c. 67%) in sample <006>. Once more chaff was scarce (<1%) suggesting that the earlier stages of crop processing had been completed, though again this might be partly due to chaff being less likely to survive charring, while the weed seeds suggest the sample had not yet been fine-sieved. The sample probably represents semi-processed grain, or possibly processing waste that had been mixed with processed grain, perhaps as fodder, before being burnt accidentally or deliberately. As in sample <011>, the cereal assemblage was dominated by both barley and wheat, with barley present in slightly greater quantities. The presence of barley and wheat together in samples <006> and <011> could indicate that they were grown together as a mixed crop (mixtil), a practice not unusual in medieval times to act as a buffer against the risk of a complete crop failure. However, it is difficult to be certain of mixed cropping on the basis of only the archaeobotanical remains (Moffett 2006, 50-51) and the different crops could equally have been grown separately and become mixed later. Wood charcoal, as in sample <011>, made up a greater proportion of the total sample in <006> than <007> and taxa included oak, birch, hazel and blackthorn.

Although there was some indication that a few grains had sprouted in samples <006> and <007>, there was insufficient evidence to suggest that the samples represent a spoiled crop that had been deliberately burnt. Fragments of Celtic bean in all three samples indicate that this was another crop that was cultivated at this time, and it may have been grown to help increase soil fertility.

The weed taxa represented in the three samples were broadly similar, though the abundance of individual taxa varied. Particularly abundant were seeds of hairy tare (*Vicia hirsuta*) and smooth tare (*V. tetrasperma*), and in samples <006> and <007> these were by far the most frequent weed seeds present. Both are annual weeds of cultivated land capable of causing troublesome

infestations and evidence from other Caerleon sites suggests that leguminous weeds were also a problem for arable crops during the Roman period (Helbaek 1964, Jones 2015). They prefer moist but well-drained conditions and grow on light, sandy soils to heavy clay soils. Other weed species that were relatively frequent include docks, nipplewort (*Lapsana communis*), bromes and stinking chamomile. The occurrence of stinking chamomile indicates the continued cultivation of heavy clay soils in the area, whilst the presence of fat-hen (*Chenopodium album*) and orache (*Atriplex* spp.) may be indicative of nitrogen-enriched soils and manuring. Taxa represented in smaller amounts include water-pepper (*Persicaria hydropiper*) and rush, both of which may indicate cultivation on or close to damper ground. Hemlock (*Conium maculatum*) was also present and is similarly found on damp ground (this species is poisonous though it is also used for medicinal purposes). Other weed species included black bindweed (*Fallopia convolvulus*), cleavers (*Galium aparine*), scentless mayweed (*Tripleurospermum inodorum*) and redshank, all common weeds of cultivation though many are indicative of other habitats as well, particularly wasteland.

Additional taxa that were present include elder (*Sambucus nigra*) which is found in hedges and woods, as well as on waste ground and also commonly occurs on manured soils. The occurrence of hazel nutshell fragments in sample <007> may indicate the collection of wild plant foodstuffs, as may the elder, or perhaps the collection of hazelnuts along with wood gathered as fuel. All three samples produced birch, hazel and blackthorn charcoal. In addition beech was present in <007> and <011>, oak in <006> and <011> and ash in sample <007>. A few fragments of hazel, blackthorn and birch roundwood were present indicating small stems or branches. Again the evidence suggests that local woodland, including scrub and possibly hedgerows, was being exploited.

#### Phase 5: Wall robbing

The only sample from this phase, <3002>, was from a rubble layer (C3023) which extended over the external courtyard. The sample failed to produce charred plant remains other than wood charcoal. Two pieces of charcoal were identified of which one was a piece of oak roundwood with six growth rings and the other was a fragment of oak roundwood.

#### Phase 6: Medieval and early-modern occupation

Samples from this phase were related to possible surfaces and a pit. Sample <002> was from a rubble deposit (C102), possibly laid as a surface, overlying the external yard. The assemblage comprised charcoal

and a small quantity of cereal grains, including free-threshing wheat and barley. Hazelnut shell also occurred. Two other samples were associated with surfaces, represented by reused broken Roman flagstones, probably associated with buildings. Sample <009> was from a flagged area (C305) in the centre of Area A and yielded only one small oat grain, while sample <003> was from rubble (C602) associated with a possible surface of broken flagstone (C501) at the northern end of Area A and produced a few free-threshing wheat grains, an oat grain and indeterminate cereal. The final sample, <010>, was from the fill (C907) of a pit [C908] which cut the ambulatory robber trench. The assemblage included free-threshing wheat, barley and oat as well as brome, redshank and vetch and large fragments of ashy material and some wood charcoal. All the remains indicate the disposal of general waste.

## **Discussion**

### *Food consumption*

The charred plant remains from Priory Field provide some information about the cereals being supplied and consumed at Caerleon, although the Roman cereal assemblage is very limited. Much of the earlier evidence is largely from levelling deposits and could represent material either from within the fortress, or possibly brought in from the canabae. There is no evidence to suggest that the store was used to keep plant foodstuffs or for any food-related activities.

As elsewhere in Britain during the Roman period, wheat and barley were the main cereals used at Caerleon (Van der Veen 2016) and barley is the main cereal represented during the pre-store building phase (probably immediately prior to the building's erection no earlier than 90). Although barley is widely found on Roman sites, its importance as a foodstuff for human consumption, particularly by the military, has been the subject of debate. Contemporary literary sources suggest barley was used for punishment rations and it is also commonly considered to have been used for animal feed (Lodwick 2017, 18). Evidence from military sites in northern England, however, indicates that large amounts of clean-hulled barley, as well as wheat, were stored for human consumption. Faecal barley bran in third or fourth century contexts at Birdoswald supports this explanation, though faecal bran from first and second century deposits in the fort at Carlisle perhaps suggests it was only consumed by the military in extreme circumstances (Britton and Huntley 2011). The oat at Caerleon, if present as a crop rather than a weed, also could have been used as a food or as animal fodder and, again, a small amount of oat bran present in Carlisle military contexts suggests that oat may have

been part of the human diet rather than kept for animal feed (Britton and Huntley 2011).

Cereal remains from the construction phase include wheat and Celtic bean as well as barley and oat. Celtic bean could have been a significant part of the diet, eaten fresh or used in soups and stews, though it was also commonly used as animal fodder (Lodwick 2017, 36). Very few plant remains were from the occupation phase's sample, but included evidence for spelt wheat, though very slight, and possibly dill, an exotic herb indicating a more diverse diet, whilst free-threshing wheat, oat and Celtic bean were recovered from the demolition/collapse phase of the building. The presence of free-threshing wheat from post-Roman occupation may indicate it was becoming more important but generally bread wheat was a minor crop in Britain and though there is evidence that it was increasing, it rarely dominates samples and its status during the Roman period is uncertain (Lodwick 2017, 32).

The environmental evidence from Priory Field is limited and additional evidence for the plant foodstuffs used at Caerleon from within the fortress comes most notably from well deposits at the Museum site, from a store within the civilian settlement outside the fortress, and from cemetery sites. Evidence for cereals from the well deposits was scarce, though wheat and barley were present (Caseldine and Busby 1993), and the importance of spelt wheat is indicated by grains and spikelets from the destruction levels of a timber hut in the civilian settlement to the south-west of the fortress (Helbaek 1964). Spelt was also common at the Coed II cemetery site at Ultra Pontem, where the cremation burials date to the second century through to the late third century and the cereal assemblage was dominated by hulled wheat, probably mainly spelt (Jones 2015). Also present at both sites were barley, free-threshing (bread/club) wheat and Celtic bean, as well as pea and Celtic bean at Coed II and Coed I, the latter a burial site where burials date to the late first to early second century. At both these cemetery sites the charred plant remains are considered to represent food offerings. Overall, the apparent increased importance of glume wheats at Caerleon, notably spelt wheat, compared with barley is consistent with changes in the relative importance of crops found elsewhere in Roman Britain (Lodwick 2017, 32).

Apart from the main cereal staples and pulses at Caerleon, there is some evidence for exotic plant foods and a more varied diet. This is also in keeping with evidence from elsewhere in Roman Britain, which suggests that the Roman military enjoyed a greater range of food stuffs than the native population and introduced a number of exotics, some of which also

became more widely available to the rural population (Van der Veen 2008; Van der Veen *et al.* 2008, Lodwick 2017). Although there is only tentative evidence for the presence of dill at Priory Field, the occurrence of dill, coriander, fig, grape and date from the well deposits at the Museum site possibly reflects the diet of the officer occupying the house in which the well was found (Caseldine and Busby 1993). In addition, an olive stone was identified in the upper sediments of the drain of the Fortress Baths (Zienkiewicz 1986b), and lentil, widely cultivated in the Mediterranean at this time, was found at the civilian settlement (Helbaek 1964), although its status, whether as a crop or a weed, is less clear. The presence of lentils at the Late Iron Age and Romano-British farmstead at RAF St Athan (Vaughan-Williams 2006) may indicate that it became a crop that was grown locally but it could have just been a weed and it was probably only ever grown on a small scale in Britain (Van der Veen *et al.* 2008).

As well as cereals, pulses and exotic plant foods, there is also some potential evidence at Priory Field for the consumption of local wild plant foods, namely the occurrence of hazelnut shell, bramble fruitstones and elderberry seeds, though other explanations for their presence are equally possible. This is also the case for possible wild plant foodstuffs recorded from the well at the officer's house (Caseldine and Busby 1993) and burials at Coed I and Coed II (Jones 2015) and Lodge Hill (Stokes 1997) cemeteries, where the remains could represent food offerings.

#### *Food Supply and Agricultural Strategies*

The establishment and maintenance of the Second Augustan Legion at Caerleon would have necessitated the procurement of cereal grain either from the local population or from further afield via long-distance supply networks, but the relative importance of each is unclear. Certainly evidence from literary sources, shipwrecks and granaries show that cereals were being traded on a large scale in the Roman world (Lodwick 2018, 811). The cereal evidence from Caerleon suggests that mainly spelt wheat but also barley and to a lesser extent bread wheat were the principal cereals supplied to the fortress. In support of the view that spelt wheat was the main cereal grain at military establishments in south Wales, there is also evidence from the first century granaries at the auxiliary fort at Loughor where spelt wheat dominated the assemblage, although bread wheat, barley and emmer wheat were also present (Probert 1997).

It is possible that grain was procured from the local area by some form of taxation, though it is equally likely that, particularly in the early stages, some long-distance food supply was required by the military. Apart

from the presence of herbs and other exotics indicating imports, evidence for the importation of cereals to Caerleon is indicated by the presence of weed seeds of *Lathyrus aphaca*, *Lathyrus nissiola* and *Lathyrus cicero* and lentil from southern Europe and the Mediterranean, which were found with cereal grain in the hut in the civil settlement (Helbaek 1964), though the scale of importation this represents and the immediate source of the grain is uncertain. Elsewhere, continental weed seeds associated with spelt wheat from a late first/ early second century military granary at Coney Street, York, similarly indicate imports (Williams 1979). However, it is also possible that an agricultural surplus in other parts of Britain would have been exported to the army in Wales and northern Britain (Allen and Lodwick 2017, 174). Hence, although weed seeds in assemblages at Caerleon most probably suggest a local source for at least some of the grain, it is not conclusive.

The extent to which cereal production locally or within the wider region was increased to help meet the requirements of the military at Caerleon is less certain (Meddens and Beasley 2001). Increased production could be achieved either through intensive or extensive cereal farming practices or a combination of both. The dominance of spelt wheat is indicative of more extensive arable regimes in the region, with more land being cultivated with relatively lower inputs of labour and manure because spelt is better at surviving in heavier soils and lower soil fertility (Van der Veen and O'Connor 1998, 131-3). In addition, the presence of traction cattle at Priory Field (see section 4.6) suggests extensive rather than intensive cultivation practices and local cereal production. The frequent *Medicago/Trifolium* seeds, indicative of low soil fertility, recorded in samples from the construction phase at Priory Field is consistent with evidence from the Upper Thames Valley, Kent and the West Anglian Plain where the pattern of low soil fertility taxa suggest a decrease in soil fertility in the early Roman period, and is considered to reflect an expansion in arable farming without a change in farming practices (Lodwick 2017, 40-41). The presence of wet-ground taxa during this phase at Caerleon is also consistent with an expansion of the area under cultivation. The investigation of suitable cereal and weed assemblages from rural settlements in the area are required to ascertain regional-level agricultural strategies in the Roman agricultural economy.

Technological changes that are considered to indicate an increase in cereal production include corn dryers which could have been used to meet increased demand by providing a surplus, some of which could either have been requisitioned or taken by the military in tax payments (Van der Veen 2016, Lodwick 2017). Corn dryers are present at rural settlements in south Wales, such as the mid-second to mid-late third century

drying ovens at the late Iron Age and Romano-British farmstead at RAF St. Athan (Vaughan-Williams 2006) and a third-century T-shaped kiln on the agricultural estate at Dan-y-Graig, Porthcawl (Caseldine 1990), where, as at military establishments, spelt was dominant. However, in comparison to central and southern England, the number of corn dryers in the region appears to be relatively low, though much higher than in other parts of Wales (Lodwick 2017 Fig. 2.1). In addition, the dates of these corn dryers suggests that, at least during the early period of military occupation at Caerleon, additional long-distance food supplies may have been required to supplement any local supply as, for example, at military establishments in the north of England (Lodwick 2017, 84), after which local supplies became more important.

#### *Early Medieval Agricultural Activity*

Whilst the archaeobotanical evidence from the Roman period is relatively limited, the evidence from the post-store Building 1, notably from the stone-lined pit where charred plant remains have provided an early medieval date, is more informative. Building 1 is clearly associated with agricultural activity and the grain assemblages are either mainly free-threshing wheat, or mixed wheat and barley. The weed assemblages suggest the grain was processed, or only partially processed or, alternatively, that processed grain had become mixed with crop processing waste.

As a result of radiocarbon dating of charred plant remains, a number of early medieval plant assemblages have now been identified from sites in Wales, thereby increasing our knowledge of cereal cultivation after the Roman period. Oat became a significant crop during this period (Caseldine 2015), together with barley and free-threshing wheat that took over from the glume wheats (spelt and emmer). There is some evidence, however, for example from corn dryers at Biglis dating from around the third to early fourth centuries, that perhaps a change in crop husbandry practices was already taking place in the region during the Roman period and that free-threshing wheat was becoming of greater importance (Parkhouse 1988).

Early medieval charred grain is commonly associated with corn-drying kilns and there are several sites in south Wales where fifth-sixth century dates similar to those from Priory Field have been obtained. These include sites associated with the south Wales gas pipeline such as Brynwgan (Site 25.08) in Carmarthenshire (Carruthers 2013), Maes-y-Lan (Site 221) also in Carmarthenshire (Giorgi 2013) and Felindre Mawr (Site 293) in Swansea (Giorgi 2013). Barley is generally the dominant cereal with oat also reasonably well represented (Sites 221 and

293), and free-threshing wheat less well so, although of the identifiable grain in a burnt spread at Site 293 free-threshing wheat predominated, followed by oats then barley (Giorgi 2013). The greater importance of oat at these sites compared with Caerleon may reflect wetter climatic conditions further west as well as poorer soils, both of which oat, especially bristle oat, would have been better able to tolerate.

The evidence from corn-drying kilns dating from the late Iron Age to the medieval period throughout Wales has recently been reviewed (Comeau and Burrow 2021) and the evidence from Caerleon is largely in keeping with these findings. The corn dryer evidence suggests that hulled wheat (mainly spelt but with some emmer) was the main wheat type from the first to fourth centuries, while after this free-threshing wheat (bread or club wheat) was the most commonly identifiable wheat type. The dominance of free-threshing wheat and barley at Caerleon and the low incidence of oat is also consistent with the suggestion that it was not until the seventh to eleventh centuries that oats and barley were more commonly found than wheat from corn-drying kilns. Possible reasons for a peak in the number of corn-drying kilns in the sixth century include a deterioration in climate and damp harvests, or a response to the tribute demands of elite groups, and it is suggested that the fifth to seventh century dryers, aiding the production of food and drink for large gatherings, cluster at focal zones that coincide with sites with characteristics of assembly, including sites of prehistoric or Roman significance or later estate centres (Comeau and Burrows 2021, Comeau 2021).

#### *Woodland exploitation and landscape change*

Most of the charcoal from Priory Field was probably from wood collected for fuel or wood that had previously been used in structures and originated from woodland in the local area, though charcoal, for example, from the cremation cemetery at Ultra Pontem was also derived from artefacts and included exotic conifer species (Gale 2015). Different woodland areas may have been exploited and dendrochronological analysis of structural timbers from the first century officer's house in the *Scamnum Tribunorum* suggested that not all the timbers were from the same woodland or the same area (Zienkiewicz 1993a, 48). Overall, the charcoal evidence from Priory Field and other sites at Caerleon, suggests the exploitation of mixed oak woodland and scrub and possibly hedgerows, as well as wetter woodland adjacent to the rivers, although a largely open environment with damp grassland and drier habitats away from the river is indicated locally by waterlogged plant remains from Mill Street (Hyde 1929; 1932; 1940; Mabey 1940; Gale 2015; Jones 2000).

Evidence for woodland in the wider area is provided by pollen records, including sequences from the Gwent Levels such as at Barland's Farm, c. 6 km from Caerleon, where stands of woodland comprising oak, ash, alder and hazel are indicated in an otherwise open landscape (Walker and Caseldine 2004, 70). Around 8 km further inland from Caerleon, in the pollen record from Wentwood Forest, large-scale clearance of woodland, notably oak, is dated to earlier than 10-220 and is attributed to intensive military activity, as well as urban, rural and industrial activity in the region. Wentwood could also have been a possible source for some of the constructional timber used at Caerleon including during the first phase of the fortress (Brown 2008; Brown 2010; Brown 2013). Although there was no definite evidence that Wentwood was managed, it is suggested that the occurrence of wood anemone might be an indicator of regular coppicing (Brown 2013, 255) and charcoal evidence from both Priory Field and the cremation cemetery at Ultra Pontem (Gale 2015), also suggest possible woodland management in the area.

Accompanying the pollen evidence for woodland clearance is pollen evidence for arable and pastoral activity during the Roman period, reflected in the cereal and animal bone records from other sites in the wider region, including sites from the Levels and fen edge such as Caldicot (Insole 2000), Pencarn (Yates 2000) and Nash (Meddens and Beasley 2001).

The charcoal assemblage from the early-medieval period indicates the continued exploitation of local woodland resources, though the pollen record from the Wentwood suggests that hazel, oak, birch, ash and beech began to regenerate in the third to fifth centuries until the seventh century, reflecting land use changes associated with abandonment (Brown 2008; 2010; 2013). This is consistent with pollen records from other parts of Wales, which in general suggest a widespread decline in farming activity in the immediate post-Roman period, c. 400-600 (Davies 2019). Whilst studies have indicated a deterioration in climate that might have led to a reduction in the growing season as well as crop yields, it is also suggested that the end of Roman administration resulted in a declining demand for foodstuffs, even if some form of taxation or tribute continued after the withdrawal of the Roman army, leading to reduced levels of agriculturally productive land (Blackford and Chambers 1991; Charman *et al.* 2006; Barber *et al.* 2013; Davies 2019, 184).

#### **4.8 Summary of the Archaeometallurgical Residues (T.P. Young)**

The assemblage recovered from the Priory Field excavation was very modest in quantity, but

diverse in character and widespread in distribution (approximately 2,300 particles were recovered from 130 discrete contexts). There was no direct evidence for any metallurgical activity having been undertaken within the excavated parts of the store building and the archaeometallurgical residues are likely to have been mainly, or entirely, produced elsewhere in the fortress (the full Archaeometallurgical Residues report is presented in Appendix 6.6).

Approximately half of the metallurgical residues from Priory Field were recovered from levelling deposits and working surfaces associated with the store building's construction (Phases 0ii and 1ii). The waste from these early episodes indicates activities including iron smelting, ironworking (blacksmithing), the casting of zinc-rich copper alloys and the handling of silver. Definite evidence for iron smelting in the construction phases is limited to a single small tapslag block, indicating that any major waste from early smelting operations was dumped elsewhere. This tapslag fragment showed high levels of calcium, magnesium and uranium (and also a slightly elevated content of phosphorus) consistent with an ore source in the western part of the Forest of Dean.

The evidence for iron smithing from construction phases included twelve smithing hearth cakes. Much of the ceramic debris was probably detritus from smithing hearths and in one case inclusions of hammerscale were trapped in the glassy superficial slag. This assemblage bears close comparison with other contemporary assemblages from urban and military sites. The evidence for non-ferrous metalworking was small in quantity but included fragments of copper-alloy melting crucibles (at least one with a perforation in its tall side), and a sherd of an open cupel for silver. These materials are similar in character to examples recorded from sites to the southeast of the *via principalis* in *Insulae* X and XII, suggesting a possible origin in the fortress for at least this component of the dumped metallurgical waste.

Less easily identifiable materials comprised those associated with hearths or furnaces, including wall fragments and slags derived from the melting of their structures, materials derived from the incorporation of gravelly material into the hearth, and various low-density materials that could be regarded a fuel ash slags. The wall debris and associated lining slags are most likely to have derived from smithing hearths. The various fuel ash slag-like materials and the gravelly materials probably reflect material becoming incorporated into floor-level hearths from the gravelly subsoil into which they had been cut. Such hearths might have been used for either ferrous or non-ferrous metalworking (or indeed both).

The excavated sections of the charcoal-rich layers of Phase 0ii produced 4.9 kg of archaeometallurgical residues, mostly from iron-working but also including a small crucible fragment. The deposits of Phases 0i and 0ii also produced four of the assemblage's twelve smithing hearth cakes (SHCs) from stratified Roman contexts, while the other eight stratified SHCs derive from Phase 1ii deposits. Although it is most likely that these, as with the material from Phase 0ii, derive from the dumping of material produced elsewhere, it is possible that some smithing was undertaken nearby as part of the building's construction. The largest concentration of residues from Phase 1ii is 4.6 kg from deposits below the entranceway (Room 4) cobbles (G2122). As with the earlier deposits, this material was dominantly from smithing, but also contained sherds of crucibles from the melting of brass.

The presence of small crucibles sherds in Phase 2 and Phase 3 deposits may suggest that some non-ferrous metalworking had been undertaken within the store, but there is insufficient evidence to confirm this. Some ironworking residues were also recovered from these phases, but these tend to be from the denser categories of slag and are likely to be brought in from elsewhere and/or residual. Small fragments of tapped iron-smelting slag were found in several Phase 3 contexts, which is in marked contrast to the deposits of earlier phases that in total only produced two fragments of tapped slag. Deposits of Phase 4 are almost devoid of archaeometallurgical residues, but Phases 5-7 produced approximately 33% of the total assemblage (though if this originated in the Roman period or afterwards is not known).

Investigations have revealed evidence for metalworking in many locations both within the legionary fortress and outside in its civilian settlements. Indeed, there were so many settings in which metalworking was undertaken within the fortress that archaeometallurgical residues have become extremely widely distributed right across the site. The fortress contained several large workshops, for instance in *Insulae* XVIII and XIX. The large courtyard building on the Endowed Schools playing field (*Insula* XVIII), first identified geophysically (Guest and Young 2010), was subsequently investigated in a series of small excavation pits in a series running mainly across its north-eastern *tabernae*. The residues recovered from this excavation (Young and Kearns 2010a) included deep deposits of hammerscale, a few examples of small SHCs (those recovered were smaller than typical for the Priory Field site), some iron smelting slags and an example of a crucible in identical fabric to those described here. This building and its adjacent *tabernae* are likely to have been the main ironworking workshop in the fortress, and its very large size may possibly reflect the significance of the Second Augustan Legion's role in the supply and production of iron, perhaps even to the northern frontier via the west coast of Britain (Young 2012a). One of the local uses of iron, and other metals, was in the production and maintenance of arms and armour. Chapman (2002) has documented one *armamentarium* in the north-west of the fortress and there are likely to have been several others (there has been no detailed archaeometallurgical investigation of the residues from that site).

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 ChLA *Chartae Latinae Antiquiores*  
 CIL *Corpus Inscriptionum Latinarum*  
 EDCS *Epigraphik-Datenbank Clauss / Slaby*  
 ICUR *Inscriptiones Christianae Urbis Romae*  
 ILS *Inscriptiones Latinae Selectae*  
 RIB *Roman Inscriptions of Britain*  
 Tab. Sulis *Tabellae Sulis*  
 Tab. Vindol. *Tabellae Vindolandenses*
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## Appendix 6.1

### Radiocarbon dates from the Priory Field excavation

Nine samples were sent in two batches (2009 and 2015) to Beta Analytic Inc. for radiocarbon dating by Accelerator Mass Spectrometry (AMS). The results of this absolute dating programme are summarised below (Beta Analytic Inc.'s full reports are included in the excavation archive).

The following notes on the calibrated dates and reference standards are adapted from Beta Analytic Inc.'s radiocarbon dating reports:

Dates are reported as RCYBP (radiocarbon years before present, where 'present' = AD 1950). By international convention, the modern reference standard was 95% of the <sup>14</sup>C activity of the National Institute of Standards and Technology (NIST), Oxalic Acid (SRM 4990C) and calculated using the Libby <sup>14</sup>C half-life (5568 years). Sigma Calibrations represent 1 relative standard deviation statistic (68% probability) and 2 relative standard deviation statistics (95% probability).

#### Radiocarbon dates obtained from Phase 0 contexts

##### Context (C320)

- |                 |                                    |
|-----------------|------------------------------------|
| Deposit:        | Charcoal-rich layer                |
| Area:           | Yard                               |
| Phase:          | 0ii                                |
| Sample #:       | Beta - 422515                      |
| Material:       | Charred barley grain               |
| • 2 Sigma Cal.: | AD 55 to 135 (Cal BP 1895 to 1815) |
| • 1 Sigma Cal.: | AD 70 to 130 (Cal BP 1880 to 1820) |

##### Context (C3090)

- |                 |                                      |
|-----------------|--------------------------------------|
| Deposit:        | Charcoal-rich layer                  |
| Area:           | Room 5                               |
| Phase:          | 0ii                                  |
| Sample #:       | Beta - 422516                        |
| Material:       | Charred barley grain                 |
| • 2 Sigma Cal.: | BC 40 to AD 80 (Cal BP 1990 to 1870) |
| • 1 Sigma Cal.: | AD 5 to 65 (Cal BP 1945 to 1885)     |

#### Radiocarbon dates obtained from Phase 4 contexts

##### Context (C203)

- |          |              |
|----------|--------------|
| Deposit: | Wall bonding |
| Area:    | A            |
| Phase:   | 4            |

- |                 |                                      |
|-----------------|--------------------------------------|
| Sample #:       | Beta - 255388                        |
| Material:       | Hazel wood charcoal                  |
| • 2 Sigma Cal.: | 60 BC to AD 80 (Cal BP 2010 to 1870) |
| • 1 Sigma Cal.: | 40 BC to AD 60 (Cal BP 1990 to 1890) |

##### Context (C353)

- |                 |                                     |
|-----------------|-------------------------------------|
| Deposit:        | Wall bonding                        |
| Area:           | A                                   |
| Phase:          | 4                                   |
| Sample #:       | Beta - 255391                       |
| Material:       | Hazel wood charcoal                 |
| • 2 Sigma Cal.: | AD 130 to 350 (Cal BP 1820 to 1600) |
| • 1 Sigma Cal.: | AD 220 to 320 (Cal BP 1730 to 1630) |

##### Context (C339)

- |                 |                                     |
|-----------------|-------------------------------------|
| Deposit:        | Primary fill of pit [337]           |
| Area:           | A                                   |
| Phase:          | 4                                   |
| Sample #:       | Beta - 255390                       |
| Material:       | Charred wheat grain                 |
| • 2 Sigma Cal.: | AD 310 to 430 (Cal BP 1640 to 1520) |
| • 1 Sigma Cal.: | AD 340 to 420 (Cal BP 1610 to 1530) |

##### Context (C346)

- |                 |                                     |
|-----------------|-------------------------------------|
| Deposit:        | Primary fill of pit [337]           |
| Area:           | A                                   |
| Phase:          | 4                                   |
| Sample #:       | Beta - 422514                       |
| Material:       | Charred barley grain                |
| • 2 Sigma Cal.: | AD 425 to 595 (Cal BP 1525 to 1355) |
| • 1 Sigma Cal.: | AD 435 to 560 (Cal BP 1515 to 1390) |

##### Context (C304)

- |                 |                                     |
|-----------------|-------------------------------------|
| Deposit:        | Secondary fill of pit [337]         |
| Area:           | A                                   |
| Phase:          | 4                                   |
| Sample #:       | Beta - 422513                       |
| Material:       | Charred barley grain                |
| • 2 Sigma Cal.: | AD 420 to 575 (Cal BP 1530 to 1375) |
| • 1 Sigma Cal.: | AD 430 to 550 (Cal BP 1520 to 1400) |

RADIOCARBON DATES FROM THE PRIORY FIELD EXCAVATION

**Context (C318)**

Deposit: Wall bonding  
 Area: A  
 Phase: 4  
 Sample #: Beta - 255389  
 Material: Blackthorn wood charcoal

- 2 Sigma Cal.: AD 430 to 640 (Cal BP 1520 to 1320)
- 1 Sigma Cal.: AD 540 to 600 (Cal BP 1410 to 1350)

**Context (C404)**

Deposit: Wall bonding  
 Area: A  
 Phase: 4  
 Sample #: Beta - 255392  
 Material: Beech wood charcoal

- 2 Sigma Cal.: AD 1020 to 1210 (Cal BP 930 to 740)
- 1 Sigma Cal.: AD 1030 to 1160 (Cal BP 920 to 790)

## Appendix 6.2

### Soil Blocks Lifted from above Phase 2 floor in Room 2

Soil Block	Description	RA CAT #
1	<p><u>CHAMFRON AND LORICA</u></p> <p>Copper-alloy sheet with attached figure (earpiece); large quantities of overlapping flat-headed pins; other studs of various sizes and shapes; scale armour with wire.</p> <p>Fragmentary iron sheets, some with rivet holes, fittings <i>in situ</i>.</p> <p>[Temporary SF#: 2600/4/6/7/8]</p>	<p>180-183; 213; 623-679; 682-686</p> <p>1264</p>
2	<p><u>CHAMFRON?</u></p> <p>Copper alloy stud.</p> <p>[Temporary SF#: 2609.]</p>	232
3	<p><u>LORICA AND STYLUS</u></p> <p>Large mass of iron plates and narrow sheets, some of the latter curved, some with edges (including rolled or turned out) and copper alloy tie-loops and other fittings.</p> <p>Scale armour and wires.</p> <p>Micro-excavated in 5 'Features'.</p> <p>[Temporary SF#: 2598]</p>	378
4	<p><u>LORICA?</u></p> <p>Corroded and fragmentary iron plates.</p> <p>Copper-alloy sheet decorated with punched Capricorn.</p> <p>[Temporary SF#: 2594]</p>	284
5	<p><u>LORICA</u></p> <p>Iron plate with edges - rivet holes on one side and square aperture on the other. Raised ridges run parallel to the three surviving sides with possible decoration in-between. Left-hand breastplate from <i>lorica squamata</i>.</p> <p>[Temporary SF#: 2579]</p>	377
6	<p><u>LORICA</u></p> <p>Iron plates and sheets with edges, rivet holes and rivet; a copper-alloy buckle; a coin</p> <p>[Temporary SF#: 2569/70]</p>	1479; 191; 59
7	<p><u>LORICA</u></p> <p>15+ fragments of highly mineralised iron plates.</p> <p>Includes a fragment of a possible swan-necked fastener.</p> <p>[Temporary SF#: 2571]</p>	1283
8	<p><u>LORICA</u></p> <p>Corroded iron sheets with rivet holes for fittings (removed).</p> <p>[Temporary SF#: 2601]</p>	1265
9	<p><u>LORICA</u></p> <p>Corroded and fragmentary iron plates, one with rivet holes for fittings (removed).</p> <p>[Temporary SF#: 2590]</p>	1263
10	<p><u>LORICA</u></p> <p>Contains a large block of soil (including floor surface) with a fragmentary iron sheet with (possible) edges, rivet holes and possible rove / fitting.</p> <p>[Temporary SF#: 2577]</p>	1481

## SOIL BLOCKS LIFTED FROM ABOVE PHASE 2 FLOOR IN ROOM 2

Soil Block	Description	RA CAT #
11	<u>LORICA</u> Fragmentary iron sheets, some with edges and a rivet hole. [Temporary SF#: 2585]	1260
12	<u>LORICA</u> Iron plate with edges and rivet holes; second iron plate with rivet holes. [Temporary SF#: 2575]	1367
13	<u>LORICA</u> Stacked iron plates with edges (at least one rolled or turned out), rivet holes and copper-alloy stud fitting <i>in situ</i> . [Temporary SF#: 2591]	928
14	<u>LORICA</u> Stacked narrow iron sheets with edges, copper alloy tie-ring and stud. [Temporary SF#: 2583]	1258
15	<u>LORICA</u> Stacked narrow iron sheets with edges, copper alloy tie-ring. [Temporary SF#: 2578]	1254
16	<u>LORICA?</u> Fragmentary sheet with pronounced curve. Includes broken ring (6.5 mm diam.) of twisted copper alloy wire with a small hole / loop at the intact end. [Temporary SF#: 2586]	1261
17	<u>LORICA?</u> Probably a largish piece of <i>lorica</i> with a curve at one end. [Temporary SF#: 2565]	379
18	<u>LORICA?</u> Narrow iron sheets, some with possible edges. [Temporary SF#: 2582]	1257
19	<u>LORICA?</u> Narrow iron sheets with possible edges. Highly mineralised. [Temporary SF#: 2584]	1259
20	<u>LORICA?</u> Stacked narrow iron sheets with possible edges. [Temporary SF#: 2580]	1255
21	<u>LORICA?</u> Stacked narrow iron sheets with possible edges. [Temporary SF#: 2581]	1256
22	<u>LORICA?</u> 6+ fragments of iron sheet. Highly mineralised. [Temporary SF#: 2566]	1253
23	<u>LORICA?</u> Mass of corroded and fragmentary iron sheets. [Temporary SF#: 2602]	1490
24	Corroded iron plates. Silver coin. [Temporary SF#: 2576]	8
25	Three fragments of iron sheet. [Temporary SF#: 2567]	1477
26	Iron sheets. [Temporary SF#: 2568]	1478

## EXCAVATION OF THE PRIORY FIELD STORE BUILDING IN CAERLEON

Soil Block	Description	RA CAT #
27	Conglomeration of iron and soil with a flat spike at one end. [Temporary SF#: 2564]	1408
28	Five copper-alloy fragments. One may be part of a fastener. [Temporary SF#: 2572]	573
29	Several fragments of highly mineralised iron sheets. [Temporary SF#: 2573]	1480
30	Fragmentary and corroded iron sheets. [Temporary SF#: 2587]	1482
31	Fragmentary corroded iron sheets. [Temporary SF#: 2589]	1483
32	Fragments of iron sheets. [Temporary SF#: 2592]	1484
33	Corroded iron sheets. [Temporary SF#: 2593]	1485
34	Corroded iron sheet fragments. [Temporary SF#: 2597]	1266
35	Fragments of corroded iron sheets. [Temporary SF#: 2613]	1509
36	Fragments of corroded iron sheets. [Temporary SF#: 2614]	1511
37	<u>SPEARHEAD</u> [Temporary SF#: 2574]	364
38	Two possible plates with rivets forming a square. [Temporary SF#: 2612]	1372

## Appendix 6.3

### Evaluation Excavations in Golledge's Field and Priory Field, 2007

Evaluation excavations on the site of the legionary fortress at Caerleon took place in July 2007. The excavations consisted of a single evaluation trench in Golledge's Field and six small test pits in Priory Field, all located to follow up geophysical surveys of these open areas to the southwest of Caerleon (Guest and Young 2007; Guest and Young 2010). Golledge's Field was first explored in 1931 by Nash-Williams (never fully published but see Nash-Williams 1933 for a short summary), who uncovered remains of the fortress's gate closest to the Amphitheatre (the *porta principalis dextra*), as well as three large house-type buildings that are believed to have been the quarters for the centurions of the legion's senior First Cohort (more spacious than the centurions' accommodation of the other quingenary cohorts, such as those excavated at Prysog Field). Previous work in Priory Field undertaken in 1909 and 1982 was limited and focused on the defences (Bosanquet and King 1963; Cool, Mason and Macdonald 2009).

The aim of the excavation was to evaluate the character of the surviving archaeology, including the depth and nature of the topsoils. The objectives of the project were to:

- Excavate a series of evaluation trenches in Golledge's and Priory Fields to the level of the intact archaeological deposits and to record the uppermost levels of the surviving archaeology;
- Evaluate the nature of any post-Roman occupation in the fields and assess the impact of agricultural activity, particularly ploughing, on the archaeological remains;
- Ensure the total recovery of artefacts from the plough soil;
- Involve Cadw, the National Museum of Wales, and the Glamorgan-Gwent Archaeological Trust as project partners;
- Involve the local community in the project.

A 20 m by 2 m trench was placed across the width of one of the buildings trenched by Nash-Williams in Golledge's Field in 1931 (Trench 1), while the six 2 m by 2 m test pits in Priory Field were positioned to examine the remains of various buildings and other possible structures identified during the previous year's geophysical surveys (Figure 6.3.1):

- Test Pit 2: Faint geophysical anomalies immediately in front of the rectangular courtyard building in the northern part of the field;
- Test Pit 3: Extensive 'yard' area between the three 'granaries' and the courtyard building;
- Test Pit 4: Interior of the middle 'granary';
- Test Pit 5: Room occupied by a legionary *contubernium* in one of the barracks in the eastern part of the field;
- Test Pit 6: Possible building against the south-eastern rampart;
- Test Pit 7: Corner of the centurion's quarter of the south-western barrack.

All trenches were de-turfed, excavated and backfilled by hand. Sieving was conducted for all deposits and finds were processed and recorded at the National Roman Legion Museum under the supervision of Dr Mark Lewis, Curatorial Officer.

#### 6.3.1 Evaluation Trench in Golledge's Field (CGF07)

Trench 1 was located across a putative centurion's 'house' of the First Cohort that had been examined in 1931. The trench was oriented east-west across the width of the middle of three such buildings identified in Golledge's Field (Figure 6.3.2). The entire length of the trench was de-turfed, although continued excavation was limited to the eastern and western external wall-trenches excavated by Nash-Williams, and a central 5 m by 2 m sondage located to explore the building's courtyard. The quantity of overburden and backfill from the 1930s excavation necessitated such a strategy in order to ensure the project's objectives were met within the time available.

Excavation at the eastern and western ends of the trench revealed the remains of the building's exterior walls. These had been substantially robbed, leaving only the base course at the western end and the rubble foundations at the eastern end. In the latter area, a small area of *opus signinum* flooring and underlying deposits were observed in the interior of the building (Figure 6.3.3). These had been truncated by a combination of robbing activity and earlier archaeological investigations. Excavation in the central area revealed the remains of a north-south wall, with the lowest masonry course preserved (C130), and

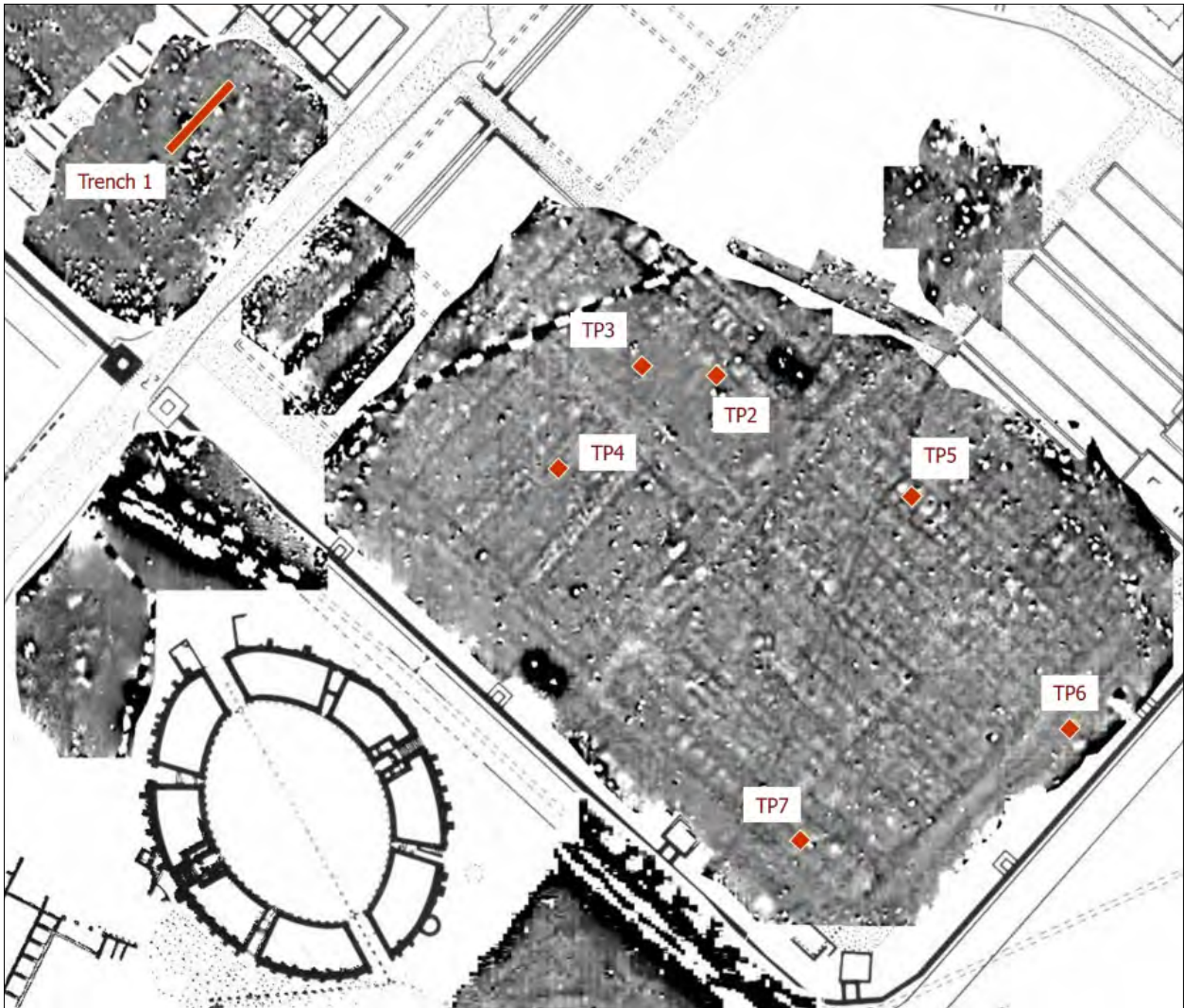


Figure 6.3.1. Location of 2007 evaluation trench in Golledges Field and test pits in Priory Field

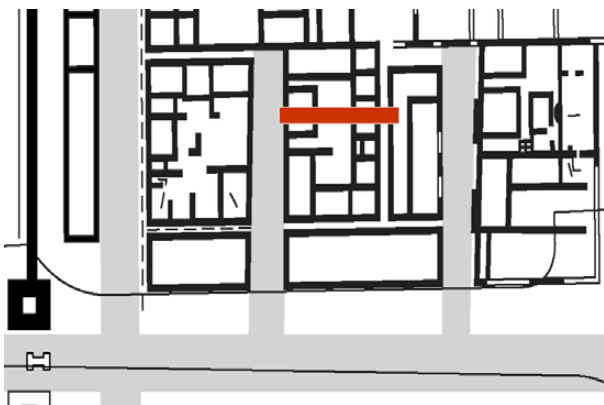


Figure 6.3.2. Location of the evaluation trench in Golledges Field in relation to the buried remains of the First Cohort's 'centurions' houses'



Figure 6.3.3. Trench 1: East wall foundations and internal opus signinum floor (from south)

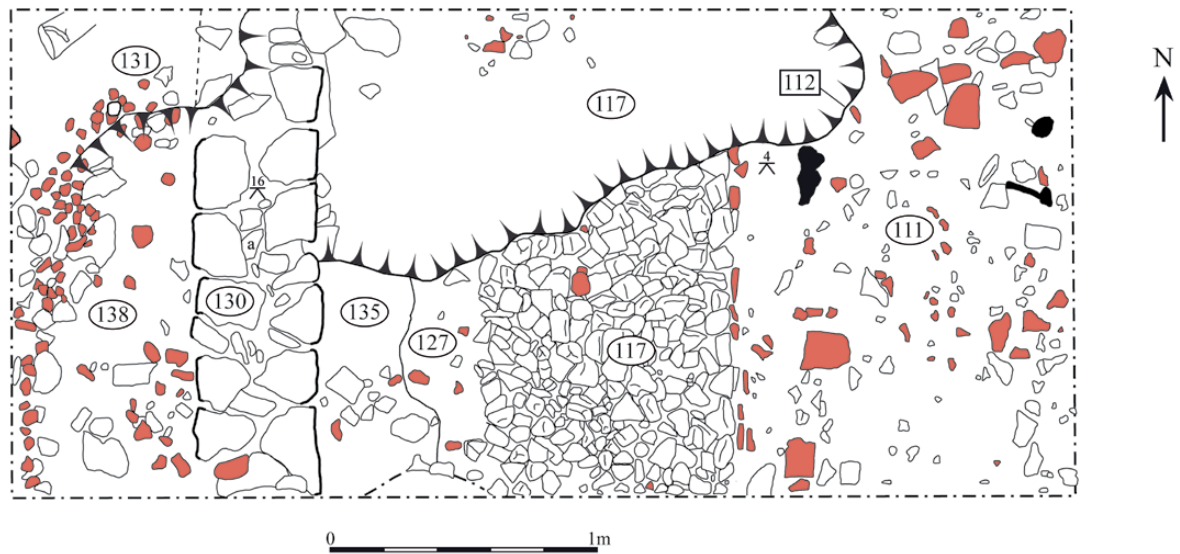


Figure 6.3.4. Trench 1: Plan of the central area showing wall (C130) and pathway (C117)

evidence of a pathway (C117) and associated midden-like deposits (Figure 6.3.4). All of these features could date to the latest Roman phase of the building's internal courtyard, though it is also possible that they are much more recent (see the pottery report below).

Finds from this trench included a wide range of Roman and medieval pottery. Analysis indicates that Nash-Williams did not retain a great deal of material and that, judging from the relative paucity of early Roman material, his workmen may not have reached the earliest levels of the building. The latest sherds of Roman pottery date to the late third or early fourth centuries, while medieval and later pottery was not common and probably derived from agricultural activity and manuring. Overall, this trench confirmed the general accuracy of Nash-Williams' unpublished plans and George Boon's successful transcription of these onto the overall fortress plan. We now have a fuller understanding of Nash-Williams' excavation methods (trenches locating and following walls) and of the extent of surviving stratigraphy in this building. The depth of stratified deposits in this field is considerable and a great deal of information on the earlier phases of the fortress (including environmental data) could be gathered from further work here.

### 6.3.2 Test Pits in Priory Field (CPF07)

The test pits in Priory Field were located to explore structures revealed in the 2006 geophysical survey. These included part of the rampart (Test Pit 6), elements of two barracks (Test Pits 5 and 7), one of the *horrea* (Test Pit 4), and the open 'yard' area between these and the large courtyard building (Test Pits 2 and 3).

#### *Yard/courtyard building (Test Pits 2 and 3)*

Test Pit 2 revealed the interior surface of an ephemeral structure probably built against the western wall of the large courtyard building. This area was covered in building debris, beneath which was a cobbled surface and associated burning. The dating of these latter features is uncertain, but finds of late Roman date (including a late fourth-century coin) came from this test pit. A densely-packed layer of deliberately laid rubble was excavated in Test Pit 3, confirming the existence of an open area or yard between the *horrea* and courtyard building. This rubble appeared to overlie at least two similar deposits, suggesting that a sequence of substantial yard surfaces is preserved in this area.

#### *Horreum (Test Pit 4)*

The Test Pit situated in the central granary revealed a stone pier of the building's raised floor and an extensive deposit of roof-tiles at approximately 1 m depth (Figure 6.3.5). It is likely, therefore, that the full stratigraphic history of this *horreum* remains preserved beneath the roof collapse. A later stony layer could relate to agricultural activity in the medieval period in this part of the field.

#### *Barracks (Test Pits 5 and 7)*

These test pits were located over individual rooms in separate barrack blocks and in both cases they revealed clay floor surfaces that were the uppermost Roman deposits. These were below rubble deposits at relatively shallow depths (c. 0.5 m). Few other features were encountered in Test Pit 7, but a later posthole was recorded in Test Pit 5.



Figure 6.3.5. Priory Field, Test Pit 4 (from west)

### Rampart (Trench 6)

Trench 6 was intended to examine a possible rampart building (suggested by a faint linear anomaly on the magnetometer survey), though no indication of such a building was discovered during the excavations. Instead, the slope of the rampart and a kerb, or possible stone drain, at its base were recorded.

The pottery from the Priory Field evaluation trenches was mainly from the later Roman period, generally terminating with material from the early fourth century, though some later material was also present. Medieval and later pottery was indicative of agricultural activity. Taken together, the results of the Priory Field evaluations confirm that Roman buildings and their interiors are well preserved in this part of the fortress, at depths of between 0.5 m and 1.0 m below the modern ground surface. While post-Roman agricultural activity certainly took place in the field, limited damage

appears to have been done to the Roman archaeological deposits. There is enormous potential for further research in Priory Field.

### 6.3.3 The Pottery from CGF07 and CPF07 (Peter Webster and Mark Lewis)

#### *Golledge's Field, Trench 1*

The pottery recovered from Trench 1 consisted almost entirely of items from the backfill of Nash-Williams' trenches. The quantity suggests that the excavated pottery was sorted before it left the site and only those pieces considered significant by the excavator were retained for later study. We may summarise the assemblage as follows:

#### *Roman*

First century pieces appear under-represented. We may demonstrate this most easily from the list of samian vessels in Table 6.3.1., where the preponderance of second century vessels is obvious. However, we may contrast this with the pattern of samian from the Nash-Williams excavations (see below), which shows a preponderance of South Gaulish and first century pieces: almost 50% of the samian from the Nash-Williams excavations is South Gaulish, and thus imported before c. 110, as compared with only 6% of the samian recovered in 2007. It seems likely, therefore, that we are seeing a bias in the pottery which the earlier excavator thought worthy of retention; a factor which should be borne in mind when examining all museum collections of material excavated before the mid-twentieth century. Clearly it is unwise to draw too many conclusions from a largely unstratified and probably pre-sorted collection; nevertheless, the latest pieces are late third to fourth century, suggesting a

Table 6.3.1. Samian from Golledge's Field, Trench 1

Form	South Gaulish	Les Martres-Des-Veyre	Central Gaulish	East Gaulish	Total #	Total %
18	1				1	2.6%
18/31	1		1		2	5.1%
27	2				2	5.1%
31			7		7	18.0%
31R			6		6	15.4%
33	2		8		10	25.6%
37			6		6	15.4%
43				1	1	2.6%
72			1		1	2.6%
C21			2		2	5.1%
Flagon			1		1	2.6%
Total #	6	0	32	1	39	100%
Total %	15.4%	0%	82%	2.6%	100%	

similar terminus to Priory Field. We might also note that, again as in Priory Field, fragments of amphora are sparse, presumably indicating that their storage, the decanting of contents and indeed breakage occurred elsewhere in the fortress.

Although a number of stratified contexts were identified, few were completely excavated. The following items from stratified contexts can be noted:

**C119** (clay underlying alley surface): With a beaker in light grey with a smoothed dark grey surface and rouletted decoration, and

202 Cup in Caerleon Ware, orange fabric with an orange slip, imitating the samian form 33 (cf. Webster and Webster 1998, Figure 2, 28-9). Early to mid-second century.

**C117** (possible pathway): A rim in granular grey with orange external surface is probably the upper part of a medieval cooking pot rim.

As already stated, the vast majority of pottery recovered came from the back-fill of Nash-William's trenches. A selection of these vessels gives an overview of the assemblage. It is divided by fabric group:

#### *Caerleon Ware*

203 Roughcast beaker in Caerleon Ware, orange fabric with an orange-brown colour coat (cf. Webster *et al.* 2004, Figure 4, 26). Early to mid-second century. (C107).

204 Beaker in Caerleon Ware, orange-red fabric with a red-brown colour coat. The form resembles that of the roughcast beakers, although there is no certain indication that this vessel was decorated. Early to mid-second century. (C107).

205 Flanged bowl in Caerleon Ware, orange fabric with a deeper orange colour coat; an imitation of the samian form 38 (cf. Webster and Webster 1998, Figure 3, 56, although our example has no sign of barbotine decoration). Given the date of the samian original, a mid-second century date can be suggested. (C102).

206 Mortarium in Caerleon Ware, orange fabric with a red colour coat (cf. Hartley in Webster *et al.* 2004, Figure 8, 106). Early to mid-second century. (C105).

#### *Mica-dusted ware*

207 Flanged bowl in orange fabric with traces of mica dusting. With the exception of the surface, the vessel closely resembles products of the Caerleon ware industry (e.g., Webster and Webster 1998, Figure 3, 53) and there seems little doubt that

it was produced by the same potters. The form would date this piece to the mid-second century. (C107).

#### *Other oxidised ware*

There are two examples of vessels in a light orange fabric containing some grit and what is probably fired clay, producing a pimply surface. There seems no reason to suggest that this is other than a local product, probably of the first or early-second century.

208 Everted rim jar. The form would suggest a mid-first to early-second century date. (C103)

209 Curved rim jar with similarities to Usk fortress type 11.1 (Greene in Manning 1993, 22-5 and Figure 4). (C102).

#### *South Wales Reduced Ware*

210 Handled jar in light grey fabric (cf. Manning 1993, Figure 107, 1.1-2). Probably first-second century. (C105).

211 Curved rim jar in light grey fabric with a darker surface in places (cf. Manning 1993, Figure 109, 22.1). Third century. (C101) with a closely similar vessel from (C111).

212 Flanged bowl in light grey fabric with burnished lattice decoration. The form is closely similar to that of some second century Black-burnished ware bowls and a similar date is likely. (C103).

213 Flanged bowl in light grey fabric darkening towards the surface. The form is reminiscent of Black-burnished ware category 2 vessels (e.g., Gillam 1970, No. 312, late second-mid third century) though a local source seems likely (cf. Manning 1993, Figure 116, 67.3). (C105).

214 Bead rim dish in light grey fabric with a dark grey smoothed surface. Some influence from Black-burnished ware bowls such as Gillam 1976, Nos 50-52 seems likely and a similar second-century date probable. (C107).

215 Dish in mid grey fabric with a darker slightly micaceous surface. (C105).

Other items in South Wales Reduced Ware included an example of a wide mouthed jar from (C107), probably as Manning 1993, Figure 112, 41.1 (second century).

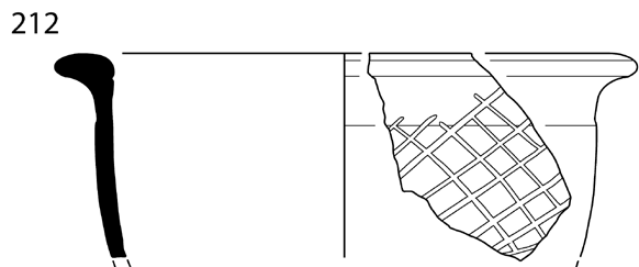
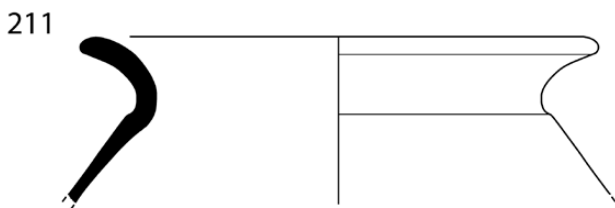
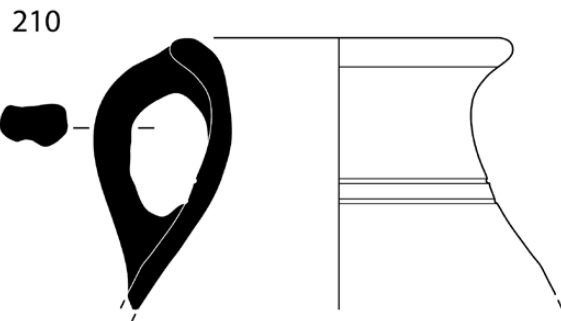
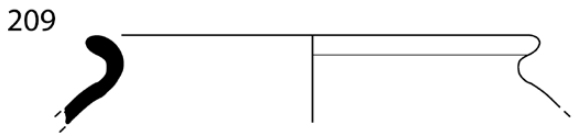
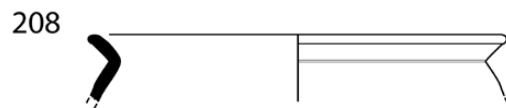
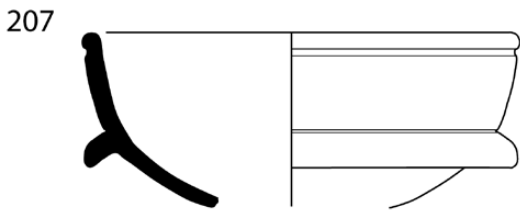
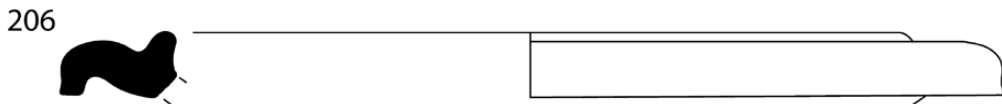
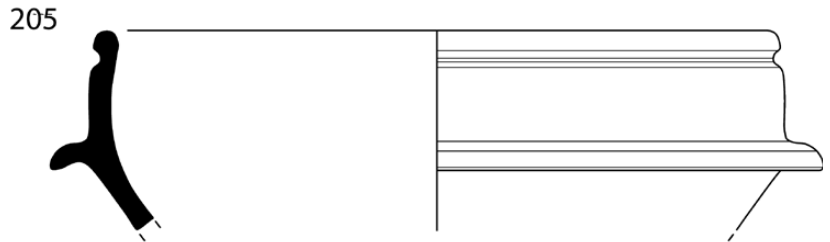
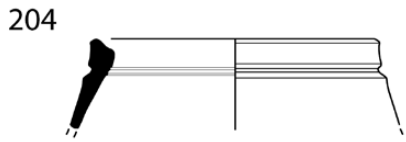
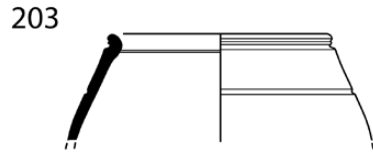
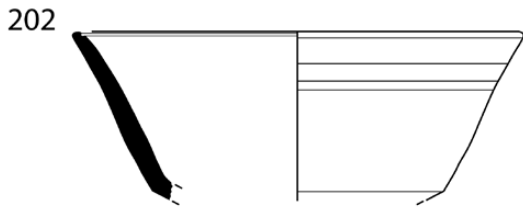
#### *Black-burnished ware*

216 Jar (cf. Gillam 1976, Nos 6-7). Early to mid-third century. (C105).

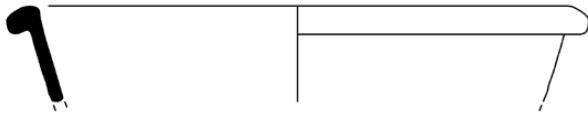
217 Jar with right angled lattice decoration (cf. Gillam 1976, No. 4). Late second century. (C105).

218 Jar (Gillam 1976, No. 7). Early to mid-third century. (C105).

EXCAVATION OF THE PRIORY FIELD STORE BUILDING IN CAERLEON



213



214



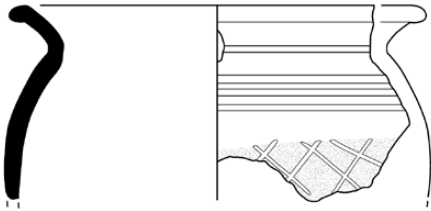
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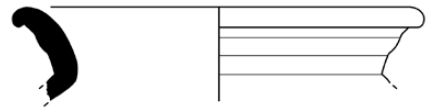
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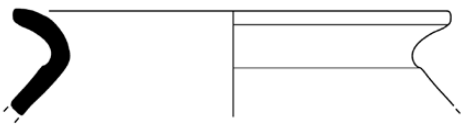
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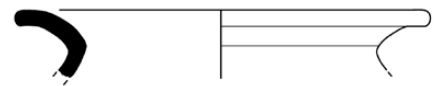
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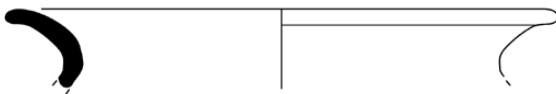
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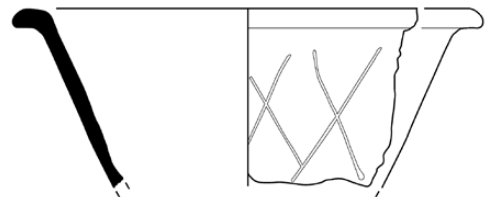
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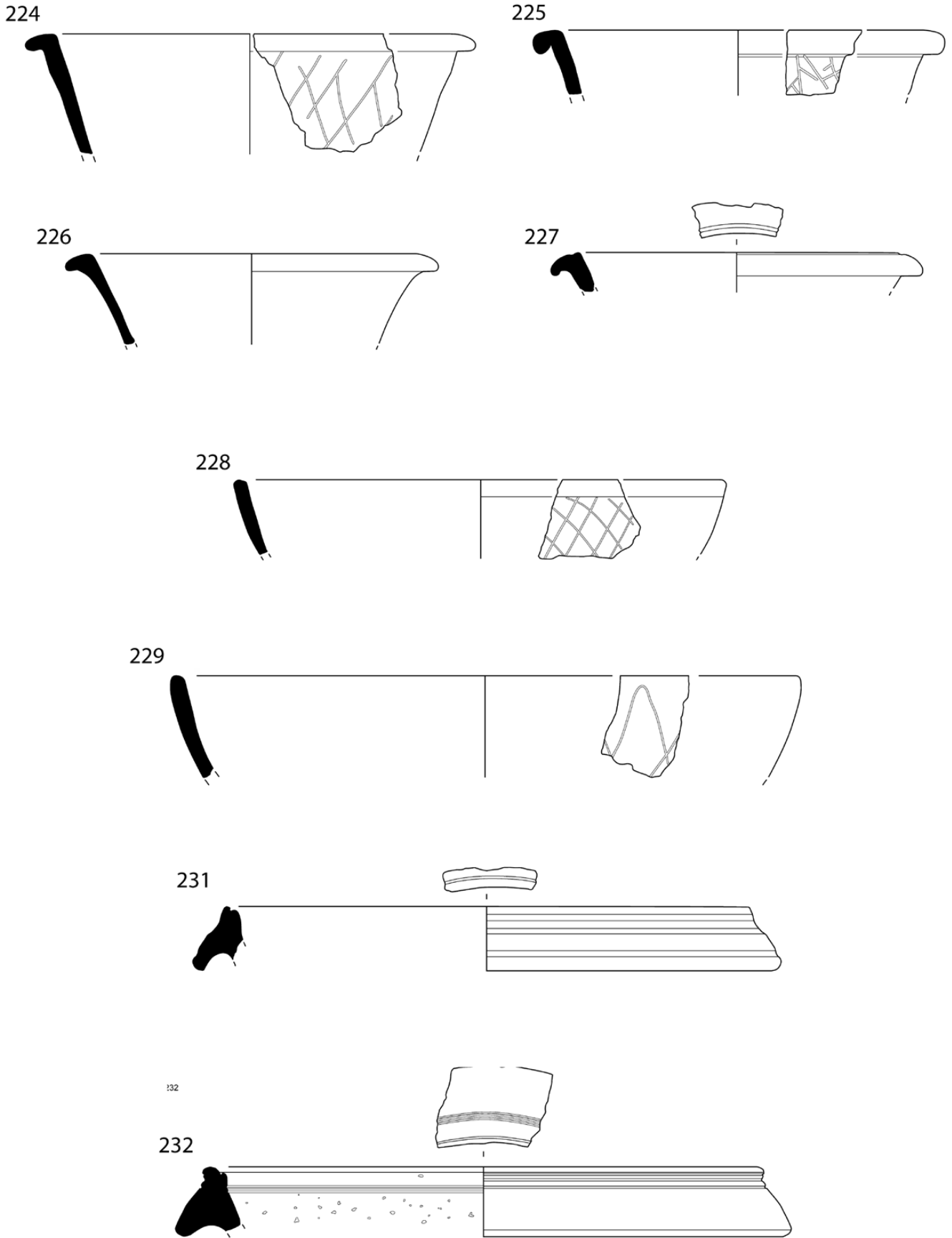
222



223



EXCAVATION OF THE PRIORY FIELD STORE BUILDING IN CAERLEON



0 100 mm

- 219 (Not illustrated) Jar. The rim resembles that of No. 218 above, but the angle is much more flared, suggesting a later date. Perhaps mid- to late-third century. (C111).
- 220 Jar (cf. Gillam 1976, Nos 10-12). Late-third to fourth century. (C105).
- 221 Jar (cf. Gillam 1976, Nos 12-14). Fourth century. (C110).
- 222 Jar (cf. Gillam 1976, Nos 13-14). Fourth century. (C101).
- 223 Flanged bowl (cf. Gillam 1976, No. 38). Mid-late second century. (C105).
- 224 Flanged bowl (cf. Gillam 1976, No. 41). Late-second century. (C107).
- 225 Flanged bowl or dish. Second century. (C111).
- 226 Flanged dish, sooted on both internal and external surfaces. Probably decorated as Gillam 1976, No. 65. Perhaps later second century. (C105).
- 227 Flanged and grooved dish or bowl, burnt and abraded (cf. Gillam 1976, No. 42). Late-second to early-third century. (C102).
- 228 Straight sided dish with lattice decoration. The decoration resembles that of Gillam 1976, No. 75 but the walls slope outwards more. Probably second century. (C107).
- 229 Straight sided dish with intersecting looped chevrons. The style of decoration is discussed in relation to Manning 1993, Figure 130, 33.2-34.2. Probably mid-late second century. (C105).
- 230 (Not illustrated) Straight sided dish with intersecting looped chevrons. A deeper version of No. 229 above. Probably mid-late second century. (C100).

#### Mortaria

- 231 The fabric is granular orange with a wide grey core. The trituration grits have largely been worn away but included quartz. The vessel is burnt on the rim. Both fabric and form ally this to vessels in South West White Slipped ware (cf. Hartley in Manning 1993, Figure 196, 5) despite the absence of any slip on our vessel. Probably third century. (C102) with a further fragment from (C100).
- 232 The fabric is granular light brown with a grey core. There are faint traces of white slip. A further example of South West White Slipped ware as Cat. 231. Probably third century. (C100).
- 233 (Not illustrated) Flange fragment from an Oxfordshire white mortarium of Young 1977, type M21. Mid-late third century.

One would not expect to find many examples of fineware among a collection which was probably sorted before being rejected for further study. However, a fragment from a large Nene Valley vessel, perhaps a 'Castor Box'

and a small fragment of Lezoux colour coated beaker with barbotine decoration may be noted (both from (C101). (C103) also included two fragments of fired clay which resemble waste clay from a kiln used as luting or similar. The make-up of the clay would suggest a Roman date but this must remain uncertain until similar items from a secure provenance are located.

#### Medieval

There is very little medieval pottery from Trench 1 in Golledge's Field and one can assume that this reflects the fact that little was found by Nash-Williams. The few sherds present suggest a similar pattern to Priory Field, representing agricultural activity mainly in the thirteenth to fifteenth centuries.

#### Post-Medieval

The pattern is again almost identical to that seen in Priory Field. It would appear that this field also saw the spreading of domestic rubbish from middens from the mid-seventeenth to the mid-nineteenth centuries. Sources of pottery are very similar, but one set of finds deserves special mention. Included in the back-fill of Nash-Williams' trenches was a quantity of waste from a kiln making clay pipes. Some of this consisted of fired white clay mixed with broken pipe stems, but there was also a large number of pipe bowls and other fragments, most of which are of a consistent date and likely all to derive from a single source. These are presented below as a typological series followed by stamped examples (Figure 6.3.6).

- 234 Pipe bowl of Oswald 1975, type 4 (Atkinson's 1975, Broseley type 1a). A single example of an early-mid seventeenth century type. (C110).
- 235 Pipe bowl with the bowl of Broseley type 3a but the smaller foot of Broseley type 2a (c. 1660-80). Context 103. At least eleven other examples were recovered from (C102) (3), (C103) (7), (C107) (1) and (C110) (1).
- 236 Pipe bowl; a slightly slimmer version of Cat. 234 and probably of a similar date. (C103). At least



Figure 6.3.6. Selection of clay pipes from Golledge's Field

- four other examples were recovered from (C102) (1) and (C103) (3).
- 237 Pipe bowl as Cat. 234 but at a greater angle to the pipe stem. (C103). At least six other examples were recovered from (C101) (1) and (C103) (5).
- 238 Pipe bowl; a larger version of No. 235. (C110). At least one other example was recovered from (C103).
- 239 A slimmer version of Cat. 238. Similar to the Bristol pipes (Jackson and Price 1974, Nos 103 and 153; Walker 1971, Figure 2, H c. 1660-80). (C103). At least six other examples were recovered, including three from (C101) of which one with a larger foot, and three 3 from (C103).
- 240 A fragmentary bowl with a spur. The complete bowl probably resembled Oswald 1975, types 17-18 (c. 1640-80). (C101). At least three other examples of pipes with spurs were evidenced by broken examples from (C102) (1) and (C103) (2).
- 241 Pipe bowl, Broseley type 5a (c. 1680-1720). (C110). There was a further example from (C101).

There were only two stamped pipes

- 242 (Not illustrated) Base of a pipe bowl of Broseley type 5 (c. 1680-1720) with a worn or poorly impressed stamp. The stamp appears to have consisted of three lines. The first (or last) line contains an 'O' but the remainder is illegible. Cessford (1998, Figure 6, lower centre) illustrates a stamp of John James which suggests a possible interpretation. There are, however, other possibilities, for instance Joseph Hughes, a local maker recorded by Knight (1980).
- 243 (Not illustrated) Foot from a pipe as Cats 239-242 above. Stamped RB. Cessford records a pipe with an RB stamp (1998, Figure 6, lower right centre) and this and other similar stamps from Caerleon (Markell 1988, Figure 1, 4a-c) and Bristol (Jackson and Price 1974, Nos 13-20; Walker 1971, Figure 1) mostly have the dagger and heart (or more probably the spade rebus) which is identified with Richard Berryman who was operating in Bristol between 1619 and the early 1650s (cf. Walker 1977, 1062; Price et. al. 1979). There is no evidence to suggest that Berryman made pipes at any other place than Bristol and so the large number of his pipes in south east Wales are likely to be evidence for a thriving cross-channel trade. Our stamp is not well impressed, but the heart shaped 'spade blade' and cross-like upper part of the motif are just visible with the aid of better impressed examples as guidance.

Among pipe bowl fragments, there are the bases from at least nine other bowls from (C101) (5) and (C103) (4), which must have resembled Cats 239-242.

As a collection, the Golledges' Field clay pipes seems remarkably homogeneous. The vast majority of the pipes found are a variation on a single type and all would fit within a period between the late 1630s and the early 1680s. Given the way in which 'night soil' and rubbish could be distributed at some distance from its (usually urban) source, there is no guarantee that the post-medieval material with its pipe-kiln waste from Golledge's Field was originally derived from Caerleon. However, that this is likely is supported by the presence of what appears to have been a kiln dump on a site now part of the Caerleon Legionary Museum (Cessford 1998, especially 46-7), with material that overlaps with our collection, although continuing into the early-eighteenth century. The Caerleon pipemaker, Henry Hughes is known in 1732 apparently occupying a site that cannot have been far away from the Museum site, so local production of pipes a generation or two later than our collection is assured. It is also perhaps worth noting that nearly all the fifty-five pipe bowls from the Caerleon Roman Gates site fell within the period c. 1620-1720 'with a peak lying between 1640 and 1670' (Markell 1988, 40), and may reasonably be linked to local production. A very similar pattern seems to be apparent on the Legionary Baths site (Lewis 1966; unpublished material in the National Museum of Wales), and this is backed by the smaller pipe collections from other Caerleon sites. If we are not to postulate a short-lived addiction to tobacco in Caerleon, then it is hard to escape the conclusion that waste from seventeenth- and eighteenth-century pipe manufacture is spread across central Caerleon. Given the way in which the Roman Gates pipes overlap both with the Golledges' Field collection and that from the Museum site, we may reasonably suggest that the period from the mid-seventeenth until the early eighteenth century was one when pipes were being produced at Caerleon. The Golledge's Field clay pipes fall at the beginning of this period and seem to be good evidence for manufacture at Caerleon in the middle seventeenth century, an early date for pipe making in Wales.

It is, perhaps, worth noting that Priory Field produced very few pipes compared to Golledge's Field and also that the area of the presumed kiln dump near the Museum and their eponymous field both belonged to the Golledge family in the nineteenth century, making the transfer of soil from one site to the other an intriguing possibility.<sup>1</sup> However, the broadly similar collections from all the Caerleon sites mentioned argues for a more general dispersal of kiln waste from this local industry. All commentators have noted links between the pipes found at Caerleon and those from both Broseley and Bristol. Trade in pipes between

<sup>1</sup> See 'The Golledges were here' page on Caerleon.net for more information on this local family ([www.caerleon.net/archive/miscellany/golledge.html](http://www.caerleon.net/archive/miscellany/golledge.html), accessed 1.7.2020).

Bristol and south Wales is also well known (cf. Price *et al.* 1980 who also note a number of Bristol apprentice pipe makers from Caerleon). One wonders if the importing of pipes from Bristol was supported by an influx of pipe makers, perhaps as a result of the social disruption of the Civil War.

Perhaps the most interesting feature of the pottery assemblage from Golledge's Field is the way in which it demonstrates that, like Priory Field, it was essentially unoccupied after the Roman period and given over solely to agricultural activities. It is more difficult to say anything definite about the Roman material, simply because the evaluation was not designed to extensively sample unexcavated Roman levels. It does, however, highlight the partial nature of the assemblage accessioned into the Museum by Nash-Williams and hint at substantial finds potential should excavation be resumed.

#### *Golledge's Field, samian from the 1931 excavations*

As part of the Caerleon Samian Project, all the samian from Golledge's Field was recorded in summary form (Table 6.3.2). This information can be combined with the list of samian from the 2007 evaluation trench, along with a more detailed analysis of the decorated samian from the Nash-Williams excavation by Dr M.D. Thomas. This allows us to produce a histogram of samian vessel loss for all work at Golledge's Field (Figure 6.3.7).

This picture is fairly typical of Caerleon sites. The columns show approximate vessel loss in the half decades up to the date given. The small number apparently from the decade up to 70 are probably vessels which were already old when they reached the site. The period from the 70s to about 110 undoubtedly saw the most intensive occupation at Caerleon and this is reflected in the histogram. The dip in the period 110-120 is typical of such histograms and may be a product of reduced supplies as the South Gaulish industry was supplanted by that in Central Gaul. The Hadrianic and earlier Antonine periods saw a gradual increase in vessel loss. This may reflect the intensity of occupation in a period which must have seen parts of the legion absent on wall building duties in northern Britain, but it may simply reflect the intensity of building operations after early second century rebuilding in stone. Thereafter, and until the cessation of Central Gaulish imports, there is a relatively steady vessel loss, sufficient probably to suggest a return to full occupation of the first cohort barracks. The number of vessels recovered by Nash-Williams is also impressive when compared with the small number of pieces from 2007. This suggests that, were excavation to be possible in areas of Golledge's Field not previously excavated, there would be no shortage of dating material.

#### *Priory Field, Test Pits*

Initial investigation of Priory Field consisted of six test pits designed to investigate buildings and other

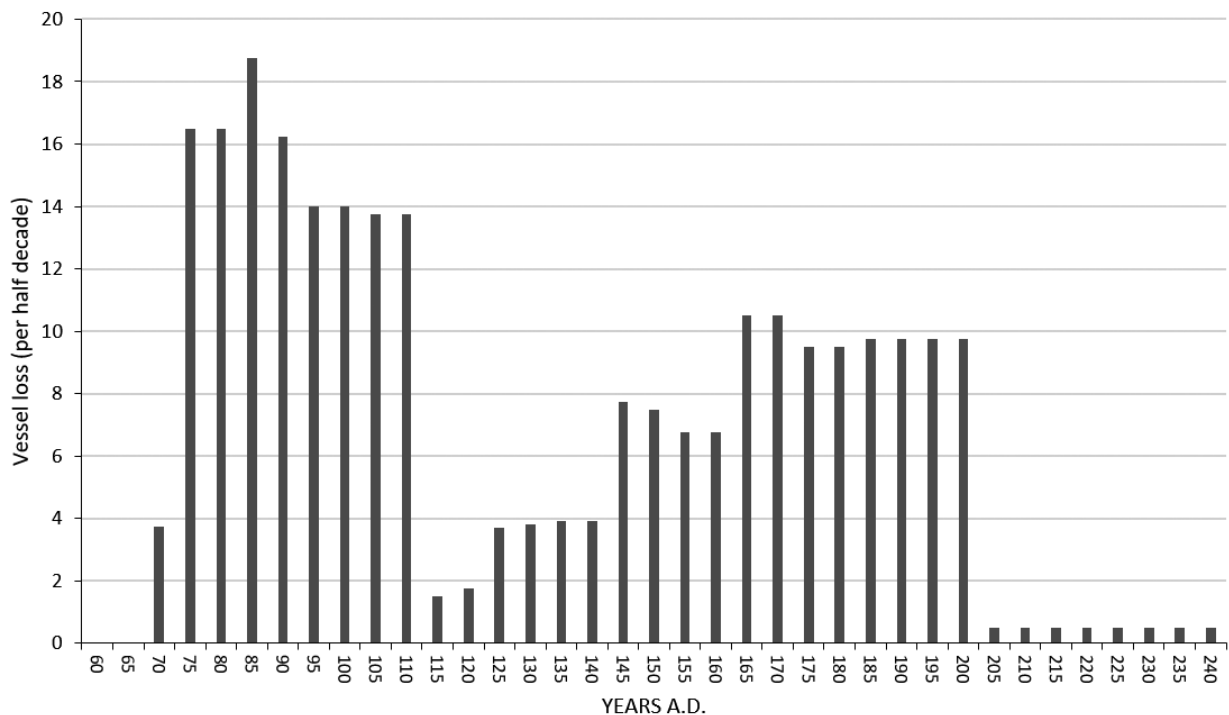


Figure 6.3.7. Samian vessel loss at Golledge's Field

Table 6.3.2. Samian from the Nash-Williams 1931 excavations in Golledge's Field

Form	South Gaulish	Les Martres-Des-Veyre	Central Gaulish	East Gaulish	Total #	Total %
15/17 & R	5				5	2.3%
15/17R	1				1	0.5%
18	10				10	4.5%
18R	1				1	0.5%
18/31	14	1	3		18	8.1%
18/31R	2		7		9	4.1%
27	16		1		17	7.7%
29	10				10	4.5%
30	1				1	0.5%
31			6		6	2.7%
31R			17	2	19	8.6%
33	8		17	1	26	11.8%
35	1				1	0.5%
36	4		1		5	2.3%
37	29	5	33	1	68	30.8%
38			1		1	0.5%
42			1		1	0.5%
44			1	1	2	0.9%
67	1				1	0.5%
72			3		3	1.4%
79			2		2	0.9%
79R			1		1	0.5%
81			1		1	0.5%
C11	3		1		4	1.8%
C11orR12	3				3	1.4%
C15			2		2	0.9%
Her25	1				1	0.5%
Lud Th'.				1	1	0.5%
R12					0	0%
Bowl			1		1	0.5%
Other					0	0%
Total #	110	6	99	6	221	100%
Total %	49.8%	2.7%	44.8%	2.7%	100%	

structures located by the geophysical surveys and to establish the extent to which the archaeology was undisturbed. These test pits did not penetrate the Roman levels and produced small collections of pottery. Only a few pieces have been selected for discussion below as adding to the overall pattern. The following come from the upper levels of Test Pit 6 cut to locate the back of the Roman rampart.

244 (Not illustrated) Jug neck in brown with a greyish core in places. The green glaze covers both interior and exterior but the exterior appears to have been placed over a white slip which has been carried about two centimetres over the rim. For a possible reconstruction see

Coleman-Smith and Pearson 1988, Figure 67, 4/216. Probably seventeenth century. (C600).

245 (Not illustrated) Mug in buff fabric with a yellow glaze which is over a combed brown slip externally. Similar fabrics were made both in Bristol and Staffordshire. This particular vessel is probably derived ultimately from a silver tankard form (cf. Kelly and Greaves Figure 17, 133). Eighteenth century. (C600).

*Priory Field, surface material recovered in 1954.*

The holdings of the National Roman Legion Museum include a collection of finds recovered from the surface of the Priory Field when it was ploughed in

1954. The area covered is obviously greater than the building examined in 2008 and 2010 but the pattern is instructive. Remarkably there is no medieval material. Post-medieval items consist mainly of eighteenth to nineteenth century glass bottle fragments and red earthenware with a variety of glazes, although one fragment of red stoneware was also recovered. Most of the dateable Roman material was second century but there were also several pieces of Oxfordshire colour coated ware (mid-third to fourth centuries) and a flanged and ridged bowl in Black-burnished ware (late-third to fourth centuries). It is likely that fieldwalking on the ploughed field resulted in the recovery of more large fragments than small and that certain colours of fabric stood out more easily than others. This may account for the comparatively large number of samian vessels recovered (160 sherds from some 70 vessels). These are summarised in Table 6.3.3.

The pattern differs from that recovered from the excavated store building, but also shows some similarities. Les Martres sherds are absent and the second century material has a bias towards forms current in the second half of the century (31, 38, 45, 79/80) while the East Gaulish vessels are likely to be later-second or early-third century. The mortarium form 45 is again present despite its overall rarity on fortress sites, compared to those in the civilian settlement. There is a considerably smaller proportion of South Gaulish vessels than were recovered from the store building but this is hardly surprising given the surface nature of the collection. Nevertheless, forms such as 29 and 18 indicate activity in the earlier years of the fortress. Most noticeable is that there are more Central Gaulish vessels represented than occurred in the whole of the 2007-10 excavations, which is perhaps a hint that the uneven deposition pattern of the store

Table 6.3.3. Samian from Priory Field after ploughing in 1954

Form	South Gaulish		Central Gaulish		East Gaulish	
	Sherds	Vessels	Sherds	Vessels	Sherds	Vessels
18	2	1				
18 or 18/31	1	1				
18/31	7	5	7	5		
27	4	1	2	1		
29	3	1				
30			1	1		
31			15	6	2	1
31R			4	2	1	1
33			19	8		
35	2	2				
36	2	2	1	1		
37	24	4	38	13	3	2
38			7	4		
45			2	1		
79/80			4	1	3	1
Curle 11	1	1				
Curle 15			1	1		
Curle 21					1	1
Lud. SMb					1	1
O&P, Pl.79, 8					1	1
Cut glass bkr					1	1
Total #	46	18	101	44	13	9
Total %	28.8%	25.4%	63.1%	62.0%	8.1%	12.7%

Table 6.3.4. Selection of Registered Artefacts from Golledge's Field, Trench 1

RA#	Context	Material	Description
171	102	Silver	Coin. <i>Denarius</i> of Marcus Aurelius, 161-80
100	100	Copper alloy	Coin. <i>Radiate</i> copy, 260-290
107	101	Copper alloy	Coin. AE3, Rev: GLORIA EXERCITVS - 2 stds, 330-35
134	107	Copper alloy	Coin. AE3, late 3rd-4th c.
102*	101	Copper alloy	Medieval domed oval harness fitting with lozenge decoration
111*	103	Copper alloy	Knee brooch, fragment
115*	103	Copper alloy	Piece of cast flat CuA plate, edge with bevelled border and hollow rivet (head missing) in situ
119*	102	Copper alloy/Iron	Large flat-headed stud
127*	107	Copper alloy	Spoon bowl
142*	107	Copper alloy	Flat-headed harness stud
144*	105	Copper alloy	Cast(?) tapering tube - open at both ends - with mineralised organic material adhering
158*	107	Copper alloy	Openwork belt plate, 1st-2nd century
160*	111	Copper alloy	Openwork belt plate, 1st-2nd century
169*	119	Copper alloy	Polden Hill variant brooch, complete with pin
174*	u/s	Copper alloy	Semi-circular headed knee brooch, pin missing
104*	101	Iron	Fragment of swivel ring
117	103	Iron	Hook?
126*	105	Iron	Awl with bone handle.
139*	105	Iron	Fragment of scythe blade
157*	111	Iron	Key: Bit and fragment of handle.
176*	100	Iron	Spirally twisted rod with bifurcated end.
177*	103	Iron	Shear blade.
178	103	Iron	Iron object
179*	105	Iron	Awl or carpenter's bit.
180*	105	Iron	Interlinked double-spiked loops.
147	103	Worked bone	Pierced cattle tooth pendant
170	119	Worked bone	Bone counter

building site is not repeated in all buildings beneath the present Priory Field.

One samian stamp from the plough soil collection may be noted:

Form 31, base with a worn and partial stamp, PRIV[, die 1a of Privatus iii of Lezoux, NOTS7, 266-7. C. 160-?185.

### 6.3.4 Other Finds from CGF07 and CPF07

*Golledge's Field, Trench 1* (Table 6.3.4)

Trench 1 produced four coins, including a *denarius* of Marcus Aurelius, a late-third century *radiate* copy, a bronze *nummus* struck 330-35 (GLORIA EXERCITVS, 2 standards issue) and an unidentifiable late-third or fourth century bronze issue. Interestingly, no post-

Roman coins were found during the excavation, although numerous other medieval and modern objects were recovered.

The remaining Roman-period Registered Artefacts from Golledge's Field are noticeably domestic in nature, with only the two belt plates coming from items of military equipment. Other finds include three brooches, gaming counters, a pierced cattle-tooth pendant, a key, a variety of handworking tools, as well as some evidence for agricultural activity (a fragment of a scythe blade and a shear blade).

Trench 1 produced a small animal bone assemblage (477 fragments), of which 127 (27%) were identifiable to species.<sup>2</sup> Bearing in mind that much of this material

<sup>2</sup> The interim animal bone report was prepared by Adrienne Powell. Full quantification, including details of butchery, measurements and

Table 6.3.5. Selection of Registered Artefacts from the Priory Field Test Pits

RA#	Context	Material	Description
203	202	Copper alloy	Coin. AE3, Rev: SECVRITAS REIPVBLICAE, 364-78
206	202	Copper alloy	Coin. AE3, Rev: GLORIA EXERCITVS - 1 std, 335-40
701	703	Copper alloy	Coin. Radiate DIVUS CLAUDIUS, 270
300	300	Copper alloy	Coin. Victoria 1d,1861
600	601	Copper alloy	Strap end

was recovered from topsoil deposits and backfill of the 1931 trenches, cattle is the most frequently occurring domestic species, followed by pig and sheep/goat, then domestic fowl. Wild species are represented by red or fallow deer (*Cervus/Dama*), two small duck bones, probably teal (*Anas crecca*) and a goose specimen that could be domestic or greylag goose (*Anser anser*). The single dog specimen is part of a mandible from an immature animal: none of the adult teeth had erupted and hence the jaw belonged to an individual younger than about five months old.

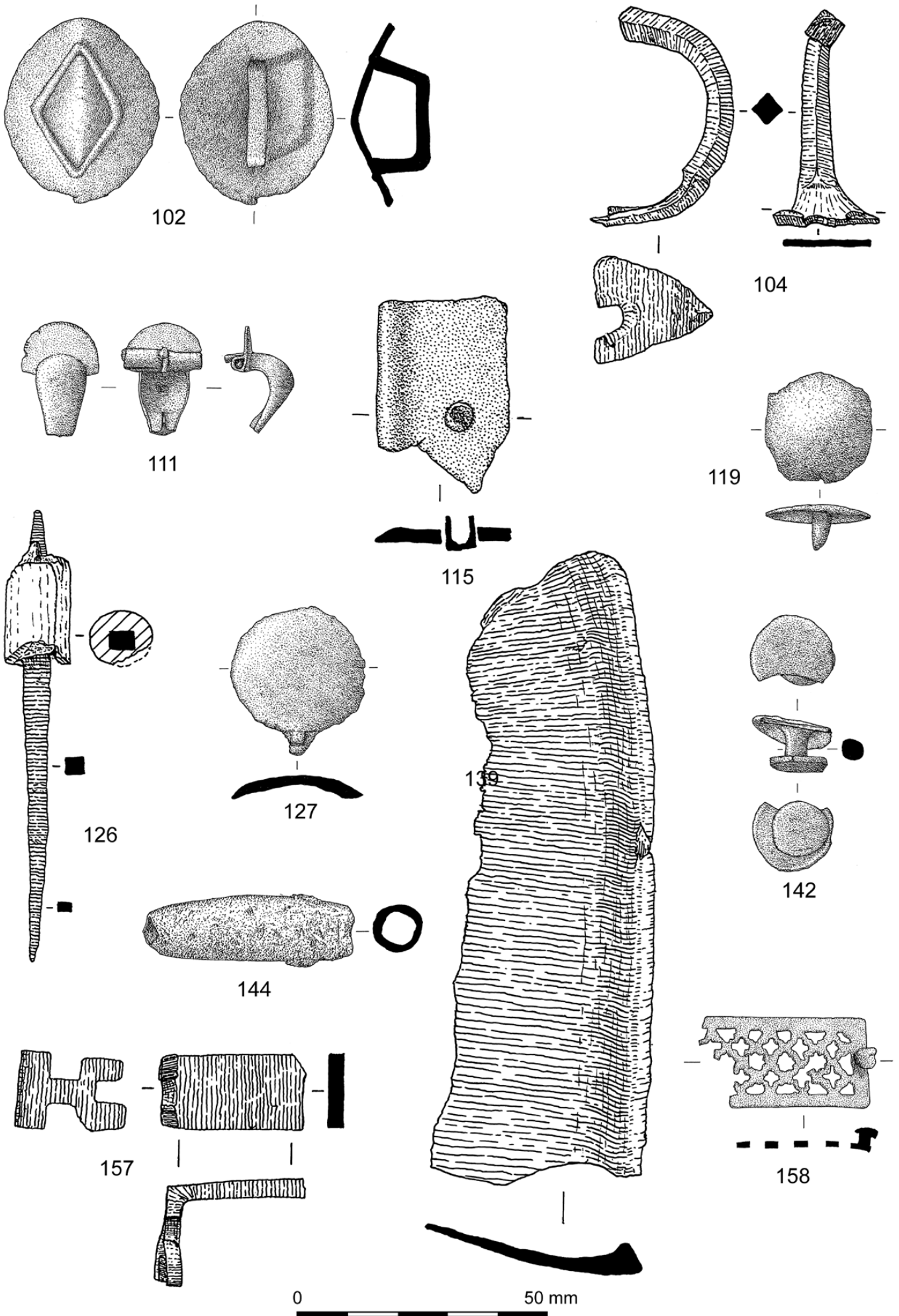
*Priory Field, Test Pits 2-7* (Table 6.3.5)

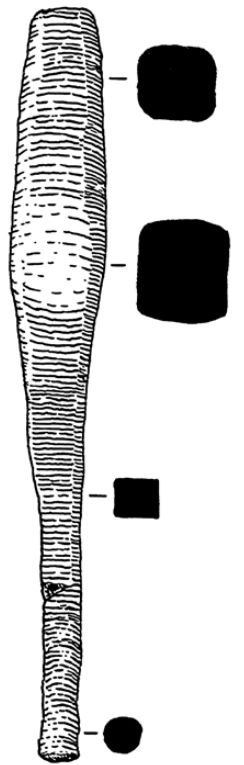
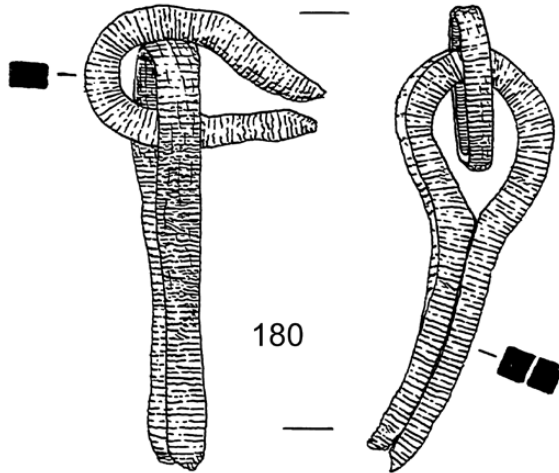
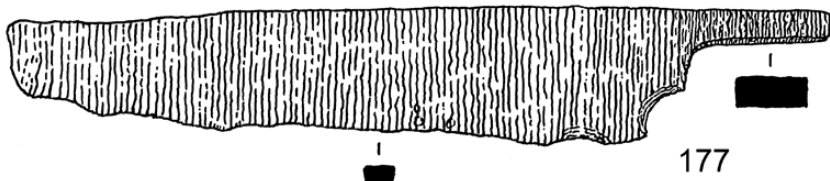
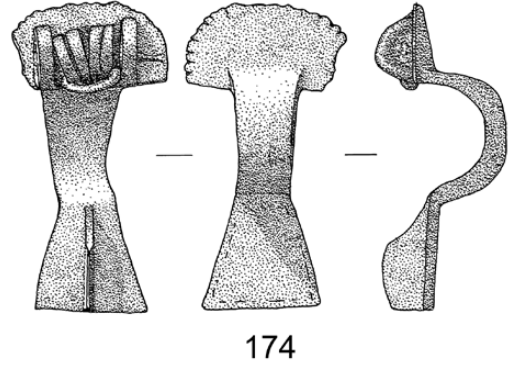
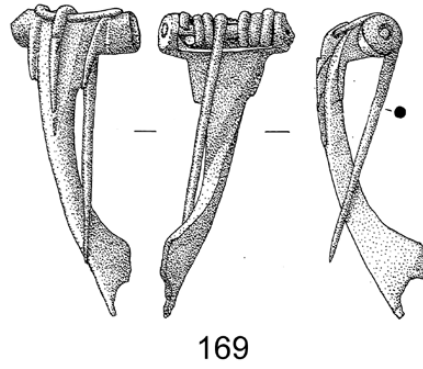
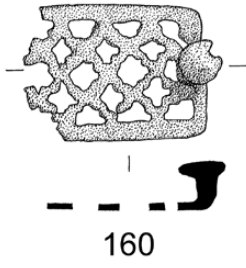
The test pits in Priory Field produced four coins, including a *radiate* of the deified Claudius II (270), a bronze *nummus* struck 335-40 (GLORIA EXERCITVS, 1 standard issue), a second bronze *nummus* struck 364-78 (SECVRITAS REIPVBLICAE issue), and a penny of Victoria dated to 1861.

Like at Golledge's Field, the Priory Field test pits produced several medieval and modern finds, including the head from a Victorian Parian ware (biscuit porcelain) figurine. The few identifiably Roman-period Registered Artefacts are again noticeably domestic in nature, with the only military object being a copper-alloy strap end. Test Pit 3 also produced a fragment of a ceramic chimney as well as a significant quantity of Roman window glass, which is unexpected given that the test pit was located in the open 'yard' between the granaries and the courtyard store building. The chimney fragment was part of a frilled tiered chimney with semi-circular arched apertures, which could have had a religious function (see Nash-Williams 1932b, 61 and Figure 14 Nos 1 and 2, from contexts dated to c. 105-200 and 200-300. Bidwell and Speak 1994, 159 and Figure 5.11, cite examples from 35 British sites).

toothwear, are available in the archive.

EXCAVATION OF THE PRIORY FIELD STORE BUILDING IN CAERLEON





0 50 mm

## Appendix 6.4

### Summary of Community Engagement Activities, 2007-10

The excavations at Caerleon were set up initially as a research and training project, focused on gaining new knowledge about the Roman fortress while teaching university students the fundamental skills of the field archaeologist. It seems hard to imagine now, but involving the general public was not a priority then, either for the directors (and their universities), or for the project's sponsors and funders (Cadw and the National Museum of Wales). The location, however, of the Golledges Field trench in 2007, close to the Broadway connecting the Amphitheatre and carpark to the centre of Caerleon, demonstrated very clearly the public's great interest in our work.

Inspired by this enthusiasm and encouraged by Rick Turner (Inspector of Ancient Monuments at Cadw), a strategy was developed to involve the general public in the subsequent excavations in Priory Field. A new Community Engagement element to the project was initiated that sought to communicate the results of the excavations in a variety of different ways. This work was coordinated by Cardiff University, utilising the recently established Community Engagement Team, and with on-going support from UCL, the National Museum of Wales and other partners (Cadw and the Glamorgan-Archaeological Trust). The strategy provided opportunities for people to volunteer and work on the excavations, to come and see the excavations and hear what had been found so far, as well as to engage digitally with the project. The Community Engagement element proved to be as successful as the original research and training parts, and the following sections summarise what was achieved.



Figure 6.4.1. Visitors to the excavations during the Military Spectacular Weekend in 2007

#### Community Engagement, 2007

The excavation season overlapped with the last weeks of the school year and parties of schoolchildren visiting Caerleon were offered the opportunity to see the Golledge's Field trench during their trips (arranged through the Education Officer at the National Roman Legion Museum). Altogether, 28 school groups were shown around the excavations, including every class in the Caerleon Endowed Infant and Junior Schools, while other visitors included the Monmouthshire Antiquarian Association and members of the Caerleon Research Committee.

A particularly important and successful event for engaging the general public with archaeological research was the Military Spectacular held on the weekend of 7/8 July. Approximately 5,000 people visited Caerleon over the two days, most of whom walked past the excavation trench in Golledge's Field. A gazebo housed a display of information panels and finds from Roman Caerleon, while a leaflet explaining the 2007 excavations was handed out to all visitors (Figure 6.4.1). The project team worked both days of the Military Spectacular and tours of the trench proved to be very popular.

#### Community Engagement, 2008 and 2010.

The aim of the Community Engagement strategy for the Priory Field excavations was to increase the public's awareness of, and participation in, archaeological fieldwork in Caerleon. The objectives were to advertise the excavations before they began each season; to provide opportunities for non-archaeologists to work on the excavation; to encourage people to visit the excavations in person, on guided tours and Open Days; to disseminate the on-going results of the excavation to as wide an audience as possible, both in the UK and beyond; and to monitor and evaluate the success of the project's Community Engagement strategy.

The strategy was a collaborative effort bringing together archaeologists with Cardiff University's Community Engagement Team and other partners.<sup>3</sup>

<sup>3</sup> Significant support was provided by the National Roman Legion Museum, whose staff assisted with the Open Days by providing Roman costumes and small suits of Roman armour for the children, a Roman shield for the feedback survey, as well as a range of literature for display. In addition, museum staff provided short training sessions for students in public engagement and tour guiding.

The strategy was dynamic and changed as we learned what worked and what was less successful, and students were involved in all aspects of the community engagement activities, from planning and preparation to delivery.

The Priory Field excavations were advertised widely before and during each season, both online (e.g., the Council for British Archaeology's *Community Archaeology Forum* website, Cardiff University and UCL websites and the BBC Wales website), and locally (posters and leaflets). In 2008, the excavations coincided with the Military Spectacular in the Amphitheatre (28 and 29 June) and the Caerleon Arts Festival (4 to 13 July), and was a registered attraction for the Council for British Archaeology's National Archaeology Week (12 to 20 July). In 2010, because of the extensive media interest in the discovery of a monumental complex outside the fortress, the excavations were widely publicised in the local, national and international media both before and during the season's excavations. The digital reconstruction of the fortress and its public suburb was highly effective at promoting the excavations. The discovery, late in the 2010 season, of what was thought to be part of at least one suit of Roman armour, generated further media attention and encouraged more people to visit the site.

A total of 77 volunteers worked on the excavations (36 in 2008 and 41 in 2010), where they took part in the full range of archaeological tasks, including digging and finds washing. From schoolchildren to pensioners in their 70s, these volunteers worked alongside the student archaeologists for afternoons, days off from work and weekends, while several stayed with the project for longer (including one for the entire six weeks in 2008).

Guided tours took place twice a day during both seasons, while the excavations held Open Days during the Military Spectacular in the Amphitheatre in 2008 (28 and 29 June) and the summer Bank Holiday in 2010 (28-30 August). Almost 7,000 people visited the excavations during the 10 weeks in 2008 and 2010, of whom over 2,500 came during the five Open Days in the two seasons (Table 6.4.1). Most visitors were from Wales and the UK, but others had come from Europe, the USA, Egypt, Kenya, New Zealand and Australia. Numerous pre-arranged groups were also shown around the excavations, including 21 classes of school children, the Newport Chinese Community Group, delegates from the International Curatorial Training Programme, as well as the Young Archaeologist's Club (including the Camden branch funded by UCL's Outreach Office).

All visitors were given a tour of the excavation, led mainly by undergraduate archaeologists who explained

the background to the project and the excavation's aims and objectives, the methods and techniques being used and the archaeological remains in the trench, as well as the importance of artefacts in the finds tent (where some objects from the excavation were available to be handled and examined). Display boards provided images and explanations of what the archaeologists were doing, while visitors could take away promotional material for the partner universities, Cadw, the National Museum of Wales and other Caerleon attractions.

Open Days proved to be incredibly popular, attracting over 900 visitors in 2008 and 1,600 in 2010 (777 visitors attended on the Bank Holiday Monday alone). The demographic was very diverse with people of all ages and from a variety of backgrounds attending (while there were clearly many families with young children on site, there were also single individuals and couples from a range of age groups). Visitors to the Open Days were welcomed by students dressed in authentic Roman costumes who would show them around the site and encourage them to take part in various hands-on activities designed to complement the guided tours and stimulate further interest in the site and in archaeology more generally (Figure 6.4.2). These activities, several of which were devised and arranged by undergraduate and postgraduate students, included:

- make your own Roman pot workshop
- authentic Roman cookery display (with Edith Evans of the Gwent Glamorgan Archaeological Trust)
- wet-sieving for environmental remains and pot-washing
- a gallery of colouring sheets and colouring competition for younger children
- dressing up in Roman armour also for younger children.

The popular hands-on Roman pot workshops were delivered by Cardiff University postgraduates Ioannis Smyrniaios and Sarah Doherty. Yiannis and Sarah encouraged visitors to consider the significance of pottery in relation to issues of Roman identity and technological sustainability by getting them to design and manufacture their own pots. Many people engaged with this activity and learned from it. Around 200 pots were manufactured by visitors over the three Open Days in 2010 (Figure 6.4.3).<sup>4</sup>

Informal learning events such as public days on archaeological excavations are difficult to evaluate. Eliciting responses via traditional methods of evaluation

<sup>4</sup> Yiannis's PhD research examined the social significance of pot decoration and manufacture in the Greek Iron Age (c. 900-600 BC), while Sarah's work explored the technological origins of the potter's wheel, looking at links between craft production and social identity in Ancient Egypt and beyond.

Table 6.4.1. Evaluating Community Engagement at Priory Field: Quantifying 'Visits'

	2008 season	2010 season	Total
Volunteers	36	41	77
Visitors (total)	3,090	3,904	6,994
Open Day visitors	934	1,643	2,577
Dig blog hits	13,103	24,188	37,291
Cardiff University website hits	-	41,298	41,298
Twitter followers	-	104	104
Guardian online article hits, 12-13 August 2010		>500,000	



Figure 6.4.2. Open Day Activities in 2008 and 2010

such as feedback forms can be very problematic and are often not wholly appropriate. Therefore, the community engagement strategy at Priory Field employed a range of innovative techniques in order to provide evidence of engagement and to measure the visitor experience. These included the basic recording of visitor numbers; keeping a Visitors' Book for written comments throughout the season; activities that involved tangible outcomes with 'products' that visitors were able to take away (for example, pot manufacture, colouring competition); a photographic record of visitors participating in the activities; feedback from visitors through video and audio diary interviews; as well as a Survey Shield that provided an indicator of how much visitors enjoyed the experience.

Visitors could leave personal feedback on their visits to the excavation by writing in the Visitors' Book or, in 2008, by completing a formal evaluation form (provided by Cadw). Most visitors were reluctant to fill out an evaluation form and only 42 people in 2008 did so, whereas the Visitors' Book was far more popular (the evaluation forms were discontinued for the 2010 season). The entries from the Visitors' Book for 15 July 2008 are typical of the comments received (Table 6.4.2), and demonstrate how enjoyable people found their visits. This is repeated in the feedback from the evaluation forms, which also sought to assess the learning experience in more qualitative terms by asking ten questions that the respondents could answer with a tick (Table 6.4.3).



Figure 6.4.3. Make your own Roman pot workshop (Ioannis Smyrniaios with two young archaeologists)

Table 6.4.2. A page from the Visitors' Book for 15 July 2008

Name	Address	Comments
Sam Ward (age 9)		<i>It was cool, awesome and the finds are wicked! I really enjoyed it!</i>
Roger & Denise Hoye		<i>Fascinating tour - such hard work for everyone. Learned a lot &amp; enjoyed it all - Thanks</i>
Enya Colney		<i>Ace!</i>
Ryan Seebottom		<i>It was very exciting!</i>
John Samuel	Caerleon	<i>Very helpful students. Very interesting.</i>
Sunne & Gareth	S. Africa	<i>Very interesting! Thanks for the tour.</i>
Famille Memaitre	France	<i>Great! I learned a lot! My daughter has to become an archaeologist now! Thank you!</i>
Xin Tong	China	<i>Very exciting. Nice to watch a live dig. Hard work but have fun.</i>
Hughes family	California	<i>So much going on - and lots of hard work to observe too. Very interesting and lots of knowledgeable individuals involved. Keep up the good work.</i>
Mae Hughes	California	<i>I'm having a great time. Thanks.</i>
Jeff Morgan		<i>V. interesting</i>
D. Davingoff		<i>Very very interesting - keep up the good work</i>
AP & AD Allen	Newport	<i>Very interesting</i>
P. Kay	Leominster	<i>Wow!</i>
Matthew Collin	Newport	<i>I'm having a great time - thanks for being kind!</i>

Table 6.4.3. Feedback from the 42 visitor evaluation forms completed in 2008

Generic Learning Outcomes (GLOs)	Yes	No	Maybe
I discovered some interesting things during the visit	100%		
A visit to this site is inspiring	88%		12%
I could make sense of most of what I saw during the visit	93%		7%
The visit has given me a lot to think about	81%		19%
I would come to this site again	95%		5%
The visit has given me a better understanding of Welsh history	64%	14%	21%
I am more interested in Welsh history now than I was before my visit	60%	19%	21%
I will go and learn more about the site, or this period of history, as a result of my visit	67%	7%	26%
The visit has changed my attitude about something	48%	29%	24%
I was surprised by something I saw or learned during the visit	81%	10%	10%

In 2010, students working on the excavation collected over 20 informal video interviews and five audio interviews, where Open Day visitors described in their own words their experiences of the excavation (for example, how it had impacted them and whether they had learned anything). Cardiff University's Community Engagement Team provided the equipment for this activity and gave advice and training to students on interview technique and data privacy.<sup>5</sup> Video footage was also taken of the guided tours, finds tours and the pottery workshops. Feedback from all of the interviewed visitors was very positive and the overwhelming majority felt that they had learned something new about archaeology and Caerleon from their visit. For example:

"I learned lots of things; a bit about the process, about the influence of this fort on the local and wider area. We will have to come again and find out more!"

Dave Griffin, Cardiff

"It's really exciting and you can see the excitement of the archaeologists. It's fantastic to see them in action. I think a lot of people seem to have this idea that archaeology is really old hat, so it's nice to see their enthusiasm!"

Anon (female, 40-50)

"If I had a chance I would actually go and study archaeology and do it myself!"

Anon (male, 20-30)

"We've really enjoyed it. The work that archaeologists do is incredible!"

Chris (male, 30-40)

"My boots are messy!"

Joshua (aged 5)

Also in 2010, a Survey Shield provided a quick and informal indicator of how much visitors had enjoyed the Open Days. Visitors were asked to place a small sticker near to the shield boss if they had enjoyed the visit and, of the approximately 200 stickers on the shield, 95% were directly on the boss.

The internet and social media played an important role in communicating the on-going work of the Priory Field excavations to a global audience (see Table 6.4.1). The Dig Blog, "CaerleonLegionaryFortress", was hosted on the Council for British Archaeology's 'Community Archaeology Forum' and consisted of illustrated daily archaeological and social news updates written by students and volunteers as well as staff. As well as regular news updates, "CaerleonLegionaryFortress" also provided background to the project and Roman Caerleon in general, as well as galleries of photographs that the public could download. Although the Dig Blog was most popular during the seasons in 2008 and 2010, receiving over 37,000 hits during the 10 weeks of excavation (and growing from an average of just over 2,000 hits per week in 2008 to more than 6,000 per week in 2010), some 5,000 visits per month were recorded during the one year between the excavations.<sup>6</sup>

New pages describing the Priory Field project were set up on Cardiff University's website prior to the 2010 season. These included a digital reconstruction of the

<sup>5</sup> Cardiff's Community Engagement Team, with the help of students, produced an extensive photographic record of the Open Days and obtained excellent audio and video feedback. Verbal permission was requested from all subjects for the right to use their images and diaries for the promotion of future events on the internet and in publications, while signed written permission forms were acquired to use photographs including children.

<sup>6</sup> Although other options for blog sites were available, it was felt to be important that a major university-based research project should use the CAF site as the CBA is the UK's leading advocate of archaeology and public access to archaeological sites. Unfortunately, the CBA later removed its CAF site without first archiving its contents.

legionary fortress and the newly-discovered suburb of public buildings, found earlier that year during geophysical surveys of the land to the south of the Amphitheatre. These online resources proved to be very popular and the project's webpages were visited over 41,000 times during the four weeks of the excavation alone.<sup>7</sup> The global interest in the new discoveries at Caerleon was demonstrated by the response to an article in the Guardian newspaper that generated over half a million hits on their website during the weekend of its publication.

The project's community engagement and outreach carried on after the end of the Priory Field excavations and continues to this day. Talks have been delivered to dozens of schools, local history societies and other groups; the excavation was featured in several local and national newspapers, as well as on the BBC (tv and radio); numerous articles about the project have been published in popular magazines such as *Current Archaeology*, *The History Magazine* and *Iris*, as well as Cadw's *Heritage in Wales* (Gardner and Guest 2009; Gardner and Guest 2010; Gardner and Guest 2012; Guest

2014), and the National Roman Legion Museum in Caerleon held a temporary exhibition about the work at Priory Field.

The Community Engagement strategy devised for the Priory Field excavations sought to be informative, intellectually stimulating and exciting. The responses to the various engagement events and activities show that people not only found the project interesting, but also that they had enjoyed themselves while learning new things about the archaeological remains at Caerleon and Britain's Roman past. The project has yielded significant dividends in terms of experience and insights into informal learning and community engagement initiatives, as well as developing the archaeological and transferable skills of postgraduate and undergraduate students. The extraordinary visitor numbers and positive feedback reveal how archaeology has the power to engage people of all ages and from all walks of life, provoking and inspiring the public to get involved with archaeological fieldwork and university-led research.

<sup>7</sup> The Caerleon project's webpages were still among the most popular on Cardiff University's website in 2019 when they were finally taken down.

## Appendix 6.5

### Excavation Teams 2007, 2008 and 2010

A total of 138 people worked on the excavations at Caerleon between 2007 and 2010. These included academic archaeologists and commercial field archaeologists, as well as students and volunteers in various guises. For the three seasons, the team camped in Priory Field and used the shower and other facilities in the recently opened Caerleon Pavilion (courtesy of Caerleon Rugby Football Club). Lunches were provided by The White Hart public house and Steve Ash prepared our evening meals in the Pavilion.

#### Evaluation excavations at Caerleon (Priory and Golledges Field) 2007

Excavations on the site of the legionary fortress at Caerleon took place over four weeks between 2 and 28 July 2007. The project team included staff from the National Roman Legion Museum (National Museum of Wales), and students from Cardiff University and UCL (Figure 6.5.1).

The UK experienced the coldest summer in 2007 since 1998 and the wettest summer since 1912. June and July both produced record rainfall in England and Wales (they were among the wettest summer months since records began in 1766), leading to serious flooding in the English Midlands and the Welsh Marches. The River Severn was particularly badly affected and the town of Tewkesbury was cut off for several days in late July. Fortunately, Caerleon escaped the worst of the flooding, but the conditions were particularly challenging for the project team living under canvas and trying to excavate in very wet conditions (the feeling of cold, damp boots is an abiding memory). We would not have coped without the kindness and support of the National Roman Legion Museum, The White Hart, Steve Ash and the rest of the Caerleon community.

#### Excavations at Priory Field, Caerleon 2008

Excavations at Priory Field took place over six weeks between 16 June and 24 July 2008. The project team included staff from the National Roman Legion



Figure 6.5.1. The Caerleon 2007 Excavation Team Photograph



Figure 6.5.2. Members of the Priory Field 2008 Excavation Team Photograph



Figure 6.5.3. Members of the Priory Field 2010 Excavation Team Photograph

Museum, Albion Archaeology, Archaeology South-East and the Glamorgan-Gwent Archaeological Trust, as well as students from Cardiff University, UCL and Durham University. For the first time, the excavation was open to members of the public and several volunteers also worked with us (Figure 6.5.2).

Like 2007, the summer weather in 2008 was disappointing and the team endured numerous days of wind and heavy rain, though we were fortunate that the excavation did not extend into August (which turned out to be one of the wettest since records began).

#### **Excavations at Priory Field (and the Southern *Canabae*), Caerleon 2010**

Excavations at Priory Field took place over four weeks between 9 August and 17 September 2010. The project

team included staff from the National Roman Legion Museum, Albion Archaeology and the Glamorgan-Gwent Archaeological Trust, as well as students from Cardiff University, UCL and Durham University. Numerous volunteers joined the team (many returning from 2008), and the project also welcomed several students taking A-level Archaeology at Colchester Sixth Form College (the qualification was abolished in 2017), as well as a number of applicants to Cardiff University who were offered 'Pre-Uni Taster' sessions for one or two weeks on the excavations (Figure 6.5.3). Despite moving the excavation season to later in the summer, the weather gods made sure we experienced a good dose of wet and windy weather, particularly in August.

## Appendix 6.6

# Archaeometallurgical Residues (T.P. Young)

### *Introduction*

#### *The assemblage*

The assemblage recovered from the excavations was very modest in quantity (with a total weight of 28.7 kg, see Tables 6.6.1 and 6.6.2) but was diverse in character and widespread in distribution (the approximately 2,300 particles were recovered from 130 discrete contexts). There was no direct evidence for any metallurgical activity having been undertaken within the bounds of the excavated area.

The most significant component of the assemblage was formed by material, constituting approximately half of the total assemblage by weight, which derived from the levelling deposits formed before and during construction of the store building (Phases 0 to Iii). The waste from these early periods indicates activities including iron smelting, ironworking (blacksmithing), the casting of zinc-rich copper alloys and the handling of silver.

Definite macroscopic evidence for iron smelting in the construction phases is limited to a single small tapslag block incorporated into a wall of the store building (Phase Ii), suggesting that any major waste from early iron smelting operations was dumped elsewhere. This tapslag fragment showed high levels of calcium, magnesium and uranium (and also a slightly elevated content of phosphorus) consistent with an ore source in the western part of the Forest of Dean.

The macroscopic evidence for iron smithing from the levelling deposits (Phases 0 to Iii) included twelve smithing hearth cakes (SHCs). This assemblage bears close comparison with other contemporary assemblages from urban and military sites. Much of the technical ceramic debris ('fired clay') was probably detritus from the smithing hearths, and in one case inclusions of hammerscale were trapped in the glassy superficial slag.

The evidence for the non-ferrous metalworking was small in quantity but included fragments of copper-alloy melting crucibles, at least one from a form with a perforation in its tall side, and a sherd of an open cupel for silver. These materials are similar in character to examples recorded from sites to the southeast of the *via principalis* in *Insulae* X and XII, suggesting a possible

origin for at least this component of the dumped metallurgical waste.

Less easily identifiable materials comprised those associated with the hearth or furnace wall (including wall fragments and slags derived from the melting of the wall, together providing 16% of the assemblage), materials derived from the incorporation of gravelly material into the hearth (both as individual vitrified stones and gravelly slag, together 5% of the assemblage) and various low-density materials that could be regarded as fuel ash slags (typical pale FAS, a group of grey-purple partially-melted ceramics and fragments of FAS bound into concretions, totalling 24% of the assemblage). The hearth and furnace lining debris, with the associated lining slags are derived from hearth and furnace structures. Since iron smelting tends to contribute only small amounts of furnace lining to residue assemblages, and because the amount of lining and lining slag correlates with the amount of smithing residue in the assemblage, it is believed that most of the recovered lining derives from smithing hearths. The various fuel ash slag-like materials and the gravelly materials probably reflect material becoming incorporated into floor-level hearths from the gravelly subsoil into which they had been cut. Such hearths might have been used for either ferrous or non-ferrous metalworking (or indeed both). The presence of phosphoric iron prills within samples of vitrified hearth lining suggests the working of iron, or of iron artefacts, from other areas.

Later Roman (Phases 2 and 3) archaeometallurgical materials are biased towards the more resistant dense materials, with small, probably residual, fragments of smelting slag (which again show evidence of the smelting of ores from the western Forest of Dean) and of smithing hearth cakes, present in low concentration across many contexts. The deposits of Phase 4 are almost devoid of archaeometallurgical remains.

Phases 5-7 provided approximately one third of the overall assemblage. An example of a dense iron slag from a Phase 6 context that was examined in detail proved to be of a slag type associated with larger furnaces of the Roman period. It is possible the part of the assemblage from these phases may contain some contemporary material from iron smelting and particularly smithing, but it is likely that this material is dominantly residual and Roman.

Within the overall assemblage, material identified as tapped bloomery iron smelting slag comprised 2,455 g (9% of the residue assemblage by weight), of which 1,855 g was from Phase 5 contexts or later. Smithing hearth cakes provided a total of 7,931 g (28% of the assemblage by weight). Iron slags of uncertain origin totalled 536.7 g (19% of the assemblage by weight). Non-ferrous metalworking was evidenced by nine certain and one possible crucible sherds, together with a few small metal droplets or spills, totalling 116 g. The other 63% of the assemblage was contributed by materials for which the originating process was less certain, although most were from either ironworking or iron smelting.

In addition to the metalworking evidence, the archived pyrotechnological residues also includes a series of green-glazed rocks of various sorts, which are associated with a characteristic adhering chalky material. These pieces are interpreted as the result of non-calcareous rocks becoming caught up in the lime-burning for mortar production and are not considered further here.

#### *Distribution of the assemblage*

Archaeometallurgical residues were recovered, typically in small quantities, from 130 contexts (Table 6.6.1), from all phases of activity on the site, but the largest quantities were present in deposits of Phases 0 and 1. The archaeometallurgical residues are likely to have mainly, or entirely, been produced outside the investigated area.

Approximately 47% (by weight) of the assemblage derived from the deliberately dumped deposits of Phases 0ii and 1ii involved in levelling and construction for the store. In particular, the excavated sections of the charcoal-rich layers of Phase 0ii (G3090) and (G3122) produced 4.9 kg of archaeometallurgical residues, mostly from iron-working, but also including a small crucible fragment. The deposits of Phases 0i and 0ii also produced four of the assemblage's twelve smithing hearth cakes (SHCs) from stratified Roman contexts. The other eight stratified SHCs derive from deposits of Phase 1ii. Although it is most likely that these, as with the material from Phase 0ii, derive from the dumping of material produced elsewhere, it is possible that some smithing was undertaken on site as part of building construction. The largest concentration of residues from Phase 1ii is 4.6 kg from deposits below the entranceway (Room 4) cobbles (G2122). As with the earlier make-up, this material was predominantly from smithing, but also contained sherds of crucibles from the melting of brass.

The presence of small sherds of crucibles in Phases 2 and 3 deposits may suggest that some non-ferrous metalworking had been undertaken within the store,

but there is insufficient evidence to confirm this. Some ironworking residues were also recovered from these phases, but these tend to be from the denser categories of slag and are likely to be brought in from elsewhere and/or residual. Small fragments of tapped iron smelting slag were found in several contexts dated to Phase 3, which is in marked contrast to the deposits of earlier phases which in total only produced two fragments of tapped slag. Deposits of Phase 4 are almost devoid of archaeometallurgical residues, but Phases 5-7 produced approximately 33% of the total assemblage. These late phases contained proportionately less of the various friable ceramic-related slags and more of the dense iron-rich slags. Approximately 20% of the assemblage from Phases 5-7 was tapped iron smelting slag.

The later deposits produced two complete SHCs (with Phases 5-7 providing 40% by weight of the SHC material from the site). Some of this is likely to be residual, but the two intact SHCs showed slightly different features to those from the earlier phases, so it is possible they are indicative of medieval or post-medieval activity.

#### *Methods of Investigation*

An initial assessment report catalogued the assemblage (Young 2013a) and a programme of scientific laboratory analysis (Young 2017c) was developed on the basis of this assessment to further the research aims of the project by improving the description of, and therefore the interpretation of, examples of the various classes of material identified in the assessment. This account supersedes that of Young (2017c) as the interpretation has been able to take into account several important comparative assemblages investigated between 2017 and 2021.

The less diagnostic technical ceramics were triaged using non-destructive portable X-ray fluorescence (pXRF) on 69 selected items with a wide variety of compositions, including all crucible sherds. Bulk elemental analyses (major elements by wavelength-dispersive X-ray fluorescence spectrometry, XRF, and trace elements by induction-coupled plasma mass spectrometry, ICP-MS) were made from four examples of bloomery iron smelting slag, with one of these samples also being examined by analytical scanning electron microscope (aSEM) to determine its microstructure and mineralogy. Iron smithing residues were examined through elemental analysis of a small SHC from a Phase 0ii deposit. Bulk elemental analyses were also made of four pieces of the ceramics (selected after the pXRF triage), three of which were also examined by aSEM. Fuller details of analytical procedures may be found in the archive reports.

## Iron Smelting Residues

### *General description*

Iron smelting slags were only present sporadically in deposits of Phases 0-3 but comprised approximately 20% of the assemblages from Phases 5-7. The preferential distribution of these materials in the later phases may be in part be due to their chemically stable composition and the physical durability of their dense microstructure, with its low degree of vesicularity, leading to a greater potential for their survival as residual materials compared with some of the other classes of residue. Alternatively, however, some of the material present in the later contexts may be waste from the medieval iron smelting known to have been undertaken in Caerleon (see Nicholls 1866, 72-73), although there was no direct evidence of the age of these items.

The identified iron smelting slags were almost all tapped slags, characterised by well-developed flow lobes and a superficial oxidation to a purplish-maroon colour. These were only preserved as very small fragments of the original cakes and thus gave no information on the amount of slag tapped or the geometry of the tapping pits. Three examples of tapslags were analysed (as samples CPF1 to 3). A single example of a dense smelting slag (CPF4; from (C402), Phase 6), without visible flow-lobing, was also analysed in detail and was observed to contain significant metallic iron and was largely formed out of incompletely reacted ore particles. This texture of slag is common in Roman smelting assemblages of the area, often in association with thick, massive slag masses bearing moulds of pieces of roundwood as well as conventional tapslag (e.g., at Alvington: Young 2009; Cannop: Young 2011a; Young 2013b, Caergwanaf: author's unpublished data, Cardiff Castle: Young and Kearns 2011; Young 2021a, Kingswood: Young 2017b, Lydney: Young 2019, Peterstow: Young 2012a, Weston-under-Penyard: Young 2015b, Worcester: McDonnell and Swiss 2004). This characteristic assemblage has been informally associated with a 'Cardiff-type' of furnace, the details of which are currently unknown as no well-preserved example has been discovered. The only possible modern excavation of this type of furnace may be that at Woolaston (Fulford and Allen 1992), but the description lacks firm indication of the characteristic slag facies. The precise technological variant of the bloomery process that this type represents is not currently known, but the characteristic slag assemblage appears a reliable indicator of a Roman date (the listed examples appear to range from the first to third centuries), and so the piece may be regarded as residual.

It is possible that some of the examples of ceramic interpreted as smithing hearth lining might rather be smelting furnace ceramic as the two materials are not visually distinguishable when in small pieces. The glass phase of two of the pieces (CPF6 and CPF8) investigated in detail contained prills of metallic iron and these, in particular, might potentially be interpretable as residues from smelting. The preferred interpretation of these pieces is, however, as smithing residues and are fully discussed in the corresponding section below.

### *Microstructural and mineralogical details of the furnace bottom slag (sample CPF4)*

The microstructure of this dense slag is an aggregate of wustite-dominated grains of up to 15mm across, bound together by slag (Figures 6.6.1 and 6.6.2). The grains show an internal structure, picked out in part by variation in the distribution of their vesicularity. They also show cracks that are wider internally and narrow towards the margin of the grains. The outer parts of the wustite-dominated particles commonly contain iron inclusions (Figure 6.6.2a). The wustite-dominated grains are surrounded by thin zones of rounded bodies of secondary iron minerals (suggestive of weathered iron) and rounded cavities (probably after similar iron particles). These features suggest the grains are part-reacted ore, with dehydration cracking and haloes

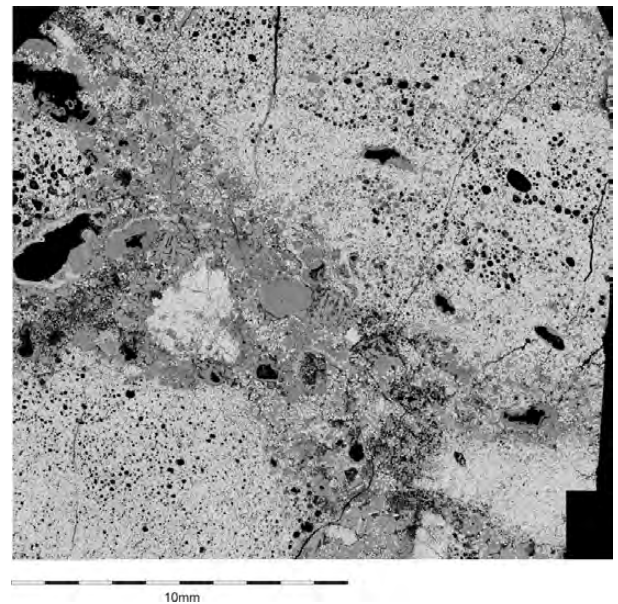


Figure 6.6.1. Backscattered electron image collage for furnace bottom iron smelting slag sample CPF4. Large grains of partially reacted ore, now formed mainly of wustite (pale) with abundant porosity (black). The zones between the relict grains comprise slag dominated by olivine with abundant iron (now altered to secondary materials with an almost identical mid-grey tone to the olivine).

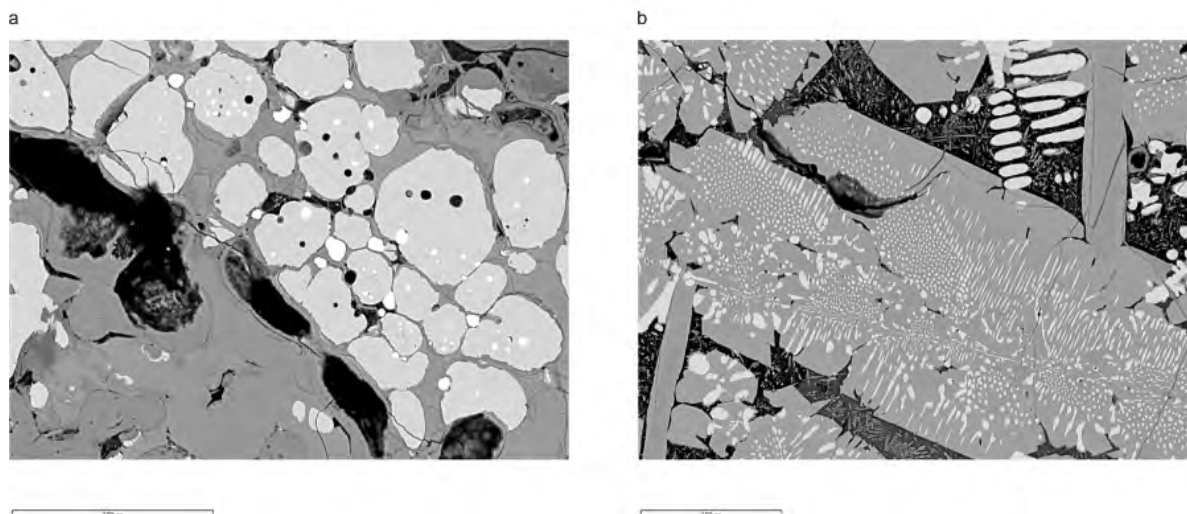


Figure 6.6.2. Backscattered electron images of selected areas of furnace bottom iron smelting slag CPF4. a) CPF4/E14, backscattered electron image. Margin of an ore lump. Upper right, wustite (pale grey) blebs, set in matrix mostly of fayalite (mid grey). Both matrix and wustite contain prills of metallic iron (white). Lower left part shows area richer in fayalite and in rounded replaced areas of former iron, but with similar grey tones. b) CPF4/E15, backscattered electron image. Slag matrix. Some primary wustite dendrites (pale grey, upper right), followed by large olivine crystals (mid grey), mostly containing a cotectic wustite (pale grey). Interstitial areas are very fine-grained weathered, but contain an elongate phase, possibly iscorite (mid grey), in altered glass (dark).

of metallic iron droplets, reflecting interruption of progressive reduction of the ore grains.

The passage from wustite to iron-rich halo to surrounding slag is rather gradational. There is no indication of the type of particle rims observed in similar slags from Kingswood (Young 2017b, plates A6 and A7) and Cannop (Young 2012b, Plate 2).

The slag between the partly-reduced ore grains is heterogeneous, with some areas of primary stout wustite dendrites, followed by olivine, but others with a primary olivine-wustite cotectic (Figure 6.6.2b). The olivine in this sample is almost entirely non-phosphoran, with low levels of calcium (mostly less than 1%) and manganese (0.3%-0.6%) substitution, spanning a range of Fa90Fo10 to Fa100.

#### *Elemental composition*

The bulk elemental composition of the smelting slags is provided in Tables 6.6.3 and 6.6.4. The major element composition of the residues may conveniently be considered within the system  $\text{SiO}_2\text{-Al}_2\text{O}_3\text{-FeO}$  (Figure 6.6.3; after Schairer and Yagi 1952, fig 6) because these three oxides comprise a very high proportion of the total slag composition except for sample CPF1. On this diagram, the bulk analyses of the three tapped slags (CPF1-3), the bulk analysis of the furnace bottom slag (CPF4) and the microanalysis of small areas within CPF4, all plot coherently and tightly. The bulk compositions of two of the samples of tapped smelting slags plot within

the fayalite field, the third plots, together with the massive slag, within the wustite field. The two tapped samples that plot in the fayalite field, CPF1 and CPF3, have elevated levels of CaO and MgO. These data are insufficient to construct a mass balance model for the reaction, but it may be noted that the composition of dense slag CPF4 lies very close to a mixing line between an ore composition close to the FeO pole and the raw clay CPF10, thus this slag may have evolved little from 'smelting mixture' (see Thomas and Young 1999a; Thomas and Young 1999b).

Sample CPF1 also shows an elevated phosphorus content ( $\text{P}_2\text{O}_5 = 0.73\text{wt}\%$ ). This is markedly higher than for most smelting slags from the Bristol Channel Orefield. Of the analyses provided by Thomas (2000), only a single example of tapped slag from Usk (sample U9) had a similar value, although one of Thomas' samples from Trellech (TRE9) was only slightly lower. This observation is particularly significant in relation to the presence of phosphoric iron prills trapped within the glass phase in ceramic samples CPF6 and CPF8 (see discussion below). It is possible however that the elevated content of calcium in CPF1 may have facilitated capture of phosphorus from the fuel ash, rather than indicating smelting of an ore with elevated phosphorus content.

Most trace elements were present in very low concentrations. The rare earth elements (REE) totalled just 73 to 91 ppm. The upper crust-normalised REE profile (Figure 6.6.4; normalisation factors after Taylor

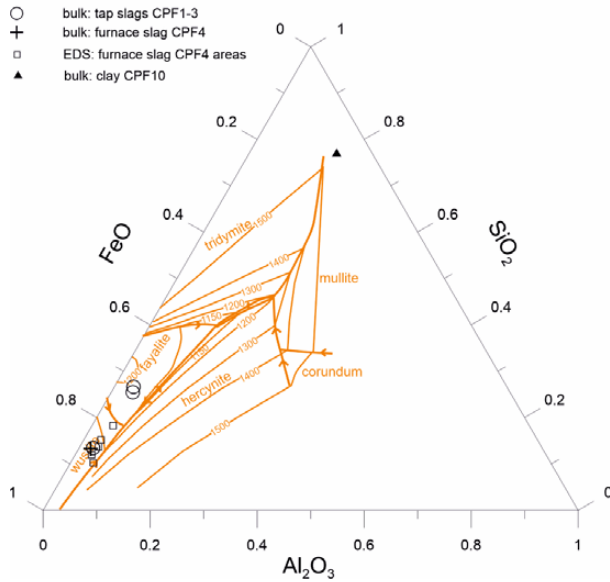


Figure 6.6.3. The bulk analyses by XRF and small area microanalyses by EDS of residues associated with iron smelting plotted within the ternary system  $\text{SiO}_2\text{-Al}_2\text{O}_3\text{-FeO}$  (fields after Schairer and Yagi 1952, fig 6).

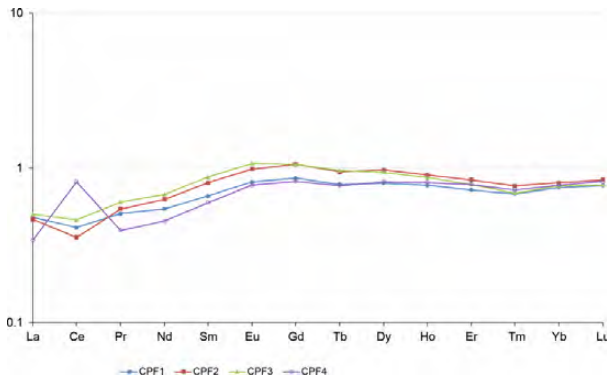


Figure 6.6.4. Upper crust-normalised rare earth element (REE) profiles (normalisation after Taylor and McLennan 1981) for analyses of samples of residues from iron smelting.

and McLennan 1981) showed profiles with a gentle middle REE ‘hump’ superimposed on a general relative depletion towards the light REE. Massive slag CPF4 showed the greatest light REE depletion, but also a strong positive cerium anomaly. Such an anomaly is unusual but has been observed in a low proportion of ores from the Forest of Dean. Of the tapped slags, samples CPF2 and CPF3 showed a broadly similar REE profile, with CPF1 having a lesser central ‘hump’.

*Interpretation*

Although the four bulk elemental analyses of samples of smelting slags appear to provide a reasonably coherent suite of residues on the basis of their major element chemistry and indicate the smelting of iron ores from

the Bristol Channel Orefield (Young and Thomas 1998, 1999; Young 2000), they require closer inspection to determine the origin of the ores being smelted within the orefield.

Comparison is made on Figure 6.6.5 of the analyses of iron smelting slags from Priory Field with those of iron smelting slags from assemblages from various distinct areas in the Bristol Channel Orefield. Amongst these are smelting slags from the Caerleon 1982 southern defences excavations (Young and Thomas 1997; Young and Thomas 2010), two assemblages from the smelting of ores from the east side of the Forest of Dean (Frocester Court and *Ariconium*: Thomas 2000; Thomas and Young 1999a; Thomas and Young 1999b), two from the smelting of ores from the west side of the Forest of Dean (Trellech and St Briavels; Thomas 2000), two from smelting sites in the Lydney area (Young 2019; Young 2021b), the assemblage from Cardiff (ores from Lesser Garth) and of smelting slags from Caergwanaf (smelting ores from the Miskin area: Thomas 2000). Of the assemblages used for comparative purposes, the material from Trellech, St. Briavels and Lydney B phase 1 are medieval in age, the others Roman. The distribution of smelting sites of Roman age, together with the locations discussed in the text, across the eastern part of the Bristol Channel Orefield are shown in Figure 6.6.6.

It is noteworthy that of the Priory Field samples, the analysis of sample CPF3 most closely corresponds to the two examples from the southwestern defences (one also of uncertain age, the other present dating to the post-second century reconstruction of the wall).

The role of calcium and magnesium is illustrated by Figures 6.6.5a and 6.6.5b (the first shows the raw data and the second the data normalised to exclude the iron, as FeO, from the analyses). The absolute concentration of specific elements is affected by rather variable iron content even of slags within a single smelt, so for Figures 6.6.5c and 6.6.5d, concentrations have been normalised to exclude iron oxide. These data show the calcium and magnesium in the slags are probably largely influenced by three different materials: a magnesium-bearing material in the Roman smelting slags from Lydney North (from the furnace clay?), a combination of magnesium and calcium suggestive of a strong influence from dolomite ( $\text{CaMgCO}_3$ ) in slags from Caergwanaf, Trellech and probably the medieval slags from Lydney north, and finally a more calcic influence for slags from the east side of the Forest of Dean (Frocester and *Ariconium*) as well on slags from St Briavels (which although on the west side of the Forest of Dean, as a royal centre may have drawn its ore from wider area). The Caerleon analyses are widely scattered across these diagrams, with one example on the dolomite trend (the early piece, CPF1), two lying

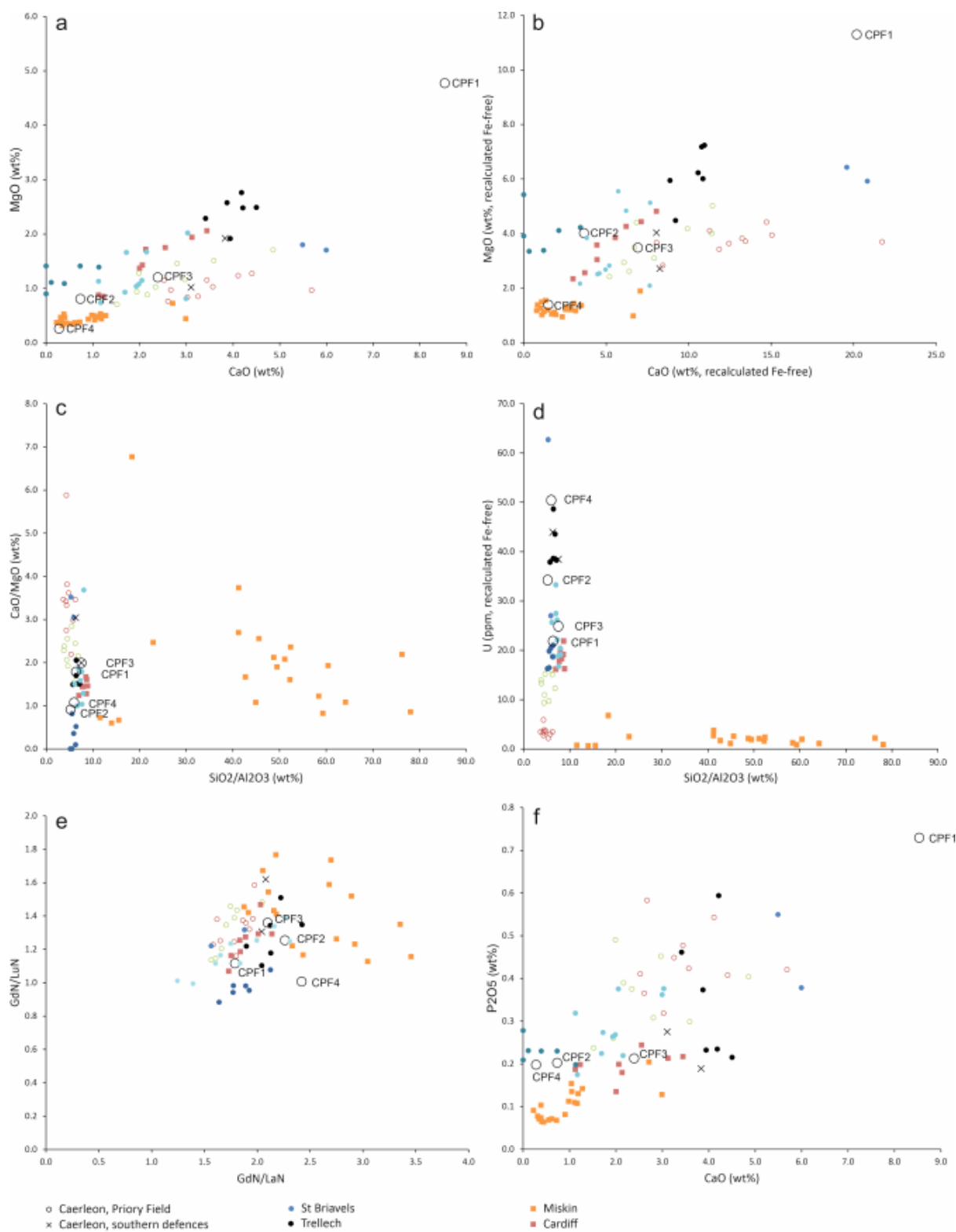


Figure 6.6.5. Binary plots of elemental concentrations and ratios for smelting slags CPF1-4, compared with the approximate field of composition of analysed slags from comparative sites. Sites in Caerleon: Caerleon, Priory Field (this study); Caerleon, southern defences (Young and Thomas 1997). Sites smelting ores from the east crop of the Forest of Dean: *Ariconium*, (Thomas 2000) ; Frocester Court Roman villa (Thomas 2000). Sites smelting ores from the west crop of the Forest of Dean: St Briavels, surface finds of medieval slag adjacent to the castle (Thomas 2000); Trellech, medieval slags from excavations near the church (Thomas 2000), Sites probably smelting ores from the southern Forest of Dean: Lydney B Phase 1 (Young 2019); Lydney B Phase 2 (Young 2021b). Sites probably smelting ores from Glamorgan: Cardiff Castle, slags from the excavations by Webster (Thomas 2000) and by GGAT (Young 2021a); Miskin, School Road and Caergwanaf (Thomas 2000 and author’s unpublished data)

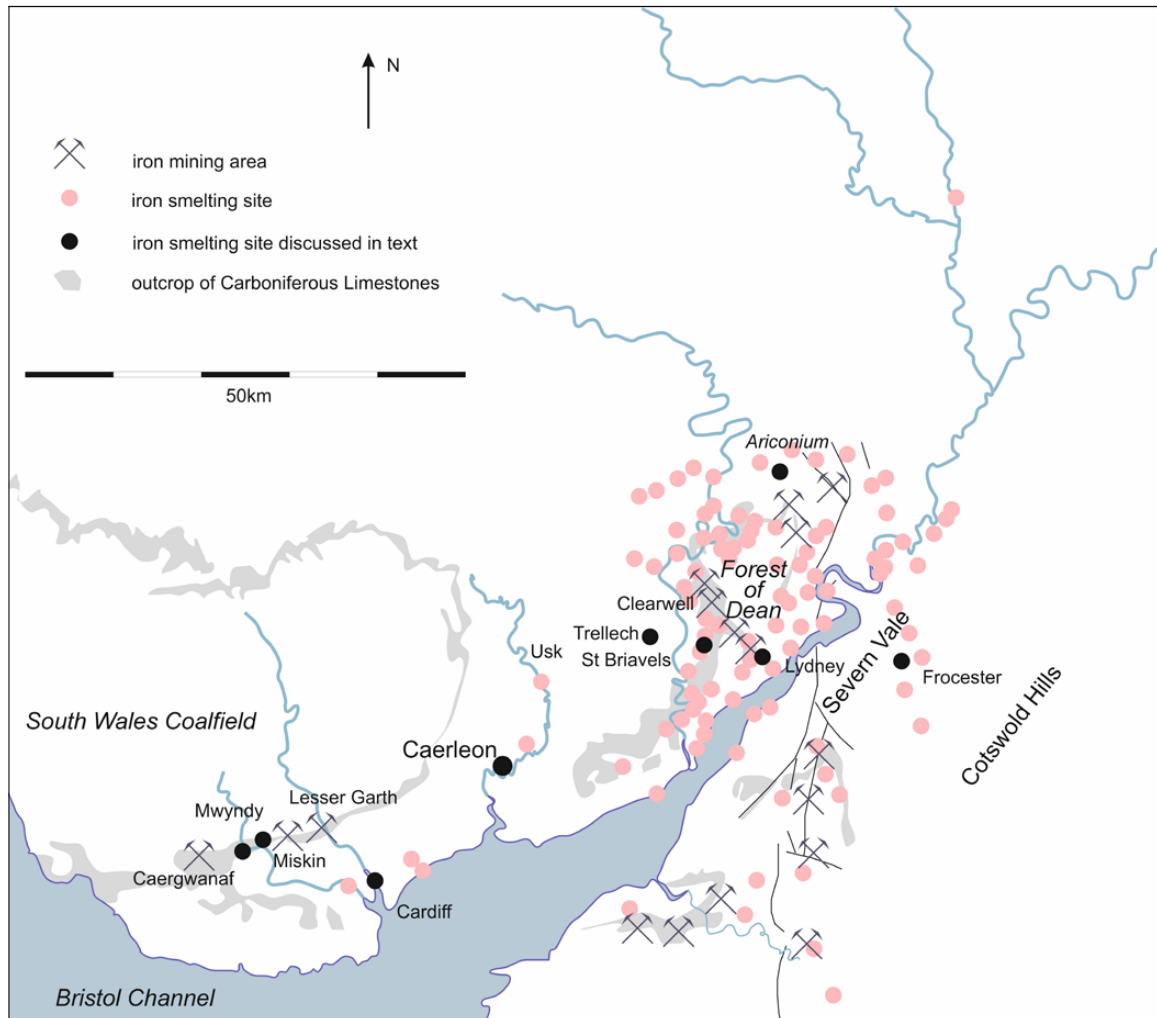


Figure 6.6.6. Summary map of main iron ore mining locations and known smelting sites within the eastern part of the Bristol Channel orefield, showing principal locations mentioned in the text. After Young 2014d, with updates.

off that trend and one (CPF4) close to the convergence of the various trends. Thus, CPF1 and possibly CPF4 lie close to the dolomite trend, CPF2 is Mg-enriched and CPF3 is more calcic.

When the CaO/MgO ratio is plotted against the  $\text{SiO}_2/\text{Al}_2\text{O}_3$  ratio (Figure 6.6.5c), the Priors Field samples show a range of both of these ratios which overlap little with those of slags formed by smelting eastern Forest of Dean ores, nor do they overlap with the slags smelted from ores from the Glamorgan part of the orefield. The controls on the value of CaO/MgO will be the degree of dolomitisation of the host rock (the host rock is typically the Gully Oolite Formation, formerly known as the Crease Limestone in the Forest of Dean, which is variably dolomitised, but mineralisation locally extends into geological units both below and above this formation) and by the presence of calcite and/or dolomite as gangue minerals within the ores themselves.

When U is plotted against  $\text{SiO}_2/\text{Al}_2\text{O}_3$  (Figure 6.6.5d) these relationships are even more marked, with the high uranium contents of the Caerleon materials (both Priors Field and southern defences) overlapping with that of slags from Trellech (CPF2 and 4) and Lydney (CPF1), with CPF3 intermediate between the two. The southern defences examples are towards the upper end of the range of U content (between the analyses of CPF2 and CPF4).

A plot of  $\text{Gd}_N/\text{Lu}_N$  v  $\text{Gd}_N/\text{La}_N$  (Figure 6.6.5e) provides a simple descriptor of the shape of the upper-crust normalised REE profiles (see above). It shows that the Priors Field samples lie at the centre of all the Bristol Channel orefield analyses, but again overlapping most closely with analyses of samples from Trellech.

Thus, it would appear most likely that the ores smelted came from the same general area of those smelted at Trellech and Lydney. These localities lie closest to, but

not actually upon, the western ore crop of the Forest Dean. Analyses of ore samples quoted by Thomas (2000) show that a close comparison of the high uranium content may be made with ore samples from Clearwell Caves and the Scowles quarry, both near Clearwell on the west crop.

Figure 6.6.5f shows that although the P content of sample CPF1 is high, it lies on a general trend of increasing P with CAO content, so this does not on its own indicate the use of a different type of ore. This may reflect either an enhanced P content associated with the dolomitic gangue, or the potential of the more calcic slags to absorb more P from the fuel ash.

### Iron Smithing Residues

#### *General description*

The iron working (smithing) residues comprise four categories of material: firstly, dense slags, mostly in the form of approximately plano-convex smithing hearth cakes (SHCs), secondly, fragments of hearth lining and associated slags, thirdly at least part of the wide range of low density slags (including pale fuel ash slags, glazed and/or bloated pebbles and unusual low-density slags with a purplish-grey or maroon-grey surface and a resinous lustre that resembles that of melted plastic) and, finally, some low-density slagged ceramic sheets, that may be remains of metallurgical coatings. The low-density materials as a whole were regarded as of indeterminate origin by visual inspection, but their analysis suggests most may derive from ironworking.

SHCs (intact and fragmented) comprised 27% of the total assemblage (7.9 kg: Phase 0 = 790 g; Phase 1 = 3958 g; Phase 3 = 126 g; Phase 5 = 1318 g; Phase 6 = 642 g; Phase 7 = 472 g; unphased = 625 g), with at least some of the 5367 g of indeterminate dense iron slag also likely to be unidentifiable fragments of SHCs.

There were fourteen intact SHCs. Twelve examples were recovered from the make-up and construction deposits (one from Phase 0i, three from Phase 0ii and eight from Phase 1ii). Two small examples (202 g and 270 g), both with prilly textures, came from contexts belonging to Phase 7. These two may potentially be of post-Roman (medieval or post-medieval) origin. The SHCs from the Phase 0 and Phase 1 contexts range from 146 g to 600 g, with a mean weight of 295 g.

The distribution of hearth/furnace lining and associated lining slag parallels that of the SHCs (Table 6.6.2), and although some smelting furnace ceramic is probably present, most of this material is likely to be from smithing hearths. This material was dominated by examples in which oxidised-fired hearth/furnace ceramic passed forward into dark glass, bearing

abundant unmelted quartz grains, frequently with a thin intervening layer of reduced fired ceramic.

Of the lining fragments included within the pXRF triage, one fragment from (C3095) Phase 1ii, showed strong contamination by copper, zinc, tin and lead, but another seven samples of hearth ceramic showed no such contamination.

The third category of smithing residue, the low-density slags, is divided between several categories on Table 6.6.1: FAS (with a separate category for FAS embedded in concretion), the purplish grey resinous slags, isolated vitrified stones and slags in which stones are bound by a slag phase (gravelly slags). These residues all have a much lower iron content than the dense slags described above. It is possible that they represent residues from metalworking processes (or simply locations with the hearth) that involved little metal loss to the hearth. Their morphology suggests that many of these materials are derived from the alteration of the subsoil into which the hearths were cut. Triage of the low-density slag materials by analysis using pXRF suggests that the majority (24 out of 28 pieces) of these materials are indeed from ironworking. Just one piece provided an analysis indicative of contamination by non-ferrous metals and three showed no clear evidence for metal contamination at all.

Four vitrified stones showed no contamination at all, three showed elevated iron, one showed slight contamination with lead and one a slightly elevated content of zinc. An abundance of lower-density residues and of vitrified/burnt stones is commonly to be associated with the use of rather simple floor level metallurgical hearths, particularly where those features have been cut into a loose or unconsolidated gravelly substrate. This allows material to enter the hearth from the cut sides and to become altered by heat or incorporated within the metallurgical slags.

Of the material in this group examined in detail, one piece (CPF9; from C3112, Phase 0ii) was demonstrably a fragment of partially-melted ceramic from a smithing hearth because the glass layer contained fragments of hammerscale (Figures 6.6.7 and 6.6.8). In two other similar samples (CPF6 and CPF8, both from contexts of Phase 0ii), in contrast, small spherical metallic prills of phosphoric iron ranging up to approximately 250 µm in diameter were observed (Figures 6.6.9 and 6.6.10). Assigning such material with certainty to either iron smelting or smithing is difficult. At Priory Field, however, there is no evidence for the smelting of phosphoric iron ores (notwithstanding the slightly elevated phosphorus content of smelting slag sample CPF1, as discussed above). These droplets are more likely to reflect metal lost during the smithing of a

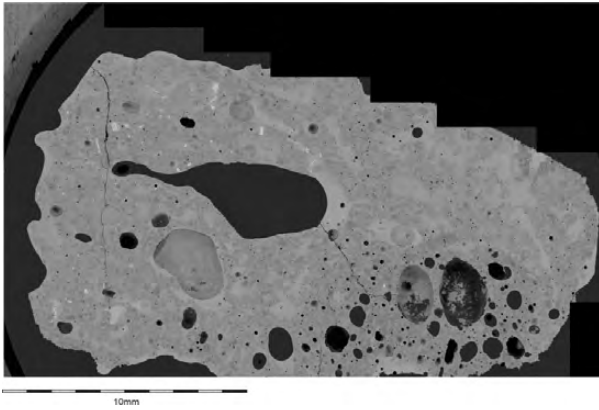


Figure 6.6.7. Backscattered electron image collage for smithing hearth ceramic sample CPF9. The lower right part of the specimen (as shown, original orientation uncertain) contains a block of highly bloated furnace ceramic. Towards the top and left the sample is formed by some relict ceramic in a matrix of glass (pale grey), bearing hammerscale relicts and zones of new-formed magnetite (white).

high-P iron from outside the area. Given the likely low melting point of the metal present in the droplets, the iron may have been lost from the workpiece by liquation. Iron containing appreciable phosphorus was in wide circulation in Roman Britain and would have been the usual material produced in areas such as the East Midlands and The Weald.

The collection also included examples of thin sheets of residue of various densities. These sheets included several that were included within the pXRF triage. A fragment of partially melted ceramic from (C3090) with a surface showing contact with a right-angled substrate showed iron-enriched surfaces. Ceramics of this morphology may either be partially melted ceramic that has become attached to a tool, perhaps when the smith has cleaned the hearth, or they may be deliberate clay coatings applied to the surface of an

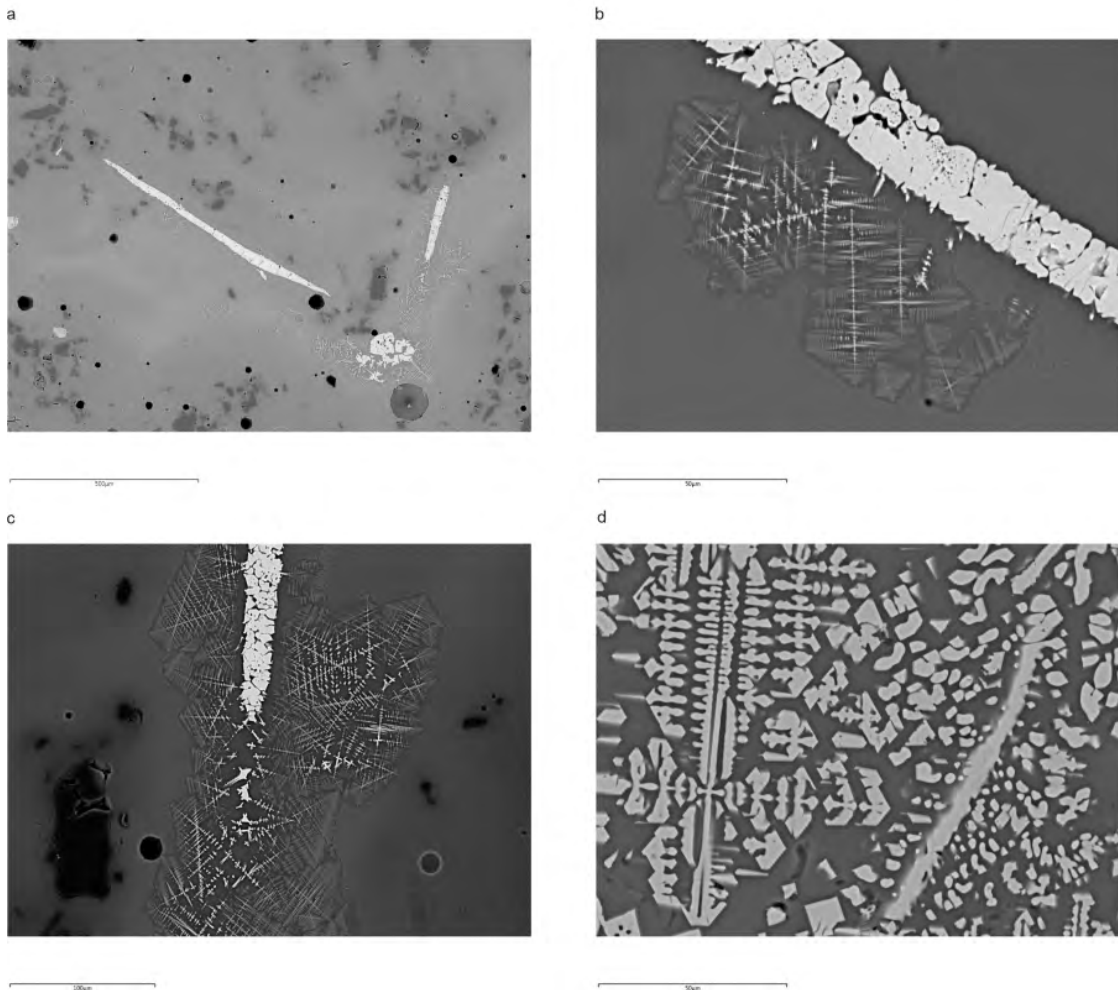


Figure 6.6.8. Backscattered electron images of selected areas of smithing hearth ceramic CPF9. a. CPF9/ EI762, backscattered electron image. Fragments of flake hammerscale (bright) in a matrix of glass, with some relict quartz (darker grey). Around the hammerscale and towards the lower right, iron oxides released by dissolution of the scale have reprecipitated as new-formed magnetite during cooling of slag. b. CPF9/ EI763, backscattered electron image. Detail of scale and new-formed magnetite in glass. c. CPF9/ EI14, backscattered electron image. Detail of scale and new-formed magnetite in glass. d. CPF9/ EI769, backscattered electron image. Coarse growth of dendritic magnetite in glass. The linear zone just right of centre may be a relict of a dissolving fragment of scale.

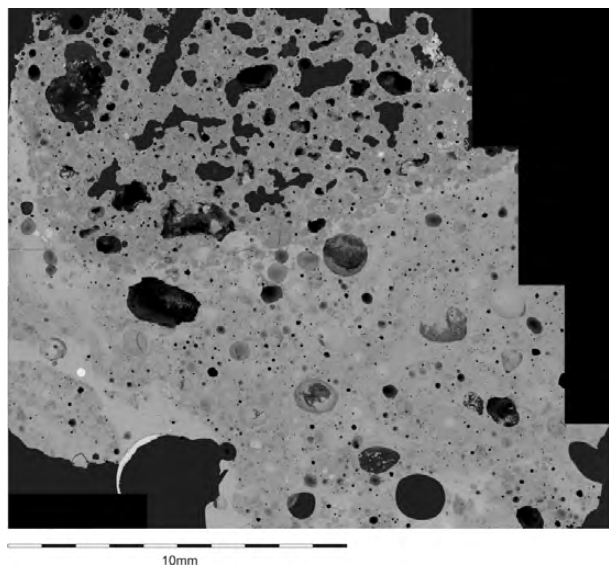


Figure 6.6.9. Backscattered electron image collage for probable iron smelting slag ceramic sample CPF8. The upper part of the specimen (as shown, original orientation uncertain) contains a block of highly bloated furnace ceramic. The lower part of the sample is formed by some relict ceramic in a matrix of glass (pale grey), bearing iron prills (white).

iron workpiece, perhaps to control carbon diffusion (e.g., examples from Hen Gastell and Thornbury: Young 2016c and 2015a respectively). The same context also produced a small fragment of a highly bloated ceramic with surfaces and an internal texture resembling those seen on fragments of brazing shroud. A second piece of similar brazing shroud-like ceramic from (C3058) showed evidence for slight lead contamination of the external glaze. Neither of these pieces can be regarded

as clear evidence for brazing (such bloated ceramic may arise in other ways too) and the lead contamination may simply have been from a dirty hearth. These small fragments provide slight, though unprovable, suggestions as to some more elaborate processes that may have been practised by the smiths.

#### *Microstructural and mineralogical details*

Low-density slag CPF6 was a partially-melted ceramic fragment. The surrounding glass phase contained prills of phosphoric iron. The largest prill had a bulk composition of 4wt%P by EDS. Most point analyses within it suggested ferrite with approximately 2.2%P, but there were zones of bulk composition of up to 10.4wt%P, suggesting perhaps the inclusion amongst the ferrite of small areas of eutectic at 10.4wt%P (17 molar% P). The occurrence of the eutectic at this composition would corroborate the very low carbon content. Smaller prills had phosphorus contents between 0.1% and 1.5%.

Low-density slag CPF8 was a partially-melted ceramic fragment, in which the glass phase bore small prills of iron (Figures 6.6.9 and 6.6.10). The glass bearing the iron droplets was very rich in magnesium (approximately 4.5% MgO) and calcium (14% CaO), despite having little potassium (1.5% K<sub>2</sub>O). The iron content of the glass is approximately the same (11-12% FeO) as the glass containing the iron droplets in CPF6. The reason for this enrichment in lime is unknown but is unlikely to be associated with the fuel ash. A particularly lime-rich inclusion in the hearth/furnace wall might be the cause, but an alternative interpretation would be that if

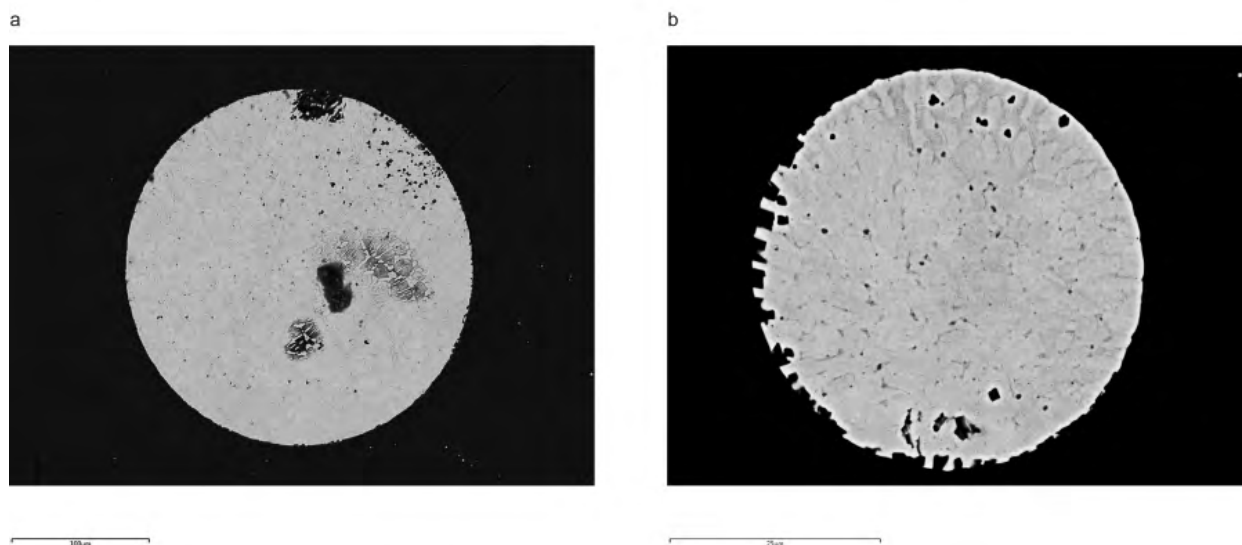


Figure 6.6.10. Backscattered electron images of selected prills of iron within probable iron smelting furnace ceramic CPF8. a. CPF8/EI754, backscattered electron image. Note how corrosion of the ferrite has reduced its backscatter coefficient, so the normal greyscale relationship of ferrite and cementite is reversed in the small area to the upper right of the prill. b. CPF8/EI757, backscattered electron image. Shrinkage of the melt during solidification has left the ferrite protruding above the prill surface on the left side.

the droplets are an indicator of iron smelting, then the ore might have been rich in magnesium and calcium.

The larger iron prills (Figure 6.6.10) showed complex textures with cementite as coarse plates within pearlite grains and as substantial blocky crystals on the former grain boundaries (pro-eutectoid cementite). Phosphorus contents of these blebs was between 0.5% and 1%, with values of up to 1.4wt% recorded for smaller blebs. Precise interpretation of the observations is difficult, but the carbon content was probably around 1.5% or more, but with a phosphorus content of 0.5% and 1%, the carbon equivalent ( $CE\% = \text{carbon}\% + 1/3\text{silicon}\% + 1/3\text{phosphorus}\%$ ) is as much as 2%, making the droplet (if the observed microstructure and composition is representative) borderline steel/cast iron.

Low-density slag CPF9 was a partially-melted ceramic fragment. The source of the iron in sample CPF9 was inclusions of flake hammer scale, which showed dissolution into the siliceous glass (Figures 6.6.7 and 6.6.8). This confirms the origin of this piece as smithing.

#### *Elemental composition*

Consideration of the elemental composition of smithing residues may start with the observation that the residues will comprise a mixture of material derived from the hearth structure (i.e., ceramic), material derived from the fuel ash and material derived from the workpiece.

In this case, the unaltered clay lining from one hearth is represented by sample CPF10. This shows MgO of 2.33%,  $K_2O$  of 3.52%,  $SiO_2$  of 69.40% and  $Al_2O_3$  of 6.72%, with FeO at just 6.05% and CaO of 0.18% (Tables 6.6.5 and 6.6.6).

Several other samples (CPF6, CPF7 and CPF9) show evidence for an increased iron content (in that order), but otherwise show analyses that are rather similar to that of CPF10. These four samples show rather differing values for  $SiO_2/Al_2O_3$ , perhaps reflecting a variable sand content in the original ceramic, but also perhaps the variable effects of the partial melting all these samples have undergone. These samples also show a rather variable value of MgO/CaO, ranging from 12.7 for the unaltered clay CPF10, to values of 1.9, 5.2 and 3.9 for samples CPF6, CPF7 and CPF9 respectively. This is interpreted as showing the influence of calcium-rich fuel ash on the composition of the partially melted ceramic. The fuel ash is thus influencing the composition and is probably acting as a flux for the melting process.

Sample CPF8, in contrast, shows an increase in both FeO and CaO (to 15.3% and 2.15% respectively) indicating a substantially increased influence of both metal from the workpiece and of fuel ash. The value of MgO/CaO has dropped to just 0.8 for this sample.

The analysis of sample CPF5 (a small charcoal-fuelled SHC, irregular in shape, with well-developed flow-lobes forming the lower part of the cake, a reddened top, measuring 80mm x 80mm x 45mm and weighing 178 g, from (C3114) Phase 0ii, shows an even lower value of MgO/CaO (0.4), with an elevated iron content (FeO of 63.6%).

The bulk chemical composition of the smithing residues (as determined by XRF) and of areas within them (determined by EDS), plot very approximately in a linear array on the system  $SiO_2-Al_2O_3-FeO$  (Figure 6.6.11; after Schairer and Yagi 1952, fig 6), extending back from the composition of the hearth lining towards the iron oxide pole. This reflects that in this system (which excludes those elements present in the fuel ash) the residues are close to a simple binary mixture of ceramic and the iron lost into the hearth.

In detail, however, the EDS analysis of small areas within the residues plot in a more complex way, reflecting the evolution of a partial melt from the wall. The partially-melted ceramic containing the flake hammer scale fragments in CPF9 is rather more aluminous than that containing the iron prills in samples CPF6 and CPF8. Many of the microanalyses of areas of glass in CPF9 plot close to the silica-mullite eutectic, with those of CPF8 rather similar. The analysed areas of melt in CPF6 plot much closer to the mixing line between the composition of CPF10 and iron. This may suggest that the analysed areas of CPF9 derive from partial melting of a ceramic close to the composition of that of CPF10, but with those in CPF6 representing a more simple bulk dilution of the ceramic by iron, possibly as a result of melting at a higher temperature.

The trace element contents of the suite of ceramic samples (CPF6-CPF9) are similar to those of the unaltered clay (CPF10). This is illustrated for the REE in Figure 6.6.12. The upper-crust normalised REE profile for sample CPF10 shows a very gentle upward inclination from the light to heavy REE. The other samples in this group, including the sample of an SHC, CPF5, show an almost parallel profile, but diluted (CPF5 at 25%, CPF6 79%, CPF8 88% and CPF9 87%). The standard deviation for each is low (2%, 5%, 8%, 4% respectively). That for CPF8 is the highest, reflecting a very slightly elevated concentration of the middle REE. A humped

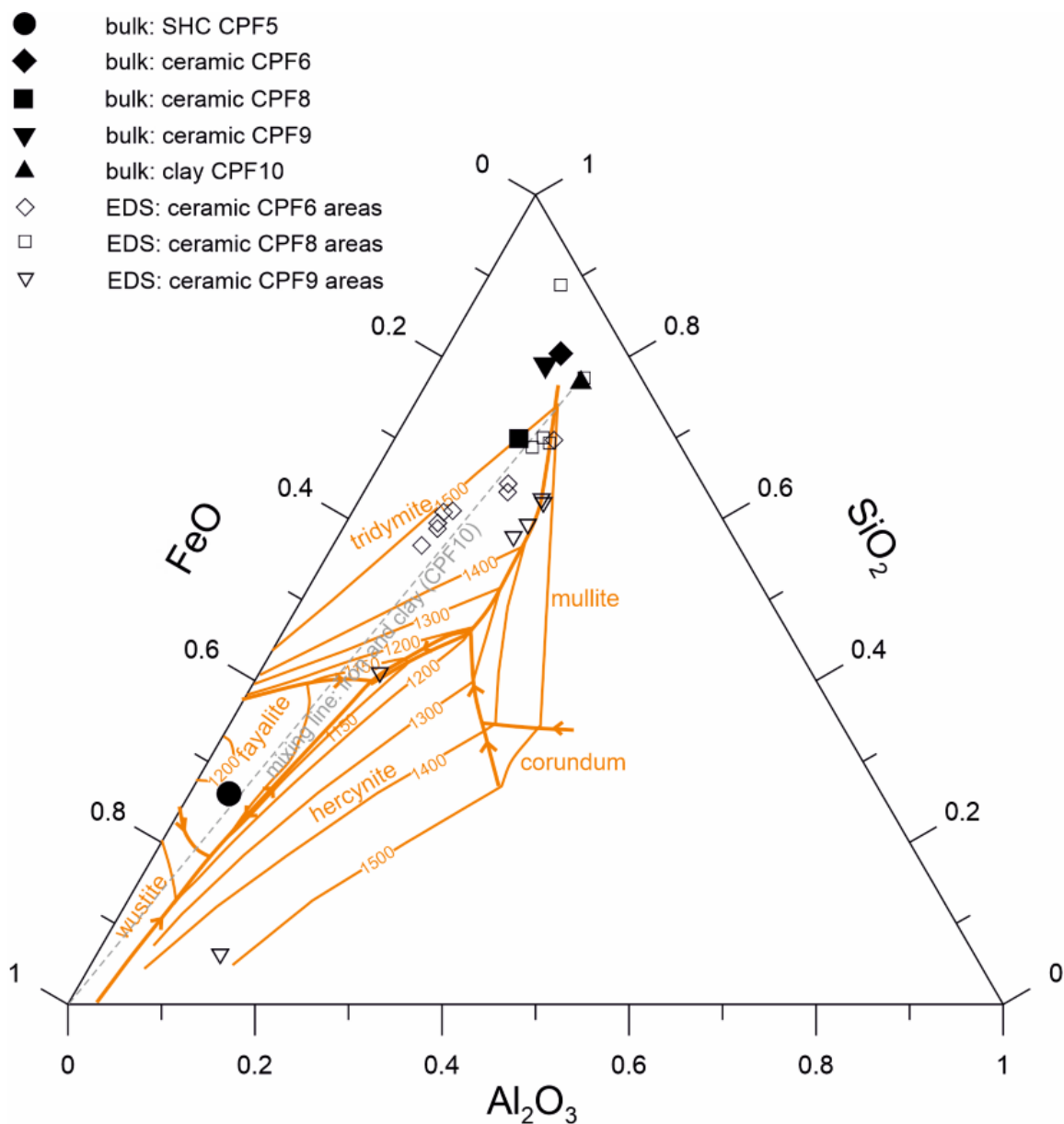


Figure 6.6.11. Bulk analyses by XRF and small area microanalyses by EDS of residues associated with smithing plotted within the ternary system SiO<sub>2</sub>-Al<sub>2</sub>O<sub>3</sub>-FeO (fields after Schairer and Yagi 1952, fig 6).

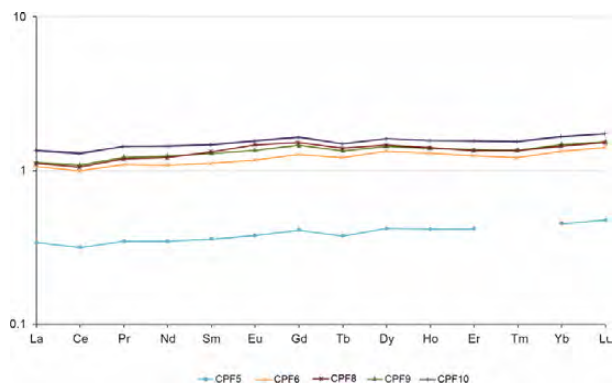


Figure 6.6.12. Upper crust-normalised rare earth element (REE) profiles (normalisation after Taylor and McLennan 1981.) for analyses of samples of residues from iron smithing.

REE profile with elevated middle REE is a characteristic of the REE profile of many smelting slags and may thus be indicative of a contribution from slag inclusions (although it is possible that a different hearth ceramic was used for this example). The REE profile for CPF7 (not illustrated), a bloated stone, is discordant, reflecting its slightly different geological precursor.

*Interpretation*

The description of the weight-frequency distribution of the SHCs is based on a small population, but nonetheless bears very close comparison (Table 6.6.7) with those of blacksmithing assemblages from larger

civilian settlements, including Carmarthen, Ware and Neath. Roman rural farmstead sites, in contrast, tend to produce assemblages of smaller SHCs (e.g., assemblages from Exminster, Uffington, Cleavelands and Ebrington) in which almost all the SHCs are of less than 500 g and a significant proportion less than 150 g. Since the weight of SHCs is controlled largely by the total loss of iron into the hearth (which will depend on the rate of iron loss and the length of the work period), assemblages with smaller SHCs may reflect 'lighter', lower-temperature, less welding-intensive work and/or task-controlled smithing (in smaller settlements, specific items may need creation or repair, with the forge idle between such sessions). In contrast, the repeated formation of SHCs representing a higher loss of metal to the hearth (as with the Priory Field assemblage) may reflect either the greater loss of iron from more complex tasks involving much high-temperature work, and/or that the waste was created during more continuous smithing activity.

Some Roman SHC assemblages include a significant proportion of SHCs of over 1 kg in weight (e.g., Kingswood, Lyonshall, Kingstone and Cardiff Castle). This indicator of a high loss of iron is usually a product of the working of raw iron during the production of finished iron from raw bloom (i.e., bloomsmithing) and these sites were probably all associated with iron production, although varying from an occasional (e.g., Kingswood) to a specialist (e.g., Kingstone, Cardiff Castle) basis. There are no such SHCs in the Priory Field assemblage. The source providing the smithing debris dumped during the construction phase was apparently therefore not directly involved in the working-up of the iron produced by the contemporary smelting activity documented above.

The different morphology of the two late examples of SHCs from Phase 7 contexts apparently separates them from the earlier examples, but their age remains unknown. They may genuinely be of medieval or post-medieval age, but a residual, Roman, origin cannot be excluded. They too would have had an origin in blacksmithing.

It seems likely on the basis of the analytical evidence, including the presence of hammerscale clasts in sample CPF9, that most of the hearth ceramic recorded was from smithing hearths rather than smelting furnaces. The interpretation of the two partially-melted ceramic pieces with iron droplets (CPF6 and CPF8) requires more detailed consideration. As discussed above, both samples show compositions suggesting dilution of a raw ceramic (with the composition equivalent to that of CPF10) by both iron and fuel ash. For sample CPF8, the slight elevation of the middle REE suggests (but does not prove) the influence of inclusions of smelting slag within the metal. The two samples contained slightly

different compositions of droplets – those of CPF6 being of a more highly phosphoric, low-carbon, iron than those of CPF8, which was high-carbon as well as phosphorus-bearing. Both would have had a relatively low melting point, allowing them to form droplets which became trapped within a slag generated from the partial melting of the ceramic.

The simplest explanation for such iron droplets would be within a smelting furnace. Although it is conceivable that high-carbon and/or high-phosphorus liquids might be expelled from the solidifying incipient lower-carbon and lower-phosphorus bloom, the most likely origin would have to be a bloom that was phosphorus-rich. It is therefore extremely unlikely that such phosphorus-rich droplets would be generated from the smelting of a Forest of Dean ore, for those ores are phosphorus-poor. The smelting of a phosphoric iron ore is not supported by any finds of corresponding slag or ore from Caerleon. Thomas (2000) identified a single fragment of Carboniferous claystone ironstone amongst the assemblage from Usk (his sample U28), but his modelling of the mass balance showed that this material could not be representative of the ore producing the smelting slags at Usk.

A more likely explanation would be for the iron inclusions to have been generated by droplets trapped by the lining within a smithing hearth. These low-melting point droplets could have liquated from a workpiece during its heating, particularly perhaps when the iron was heated to a high temperature for welding. Although this theoretical process has not been documented, iron droplets have been recorded trapped in a ceramic coating apparently applied to a piece of iron during its working (Young 2016c), although in a setting not quite analogous to the present materials.

## **Non-ferrous Metalworking Residues**

### *General description*

Residues from non-ferrous metalworking were sparse, including a very few examples of metal spills, nine sherds of crucibles and evidence for a small number of contaminated lining slags and fuel ash slags.

The crucibles sherds (Table 6.6.8) were all relatively small. No profiles could be reconstructed and only one small rim fragment was present. The majority of the crucibles were probably of small size and hand-made. They were formed from a fine-grained paste, bearing abundant very fine organic temper (some was probably hair, but most appears to have been very short lengths of vegetable matter and may have been chaff). They show a high degree of bloating during use. One sherd (#9) bears an 8 mm diameter perforation through the wall

(a similar crucible was recorded from the Telecom site by Bayley (1990)). Although the assemblage was small, the fabric and limited evidence for form, resemble the evidence from elsewhere in the fortress for the melting of copper alloys in small, hand-formed crucibles with abundant organic temper.

One crucible sherd from Phase 5 showed a different fabric, with rounded pellets of what may be recycled crucible debris.

The analytical evidence (see below) indicates that the crucibles were for the handling of zinc-bearing copper alloys with lead present in appreciable levels on five of seven sherds of this type, but with tin present only at very low levels (except in one unusual tin-rich slagged ceramic sherd). It is thus considered most likely that the metal being handled was, in general, a leaded brass rather than a gunmetal.

A single sherd (#4 below) was from a vessel used for handling silver (probably for melting, although the form possibly resembled some of the cupels recorded from the Museum site; Zienkiewicz 1993a; Bayley 1990).

The assemblage also included three heavily oxidised metallic particles that were probably small spills. One from (C2098) appeared superficially to be of lead, but the pXRF analysis showed it to be also rich in copper, zinc and tin. A second small prill from the same context appeared to be of copper alloy, but it too contained a very substantial quantity of lead, alongside copper, zinc and some tin. The third prill (C2123); Phase 1ii) was a copper alloy, bearing some tin and heavily leaded, but apparently of modest zinc content. A fragment of hearth lining from (C3095) showed strongly elevated levels of lead, copper, zinc and tin.

A triage by pXRF of a selection of low-density slag fragments (see above) produced only a very few that showed evidence for contamination by non-ferrous metals. A fragment of highly-bloated ceramic from (C3058), and some low-density slag blebs from (C3059) both showed low levels of lead and copper. Higher levels of lead were recorded from a fuel ash slag bleb from (C3123). One fragment of indeterminate dense iron slag included in the pXRF triage showed low levels of contamination by lead.

As discussed above, the distribution of hearth/furnace lining and associated lining slag was similar to that of the SHCs and it is likely, therefore, that most of this material was from smithing hearths. Of the lining fragments included within the pXRF triage, just one fragment from (C3095), Phase 1ii showed strong contamination by copper, zinc, tin and lead.

Of the other materials included within the pXRF triage, two low-density slags showed contamination by lead, as did one glazed pebble (with a second glazed pebble showing contamination by copper), and one vitrified stone showed slight contamination with lead and a second a slightly elevated content of zinc.

#### *Details of crucibles*

Crucible #1, (C2071), Phase 2: this piece (48 mm x 28 mm and up to 14 mm preserved thickness) is in a very fine dark ceramic, with moulds after a very organic temper (hair?) and sparse coarse quartz grains. The inner face of the presumed crucible is not preserved. The fabric becomes increasingly bloated outwards, culminating in rounded vesicles up to 20 mm across, just below the very neatly convex, smooth, dark slightly maroon external surface. Analysis by pXRF shows strongly elevated lead on the external surface, with less strongly elevated copper, zinc and slightly elevated tin. The fractured inner face of the fabric shows a similar contamination, but with more strongly elevated levels of zinc. Both inner and outer surfaces show trace levels of gold.

Crucible #2, (C2075), Phase 2: this small piece is a fragment of a pale grey small hand-made crucible, 26 mm x 21 mm, with a thickness of approximately 6 mm. The inner face shows elongate cavities suggestive of a fine organic temper. The entire wall thickness shows bloating. The outer surface is very slightly purplish grey and bears a slightly dimpled surface, probably from the pressure of fuel particles.

Crucible #3, (C2125), Phase 1ii: this is a moderately large (40 mm x 44 mm) sherd of hand-made crucible, with a fine grey fabric, which shows abundant fine moulds of a former organic temper on the inner surface. The fabric is moderately bloated, and is probably a single layer. The inner 2-3 mm shows the preserved moulds of the organic temper, but outside that the bloating has destroyed the original fabric. The overall thickness is approximately 8 mm, increasing to 12 mm centrally. The outer surface has a pale, smooth glaze, mainly of grey-cream tones, but with occasional small patches that are reddened. There are slight fuel dimples on the external surface. Analysis shows the external surface is contaminated with copper, zinc, lead and a small amount of tin. The inner face is more strongly contaminated by lead and zinc. This piece might be from the same vessel as #5 from the same context.

Crucible #4, (C2125), Phase 1ii: a small sherd (23 mm x 14 mm), 6-8 mm thick, from the simple rim of a hand-made crucible. The irregularity in shape makes orientation of the rim uncertain, but it is likely to have been splayed, suggestive of the form of the silver cupels illustrated by

Zienkiewicz (1993; also Bayley 1989), although the wall is thin for cupel. Both inner and outer faces are coated in a dark grey glaze. The fabric is thoroughly and finely bloated. Both outer and, particularly, inner faces show strong contamination by silver. There are low levels of contamination by copper and zinc, with lead also present internally. The inner face shows very low levels of contamination by gold.

Crucible #5, (C2125), Phase Iii: a small fragment (22 mm x 32 mm) and up to 12 mm in thickness of very similar appearance to #3 (and they may belong to the same vessel). The original dark grey fine fabric, which its lamination and fine organic temper moulds is seen for as much as 6 mm from the inner face. Analyses show high levels of contamination by zinc, copper and lead on the inner face (with a trace of tin) and lower levels of the same metals on the outer, glazed surface,

Crucible #6, (C3023), Phase 5: this is a sherd from the lower part of a hand-made crucible, 8-12 mm thick and 48 mm x 28 mm. The fabric is different from the other crucibles, in being strongly pelletal, with rounded darker pellets up to 2mm across, set in the pale fabric, with a slight fine organic temper. The pellets may possibly be formed of recycled crucible fragments. The fabric becomes progressively more bloated towards the outside. The outer surface is slate grey, finely dimpled, and with a suggestion of slight flow downwards towards the thicker section of the underlying crucible. The internal parts of the fabric show a slightly lilac colour. Analysis indicated very high levels of zinc, lower levels of copper and a trace of silver, both externally and, more strongly, internally.

Crucible #7, (C3058), Phase 5: this fragment is partially obscured by a coating of lime and it was probably incorporated into the structure of a wall. The fragment is 24 mm x 28 mm, with the wall 8mm thick, with up to 6 mm of external slaggy material at the thickest. The fabric appears very similar to that of #3 and #5 above. The outer face shows strong dimples and lobes in the slag. Analysis shows elevated levels of zinc internally and copper externally, but both lead and tin are only at background levels.

Crucible #8, (C3063), Phase 3: this small fragment (22 mm x 17 mm) is in a similar fabric to #3, #5, #7 above. There are abundant moulds of a fine organic temper. The wall is well preserved for 6 mm thickness and is abruptly overlain by 1.5-2 mm of glassy slag. The inner face shows strong contamination by zinc, lead and copper, with lower concentrations on the external surface.

Crucible #9, (C3090), Phase 0ii: this piece (34 mm x 30mm) is formed from a similar, but darker, fabric to

that of the crucibles described above, with a fine paste bearing abundant fine moulds after an organic temper. The wall is well preserved for 8 mm thickness and is then overlain by 2-3 mm of glassy slag. The sherd contains just over half of a perforation, 8 mm diameter internally, expanding to 10 mm externally. This was pierced from the inside and is surrounded by a lip of displaced clay 1-2 mm tall externally. The piercing appears to disrupt the external slag to some degree, so may have been made, or at least cleared, when the crucible was hot. This piece appears to be from a crucible with a hole in the side, similar to the form described by Bayley (1990) from the British Telecom site. The inner face has a low level of enrichment of lead but a high level of zinc. The outer face shows a very high level of lead and a low level of copper, but much lower zinc than internally.

Possible crucible, (C614), Phase Iii: this piece of slag contained a substantial fragment of ceramic, but it was unclear with this highly vitrified inclusion was from a crucible or a fragment of ordinary coarseware pottery. Analysis (pXRF) showed the slag was rich in tin.

#### *Interpretation*

The non-ferrous residues form a rather sparse assemblage of a similar nature to the previously described from the fortress, particularly from the Museum site, a Tribune's house in *Insula X* (Zienkiewicz 1993a; Bayley 1987), but also the *tabernae* on the British Telecom Site (Zienkiewicz 1993; Bayley 1987). The crucibles are so fragmentary, that although they appear to be of typical Roman small types, detailed typology is not possible. Their analysis suggests that they were used for handling zinc-rich copper alloys, as typical for military sites of the period. Lead was present in appreciable levels on five of seven sherds of this type. In contrast to the analyses presented by Bayley (1990).

The perforated sherd (#9) shows particularly strong contamination by zinc, probably because of the escape of zinc-rich vapour through the perforation. Crucibles bearing holes are of two general types – those argued to be from brass making (Bayley 1984), which may have a luted-on lid with a central hole (as demonstrated by an example from Canterbury, Bayley 1984 figure 2), and examples interpreted as having been used for melting brass, with zinc loss minimised by having a luted-on lid and a small lateral pouring hole (Bayley 1991, Type B). The curvature dominantly in a single axis of the present example is much more strongly suggestive of a crucible with a lateral perforation. Such crucibles have been recorded previously from the British Telecom site (Bayley 1990), Corbridge, *Verulamium* (Bayley 1991; Frere 1972 figure 141, 2), Wilderspool (Tylecote 1986, figure 50, 27), as well as further afield at Nida-Hedderheim in Germany (Bachman 1976).

The assemblage provides evidence for the handling of a wide range of metals but does not supply evidence for the use of metals. The zinc-rich copper alloys are likely to have been used for casting small artefacts (given the apparently small size of the crucibles), but the range of metals makes it likely that other activities were also being undertaken.

## Discussion

### *Metalworking at Caerleon*

Investigations have revealed evidence for metalworking in many locations both within the legionary fortress and outside in its civilian settlements. Indeed, there were so many settings in which metalworking was undertaken within the fortress that archaeometallurgical residues have become extremely widely distributed right across the site. To add to the ubiquity of evidence for metalworking, Caerleon was noted as a centre to which iron ore from the Forest of Dean was carried for smelting in the Middle Ages (Nicholls 1866, 72-73).

The fortress appears to have had several large workshops, for instance in *Insulae* XVIII and XIX. The large courtyard building on the Endowed Schools playing field (*Insula* XVIII), first identified geophysically (Guest and Young 2010) was subsequently investigated in a series of small excavation pits in a series running mainly across its north-eastern *tabernae*. The residues (Young and Kearns 2010a) included deep deposits of hammerscale, a few examples of small SHCs (those recovered were smaller than typical for the Priory Field site), some iron smelting slags and an example of a crucible in identical fabric to those described here. This building and its adjacent *tabernae* may have been the focus for ironworking in the fortress. The large size of this building may possibly reflect the significance of the Second Augustan Legion's role in the supply and production of iron, perhaps even to the northern frontier via the west coast of Britain (Young 2012a).

One of the local uses of iron, and other metals, was in the production and maintenance of arms and armour. Chapman (2002) has documented one *armamentarium* in the north-west of the fortress, and there are likely to have been others. There has been no detailed archaeometallurgical investigation of the residues from that site.

The masonry building (Phase 3) excavated on the Museum site (Zienkiewicz 1993a; Bayley 1990), interpreted as the house of the *praefectus castrorum*, contained a smithy which appears to have operated throughout the period of use of the building (second to early third century). The assaying and melting of silver, were also undertaken here (and had been

so in the antecedent timber buildings). Zienkiewicz interpreted the house as facing southwards, onto the same street that bounded the store to the north. The British Telecom site, slightly further east along the *via principalis*, produced a large assemblage of crucibles (Bayley 1990) from the *tabernae* facing the *via principalis*. This included crucibles closely comparable with those from Priory Field. The material dumped in the early phases at Priory Field might derive from further afield within the fortress, but the close proximity makes it likely that the waste derived from the metallurgical activity within the *scannum tribunorum*. The precise nature and purpose of the metalworking, ferrous and non-ferrous, undertaken in this part of the fortress remains unknown.

### *Iron production*

The inclusion of iron smelting debris within the assemblage is interesting, for this is an activity that is often assumed to only be undertaken outside built-up areas. Small quantities of iron smelting slag were similarly recovered from the Endowed Schools site (Young and Kearns 2010a) where, unlike Priory Field, the residues were not apparently present as imported make-up. It seems likely, therefore, that some iron smelting may indeed have been undertaken within the fortress on occasion.

The dumping of much of the metallurgical waste at Priory Field in the late first century corresponds approximately to a period of great expansion of iron smelting in the region, including smelting undertaken in the settlement that replaced the fortress at Usk (possibly a works depot), the onset of smelting at the specialist production site (and former fort) at Caergwanaf, and the start of smelting outside the later forts (and over the location of the earlier Neronian fort) at Cardiff. It has been argued (Young 2014d), that this represents activity under the aegis of the legion at Caerleon, and that it may reflect the legion's role in the supply of the northern frontier via the west coast. This direct involvement with metal supply may be a factor behind the apparently greater role of metalworking and iron production within the fortress at Caerleon than is seen in other fortresses.

Iron production does not involve smelting alone, and a large-scale capability to process (bloomsmith) the raw blooms would also be needed. Interestingly, the Priory Field assemblage contains no evidence for bloomsmithing, despite containing a small proportion of smelting debris. Precisely what this means for the location of such activities within the fortress is unclear, but any significant disposal of waste from both iron smelting and bloomsmithing must have taken place elsewhere.

Despite the large expansion of iron smelting at this period in the Bristol Channel orefield (which would have produced low-phosphorus iron), it is likely that iron would have also been brought-in from outside the area, either as a raw material or as finished artefacts. The working of such imported iron, or the repair of imported artefacts, could account for the phosphoric iron prills present in the hearth lining samples.

*The nature of waste disposal at Priory Field*

An important aspect of the metallurgical materials from Priory Field was their use as part of the levelling

deposits and working surfaces associated with the store building's construction. The actual amount of residues recovered, however, was very small given the relatively widespread distribution of the dark-coloured deposits which contain them.

As discussed above, the nature of both the blacksmithing and non-ferrous metalworking waste is compatible with activities known to have been conducted with the *scamnum tribunorum*. It is likely that the movement of metallurgical waste to the site was deliberately done in advance of the commencement of building work on the store.

Table 6.6.1. Archaeometallurgical materials by classes and Phases/contexts (all weights in grammes).

context	context notes	Tapslag	SHC	indet.	lining slag	lining	FAS	FAS/conc	purple plastic	clinker	gravelly	crucible	vit stone	green lime	lead	Cu	bog ore
	<b>Phase 0 undiff</b>																
2146	Pre-yard deposit - recorded in side of sondage			8													
	<b>Phase 0i</b>																
2152	layer above 2152. Disturbed OGS?		244			9	70		26								
3125	Redeposited natural			46													
3128	Above natural 3130 - original ground surface?													8			
	<b>Phase 0ii</b>																
2130	Charcoal layer - equivalent to 3112 etc				54												
3090	Black layer, immediately pre-construction;				44	52	136	494				9	120	26			
3112	Upper black layer		44	146	38	140			704							50	
3113	Upper black layer			158	474	186	154		449				144				
3114	Upper black layer		340	208	30	58	898				148						
3115	Upper black layer		162	206		4			110								
3121	Clay deposit					10											
3122	Clay deposit			220	56	6			193								
3127	Lower black deposit						8										
3133	Lower black deposit					4					30						
	<b>Phase 1i</b>																
714	Main internal (E) wall of warehouse	106				2											
818	Main internal (E) wall of warehouse		24						28								
2008	Main internal (E) wall of warehouse																72
2039	Wall between R1/2			8													

## ARCHAEOMETALLURGICAL RESIDUES (T.P. YOUNG)

context	context notes	Tapslag	SHC	indet.	lining slag	lining	FAS	FAS/conc	purple plastic	clinker	gravelly	crucible	vit stone	green lime	lead	Cu	bog ore
2151	Wall between R0/1			16			8		4								
3021	Main external (W) wall of warehouse						4										
	<b>Phase 1ii</b>																
614	R4/entranceway surface (earlier)											14?					
2097	Deposit in R1				2												
2116	Deposit in R1		600		651												
2121	Deposit in R1 (trample?)		129		408												
2122	Deposit below R4/entranceway cobbles		552	12			18				150						
2123	Deposit below R4/entranceway cobbles		1462	640	98	470	121	724	24		104		32			26	
2124	Deposit in R1 (trample?)																102
2125	Deposit below R4/entranceway cobbles			118					16			24					
2140	Deposit in R1 (trample?)			38	52				1013				4				
2149	Deposit in R1 (trample?)								70		64						
3080	Deposit in R6						28						1	6			
3081	Deposit in R6					1	1	12	8				1				
3083	Deposit in R6				66				32								
3089	Chippy deposit - wall-building debris?							48					44				
3091	Deposit in R6			32													
3093	Deposit in R6		648	104	8												
3094	Deposit in R6			6		2	6										
3095	Lens in 3093			6			4		1				6				
3096	Lens in 3091										100						
3100	Lowest post-construction layer in R6		34										70				
3102	Lowest post-construction layer in R6		141	66													
3103	Lowest post-construction layer in R6			12												8	

## EXCAVATION OF THE PRIORY FIELD STORE BUILDING IN CAERLEON

context	context notes	Tapslag	SHC	indet.	lining slag	lining	FAS	FAS/conc	purple plastic	clinker	gravelly	crucible	vit stone	green lime	lead	Cu	bog ore
3106	Chippy deposit - wall-building debris?		368														
	<b>Phase 2</b>																
424	Patching in main yard								32								
712	Rubble over removed wall													24			
2013	Stone feature between A/B						134										
2062	Deposit in R1			22													
2071	Deposit in R1						40					8					
2075	Deposit in R1			1								1					
2080	Deposit in R1												6				
2090	Deposit below flags in R4/entranceway	4		36		2											
2094	Deposit in R1			50													
2098	Dilapidation layer (armour)														32		
	<b>Phase 3</b>																
701	Re-used as surface associated with 703?	36															
2000	Deposit sealing flagging in R4			30									4				
2001	Deposit sealing flagging in R4			6													
2023	Deposit in R2 (overlying armour)												1				
3027	Rubble above CBM in R7	18			60												32
3028	CBM-rich deposit in R8	68															
3047	CBM-rich deposit in R7						128						2				
3063	CBM-rich deposit in R7	14		246	90	24			52			2	12				
3064	CBM-rich deposit in R7				29		110										
3065	CBM-rich deposit in R7	48			16		68										
3067	Topmost deposit in R6	74											34				
3071	Topmost deposit in R5			12													
3075	Upper deposit in R6				4												
3076	Upper deposit in R5, overlying rubble		96														
3084	Deposit in R7			14	8		10										

## ARCHAEOMETALLURGICAL RESIDUES (T.P. YOUNG)

context	context notes	Tapslag	SHC	indet.	lining slag	lining	FAS	FAS/conc	purple plastic	clinker	gravelly	crucible	vit stone	green lime	lead	Cu	bog ore
3086	Deposit in R7						166										
3087	Deposit in R7				26			70									
	<b>Phase 4</b>																
210	Intermediate phase occupation									2							
350	Intermediate phase occupation / surface?	6									6			8			
3006	Topmost rubble in R7; surface?										4						
3008	Intermediate wall above courtyard			4													
	<b>Phase 5</b>																
315	Robbing of main external (W) wall of warehouse	14												22			
803	Possible feature within ambulatory robber trench				8												
905	Robbing of main internal (E) wall of warehouse	162												6			
1002	Robbing of ambulatory wall	194		10													
2005	Robbing of main external (W) wall of warehouse					76							2	28			
2006	Possible robber trench for wall between R4/5			20													
2052	Robbing of main internal (E) wall of warehouse	6	24				12							32			
2057	Robbing of wall between R0/1												8				
2058	Robbing of wall between R0/1													4			
2073	Robbing of wall between R1/2													150			
2095	Robbing of wall between R3/4			66	8								32				
3003	Deposit beneath rubble in courtyard	40	222	98													
3004	Rubble overlying courtyard - robbing debris	24	230	16	182	19											
3009	Robbing of main external (W) wall of warehouse	20	172	32							74						

## EXCAVATION OF THE PRIORY FIELD STORE BUILDING IN CAERLEON

context	context notes	Tapslag	SHC	indet.	lining slag	lining	FAS	FAS/conc	purple plastic	clinker	gravelly	crucible	vit stone	green lime	lead	Cu	bog ore
3012	Robbing of main external (W) wall of warehouse			222													
3014	Robbing of main external (W) wall of warehouse		172						10								
3016	Robbing of main external (W) wall of warehouse		110		26	6											
3020	Robbing of main external (W) wall of warehouse		22			10											
3023	Rubble overlying courtyard - robbing debris				6	6						12					
3032	Robbing of wall between R5/6	58															
3044	Robbing of main internal (E) wall of warehouse	36															
3045	Robbing of wall between R7/8		178											16			
3052	Robbing of wall between R5/6	12		18													
3055	Robbing of wall between R6/7	24				124	288						20	34			
3056	Robbing of wall between R5/6	8	30		94	120											
3058	Robbing of wall between R6/7		158	50	46	48	27					18		78			
3061	Robbing of wall between R6/7													204			
	<b>Phase 6</b>																
101	Deposit overlying courtyard	4															
102	Deposit overlying courtyard	386															
202	Possible surface of ?Med. bldg.			46	162												
208	Possible surface of ?Med. bldg.		472		10					74							
302	Late pit in Area A			228										100			
308	Post-robbing rubble - part of Med. bldg.?			61		34											
334	Surface of ?Med. bldg.	30	86		1												
402	Flagging of ?Med. bldg.			404													
410	Flagging of ?Med. bldg.	1															
419	Late cut feature			2													
607	Post-robbing rubble			6										2			

ARCHAEOMETALLURGICAL RESIDUES (T.P. YOUNG)

context	context notes	Tapslag	SHC	indet.	lining slag	lining	FAS	FAS/conc	purple plastic	clinker	gravelly	crucible	vit stone	green lime	lead	Cu	bog ore
706	Late deposit ambulatory robber trench overlying	30															
901	Rubble fill of long linear feature	4	84								52						
903	Fill of cut feature				262												
	<b>Phase 7</b>																
1	Topsoil in Area A		202														
4	Topsoil in Area B			18													
5	Topsoil in Area B			104													
100	Subsoil	200		96													
200	Subsoil	220	270							138							
300	Subsoil	100		80						8				24			
500	Subsoil	20		30													
600	Subsoil			204									4				
700	Subsoil	58		86										8			
800	Subsoil										58						
900	Subsoil	28															
1000	Subsoil	176															
2045	Fill of post-Med pit			10			62										
3001	Subsoil			847					12								
3005	Fill of post-Med pit			18													
3059	Fill of post-Med pit						10		12					44			
	<b>Unphased</b>																
606	Possible pre-robbing rubble - uncertain phasing.?			36													
2007	Uncertainly sequenced rubble	24		6	264												
2030	Cleaning layer	202	484	92													
Rm 1	?		141														

Table 6.6.2. Distribution of total weight of metallurgical residue by class and by phase (all weights in grammes).

Phase	tapped bloomery slag	SHC	indet. dense iron slag	lining slag	hearth/furnace lining	fuel ash slag	conc. with FAS	grey-purple melted ceramic	gravelly slags	vitrified stone	crucible	clinker	chalky green-glazed stone	lead	Cu	bog ore	total metallurgical residue
<b>Phase 0 undiff</b>			8														8
<b>Phase 0i</b>		244	46		9	70		26					8				395
<b>Phase 0ii</b>		546	938	696	460	1196	494	1456	178	264	9		26		50		6237
<b>Phase 1i</b>	106	24	24		2	12		32					72				200
<b>Phase 1ii</b>		3934	1034	1285	473	178	784	1164	418	158	24		6		34	102	9452
<b>Phase 2</b>	4		109		2	174		32		6	9		24	32			336
<b>Phase 3</b>	258	126	298	233	24	482	70	52		53	2					32	1598
<b>Phase 4</b>	6		4						10			2	8				22
<b>Phase 5</b>	598	1318	532	344	293	469		10	74	62	30		574				3730
<b>Phase 6</b>	455	642	747	435	34				52			74	114				2439
<b>Phase 7</b>	802	472	1493			72		24	58	4		146	95				3071
<b>Unphased</b>	226	625	134	264													1249
<b>totals</b>	2455	7931	5367	3257	1297	2653	1348	2796	790	547	74	222	927	32	84	134	28737

The chalky green-glazed rocks, fragments of lead and fragments of copper alloy are excluded from the total weight of archaeological residue in the final column.

Table 6.6.3. Iron smelting residues: major elements by XRF (all elements presented as wt%).

Sample	SiO <sub>2</sub>	Al <sub>2</sub> O <sub>3</sub>	Fe <sub>2</sub> O <sub>3</sub>	FeO *	MnO	MgO	CaO	Na <sub>2</sub> O	K <sub>2</sub> O	TiO <sub>2</sub>	P <sub>2</sub> O <sub>5</sub>	SO <sub>3</sub>	S *	LOI	LOI *	total
<i>Smelting residues</i>																
CPF1	20.85	3.27	64.17	57.75	0.23	4.77	8.53	< 0.05	1.10	0.22	0.73	0.03	0.01	-4.00	2.42	99.91
CPF2	12.81	2.46	88.81	79.93	0.23	0.81	0.73	< 0.05	0.72	0.12	0.20	0.04	0.02	-7.00	1.88	99.93
CPF3	25.00	3.32	72.74	65.47	0.21	1.20	2.39	< 0.05	0.96	0.20	0.21	< 0.01	< 0.004	-6.25	1.02	99.99
CPF4	12.81	2.15	90.38	81.34	0.14	0.26	0.28	< 0.05	0.42	0.07	0.20	< 0.01	< 0.004	-6.80	2.24	99.91

LOI = loss on ignition. (The columns in grey tone (headings with asterisk) are presented as alternative models of the data with iron adjusted to Fe<sup>2+</sup> and sulphate to sulphide, with the change in oxygen added to the observed LOI, give a model LOI\* that provides an estimate of volatile content for a model material with those alternative species.)

Table 6.6.4. Iron smelting residues: trace elements by ICP-MS (all elements in ppm).

	Be	Sc	V	Cr	Co	Ni	Cu	Zn	Ga	Rb	Sr	Y	Zr	Nb	Mo	Sn	Cs	Ba
CPF1	16.8	6.2	39.7	35.9	1.0	< 1	< 1	11.4	6.2	18.0	136.0	17.7	104.5	3.6	5.8	< 0.2	0.8	588.5
CPF2	19.8	3.6	45.8	38.1	0.7	< 1	< 1	4.1	5.2	17.3	33.2	22.2	44.9	2.2	3.0	< 0.2	1.0	187.5
CPF3	10.9	6.4	55.1	36.1	1.5	< 1	< 1	12.7	5.1	22.2	60.7	17.5	86.7	2.9	3.2	< 0.2	1.2	410.0
CPF4	15.2	3.1	15.4	11.5	2.2	11.3	< 1	55.0	6.0	16.7	69.9	19.5	38.0	1.8	9.6	< 0.2	1.7	745.9
	La	Ce	Pr	Nd	Sm	Eu	Gd	Tb	Dy	Ho	Er	Tm	Yb	Lu	Hf	Ta	Th	U
CPF1	14.4	26.4	3.6	14.1	3.0	0.7	3.3	0.5	2.8	0.6	1.7	0.2	1.6	0.2	3.2	0.3	3.7	9.2
CPF2	13.9	22.8	3.9	16.3	3.6	0.9	4.0	0.6	3.4	0.7	1.9	0.3	1.8	0.3	1.4	0.1	2.2	6.9
CPF3	15.1	29.5	4.3	17.5	3.9	0.9	4.0	0.6	3.3	0.7	1.8	0.2	1.7	0.2	2.8	0.2	3.8	8.6
CPF4	10.2	52.0	2.8	11.8	2.7	0.7	3.1	0.5	2.8	0.6	1.8	0.2	1.7	0.3	1.2	< 0.2	2.1	9.4

Table 6.6.5. Major elements by XRF (all elements presented as wt%).

Sample	SiO <sub>2</sub>	Al <sub>2</sub> O <sub>3</sub>	Fe <sub>2</sub> O <sub>3</sub>	FeO *	MnO	MgO	CaO	Na <sub>2</sub> O	K <sub>2</sub> O	TiO <sub>2</sub>	P <sub>2</sub> O <sub>5</sub>	SO <sub>3</sub>	S *	LOI	LOI *	total
CPF5	23.78	3.77	70.71	63.64	0.09	0.42	1.08	<0.05	0.68	0.28	0.34	0.02	0.01	-1.40	5.67	99.77
CPF6	75.88	11.20	7.56	6.81	0.13	1.05	0.57	0.42	2.16	0.81	0.16	<0.01	<0.004	-0.20	0.56	99.75
CPF7	68.76	14.39	7.77	6.99	0.10	2.84	0.55	1.39	3.22	1.03	0.11	<0.01	<0.004	-0.40	0.38	99.75
CPF8	63.38	11.45	17.00	15.30	0.13	1.67	2.15	0.62	2.71	0.74	0.20	<0.01	<0.004	-0.30	1.40	99.75
CPF9	72.23	10.72	9.80	8.82	0.10	1.68	0.43	0.77	2.93	0.75	0.19	<0.01	<0.004	0.14	1.12	99.75
CPF10	69.40	14.76	6.72	6.05	0.11	2.33	0.18	0.86	3.52	0.94	0.14	<0.01	<0.004	0.80	1.47	99.76

< = below detection. LOI = loss on ignition. (The columns in grey tone (headings with asterisk) are presented as alternative models of the data with iron adjusted to Fe<sup>2+</sup> and sulphate to sulphide, with the change in oxygen added to the observed LOI, give a model LOI \* that provides an estimate of volatile content for a model material with those alternative species).

Table 6.6.6. Trace elements by ICP-MS (all elements in ppm).

	Be	Sc	V	Cr	Co	Ni	Cu	Zn	Ga	Rb	Sr	Y	Zr	Nb	Mo	Sn	Cs	Ba
CPF5	0.5	5.9	29.8	41.8	2.5	1.5	6.0	3.4	5.5	18.1	35.3	8.2	107.4	3.8	4.6	0.9	0.8	204.5
CPF6	1.6	18.6	67.0	79.4	7.8	18.8	7.9	20.9	10.5	81.6	80.0	26.7	300.2	13.3	1.4	1.4	6.1	313.2
CPF7	2.3	18.2	95.7	113.4	14.7	35.8	21.9	58.3	17.2	118.9	53.4	26.3	300.8	16.0	0.7	2.0	6.7	358.1
CPF8	1.9	16.3	72.7	87.9	9.8	21.4	11.5	16.6	9.3	79.4	83.8	28.3	282.1	12.9	3.4	0.7	4.9	663.7
CPF9	3.1	18.3	75.9	104.9	14.7	37.5	22.4	57.9	13.4	84.2	48.5	27.6	345.8	11.8	1.6	2.0	4.5	288.1
CPF10	2.6	18.4	100.8	120.6	18.0	45.7	22.9	89.1	18.4	115.7	53.5	31.1	333.5	14.7	0.8	3.0	6.9	363.9
	La	Ce	Pr	Nd	Sm	Eu	Gd	Tb	Dy	Ho	Er	Tm	Yb	Lu	Hf	Ta	Th	U
CPF5	10.2	20.3	2.5	9.1	1.6	0.3	1.6	0.2	1.5	0.3	1.0	<0.2	1.0	0.2	3.5	0.3	3.9	1.0
CPF6	32.2	64.4	7.8	28.6	5.1	1.0	4.9	0.8	4.7	1.0	2.9	0.4	3.0	0.5	9.7	1.2	10.2	2.8
CPF7	39.1	76.0	8.9	30.9	5.2	1.0	4.9	0.8	4.7	1.1	3.1	0.5	3.4	0.5	9.9	1.4	14.1	3.0
CPF8	33.7	68.0	8.5	31.8	6.0	1.3	5.8	0.9	5.2	1.1	3.1	0.5	3.2	0.5	9.1	1.1	11.1	4.8
CPF9	34.1	69.9	8.7	32.5	5.8	1.2	5.6	0.9	5.1	1.1	3.1	0.5	3.3	0.5	11.1	1.0	12.3	3.2
CPF10	40.9	83.4	10.3	37.7	6.7	1.4	6.3	1.0	5.7	1.3	3.6	0.5	3.7	0.6	10.9	1.3	14.9	3.0

Table 6.6.7. Comparison of the SHC weight-frequency distribution with that of other comparable Roman assemblages (weight in grammes).

Site:	Exminster	Uffington	Cleevelands	Ebrington	Carmarthen	Neath	Ware	Caerleon Priory Field	Marsh Leys Farm	Mickleton	Kingswood	Lyonshall	Kingstone	Cardiff Castle	Dymock
Site Type	rural	rural	rural	rural	urban	vicus	urban	military	rural	rural?	rural	rural	specialist?	specialist?	specialist?
Reference:	Young 2014c	Young 2015c	Young 2016a	Young 2016b	Crew 2003	Young 2013c, 2014b	Young 2014a	Young this report	Young 2005 & 2011b	Young 2017a	Young 2017b	Young 2006	Young 2012a	Young & Kearns 2011	Young & Kearns 2010b
Fuel	charcoal	coal	coal	mixed	?	charcoal	charcoal	charcoal	charcoal	charcoal	both	charcoal	charcoal	both	charcoal
SHC count	107	57	57	37	136	47	70	12	30	16	9	14	15	5	10
SHC min. wt	32	36	50	53	100	74	36	146	60	149	162	176	230	193	112
SHC max. wt	482	614	530	628	820	630	952	600	824	1065	1370	2077	1035	1090	3885
SHC mean wt	127	137	176	180	227	244	246	295	333	381	475	564	565	626	1032
% <150g	100%	72%	44%	46%	?	32%	44%	17%	23%	13%	-	-	-	-	-
% <500g	100%	98%	98%	97%	94%	89%	82%	83%	77%	94%	67%	64%	47%	40%	60%
% >1000g	-	-	-	-	-	-	-	-	-	6%	22%	14%	7%	20%	14%

Table 6.6.8. Summary table of crucible sherds

sherd	context	phase	metal	fabric	Notes
#9	(3090)	Phase 0ii	leaded brass?	fine with organic temper (dark)	Perforated
#3	(2125)	Phase 1ii	leaded brass?	fine with organic temper	
#5	(2125)	Phase 1ii	leaded brass?	fine with organic temper	
#4	(2125)	Phase 1ii	silver	uncertain	splayed rim
possible?	(614)	Phase 1ii	tin	quartzose	embedded in slag
#1	(2071)	Phase 2	leaded brass?	fine with organic temper	
#2	(2075)	Phase 2	not analysed	fine with organic temper	
#8	(3063)	Phase 3	leaded brass?	fine with organic temper	
#6	(3023)	Phase 5	brass? trace of silver	fine with organic temper, grogged	
#7	(3058),	Phase 5	brass?	fine with organic temper	

The Priory Field excavation, carried out between 2007 and 2010, was a research, training and engagement project that investigated a large courtyard store-building in the legionary fortress of *Isca* at Caerleon. This was the first building of its kind excavated to modern standards in the Roman Empire and the excavation exposed the building's main entranceway, a guard chamber, a stairwell and four store rooms. The coins and pottery provide an excellent chronological sequence for the store, which was constructed around AD 90-100 and remained in use until the end of the 3rd century, after which it fell into a derelict



state before being partially demolished and levelled by around 350. Debris from the building's collapse and demolition sealed the floors of two store rooms, one of which was littered with items of military equipment, many of which survived in a very fragile condition. These included the highly fragmentary remains of a rare example of an elaborately decorated horse's headpiece (chamfron), at least one set of dismantled Newstead-type *lorica segmentata* body armour, as well as another set of unusual scale armour. Two new buildings were constructed among the ruins of the partially demolished legionary store, including a cottage-like building that radiocarbon dating demonstrates was in use between 430 and 600. This wide-ranging and comprehensive report of the Priory Field excavation contains many fascinating stories about life in Caerleon during the Roman period and in the years after the ending of Britannia at the beginning of the 5th century.

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