

Re-Evaluating Richborough: Appendix Contents

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Appendix 1 – Object Reports

This appendix covers the reports on each object group found in the small finds excel database. Each report follows the same basic template.

Object Type = X objects

| ID | Object | Type | Sub-type | Object date |
|----|--------|------|----------|-------------|
|----|--------|------|----------|-------------|

Brief background

Typology and Chronology

Materials, design, and production

- XRF/Scientific analysis
- Production method
- General/Specific metrology
- Attachment

Use, reuse and repair

Decoration

Parallels

Key contexts

| ID | Context no. | Context date | Period |
|----|-------------|--------------|--------|
|----|-------------|--------------|--------|

Overview:

01. Objects associated with military combatant activities

01. 01. Combatant dress

Baldric Fittings = 6 objects

| ID | Object | Type | Sub-type | Object date |
|----------|--------------|---------|----------|---|
| 7350310 | Belt Fitting | Phalera | N/A | 2 nd – 3 rd century |
| 7350414 | Belt Fitting | Phalera | N/A | 2 nd – 3 rd century |
| 7350623 | Belt Fitting | Phalera | N/A | 2 nd – 3 rd century |
| 7351028 | Belt Fitting | Phalera | N/A | 2 nd – 3 rd century |
| 7351355 | Belt Fitting | Phalera | N/A | 2 nd – 3 rd century |
| 96000125 | Belt Fitting | Plate | Hinged | 2 nd – 3 rd century |

Brief background

In the 2nd – 3rd century the baldric was attached to the belt as seen on the Lyon example (Bishop and Coulston 2006: 160, Fig.101). This consisted of several fittings, one of which was the baldric terminal plate which attached the shoulder strap to the belt.

Typology and Chronology

There is no standard typology for these objects. They date to the 2nd- 3rd century.

Terminal Plate

There is one example of this type from Richborough. This object is associated with the when it switched from the left to the right shoulder and was attached to the belt.

Phalera

There is also no typology for the phalera. They are all openwork and were used to attach the baldric strap, which is threaded through the scabbard runner, to itself and hold the scabbard in place.

Materials, design, and production

No XRF was undertaken on these baldric fittings. All the fittings are made of copper alloy.

The baldric fittings were cast made.

The baldric fittings are varied and fragmented, so the metrology is not relevant.

This hinge was attached via a hinge to the end of the baldric strap to hold the baldric pendant. The phalera were attached to the strap by studs.

Use, reuse and repair

The objects were used as baldric fittings. There is no indication they were used for another purpose and there is no sign of repair.

Decoration

There is no decoration on the hinge. The phalera are all openwork in decoration.

Parallels

It is difficult to directly parallel these baldric fittings as they are quite varied. Oldenstein (1976: Taf.80-90) and Bishop and Coulston (2006: 158-60, Figs.99-101) show various openwork baldric fittings from the *limes* as well as an example from the Lyon burial.

Key contexts

| ID | Context no. | Context date | Period |
|----------|-------------|--------------|--------|
| 7350310 | S3.022 | 270 – 410+ | 10-14 |
| 7350623 | AXVI.044.2 | 65 – 280 | 2-10 |
| 7351028 | A/S?.001 | N/A | N/A |
| 7351355 | S4.003.1 | 95 – 200 | 5-8 |
| 96000415 | A?.031 | N/A | N/A |
| 96000125 | A/S?.001 | N/A | N/A |

Overview:

Of the six examples, three have dateable contexts. These objects could date to any point from the 2nd – 3rd century and the contexts do not suggest on its own that there was a military presence during the 2nd century port town or in the early 3rd century. They are more likely to date to the late 3rd century.

Belt Fasteners and Edging (3rd – 4th centuries) = 17 objects

| ID | Object | Type | Sub-type | Object date |
|----------|---------------|----------|----------|---|
| 7350360 | Belt Fastener | Fastener | N/A | 3 rd – 4 th century |
| 7350361 | Belt Fastener | Fastener | N/A | 3 rd – 4 th century |
| 7360366 | Belt Fastener | Fastener | N/A | 3 rd – 4 th century |
| 7350367 | Belt Fastener | Fastener | N/A | 3 rd – 4 th century |
| 7350368 | Belt Fastener | Fastener | N/A | 3 rd – 4 th century |
| 7350424 | Belt Fastener | Fastener | N/A | 3 rd – 4 th century |
| 7350425 | Belt Fastener | Fastener | N/A | 3 rd – 4 th century |
| 7350429 | Belt Fastener | Fastener | N/A | 3 rd – 4 th century |
| 7350685 | Belt Fastener | Fastener | N/A | 3 rd – 4 th century |
| 96000095 | Belt Fastener | Fastener | N/A | 3 rd – 4 th century |
| 96000096 | Belt Fastener | Fastener | N/A | 3 rd – 4 th century |
| 96000099 | Belt Fastener | Fastener | N/A | 3 rd – 4 th century |
| 96000103 | Belt Fastener | Fastener | N/A | 3 rd – 4 th century |
| 96000104 | Belt Fastener | Fastener | N/A | 3 rd – 4 th century |
| 96000105 | Belt Fastener | Fastener | N/A | 3 rd – 4 th century |
| 7350022 | Belt Fastener | Edging | N/A | 3 rd – 4 th century |
| 96000213 | Belt Fastener | Edging | N/A | 3 rd – 4 th century |

Brief background

The belt stud fasteners were used as part of the 3rd century Roman belt (Hoss 2011: 39). A strap with looped ends was threaded through a buckle and the loops hooked over studs attached the front of the belt (Hoss 2011: 39, Fig.4.5).

Typology and Chronology

There are 17 examples of belt fasteners and edging from Richborough. In his Richborough catalogue, Malcolm Lyne associated these studs with his buckle types C, L, and M. They would have also been used with his type F and K. These types equate to Hoss types A.2. Sonderformen (Type C),

A.6.2c (Type F), A.3.a (Type M). Type K are simple square/sub-square buckles of 3rd century type, and type L are D-Shaped.

Materials, design, and production

No XRF analysis was undertaken on these belt fasteners and edging. They are all made from copper alloy.

These belt fasteners and edging were cast made.

The belt fasteners are all similar size, between 10 – 25mm in width and 7 – 18mm in height. They are also of similar weight, mostly under 10g but the larger examples are between 10 – 16.3g.

The belt fasteners are studded and would have been pushed through the leather belt.

Use, reuse and repair

These objects were used to fasten the 3rd century Roman belt to the buckle. There is no sign that these objects were reused or repaired in any way.

Decoration

There is no decoration on any of the objects.

Parallels

Hoss' (2014) study of 1st – 3rd century belt fittings shows that these studs are uncommon in the western provinces and appear to be more common in the east. It is possible that this type of belt was developed in the east (Hoss 2011: 39). This is not to say that troops stationed at Richborough during the mid-3rd century were of eastern origin, as it is more likely that contact between the east and west during the 2nd – 3rd century led to a sharing of equipment forms (Hoss 2011: 39-40).

Key contexts

| ID | Context no. | Context date | Period |
|---------|-------------|--------------|--------|
| 7359360 | A/S?.001 | N/A | N/A |
| 7350361 | A/S?.001 | N/A | N/A |
| 7350366 | A/S?.001 | N/A | N/A |
| 7350367 | A/S?.001 | N/A | N/A |
| 7350368 | AW.027.5 | 270 – 410+ | 10-14 |
| 7350424 | AWS.008 | N/A | N/A |
| 7350425 | AWS.008 | N/A | N/A |
| 7350429 | A?.64.1 | N/A | N/A |

| | | | |
|----------|-----------|------------|-------|
| 7350685 | A?.050.4 | 270 – 410+ | 10-14 |
| 96000095 | AXVII.001 | 270 – 410+ | 10-14 |
| 96000096 | AN.007 | 410+ | 14 |
| 96000099 | A/S?.001 | N/A | N/A |
| 96000103 | A/S?.001 | N/A | N/A |
| 96000104 | A/S?.001 | N/A | N/A |
| 96000105 | A?.014.1 | 270 – 295 | 10-11 |
| 7350022 | AW.027.1 | 270 – 410+ | 10-14 |
| 96000213 | AW.027.1 | 270 – 410+ | 10-14 |

Overview:

Of the 17 objects, seven are from dateable contexts. Two (7350368 and 7350685) come from the shore fort ditches, two (7350424 – 5) from the south-west area and two (96000095 and 96000105) from the earth fort ditches. The two from the earth fort ditches can be securely dated before AD260-70 and the 3rd century use of these objects would suggest those in the shore fort ditches were deposited before the end of the 3rd century. The people who dug the ditches and built the shore fort likely used these belt fittings. There is no indication from any of the contexts that these were used in the early 3rd century and arrived on the site closer to AD260-5, when the earth fort ditches were dug.

Belt Plates (1st century) = 6 objects

| ID | Object | Type | Sub-type | Object date |
|----------|------------|-------|------------|----------------------------|
| 96000122 | Belt Plate | Plate | Hoss B.1 | 1 st century AD |
| 96000050 | Belt Plate | Plate | Hoss B.2.a | 1 st century AD |
| 7351389 | Belt Plate | Plate | Hoss B.3.1 | 1 st century AD |
| 96000047 | Belt Plate | Plate | Hoss B.3.1 | 1 st century AD |
| 96000048 | Belt Plate | Plate | Hoss B.3.1 | 1 st century AD |
| 96000049 | Belt Plate | Plate | Hoss B.3.1 | 1 st century AD |

Brief background

These belt plates are associated with the 1st century *balteus* worn by the Roman soldier from the 1st century AD. Each belt consisted of multiples of these, including one which was attached to, or incorporated the buckle (see ~). In total, six of these belt plates have been identified from Richborough. Bishop and Coulston (2006: 107) describe three general types of belt plates. The first is niello-inlayed with geometrical or vegetal designs, the second embossed with a scene or bust and the third simple with a boss and concentric ring. In Malcolm Lyne's catalogue, these belt plates were separated into these types and have been carried forward in this section. These plates covered the *balteus* and are known to number anywhere up to 16-21 on two belts (Bishop and Coulston, 2006: 107).

Typology and Chronology

The typology and chronology come from Hoss (2014) study of 1st – 3rd century belt fittings.

Type B.1

There is one example of this type from Richborough. This type is plain rectangular plates with four rivet holes and were often tinned to give a silvery effect (Hoss 2014). These plates are of the 1st century and are found in early Roman contexts in Britain such as Fishbourne and Colchester (Hoss 2014).

Type B.2.a

There is one example of this type from Richborough. This type has a central motif like the St. Andrew's Cross flanked by two fields with a matching chequered pattern. Around the three fields is a simple continuous motif. These tend to date to the Claudian period, with little prior use.

Type B.3.1

There are four examples of this type from Richborough. This type is pressed with a central boss surrounded by concentric circles. Sometimes the central boss was manufactured separately and attached by a rivet.

Materials, design, and production

No XRF analysis was undertaken on these objects. They are all made of copper alloy.

Belt plates are typically cast or hammered and embossed when made of metal (Hoss, 2011: 34). Type A and A2 in the collection are all cast, while the Type B is embossed with the elaborate design and some with a 'St. Andrews' Cross' design (see Bishop, 1987)

The six examples are a variety of sizes. Of the complete examples, the narrow types (96000047 and 96000050) are 35-36mm, while the wider (7351389) is 45mm. As the *balteus* is known to have been worn as a single or double belt, the different widths point to the different styles. The narrow belts being worn in pairs, 'cowboy fashion', and the wider worn as a single belt (Bishop and Coulston, 2006: 106-9).

The belt plates were attached to the belts with four corner rivets. One plate (7351389) still has all four holes, while another (96000050) has several rivets still in place.

Use, reuse and repair

These objects were used as belt plates. There is no indication they were used for another purpose and there is no sign of repair.

Decoration

Of the six examples, three consist of concentric circles with a central perforation; no doubt intended to hold some decoration attached by a rivet. One example is of concentric circles but has a central concave boss rather than a hole. The final example has niello-inlaid decoration. The decoration on this example is divided into three panels. The central panel has a 'St Andrew's Cross style pattern, with an embossed diamond pattern to either side. These panels are bordered by a jagged triangular design.

Parallels

Parallels for the belt plates can be found on sites with known associations to the legions involved in the Roman invasion of Britain as niello-inlaid examples are found at Hod Hill (Brailsford, 1962: Fig.4, A109) and Colchester (Hawkes and Hull, 1947: C.39 and CII.17). In fact, the Hod Hill example is an exact parallel for the niello-inlaid type from Richborough. This might indicate a particular style used by a legion or unit or possibly from the same belt. However, conversely, with each belt plate markedly different, it is possible that the style was to have a 'patchwork' belt of non-

matching plates. This might indicate that these parallel plates simply come from the same manufacturer.

| Key contexts | | | |
|--------------|--------------|--------------|--------|
| ID | Context no. | Context date | Period |
| 96000122 | A/S?.001 | N/A | N/A |
| 96000050 | AXVIII.013.1 | 75 – 95 | 3-4 |
| 7351389 | AXVI.036 | 43 - 75 | 1-3 |
| 96000047 | AIX.004 | 65 - 75 | 2-3 |
| 96000048 | A/S?.001 | N/A | N/A |
| 96000049 | A/S?.001 | N/A | N/A |

Overview:

Of the six examples, three come from dateable contexts. One object (96000047) was found in a deposit above Pit 45. The filling of the pit was dated to the reigns of Nero and Vespasian (Bushe-Fox, 1932: 65-6) and the plate likely deposited as the site transitioned to the port town. Another (96000050) was found in Pit 194 (Bushe-Fox, 1949: 101-2) known to have been sealed c.AD85 by a mortar layer associated with the construction of the *quadrifrons* foundation. The pit mainly contained samian and coarse wares, as well as several glass vessel fragments. The final object (7351389) was found in an occupation deposit in Area XVI (Bushe-Fox, 1949: 131). The deposits are like others in the immediate vicinity predating the port town. This context is interesting as it is in the same general area and layers as a cache of damaged military fittings apparently ready for melting down.

Belt Plates (2nd – 3rd century) = 15 objects

| ID | Object | Type | Sub-type | Object date |
|----------|--------|-------|----------|---|
| 96000120 | Belt | Plate | B.6 | 1 st – mid 2 nd |
| 7351803 | Belt | Plate | B.7 | Early 2 nd |
| 96000116 | Belt | Plate | B.10 | Mid 2 nd |
| 7350378 | Belt | Plate | B.11 | Mid 2 nd – Mid 3 rd |
| 7350626 | Belt | Plate | B.11 | Mid 2 nd – Mid 3 rd |
| 7351202 | Belt | Plate | B.11 | Mid 2 nd – Mid 3 rd |
| 7351332 | Belt | Plate | B.11 | Mid 2 nd – Mid 3 rd |
| 7350375 | Belt | Plate | B.14 | Mid-Late 2 nd |
| 88380928 | Belt | Plate | B.14 | Mid-Late 2 nd |
| 7350322 | Belt | Plate | B.17 | Mid 2 nd – Mid 3 rd |
| 96000113 | Belt | Plate | B.17 | Mid 2 nd – Mid 3 rd |
| 96000114 | Belt | Plate | B.18 | Mid-Late 2 nd |
| 7350365 | Belt | Plate | B.24 | Mid 2 nd – Mid 3 rd |
| 7351352 | Belt | Plate | B.24.var | Mid 2 nd – Mid 3 rd |
| 96000112 | Belt | Plate | B.27.c | 2 nd – 3 rd |

Brief background

These belt plates indicate a change in the design of the military belt plate incorporating openwork designs (Bishop and Coulston, 2006: 144). However, it is not certain that every object in this category can be tied to the military. In total, 32 of these belt plates have been identified from Richborough. From the Antonine period onwards, belt plates changed in style. The openwork designs surrounding the belt leather visible (Hoss, 2011: 37). The designs were also no longer simply rectangular, but open, rounded forms with ‘Celtic’ inspiration (Bishop and Coulston, 2006: 144; Hoss, 2011: 37). The most elaborate of belt plate sets from this period is from Lyon, spelling out “Utere Felix” (Hoss, 2011: 37, Fig. 4.3).

Typology and Chronology

The typology and chronology come from Hoss (2014) study of 1st – 3rd century belt fittings.

Type B.6

There is one example of this type from Richborough. This type is long and narrow with geometric enamelled fields (Hoss 2014). The decoration is like 1st – 2nd century fibulae in Britain. These date up to the mid-2nd century.

Type B.7

There is one example of this type from Richborough. This type recalls pre-Roman decoration which is split into three vertical fields (Hoss 2014). In the central field are triangles and rhombuses and in the outer are ovals and circles to create a flower effect (Hoss 2014). These appear to be dated to the turn of the 2nd century (Hoss 2014).

Type B.10

There is one example of this type from Richborough. This type is a plain rectangular fitting and is dated to the mid-2nd century based on the finds from Derby Racecourse (Wheeler, 1985: 270-3, Fig.120.1). However, similar fittings have been found on other leather straps, bags, and wooden boxes.

Type B.11.1.a

There are four examples of this type from Richborough. These date to the mid-2nd to mid-3rd century AD. They are characterised by their openwork form which allows the belt to be seen (Hoss 2014).

Type B.14

There are two examples of this type from Richborough. This type consists of a rectangular plate, framing an empty field with a circular profiled rod through the centre. Dating is poor but seem to date to the second half of the 2nd century AD.

Type B.17

There are two examples of this type from Richborough. This type is characterised by its 'tendrill' like shape within a rectangular frame. Dating places these in the mid/late-2nd century to the mid-3rd century.

Type B.18

There is one example of this type from Richborough. This type is a pierced fitting with decorative 'Celtic' elements. The decoration is lyre-shaped and openwork. These are dated to the second half of the 2nd century.

Type B.24.b

There is one example of this type from Richborough. This type is characterised by its frame shape with an empty midfield apart from a central bar, with enamelled roundels at either end. This variant has narrow sides with enamelled fields. These were assumed to date from the late 2nd – mid

3rd centuries, however, some are dated to the entire 3rd century and into the 4th, with secondary uses as strap ends.

Type B.24var

There is one example of this type from Richborough. This type is like B.24; however, the central field is filled. The ends are similar, but not the same as any type B.24.

Type B.27.c

There is one example of this type from Richborough. It is closely related to the A.6.2c belt buckle type of the 2nd – 3rd centuries. The belt plate is square with an openwork design in the centre allowing the belt behind to be visible.

Materials, design, and production

No XRF analysis was undertaken on these objects. They are all made of copper alloy.

Belt plates are typically cast or hammered and embossed when made of metal (Hoss, 2011: 34).

The buckle plates are all similar in size and would have been fitted to belts between 20 – 35mm in height. The widths of the belt plates have a wider range; between 23 – 84mm. Little can be said of the weight due to the fragmentary nature of the plates as well as their different designs.

Each of the belt plates were connected to the belt by rivets.

Use, reuse and repair

These objects were used as belt plates. There is no indication they were used for another purpose and there is no sign of repair.

Decoration

Most belt plates in this collection incorporate openwork designs. The main type at Richborough (B.11) are simple openwork designs. Some have fields for millefiori or enamel and are less common.

Parallels

In the Richborough catalogues, Malcolm Lyne used Oldenstein (1976) to show parallels with the Richborough collection. These parallels were derived from sites along the *limes* in Germany. Parallels can be found at along the Germanic *limes* at Osterburken (B.11), Pfünz (B.11), Straubing (B.11), Zugmantel (B.17), Stockstadt (B.24.b), and Saalburg (B.11).

There are also several parallels from British sites. Type B.6 is distributed from Britain to Romania with a concentration from the Rhine to Budapest (Hoss 2014). In Britain, Hoss (2014) notes special shapes at Caerleon, and Corbridge but the Richborough example is like the continental styles. Type B.7 only has a few examples, and all are from Britain (Hoss 2014). Others are found at Caerleon,

Chesterholm, and Wallsend (Hoss 2014). Type B.10 is primarily from western Europe with some in Bulgaria and the Ukraine. Those from Britain are found at Caerleon, and Derby Racecourse (Hoss 2014). Type B.11.1.a is found across the Empire. In Britain, 17 were found at Caerleon, with others at Caerwent, Chesters, Cirencester, Chichester, Corbridge, South Shields, Strageath, and Wallsend (Hoss 2014). Type B.17 has a concentration in Austria and those from Britain were found at Newstead and Richborough. The exact form of Type B.18 at Richborough is uncertain but they are found all over Europe and in Britain are known from Caerleon (Hoss 2014). Type B.24.b is mostly found in western Europe and in Britain were found at Caerleon, Carlisle, Chesterholm, Dorchester and five at South Shields (Hoss 2014). Type B.24var is not one listed by Hoss and no parallel is known. The final type B.27.c is very unusual at Richborough. Hoss (2014) only lists three other examples from Romania, Hungary, and Syria. Even similar types (B.27.a and b) are found as far west as Austria.

Key contexts

| ID | Context no. | Context date | Period |
|----------|-------------|--------------|--------|
| 96000120 | A/S?.001 | N/A | N/A |
| 7351803 | A?.015.7 | 270-295 | 10-11 |
| 96000116 | A/S?.001 | N/A | N/A |
| 7350378 | AWS.008 | N/A | N/A |
| 7350626 | A?.064.1 | N/A | N/A |
| 7351202 | AXXIII.008 | 260 – 295 | 14 |
| 7351332 | AWS.008 | N/A | N/A |
| 7350375 | A?.066 | N/A | N/A |
| 88380928 | AS.036.3 | N/A | N/A |
| 7350322 | AX.036.2 | 200 – 295 | 8-11 |
| 96000113 | A?.091 | N/A | N/A |
| 96000114 | A/S?.001 | N/A | N/A |
| 7350365 | AXVI.015.3 | 290 – 350 | 12 |
| 7351352 | A?.091 | N/A | N/A |
| 96000112 | S1.029 | 95 – 200 | 5-7 |

Overview:

Of the 15 examples, five come from dateable contexts. Some come from unstratified or surface contexts dated to the late 3rd – c.AD410. However, much in these layers is either residual or disturbed by ploughing. At least one belt plate (751202) was found in the earth fort ditches, dating to the mid-3rd century AD. Another (7350322) is the only object with a possible 2nd – 3rd century context; however, even this date can be stretched to the 4th century. Not much can be interpreted from the contextual data. As many were in the surface soil and unstratified these could belong to many periods. Those which can be dated might have been used on the site prior to the 3rd century earth fort. However, one belt plate (7351202) from the earth fort ditch suggests a use at Richborough slightly beyond the object dates. This might have been discarded by a soldier who arrived in the mid-3rd century and worked on the construction or filling of the earth fort. The belt plates on their own do not suggest a military presence in the late 2nd – mid-3rd century before the earth fort. However, one of type B.17 (96000113) might attest to Severan occupation. With two from Richborough the only other identified in Britain is from Newsteads. The majority seem to have been in use in the mid-late 3rd century. None of these belt plates were found in the shore fort ditches, which would suggest that their use did at Richborough did not continue into the 4th century. They are likely to be associated with those soldiers who dug the earth fort ditches.

Buckle Plates (1st century) = 4 objects

| ID | Object | Type | Sub-type | Object date |
|----------|--------|-------|--------------|----------------------------|
| 7351802 | Buckle | Plate | Hoss B.1. | 1 st century AD |
| 96000123 | Buckle | Plate | Hoss B.1. | 1 st century AD |
| 88380822 | Buckle | Plate | Hoss B.3.1 | 1 st century AD |
| 7351804 | Buckle | Plate | Hoss B.3.2.a | 1 st century AD |

Brief background

In the first century the military belt consisted of a series of plates. Most of these were square/rectangular plates that decorated and stiffened the belt. The buckle was also attached to one of these plates which was then attached to one end of the belt. These can be distinguished from the other belt plates as one side has an attachment for the buckle.

Typology and Chronology

The typology and chronology come from Hoss (2014) study of 1st – 3rd century belt fittings.

Type B.1.

There are two examples of this buckle plate from Richborough. These examples are plain, riveted plates with between 2-4 teeth to connect to the buckle. They are Augustan – Flavian, with the plate going through various changes in width and riveting (Hoss 2014). Earlier types tend to have rivets through the metal plate, whereas later types have rivets attached to the back of the plate (Hoss 2014). Their distribution is primarily in the Rhine area through to southern Britannia and appears primarily on military sites (Hoss 2014).

Type B.3.1

This is one example of this buckle plate from Richborough. They likely relate to belt plate type B.3.1 and are associated with buckles of type A.2.c. These buckle plates often had a hump in the centre; either pressed or riveted (Hoss 2014). On the example from Richborough not enough remains to fully confirm the type, however, there are parallels (Hoss 2014). The buckle plate has between 2-4 teeth to connect to the buckle (Hoss 2014). These also date from the Augustan-Flavian periods.

Type B.3.2.a

There is one example of this buckle plate from Richborough. This type is associated with buckle type A.2. There are circles surrounding the central, riveted hump, with a meandering line either side with diamond and teardrop-shaped decoration (Hoss 2014). These also date from the Augustan-Flavian periods.

Materials, design, and production

No XRF analysis was undertaken on these objects.

All the buckle plates were cast apart from one (96000123) which was cut from copper alloy sheeting.

The two widest plates are 31mm (7351802) and 43mm (7351804) high suggesting variation in the width of the belts. The other two are 29mm (96000123) and 35mm (88380822) high. However, there is no necessity that the buckle plate should be as wide as the belt.

The buckle plates were attached to the buckle by a series of two or four loops around the buckle hinge pin. The plates were then attached to the belt leather by a series of rivets.

Use, reuse and repair

These objects were used to attach the buckle to the leather belt. There is no indication that any were recycled or reused for any purpose.

Decoration

The only buckle plate with any decoration is 7351804, which has the pressed circular pattern surrounded by curved lines, teardrop shapes and diamonds.

Parallels

Parallels for the Augustan – Flavian examples (7351802 and 96000123) in Britannia come from early sites associated with the military such as Colchester, Caerleon, Exeter, and Fishbourne (Hoss 2014). Continental examples come from the western provinces, but some are as far away as Croatia, and Israel. One object (7351804) come from the early military sites at Hod Hill, Colchester, Camerton, Wroxeter and again Fishbourne (Hoss 2014).

Key contexts

| ID | Context no. | Context date | Period |
|----------|-------------|--------------|--------|
| 7351802 | AXIX.004 | 43 - 90 | 1-4 |
| 96000123 | A/S?.001 | N/A | N/A |
| 88380822 | A?.075 | 75 – 95 | 3-4 |
| 7351804 | A?.015.11 | 270 - 295 | 10-11 |

Overview:

Of the four examples, three have contextual data. The early Augustan example (7351802) comes from a lower occupation layer in Area XIX. This layer was above the series of buildings in Areas XVIII, XIX and XXI and was dated to AD65-80 (Cunliffe 1968: 11) but is likely in the AD70s. Another plate (88380822) was found in Section 22 which sectioned the Claudian ditches (Bushe-Fox 1932: 80-1). It is unclear where in the section it was found, but its position of 6' below datum suggests is post-dates the ditches but is pre-AD80. One plate (7351804) was found in the bottom of middle ditch of the triple ditch enclosure and was clearly removed from an earlier context cut by the ditches and then re-deposited when they were backfilled. The contexts themselves do not reveal much but their pre-monument dates do not demonstrate their continued use when the supply base was dismantled.

Buckle Plates (2nd – 3rd century) = 1 object

| ID | Object | Type | Sub-type | Object date |
|----------|--------|-------|----------|----------------------------|
| 96000118 | Buckle | Plate | Hoss B.6 | 2 nd century AD |

Brief background

The buckle plate discussed here is a plain type strongly associated to Hoss type B.6 but lacks decoration. At this time, the Roman belt style appears to have narrowed significantly from the 1st century type.

Typology and Chronology

The typology and chronology come from Hoss (2014) study of 1st – 3rd century belt fittings.

Type B.6.

There is one example of this type from Richborough. These buckle plates are long and rectangular with rivets to attach to the leather (Hoss 2014). Unlike the examples in Hoss' (2014) catalogue, this example has no decoration.

Materials, design, and production

No XRF was undertaken on this object. The plate is made from copper alloy, but the buckle tongue still attached is iron.

The buckle plate appears to have been cast.

It is 14 mm high, 46mm wide and 7mm deep, which is a similar size to the examples shown by Hoss (2014).

The plate was attached to the buckle via two loops and attached to the belt by two rivets.

Use, reuse and repair

This was used as a buckle plate to attach a buckle to the belt. It does not appear to have been reused for another purpose, however, it has been repaired as the material of the tongue does not match the plate.

Decoration

The plate is undecorated which is unlike the parallels shown by Hoss (2014).

Parallels

Buckle plates of type B.6 have been identified from Caerleon and Loughor (Hoss 2014).

Key contexts

| ID | Context no. | Context date | Period |
|----------|-------------|--------------|--------|
| 96000118 | A/S?.001 | N/A | N/A |

Overview:

There is no context associated with this object.

Buckle Plates (4th century) = 13 objects

| ID | Object | Type | Sub-type | Object date |
|----------|--------|-------|--------------------------|---|
| 96000236 | Buckle | Plate | Sorte 1, Form A, Typ A-C | Late 3 rd – Late 4 th century |
| 7351935 | Buckle | Plate | Sorte 1, Form B, Typ A-F | Late 3 rd – Late 4 th century |
| 96000253 | Buckle | Plate | Sorte 1, Form B, Typ A-F | Late 3 rd – Late 4 th century |
| 96000258 | Buckle | Plate | Sorte 1, Form B, Typ A-F | Late 3 rd – Late 4 th century |
| 7351194 | Buckle | Plate | Sorte 1, Form E | Late 4 th – 5 th century |
| 96000251 | Buckle | Plate | Sorte 1, Form E | Late 4 th – 5 th century |
| 96000252 | Buckle | Plate | Sorte 1, Form E | Late 4 th – 5 th century |
| 7351425 | Buckle | Plate | Sorte 2, Form A-E | Mid-4 th – Early 5 th century |
| 96000254 | Buckle | Plate | Sorte 2, Form A-E | Mid-4 th – Early 5 th century |
| 96000255 | Buckle | Plate | Sorte 2, Form A-E | Mid-4 th – Early 5 th century |
| 7350621 | Buckle | Plate | Misc | N/A |
| 7351020 | Buckle | Plate | Misc | N/A |
| 96000214 | Buckle | Plate | Misc | N/A |

Brief background

There are 13 buckle plates of the 4th century from Richborough. All but two of these were included by Malcolm Lyne in his paper on the late Roman belt fittings (Lyne 1999). The typologies used by Lyne (1999) were Simpson (1976) and Hawkes and Dunning (1961) for the belt fittings. Lyne

(1999: 103) suggested that there are so few of the belt plates that had separate plain buckles, that they were used without plates. There are also a few late openwork plates. For consistency, Sommer's (1984) typology for late 3rd – 5th century belt fittings have been used.

Typology and Chronology

The typology and chronology come from Sommer's (1984) study of 4th – 5th century belt fittings.

Sorte 1. Form A. Type A-C

There is one example of this buckle plate type from Richborough. They are oval and associated with rectangular and oval buckles. These can date to any time in the 4th century AD.

Sorte 1. Form B. Type A-F

There are three examples of this buckle plate type from Richborough. They are both rectangular in shape and have punched dot and circle decoration. These can date to any time in the 4th century AD.

Sorte 1. Form E

There are three examples of this buckle plate type from Richborough. They are parts of chip carved belt sets made of several pieces. They date to the late 4th – 5th century.

Sorte 2. Form A-E

There are three examples of this buckle plate from Richborough. They all have openwork designs. Most recognisable for this type are the keyhole shaped piercings. These date to c.AD364/70 – 407.

Miscellaneous

There are three examples of this buckle plate from Richborough. One buckle fragment is indeterminate by type. Another was suggested by Malcolm Lyne as Hawkes and Dunning Type IVA or VIII, but its Sommer form is uncertain.

Materials, design, and production

Surface XRF analysis was undertaken on these objects.

These buckle plates could have been cast made or hammered from sheet metal.

The buckle plates vary in size. Within their types there is little similarity, apart from the Sorte 1, Form E's.

| ID | Type | Size (mm) | Weight (g) |
|----------|---------------------------------|----------------------------|------------|
| 96000236 | Sommer Sorte 1, Form A, Typ A-C | h 23 mm x w 25 mm x d 5 mm | 6.0g |

| | | | |
|----------|---------------------------------|----------------------------|-------|
| 7351935 | Sommer Sorte 1, Form B, Typ A-F | h 62 mm x w 27 mm x d 6mm | 6.2g |
| 96000253 | Sommer Sorte 1, Form B, Typ A-F | h 32 mm x w 45 mm x d 1 mm | 6.6g |
| 96000258 | Sommer Sorte 1, Form B, Typ A-F | h 23 mm x w 39 mm x d 1 mm | 2.5g |
| 7351194 | Sommer Sorte 1, Form E | h 20 mm x w 25 mm x d 6 mm | 4.2g |
| 96000251 | Sommer Sorte 1, Form E | h 32 mm x w 12 mm x d 1 mm | 1.7g |
| 96000252 | Sommer Sorte 1, Form E | h 40 mm x w 15 mm x d 5 mm | 3.2g |
| 7351425 | Sommer Sorte 2, Form A-E | h 20 mm x w 23 mm x d 2 mm | 4.1g |
| 96000254 | Sommer Sorte 2, Form A-E | h 25 mm x w 22 mm x d 4 mm | 7.8g |
| 96000255 | Sommer Sorte 2, Form A-E | h 22 mm x w 16 mm x d 5 mm | 5.2g |
| 7350621 | Misc | h 15 mm x w 32 mm x d 4 mm | 3.8g |
| 7351020 | Misc | h 42 mm x w 50 mm x d 5 mm | 12.1g |
| 96000214 | Misc | h 14 mm x w 11 mm x d 3 mm | 1.6g |

These buckle plates were riveted to the leather belt and looped around the buckle pin.

Use, reuse and repair

These were all used as plated to attach the buckle to the belt. There is no indication that they were used as different objects and there is no sign of repair.

Decoration

The plates are decorated to different degrees. All the Form B, Typ. A-F plates are decorated. Two (96000253 and 96000258) with repousse dot decoration and the other (7351935) with circle and dot decoration. Those of form A-E all have openwork decoration.

Parallels

Openwork belt buckles are found all over the country on the PAS; however, the keyhole examples tend to fall in the south, east and midlands up to Northampton. Site finds are more easily paralleled. The keyhole example is paralleled at Ickham (Young 1981), the site of a late Roman watermill between Canterbury and Richborough. The repousse dot example (96000253) is also paralleled at Ickham (Young 1981) as well as in grave 106 at Lankhills (Clarke 1979: 272, Fig.34.126) identified as 'foreign' based on the grave goods.

Key contexts

| ID | Context no. | Context date | Period |
|----------|-------------|--------------|--------|
| 96000236 | A/S?.001 | N/A | N/A |
| 7351935 | A?.050.2 | 410+ | 14 |
| 96000253 | AW.026.7 | 410+ | 14 |
| 96000258 | A/S?.001 | N/A | N/A |
| 7351194 | A/S?.001 | N/A | N/A |
| 96000251 | A/S?.001 | N/A | N/A |
| 96000252 | A/S?.001 | N/A | N/A |
| 7351425 | A?.061 | N/A | N/A |
| 96000254 | AWS.008 | N/A | N/A |
| 96000255 | A/S?.001 | N/A | N/A |
| 7350621 | A?.049.10 | 270 – 410+ | 10-14 |
| 7351020 | AW.008 | N/A | N/A |
| 96000214 | A/S?.001 | N/A | N/A |

Overview:

Of the 13 examples, three come from dateable contexts. All the contexts link these objects to the 4th – 5th centuries. Three of these came from the stone fort ditches (7350621, 96000253 and 7351935). Two of these were found in the middle layer of the ditches (c.4' -8' down), suggesting they were deposited when the ditches were filled when the site was disused in the 5th century. Another (96000254) was found in Area 22 of the stone fort in the surface, and the final contextual example (7351020) was found in the surface outside the west gate. Only one plate (96000254) could shed light on who used this belt plate. There is some late occupation in Area 22 consisting of a hearth, ovens, a gully, and some possible metalworking. There are also traces of buildings in this area seen through burnt wattle and daub which covered these features.

Buckle Tongues (1st century) = 6 objects

| ID | Object | Type | Sub-type | Object date |
|----------|--------|--------|----------|---|
| 7350482 | Buckle | Tongue | Type A.2 | 1 st – 2 nd century |
| 7350625 | Buckle | Tongue | Type A.2 | 1 st – 2 nd century |
| 7350988 | Buckle | Tongue | Type A.2 | 1 st – 2 nd century |
| 96000260 | Buckle | Tongue | Type A.2 | 1 st – 2 nd century |
| 96000261 | Buckle | Tongue | Type A.2 | 1 st – 2 nd century |
| 96000262 | Buckle | Tongue | Type A.2 | 1 st – 2 nd century |

Brief background

The buckle tongues discussed here are all associated with 1st century buckles and are of the ‘fleur-de-lis’ or ‘trifid’ form.

Typology and Chronology

The tongues themselves do not have a typology, but they are associated with buckle types studied by Hoss (2014).

Type A.2

There are six examples of this type of buckle tongue from Richborough. According to Hoss’ (2014) typology, the ‘fleur-de-lis’ form of buckle tongue was associated with Type A.2 buckles.

Materials, design, and production

No XRF analysis was undertaken on this group of objects. They are all made of copper alloy.

All the objects appear to have been cast made.

The objects are all a similar size, c.24 – 35mm wide and 9 – 15mm high. The range in weight from 0.7 – 3.1g is due the relative completeness.

All the objects were attached to the buckle pin via a loop.

Use, reuse and repair

These objects were used as buckle tongues on military style buckles of the 1st century AD. There appears to be no reuse or repair to the objects.

Decoration

There is no decoration on the objects, and they are styled in a ‘fleur-de-lis’ or ‘trifid’ form.

Parallels

Examples of this type are found across the Roman provinces of the 1st century AD (Hoss 2014). In Britain examples are found on early military and urban sites such as Colchester, Hod Hill, Caerleon, Silchester, Chichester and St.Albans (Hoss 2014).

Key contexts

| ID | Context no. | Context date | Period |
|----------|-------------|--------------|--------|
| 7350482 | A/S?.001 | N/A | N/A |
| 7350625 | AW.026.5 | 410+ | 14 |
| 7350988 | AVI.014.1 | 50 - 160 | 1-6 |
| 96000260 | A/S?.001 | N/A | N/A |
| 96000261 | AN.012.5 | 270 – 410+ | 10-14 |
| 96000262 | A?.049.10 | 270 – 410+ | 10-14 |

Overview:

Of the six examples, four come from dateable contexts. Of these, two (7350988 and 96000260) can be said to date to the 1st – 2nd century. One tongue (7350988) is from Pit 61 a little above the bone buckle pin (96000173) and dates to AD50-160.

Buckle Tongues (1st-4th century) = 17 objects

| ID | Object | Type | Sub-type | Object date |
|----------|--------|--------|----------|---|
| 7350226 | Buckle | Tongue | N/A | 1 st – 4 th century |
| 7350831 | Buckle | Tongue | N/A | 1 st – 4 th century |
| 96000066 | Buckle | Tongue | N/A | 1 st – 4 th century |
| 96000067 | Buckle | Tongue | N/A | 1 st – 4 th century |
| 96000068 | Buckle | Tongue | N/A | 1 st – 4 th century |
| 96000069 | Buckle | Tongue | N/A | 1 st – 4 th century |
| 96000070 | Buckle | Tongue | N/A | 1 st – 4 th century |
| 96000071 | Buckle | Tongue | N/A | 1 st – 4 th century |
| 96000072 | Buckle | Tongue | N/A | 1 st – 4 th century |
| 96000073 | Buckle | Tongue | N/A | 1 st – 4 th century |
| 96000277 | Buckle | Tongue | N/A | 1 st – 4 th century |
| 96000278 | Buckle | Tongue | N/A | 1 st – 4 th century |
| 96000279 | Buckle | Tongue | N/A | 1 st – 4 th century |
| 96000280 | Buckle | Tongue | N/A | 1 st – 4 th century |
| 96000281 | Buckle | Tongue | N/A | 1 st – 4 th century |
| 96000173 | Buckle | Pin | N/A | 1 st – 2 nd century |
| 96000174 | Buckle | Pin | N/A | 1 st – 4 th century |

Brief background

Many buckles from the 1st – 4th century used a tongue to hold the belt strap in place. The pins were often separate, usually in the 1st - 3rd century, but sometimes in the 4th.

Typology and Chronology

There are 17 examples of loose 1st – 4th century buckle tongues and pins from Richborough. Unfortunately, in this group there is no indication of to which century many of the buckle tongues belong, nor the type of buckle.

Materials, design, and production

No XRF analysis was undertaken on these objects. The tongues are eight of copper alloy, seven of iron, and one bone. The pins are copper alloy and bone.

The buckle tongues and tongues are a range of size. In terms of length there are a few possible groups. Those from 27 – 43mm, 60 – 77mm, and upwards of 90mm. In general, those of iron are in the groups 60 – 77mm, and upwards of 90mm, and are generally heavier.

All the objects appear to have been either cast or hammered from sheets of metal.

All the tongues have a loop at one end, suggesting they were looped around the tongue of the buckle. The pins have notches along the length which show the position of the buckle attachment.

Use, reuse and repair

These objects were used as buckle tongues. There is no indication that they were used for another purpose. Although it is possible that the iron examples might have been attached to iron buckles, this would be unusual. There are examples in the collection (7351040 and 96000238) which are copper alloy buckles with iron pins, demonstrating repairs.

Decoration

There is no decoration on any of the objects.

Parallels

It is difficult to parallel these buckle tongues as they cannot be directly associated with specific buckle types.

Key contexts

| ID | Context no. | Context date | Period |
|----------|-------------|--------------|--------|
| 7350226 | A?.025 | N/A | N/A |
| 7350831 | AXI.023 | 270 - 295 | 10-11 |
| 96000066 | A/S?.001 | N/A | N/A |
| 96000067 | A?.050.4 | 270 – 410+ | 10-14 |
| 96000068 | A?.064.1 | N/A | N/A |
| 96000069 | A/S?.001 | N/A | N/A |
| 96000070 | A/S?.001 | N/A | N/A |
| 96000071 | A/S?.001 | N/A | N/A |
| 96000072 | A/S?.001 | N/A | N/A |

| | | | |
|----------|----------|----------|-----|
| 96000073 | A/S?.001 | N/A | N/A |
| 96000277 | A/S?.001 | N/A | N/A |
| 96000278 | A/S?.001 | N/A | N/A |
| 96000279 | A?.054 | N/A | N/A |
| 96000280 | A/S?.001 | N/A | N/A |
| 96000281 | A?.064.1 | N/A | N/A |
| 96000173 | AVI.013 | 50 – 160 | 1-6 |
| 96000174 | A/S?.001 | N/A | N/A |

Overview:

Of the 17 examples, three come from dateable contexts. Of these, one is from the shore fort ditches (late 3rd – 4th century), one is from east of the shore fort road (late 3rd – 4th century), and one is from Pit 61 (c.AD50-160). The report suggests this pit was not cleared out, but the small finds notebook places it at 9'-10' down. No further information is available.

Buckle Tongues (Zoomorphic) = 9 objects

| ID | Object | Type | Sub-type | Object date |
|----------|--------|--------|------------|--|
| 96000264 | Buckle | Tongue | Zoomorphic | Late 3 rd – 5 th century |
| 96000265 | Buckle | Tongue | Zoomorphic | Late 3 rd – 5 th century |
| 96000266 | Buckle | Tongue | Zoomorphic | Late 3 rd – 5 th century |
| 96000267 | Buckle | Tongue | Zoomorphic | Late 3 rd – 5 th century |
| 96000268 | Buckle | Tongue | Zoomorphic | Late 3 rd – 5 th century |
| 96000269 | Buckle | Tongue | Zoomorphic | Late 3 rd – 5 th century |
| 96000270 | Buckle | Tongue | Zoomorphic | Late 3 rd – 5 th century |
| 96000271 | Buckle | Tongue | Zoomorphic | Late 3 rd – 5 th century |
| 96000272 | Buckle | Tongue | Zoomorphic | Late 3 rd – 5 th century |

Brief background

These buckle tongues were identified by Malcolm Lyne as being zoomorphic in form.

Typology and Chronology

There are nine examples of loose zoomorphic buckle tongues from Richborough. It is difficult to attach any definitive buckle type to these objects, however, chronologically they are associated with buckles from the late 3rd – 5th century (Sommer 1984).

Materials, design, and production

No XRF analysis was undertaken on these objects. They are all made of copper alloy.

All the buckle tongues in this category were cast made

All the objects are of similar size, between 25 – 38mm wide and 3 – 7mm high. The weights range from 0.8 – 5.7g and is an effect of their completeness.

These objects would have been attached to the buckle tongue via a loop.

Use, reuse and repair

These objects were used as buckle tongues. There is no indication that they were reused or repaired.

Decoration

The objects are decorated with cast and incised areas and lines interpreted as zoomorphic. Several tongues (96000264 – 68) are particularly clear with decoration for eyes and bodies as well as having clearly defined heads. One tongue (96000267) is particularly good, with clear decoration and a protruding tongue from the head, resembling a snake.

Parallels

Sommer (1984) shows an association with more elaborate buckles of the 3rd – 5th centuries across the Roman Empire (See Buckles 3rd – 4th centuries~), particularly on zoomorphic belt buckles. Since these tongues appear on various buckles it is difficult to tongue down their distribution. Some forms such as Horse headed buckles are particular to Britannia (Böhme, 1986: 509, Abb.30), whereas many other highly decorated and zoomorphic forms are found in Britannia, Gaul, Germania and down the Germanic *limes* and Danube regions (Sommer, 1984: 105-10; Böhme, 1986: 474-87).

Key contexts

| ID | Context no. | Context date | Period |
|----------|-------------|--------------|--------|
| 96000264 | A/S?.001 | N/A | N/A |
| 96000265 | A/S?.001 | N/A | N/A |
| 96000266 | AXI.017 | 300 - 350 | |
| 96000267 | A/S?.001 | N/A | N/A |
| 96000268 | A/S?.001 | N/A | N/A |
| 96000269 | A/S?.001 | N/A | N/A |
| 96000270 | A/S?.001 | N/A | N/A |
| 96000271 | AN.011.9 | 270 – 410+ | |
| 96000272 | A/S?.001 | N/A | N/A |

Overview:

Of the nine examples, two have good contextual data. Object 96000271 was found in the filling of the inner north side shore fort ditch; however, this could date anywhere from the 3rd – 5th centuries. A better context is for object 96000266, which was found in Area XI, Pit 116 at 3' down. The archive shows that this pit was filled sometime in the early-mid 4th century, no later than AD350 and was found alongside 3rd – 4th century pottery and a miscellaneous buckle fragment (96000110).

Buckles (1st century) = 28 objects

| ID | Object | Type | Sub-type | Object date |
|----------|--------|--------|----------|----------------------------|
| 7350184 | Buckle | Type A | 1.a | 1 st century AD |
| 7350521 | Buckle | Type A | 1.a | 1 st century AD |
| 7350523 | Buckle | Type A | 1.a | 1 st century AD |
| 7350526 | Buckle | Type A | 1.a | 1 st century AD |
| 7350635 | Buckle | Type A | 1.a | 1 st century AD |
| 7350875 | Buckle | Type A | 1.a | 1 st century AD |
| 7351105 | Buckle | Type A | 1.a | 1 st century AD |
| 7351378 | Buckle | Type A | 1.a | 1 st century AD |
| 7351644 | Buckle | Type A | 1.a | 1 st century AD |
| 7351802 | Buckle | Type A | 1.a | 1 st century AD |
| 96000090 | Buckle | Type A | 2.a | 1 st century AD |
| 96000091 | Buckle | Type A | 2.a | 1 st century AD |
| 96000092 | Buckle | Type A | 2.a | 1 st century AD |
| 96000093 | Buckle | Type A | 2.a | 1 st century AD |
| 96000094 | Buckle | Type A | 2.a | 1 st century AD |
| 96000257 | Buckle | Type A | 2.a | 1 st century AD |
| 7350037 | Buckle | Type A | 2.a | 1 st century AD |
| 7350038 | Buckle | Type A | 2.a | 1 st century AD |
| 7350339 | Buckle | Type A | 2.a | 1 st century AD |
| 7351170 | Buckle | Type A | 2.a | 1 st century AD |
| 7351313 | Buckle | Type A | 2.a | 1 st century AD |
| 7351804 | Buckle | Type A | 2.a | 1 st century AD |
| 7351854 | Buckle | Type A | 2.a | 1 st century AD |

| | | | | |
|----------|--------|--------|--------------------|----------------------------|
| 96000051 | Buckle | Type A | 2.a | 1 st century AD |
| 88380822 | Buckle | Type A | 2.c | 1 st century AD |
| 7350039 | Buckle | Type A | 2.d | 1 st century AD |
| 96000052 | Buckle | Type A | 2.d | 1 st century AD |
| 7351803 | Buckle | Type A | 2.d. Special Shape | 1 st century AD |

Brief background

Belt buckles of the 1st century were used by soldiers in the Roman military. The belts were first worn as two overlapping belts which gradually changed to one through the 1st century AD (Bishop and Coulston 2006: 106). The belt buckle was attached to a buckle plate of the same, or similar, design to the belt plates.

Typology and Chronology

The typology and chronology come from Hoss (2014) study of 1st – 3rd century belt fittings.

Type A.1.a

There are 16 examples of this type from Richborough. They are d-shaped with a separate axle pin to attach the buckle tongue. The cross section is usually triangular, but some examples are flat. They date from the Augustan period and at least until the Flavian, if not the end of the 1st century AD. (Hoss 2014).

Type A.2.a

There are eight examples of this type from Richborough. They are semi-circular with the ends curling around like scrolls inside the frame (Hoss 2014). They also have a separate axle pin which slots through two or more protrusions on crosspieces on the terminal ends of the buckle frame (Hoss 2014). These begin to appear in the late Augustan to early Tiberian period, but most finds are from Claudio-Neronian contexts (Hoss 2014).

Type A.2.c

There is one example of this type from Richborough. They are semi-circular with the ends curling around like scrolls inside the frame (Hoss 2014). The crosspieces which hold the protrusions for the axle pin bend at 90° and touch the side of the buckle frame (Hoss 2014). These buckles tend to come from Flavian contexts (Hoss 2014).

Type A.2.d

There are two examples of this type from Richborough. They are semi-circular with the ends curling around like scrolls inside the frame which tend to be stubbier than other variants (Hoss 2014). They begin in the Tiberian-Claudian period and are in use up until the Flavian period (Hoss 2014).

Type A.2.d (Special Shape)

There is one example of this type from Richborough. This example has a crossbar but there are no scrolls curled inside the frame (Hoss 2014). Typologically it dates to the Flavian period.

Materials, design, and production

No XRF analysis was undertaken on these objects. They are all made of copper alloy apart from one which is a richly carved bone buckle of Type A.1.a (7351854).

The belt buckles of the 1st century were all cast, apart from the bone buckle which was carved.

There is a wide range in the belt buckle sizes. The complete Type A.1.a examples tend to fall around 29-44mm high suggesting a range of belt widths. One possible example (7350521) is 59mm high but might not be a belt buckle. The Type A.2.a examples tend to be wider, between 43-60mm high. Since these types are typically slightly later, this might be demonstrative of the change from two to one belt during the 1st century AD.

The buckles were attached to a buckle plate which was riveted to the leather of the belt.

Use, reuse and repair

These objects were used as belt buckles. There is no indication that they were used for any other purpose. However, there is sign of repair on one buckle. The copper-alloy frame has had an iron buckle tongue added, presumably due to the loss of the original.

Decoration

The buckles are largely undecorated. One typical feature is the scrolls on the ends of the loop which curl around into the buckle frame. These are more or less pronounced on different types, usually either slender or stubby. However, the Type A.2.d 'special shape' is highly decorative. The buckle has 17 enamelled triangular fields (9 red, 8 green) around the frame. The base of the red triangles is on the outside edge of the frame and the base of the green triangles is on the inside edge. The belt plate which is still attached has similar triangles in the centre of three fields. The outer two fields have red and green enamelled petal patterns.

Parallels

There are multiple parallels for these buckles across sites in the 1st century AD. Hoss (2014) has compiled a list which shows them appearing on military and civilian sites.

Key contexts

| ID | Context no. | Context date | Period |
|---------|-------------|--------------|--------|
| 7350184 | A?.064.1 | N/A | N/A |
| 7350521 | AWS.008 | N/A | N/A |

| | | | |
|----------|-------------|------------|-------|
| 7350523 | AW.008 | N/A | N/A |
| 7350526 | AW.027.1 | 270 – 410+ | 10-14 |
| 7350635 | A?.016.1 | 270 – 295 | 10-11 |
| 7350875 | AX.041.4 | 270 – 410+ | 10-14 |
| 7351105 | AXVI.017.1 | 75 – 260 | 3-8 |
| 7351378 | AN.011.6 | 270 – 410+ | 10-14 |
| 7351644 | AWS.008 | N/A | N/A |
| 7351802 | AXIX.004 | 43 – 90 | 1-4 |
| 96000090 | AVI.001 | N/A | N/A |
| 96000091 | A/S?.001 | N/A | N/A |
| 96000092 | A?.022 | N/A | N/A |
| 96000093 | A/S?.001 | N/A | N/A |
| 96000094 | AX.039 | N/A | N/A |
| 96000257 | AXVIII.001 | 43 – 75 | 1-3 |
| 7350037 | AS.006 | 150 – 350 | 7-12 |
| 7350038 | A?.048.1 | 270 – 410+ | 10-14 |
| 7350339 | AS.039 | N/A | N/A |
| 7351170 | AXXIV.007.2 | 270 – 295 | 10-11 |
| 7351313 | AWS.008 | N/A | N/A |
| 7351804 | A?.015.11 | 270-295 | 10-11 |
| 7351854 | AXVII.076 | 75 – 95 | 3-4 |
| 96000051 | AWS.008 | N/A | N/A |
| 88380822 | A?.075 | 75 – 95 | 3-4 |
| 7350039 | AWS.008 | N/A | N/A |
| 96000052 | AXVII.003.2 | 95 – 200 | 5-7 |
| 7351803 | A?.015.7 | 270-295 | 10-11 |

Overview:

Of the 28 examples, 15 come from dateable contexts. Of the 17 A.1.a examples there are 5 which have good contextual data. Two of these (96000090 and 96000091) are from Area 6 and the latter of these is from Pit 61, which is a well, filled in in the first half of the 2nd century (Bushe-Fox 1949: 82). It is unclear whether this relates to the bone A.1.a example. Another (96000094) came from low layer next to a hearth.

In Area 18 their use during the first military phase is confirmed by one buckle (96000257) below the material used for the monument.

Of the eight A.2.a examples only one (7351854) is from a 1st century layer. Two examples (7350037 and 7350339) were found outside the walls showing that after the Claudian ditches were filled, military occupation occurred outside of the later fort walls. A few were also found in Area 22 but not in 1st century contexts. Several buckles were found south of the granaries. Little is known about this area in the 1st century, but pieces of military armour were also found in this area which might suggest living quarters.

Many buckles were found in late contexts, such as the earth, and shore fort ditches which contain much 1st – 2nd century material.

Buckles (1st – 2nd century) = 3 objects

| ID | Object | Type | Sub-type | Object date |
|---------|--------|--------|----------|---|
| 7351052 | Buckle | Type A | 3.a | Late 1 st – Late 2 nd century |
| 7351395 | Buckle | Type A | 3.a | Late 1 st – Late 2 nd century |
| 7351401 | Buckle | Type A | 3.a | Late 1 st – Late 2 nd century |

Brief background

The belt buckles of the 1st – 2nd centuries AD of the form discussed here were used on the Roman military belt. The form is reminiscent of the Noric-Pannonian women's belts but this connection is not proven (Hoss 2014). These belt buckles overlap in a time where there was a switch from two belts to one worn by the soldiers (Bishop and Coulston 2006: 106).

Typology and Chronology

The typology and chronology come from Hoss (2014) study of 1st – 3rd century belt fittings.

Type A.3.a – c.AD80 – 179

There are three examples of this type from Richborough. The type has a rectangular frame with each side being slightly concave (Hoss 2014). Two protrusions are found on the belt plate side to hold an axle pin and a plate away from the buckle. On the corners on the opposite side to the plate there are two globular bulges. There are no certain pre-Flavian examples and the latest is from between AD171-179 (Hoss 2014).

Materials, design, and production

No XRF analysis was undertaken on these objects.

Each of these belt buckles were cast.

The two complete examples show some uniformity, with one (7351401) slightly bigger than the other (7351395).

The buckles were attached to the belt plate by two round protrusions through which an axle pin was passed to secure it to the belt.

Use, reuse and repair

These objects were used as buckles on the Roman military belt. There is no sign that they were used for any other purpose and no indication that any repair had taken place.

Decoration

These belt buckles are largely undecorated. They have no carved or engraved decoration, but their form is more decorative, with the curves and protrusions, than mid-1st century buckles.

Parallels

There are multiple parallels in Britain and abroad. The majority cluster around the Germanic limes and in Britain they are found at Hadrian's Wall, Corbridge, South Shields, Wroxeter and Newstead, making their association Roman and most likely military (Hoss 2014).

Key contexts

| ID | Context no. | Context date | Period |
|---------|-------------|--------------|--------|
| 7351052 | AXVI.014 | 44 - 95 | 1-4 |
| 7351395 | AXVII.045.2 | 43 - 200 | 1-7 |
| 7351401 | AXVII.028.1 | N/A | N/A |

Overview:

Of the three examples, two come from datable contexts. The first contextualised example (7351052) is from east of the road in Area 16. This example is from a layer above the destruction of the final pre-Flavian building in this area. This is either in the destruction debris of the building or in the bottom of the sand levelling caused from excavation for the monument foundation. This can fit with the earliest dating of these buckles of c.AD80. The two from the surface were found in Area 17 which is a large area so their exact location cannot be determined. The other contextualised example (7351395) is from the first later in Area 17/32 dated to the late 1st – early 2nd centuries AD. However, there is no indication it was associated with any feature in this area.

Buckles (2nd – 3rd century) = 2 objects

| ID | Object | Type | Sub-type | Object date |
|----------|--------|--------|----------|-------------|
| 7351534 | Buckle | Type A | 6.2.c | AD100 - 300 |
| 96000088 | Buckle | Type A | 6.2.c | AD100 - 300 |

Brief background

Buckles of the 2nd – 3rd century of these types

Typology and Chronology

The typology and chronology come from Hoss (2014) study of 1st – 3rd century belt fittings.

Type A.6.2.c – AD

There are two examples of this type from Richborough. The buckles of this type are square with a divider in the middle (Hoss 2014). This is used instead of the regular buckle tongue. They date from the Severan period until the late 3rd century.

Materials, design, and production

No XRF analysis was undertaken on these objects. They are all made of copper alloy.

Each of the buckles were cast made.

There is only one complete example from Richborough (7351534). It is h.52mm x w.52mm x d.3mm. The other example is 60mm on one side, slightly bigger than the other. These fall comfortably in the range of examples of type A.6.2.a-c.

Rather than using a buckle tongue, each end of the belt is passed through the buckle and looped around the frame. It is then hooked around studded fasteners attached to the belt (see Hoss 2011: 39, Fig.4.5 for a diagram of this).

Use, reuse and repair

These objects were used as belt buckles. There is no indication that they were used for another purpose and no sign that they were repaired. In fact, one example (7351534) appears to be in particularly good, possibly usable condition.

Decoration

Neither example has any carved or inscribed decoration. The central bar one example (7351534) is if two opposite, mirrored pelta shapes. Above, below and between these are diamond shaped protrusions.

Parallels

Examples of these are found along the *limes* in Europe, however the small number does not add much detail to potential geographical distributions. In Britain one other is noted at Caerleon. Others of in the similar A.6.2 types have been found at Dover and Carpow.

Key contexts

| ID | Context no. | Context date | Period |
|----------|-------------|--------------|--------|
| 7351534 | A?.064.1 | N/A | N/A |
| 96000088 | A/S?.001 | N/A | N/A |

Overview:

Of the two examples, neither come from datable contexts. Only for one (7351534) the context is noted as 'Topsoil'.

Buckles = 34 objects

|  ID | Object | Type | Sub-type | Object date |
|--|---------------|----------------|------------------------|--------------------|
| 7350000 | <i>Buckle</i> | <i>Sorte 1</i> | <i>Form A/C. Typ A</i> | <i>AD290 - 400</i> |
| 7350002 | Buckle | Sorte 1 | Form A/C. Typ A | AD290 – 400 |
| 7350004 | Buckle | Sorte 1 | Form A/C. Typ A | AD290 – 400 |
| 7350008 | Buckle | Sorte 1 | Form A/C. Typ A | AD290 – 400 |
| 7350099 | Buckle | Sorte 1 | Form A/C. Typ A | AD290 – 400 |
| 7350545 | Buckle | Sorte 1 | Form A/C. Typ A | AD290 – 400 |
| 7350547 | Buckle | Sorte 1 | Form A/C. Typ A | AD290 – 400 |
| 7350548 | Buckle | Sorte 1 | Form A/C. Typ A | AD290 – 400 |
| 96000215 | Buckle | Sorte 1 | Form A/C. Typ A | AD290 – 400 |
| 96000238 | Buckle | Sorte 1 | Form A/C. Typ A | AD290 – 400 |
| 7350874 | Buckle | Sorte 1 | Form A/C. Typ B | AD290 – 400 |
| 73501158 | Buckle | Sorte 1 | Form A/C. Typ B | AD290 – 400 |
| 96000231 | Buckle | Sorte 1 | Form A/C. Typ B | AD290 – 400 |
| 96000232 | Buckle | Sorte 1 | Form A/C. Typ B | AD290 – 400 |
| 96000233 | Buckle | Sorte 1 | Form A/C. Typ B | AD290 – 400 |
| 96000234 | Buckle | Sorte 1 | Form A/C. Typ B | AD290 – 400 |
| 7350878 | Buckle | Sorte 1 | Form C. Typ C | AD290 – 400 |
| 7351040 | Buckle | Sorte 1 | Form C. Typ C | AD290 – 400 |
| 7351808 | Buckle | Sorte 1 | Form C. Typ C | AD290 – 400 |
| 96000221 | Buckle | Sorte 1 | Form C. Typ C | AD290 – 400 |
| 96000222 | Buckle | Sorte 1 | Form C. Typ C | AD290 – 400 |
| 96000241 | Buckle | Sorte 1 | Form C. Typ C | AD290 – 400 |
| 9600243 | Buckle | Sorte 1 | Form C. Typ D | AD364/70 - 400 |
| 96000244 | Buckle | Sorte 1 | Form C. Typ D | AD364/70 - 400 |
| 96000245 | Buckle | Sorte 1 | Form C. Typ D | AD364/70 - 400 |
| 96000246 | Buckle | Sorte 1 | Form C. Typ D | AD364/70 - 400 |

| | | | | |
|----------|--------|---------|---------------------------|----------------|
| 96000248 | Buckle | Sorte 1 | Form C. Typ F, Var. 4c | AD390 - 450 |
| 96000249 | Buckle | Sorte 1 | Form C. Typ F, Var. 4c | AD390 - 450 |
| 96000250 | Buckle | Sorte 2 | Form A. Typ A-C | AD364/70 - 407 |
| 7350260 | Buckle | Sorte 3 | Typ B | AD364/70 - 407 |

Brief background

Buckles of the 3rd – 5th centuries have been studied several times over by Hawkes and Dunning (1961), Böhme (1974), Simpson (1976), and Sommer (1984). Böhme's study isolated several regional types (Swift 2000: 185) while Sommer produced a large typology for buckles. Swift (2000: 185-204) took much of Sommer's data and expanded the dataset. For the buckles of the late 3rd – 5th century in this study Sommer's typology and dating is employed based largely upon grave finds from across the Roman Empire. This is one group of objects that was studied previously (Lyne 1999), but needs reinterpretation using more recent and more robust typologies.

Typology and Chronology

The typology and chronology come from Sommer's (1984) study of 3rd - 5th century belt fittings.

Sorte 1. Form A or C. Type A. –AD290-400 / AD310-400

There are 10 examples of this type from Richborough. The Type A has a D-shaped or oval buckle. It either comes with an oval or kidney shaped (Form A) or rectangular (Form C) plate. Form A is distributed. These are found in three main areas: west Belgica, Germanic and Raetian *limes* and Pannonia. The Form A examples come from each of these areas and from Britain. They date as early as AD290 in Pannonia, but slightly later in the Western Empire. Form C is distributed in Pannonia and the west of the Rhine. There are also very few in Britain. These date to the whole of the 4th century.

Sorte 1. Form A or C. Type B – AD290-400

There are six examples of this type from Richborough. The Type B has a saddle shaped loop. It either comes with an oval or kidney shaped (Form A) or rectangular (Form C) plate. These are found in three main areas: west Belgica, Germanic and Raetian *limes* and Pannonia. The Form A examples come from each of these areas and from Britain. They date as early as AD290 in Pannonia, but slightly later in the Western Empire. The Form C distribution is along the frontier in Germania and Pannonia but not beyond the *limes*, with a few in Britain. These buckles span the whole of the 4th century.

Sorte 1. Form C. Type C. - AD290-400

There are 6 examples of this type from Richborough. These are the only ones of Sommer's Sorte 1 to have a rectangular loop. They also have a rectangular plate and square/sub-square cross section. Their distribution is predominantly in Pannonia with some in Britain. There is no definitive dating on this type, but they likely date to the whole of the 4th century.

Sorte 1. Form C. Type D. - AD364-70 – 407

There are four examples of this type from Richborough. All appear to be of the Horsehead type (Hawkes and Dunning Type IB). This is a particular British type with only one found outside Britain. The date of these is in the late 4th – early 5th century. One was found in a Lankhills grave with a coin of AD388-95 (Booth, Simmonds, Boyle, *et al.* 2010: 159-60).

Sorte 1. Form C. Type F. Var. 4c. – AD390 - 450

There are two examples of this type from Richborough. Both appear to be of Sommer Type F, Var.4c with a distribution in Germania and beyond the Empire, with one at Lankhills. These date to the late 4th century on the continent but in Britain one of the earliest datable finds is the one from Lankhills in a grave of AD390 – 410 (Clarke 1979: 277).

Sorte 2. Form A. Type A or C. or Form B-D. - AD364-70 – 407

There is one example of this type from Richborough. It has two confronted animal heads at the centre of the frame and would have had a rectangular plate, either solid or pierced. This is mostly a western type but there is some distribution in Pannonia. They date to the late 4th – early 5th century.

Sorte 3. Type B. - AD364-70 – 407

There are four examples of this type from Richborough. Two of these are zoomorphic dolphin types and two have plainer loops; one with a D-shaped loop, the other with a saddle shape. This type has a distribution in Britain and Gaul and date to the late 4th century.

Sorte 3. Type E. - AD290-400

There is one example of this type from Richborough. It has a triangular plate with the central section removed and semi-circular projections. This type is distributed from Southern Britain to Pannonia and corresponds to Sorte 2, Form B. Date wise these are from any time in the 4th century.

Materials, design, and production

XRF analysis was undertaken on these objects.

The objects in this category were made in moulds.

The objects come in a range of sizes. The earlier late 3rd – 4th century types are much smaller than the later 4th – 5th century types. This is apart from the horse head buckles which are small.

The buckles would have either have attached to the end of a strap via the buckle plate or been inserted through the centre of the leather belt strap for wider style belts.

Use, reuse and repair

All these objects appear to have been used as belt buckles. There is no indication that there was any secondary use. Most examples were likely discarded after they came apart from their belt plates. Only a few, that can be identified as Sorte 1. Form A. Typ A appear to have their belt plates. An interesting example of wear on a buckle is on a Sorte 1. Form C. Typ F (96000248). The central part of the loop is raised with lips on either side. The centre of the inside lip is well worn suggesting it was used for a long time.

Decoration

There is various decoration on these buckles. Some are plain loops, but the late examples have either facing zoomorphic heads and/or horse heads facing opposite directions. In some cases, both are present.

Parallels

There are multiple parallels in Britain and on the continent for these buckles (see Sommer 1984)

| Type | Parallels |
|--------------------------------|--|
| Sorte 1. Form A/C. Typ A | Form A: Danube provinces, Germania, Britain Form C: Danube provinces, Germania, Britain |
| Sorte 1. Form A/C. Typ B | Form A: Danube provinces, Germania, Britain Form C: Danube provinces, Germania, Britain |
| Sorte 1. Form C. Typ C | Danube provinces, Britain |
| Sorte 1. Form C. Typ D | Britain |
| Sorte 1. Form C. Typ F. Var.4c | Germania, Gaul, Britain |
| Sorte 2. Form A. Typ A-C | Germania, Gaul, Britain |
| Sorte 3. Typ B | Germania, Gaul Britain |
| Sorte 3. Typ E | Danube provinces, Germania, Britain |

Key contexts

| ID | Context no. | Context date | Period |
|----------|-------------|--------------|--------|
| 7350547 | A?.050.4 | 270 – 410+ | 10-14 |
| 73501040 | A?.049.5 | 410+ | 14 |
| 96000248 | A?.049.10 | 270 – 410+ | 10-14 |
| 96000249 | AW.027.11 | 270 – 410+ | 10-14 |
| 7350002 | AS.032.4 | 410+ | 14 |
| 7350008 | A?.050.2 | 410+ | 14 |
| 7350099 | AS.033.2 | 270 – 410+ | 10-14 |
| 7350000 | A?.031 | N/A | N/A |
| 96000215 | S3.028 | N/A | N/A |
| 7351808 | A?.031 | N/A | N/A |
| 96000246 | A?.031 | N/A | N/A |
| 96000221 | A?.100 | N/A | N/A |
| 7350736 | A?.100 | N/A | N/A |
| 7350341 | A?.064.1 | N/A | N/A |
| 7350545 | A?.066 | N/A | N/A |
| 96000241 | AXI.010.3 | 270 – 350 | 10-12 |
| 96000231 | AXXIII.040 | 410+ | 14 |
| 7350004 | AXVI.016.2 | N/A | N/A |
| 7350874 | AWS.008 | N/A | N/A |
| 96000238 | AWS.008 | N/A | N/A |
| 96000244 | AWS.008 | N/A | N/A |
| 96000245 | AWS.008 | N/A | N/A |
| 7350878 | AV.004.1 | 100 – 410+ | 5-14 |
| 96000222 | AN.013 | N/A | N/A |
| 96000247 | AN.013 | N/A | N/A |
| 96000243 | AXXIII.022 | N/A | N/A |
| 96000250 | S7.003 | 350 – 410+ | 13-14 |

Overview:

Of the 34 examples, 10 come from dateable contexts. Many of these are surface finds, but perhaps significantly is the collection in the south-west corner of the stone fort (Area XXII). In this area five buckles were found consisting of three different types (7350004, 7350874, 96000238, 96000244-5) In this area of the fort there were signs of metalworking and burnt timber buildings (Cunliffe 1968). The dating of these layers is towards the end of the 4th century with the buckles either spanning the 4th century or appearing in the mid-late 4th – early 5th centuries. A similar collection of four buckles was found in the top layer of the north-east corner, again with signs of timber buildings. A few buckles can be suggested to be AD410+ as they are in the backfill of the ditches and two from pits can be dated, one in Pit 314 (96000231) with a man, woman and child, with a collection of other objects.

Belt Mounts (2nd – 3rd century) = 7 objects

| ID | Object | Type | Sub-type | Object date |
|----------|--------|-------|----------|---|
| 7350257 | Belt | Mount | B18 | 2 nd – 3 rd century |
| 7351187 | Belt | Mount | B18 | 2 nd – 3 rd century |
| 7350343 | Belt | Mount | B21 | 2 nd – 3 rd century |
| 7350357 | Belt | Mount | B21 | 2 nd – 3 rd century |
| 7351536 | Belt | Mount | B21 | 2 nd – 3 rd century |
| 96000131 | Belt | Mount | Misc | N/A |
| 96000132 | Belt | Mount | Misc | N/A |

Brief background

These belt mounts were used in the 2nd – 3rd century as decoration. There is a great variety in forms of belt plate, but, for the most part, they are characterised by their openwork designs (Hoss 2011: 37). There was a revival of ‘Celtic’ designs and this is said to have been inspired by Danubian forms (Hoss 2011: 37). The mounts in this section were used for decoration in the 2nd – 3rd centuries AD. However, according to Oldenstein (1976: 187-8) it is uncertain if all were used on military belts and some could have decorated horse harnesses.

Typology and Chronology

Malcom Lyne presented this collection of belt mounts as Types A, B, E, F and miscellaneous. The new typology and chronology for these plates comes from Hoss (2014).

Type B18

There are two examples of this type from Richborough. This type is often described as “lyre-shaped” and has elements of pre-Roman tradition (Hoss 2014). Most have openwork decoration, but some appear to be solid. This type is dispersed along the German *limes* and can be dated to the second half of the 2nd century – the first half of the 3rd century (Hoss 2014). There are two examples of this belt mount type from Richborough.

Type B21

There are three examples of this type from Richborough. This type consists of the trumpet type ornamentation and can be linked to pre-Roman traditions (Hoss 2014). This type does is not only associated with belts but all sorts of leather straps, including horse harnesses and leather bags (Hoss 2014). There is also a close relationship with the above type (B18) with the openwork trumpet

ornaments. On the German *limes* they date to the 2nd half of the second century – first half of the 3rd century AD.

Miscellaneous

There are two miscellaneous examples from Richborough. There are various other miscellaneous belt mounts that do not fit into any specific types and have no good context data.

Materials, design, and production

No XRF analysis was undertaken on these objects

These plates were cast made.

It is difficult to comment on the metrology of the objects as in some cases there are few forms, and they are extremely varied.

Each of the belt mounts were attached by two or more protrusions on the rear of the object which would have penetrated the leather belt

Use, reuse and repair

These objects were used to decorate leather straps, mostly likely military belts. There is no indication of reuse as other objects and no sign of any repair.

Decoration

Types B18 and B21 are mostly of openwork design. Only one of B18 (7350257) is solid and pelta-shaped.

Parallels

Parallels for type B18 can be found from Britain to Syria but are most common on or around the Germanic *limes*. A couple of similar examples to 7351187 were found at Caerleon (Hoss 2014). Type B21 is found in various forms right across the Empire. In Britain it is found on military and urban sites such as Caerleon, Chesterholm, Cirecester, Corbridge, Newstead, South Shields and Piercebridge (Hoss 2014).

Key contexts


| ID | Context no. | Context date | Period |
|---------|-------------|--------------|--------|
| 7350257 | AX.041.1 | N/A | N/A |
| 7351187 | AXI.006.1 | 270 – 295 | 10-11 |
| 7350343 | AW.041 | N/A | N/A |
| 7350357 | A/S?.001 | N/A | N/A |
| 7351536 | AXVI.026.1 | 125 – 200 | 6-14 |

| | | | |
|----------|----------|-----|-----|
| 96000131 | A/S?.001 | N/A | N/A |
| 96000132 | AN.013 | N/A | N/A |

Overview:

Of the seven examples, However, many of these are vague and give no clue to dating. The closest dated context is Pit 186 (7351536). This pit was dated to c.AD120 – 170 but by the Samian suggests a date of c.AD185 – early 2nd century. This puts the filling of this pit possibly later than the supposed demise of the port town.

Rosette Attachments (3rd – 4th century = 4 objects

|  | Object | Type | Sub-type | Object date |
|---|--------|------|-------------------------|--|
| 96000196 | Belt | VI | Rosette disc-attachment | Late 4 th – early 5 th |
| 96000197 | Belt | VI | Rosette disc-attachment | Late 4 th – early 5 th |
| 96000198 | Belt | VI | Rosette disc-attachment | Late 4 th – early 5 th |
| 96000199 | Belt | VI | Rosette disc-attachment | Late 4 th – early 5 th |

Brief background

These rosette attachments were once thought to be used to support the belt through means of a shoulder strap, however, they were more likely used to attach a knife or other utensil to the belt. They are made up of two parts. The first is a rosette decorated rivet which attaches to the belt. The second is a ring attached to the head from which to suspend the knife.

Typology and Chronology

The typology and chronology come from Hawkes and Dunning (1961:65-8).

Type VI

There are four examples of this belt mount type from Richborough. In contrast to examples from the 1st – 3rd century, which are a single piece with the ring incorporated into the rivet, the 4th century examples come in two parts. The part attached to the belt is a folded sheet of metal which slots over the bottom edge of the belt and is attached by a rivet. The ring hangs from this folded sheet of metal. Hawkes and Dunning (1961: 65-8) place these in Type VI of their belt fittings.

Materials, design, and production

XRF analysis was undertaken on these objects.

These fittings were cast made.

These fittings are uniform in size, ranging from a height of 22 – 33mm and depth of 15 – 17mm. Their weights vary, but this is due to the completeness of each object.

They are attached to the belt by slotting the front and back of the roundel over the leather belt and secured by a rivet.

Use, reuse and repair

These fittings were used to attach objects, such as a knife, to the belt. All but one of the examples (9600198) has the ring attached and two examples (96000196-7) have the rivets in place, suggesting that they were deliberately cut from the belt or the belt wore away for them to fall off. There is no indication they were used for another purpose and there is no sign of repair.

Decoration

Each rivet head is decorated with a rosette design, apart from one (96000196) which is a plain version of the type. The decoration is typical of the chip-carving of the late 4th – early 5th century. Parallel decoration is seen at Vermand, Moceau-le-Neuf, Trier and Frankfurt (Hawkes and Dunning 1961: 15) suggesting a continental origin.

Parallels

Parallels from were identified by Hawkes and Dunning (1961: 65-6). Apart from those at Richborough, one site find is from Caister-by-Norwich was unstratified but in an area of late material. Roman grave finds come from Dorchester, Milton-next-Sittingbourne and possibly an Anglo-Saxon grave from Croydon. The continental parallels mentioned above are found with a variety of other belt fittings. Pertinent to Richborough are those found with Sommer type belt buckles of Sorte 1 Form C Typ F, in Furfooz, and Vieuxville (both in Belgium) and Vermand, and Menceau-Le-Neuf (France).

Key contexts

| ID | Context no. | Context date | Period |
|----------|-------------|--------------|--------|
| 96000196 | A?.031 | N/A | N/A |
| 96000197 | AW.027.1 | 270 – 410+ | 10-14 |
| 96000198 | A?.049.5 | 410+ | 14 |
| 96000199 | AW/027.1 | 270 – 410+ | 10-14 |

Overview:

Of the four examples, four come from dateable contexts. Three were found in the stone fort ditches. Two of these were found at 4' -8' down in the middle layer suggesting they were deposited when the ditches were deliberately backfilled. The other (96000196) was found in the top layer inside

the north-east corner of the stone fort. These contexts firmly place the objects in the late 4th - early 5th century.

Strap Slides and Stiffeners (3rd – 5th century) = 18 objects

| ID | Object | Type | Sub-type | Object date |
|----------|--------|----------------|-------------|-----------------------------------|
| 7350686 | Belt | Belt Stiffener | Plain | 3 rd – 4 th |
| 96000184 | Belt | Belt Stiffener | Plain | 3 rd – 4 th |
| 96000185 | Belt | Belt Stiffener | Plain | 3 rd – 4 th |
| 96000186 | Belt | Belt Stiffener | Plain | 3 rd – 4 th |
| 96000187 | Belt | Belt Stiffener | Plain | 3 rd – 4 th |
| 96000188 | Belt | Belt Stiffener | Plain | 3 rd – 4 th |
| 96000189 | Belt | Belt Stiffener | Plain | 3 rd – 4 th |
| 96000190 | Belt | Belt Stiffener | Plain | 3 rd – 4 th |
| 96000191 | Belt | Belt Stiffener | Plain | 3 rd – 4 th |
| 96000192 | Belt | Belt Stiffener | Plain | 3 rd – 4 th |
| 96000193 | Belt | Belt Stiffener | Plain | 3 rd – 4 th |
| 96000194 | Belt | Belt Stiffener | Plain | 3 rd – 4 th |
| 96000195 | Belt | Belt Stiffener | Plain | 3 rd – 4 th |
| 7350247 | Belt | Belt Stiffener | Propeller | 3 rd – 5 th |
| 7350982 | Belt | Belt Stiffener | Propeller | 3 rd – 5 th |
| 96000183 | Belt | Belt Stiffener | Propeller | 3 rd – 5 th |
| 7351167 | Belt | Strap Slide | Plain | 3 rd – 5 th |
| 96000182 | Belt | Strap Slide | Chip-Carved | Early 5 th |

Brief background

Appliques continued belts in the late 3rd into the 4th century. These took many different forms. The evidence for these is biased toward southern Britain, northern France, the Rhineland, and Upper Danube due to burial practices rather than use (Bishop and Coulston 2006: 218). One of the most well-known is the ‘propeller stiffener’ which had a central roundel and two projections that resemble propeller blades. These were first seen on women’s belts in the 2nd century and were used by the military in the 3rd – 4th century (Bishop and Coulston 2006: 220). Another is the strap slide, which is a

vertical strip of metal through which the narrow part of the belt passed after it was fed through the buckle

Typology and Chronology

Malcolm Lyne listed belt stiffeners and strap slides together. In total he identified three 'propeller' stiffeners, 13 plain stiffeners and two strap slides. However, it is possible that some of the plain belt stiffeners were strap slides.

'Propeller' belt stiffeners

There are three examples of this type from Richborough. These belt stiffeners have a central roundel and two adjacent triangular projections. Each belt stiffener was riveted to the belt through each of the triangular projects. They are usually decorated in the central roundel and along the edges of the triangular projections.

Plain belt stiffeners

There are 13 examples of this type from Richborough. Similarly, to the propeller stiffeners, these are connected to the belt by rivets. Some have rivets at either end; however, some have a third rivet in the centre. This would rule them out as strap slides. However, those with rivets at either end could possibly be strap slides.

Strap slides

There are two examples of this type from Richborough. Strap slides were used to hold the short strap of the belt in place. There were attached by rivets at either end leaving the central portion raised from the belt with enough room through which to pass the strap.

Materials, design, and production

XRF analysis was undertaken on these objects.

These objects were cast or hammered from sheet metal.

All the objects, apart from one have a height up to 50mm suggesting use with the narrower belt of the 4th century. One strap slide is 71mm in height and would have been used with the wider belt of the late 4th century. The same could be said of the chip-carved example (96000182) which has a half-length of 42mm.

These objects were attached to the belt via rivets.

Use, reuse and repair

These objects were used to stiffen the military belt of the 3rd – 5th centuries. There is no indication that they were reused as other objects, and none show any sign of repair.

Decoration

The propeller strap slides from Richborough all have slightly different decoration, although there are some similarities. One (7350247) has punched dots around the edge of the central roundel with four dots directly in the centre. The edges of the triangular projections have incised lines. Two objects (7350982 and 96000183) have similar decoration. Both have a raised section running vertically down the centre, of which 96000183 is scored with diagonal lines. Both also have incised lines along the edges of the triangular perforations. One (7350982) has these lines continuing around the roundel, whereas the other (96000183) has dots surrounding the edge. Finally, 7350982 has two circle and dot decorations on the rounded either side of the raised vertical section. One of the strap slides (96000182) has chip carved decoration of the late 4th – early 5th century.

Parallels

Propeller belt stiffeners appear in Norfolk, Wiltshire, Hampshire, Lincolnshire, Dorset, North Yorkshire, Buckinghamshire, and Essex, but intriguingly not in Kent. These were used in Kent as they are found at Richborough and one at Ickham (Young 1981).

Key contexts

| ID | Context no. | Context date | Period |
|----------|-------------|--------------|--------|
| 7350686 | A?.049.10 | 270 – 410+ | 10-14 |
| 96000184 | AN.013 | N/A | N/A |
| 96000185 | AN.011.4 | 410+ | 14 |
| 96000186 | A/S?.001 | N/A | N/A |
| 96000187 | A/S?.001 | N/A | N/A |
| 96000188 | A/S?.001 | N/A | N/A |
| 96000189 | A/S?.001 | N/A | N/A |
| 96000190 | A/S?.001 | N/A | N/A |
| 96000191 | A?.049.5 | 410+ | 14 |
| 96000192 | A/S?.001 | N/A | N/A |
| 96000193 | AN.011.6 | 270 – 410+ | 10-14 |
| 96000194 | A/S?.001 | N/A | N/A |
| 96000195 | A/S?.001 | N/A | N/A |
| 7350247 | A/S?.001 | N/A | N/A |

| | | | |
|----------|-----------|------------|-------|
| 7350982 | A?.049.11 | 270 – 410+ | 10-14 |
| 96000183 | A?.100 | N/A | N/A |
| 7351167 | A?.100 | N/A | N/A |
| 96000182 | A/S?.001 | N/A | N/A |

Overview:

Of the 18 examples, five come from dateable contexts. Where it is available, they tend to appear in the middle to bottom of the stone fort ditches suggesting a late 4th – early 5th century deposition. One propeller type (7350247) was found on the ridge of the recut stone fort ditch outside the west gate. It is unclear when this was cut but it had to be in the late 4th century.

Phalerae (1st – 4th century) = 44 objects

| ID | Object | Type | Sub-type | Object date |
|----------|---------------|---------|----------------------|-----------------------------------|
| 7351945 | Phalera | A | Anthropomorphic | 1 st – 2 nd |
| 7351948 | Phalera | A | Anthropomorphic | 1 st – 2 nd |
| 7350191 | Phalera | B | ‘Mexican Hat’ | ? |
| 7350192 | Phalera | B | ‘Mexican Hat’ | ? |
| 7351447 | Phalera | B | ‘Mexican Hat’ | ? |
| 96000133 | Phalera | B | ‘Mexican Hat’ | ? |
| 7350729 | Apron Fitting | Phalera | Legionary ‘cingulum’ | 1 st – 2 nd |
| 7351432 | Apron Fitting | Phalera | Legionary ‘cingulum’ | 1 st – 2 nd |
| 7351672 | Apron Fitting | Phalera | Legionary ‘cingulum’ | 1 st – 2 nd |
| 7351673 | Apron Fitting | Phalera | Legionary ‘cingulum’ | 1 st – 2 nd |
| 88408024 | Apron Fitting | Phalera | Legionary ‘cingulum’ | 1 st – 2 nd |
| 88408025 | Apron Fitting | Phalera | Legionary ‘cingulum’ | 1 st – 2 nd |
| 88408026 | Apron Fitting | Phalera | Legionary ‘cingulum’ | 1 st – 2 nd |
| 88408027 | Apron Fitting | Phalera | Legionary ‘cingulum’ | 1 st – 2 nd |
| 88408028 | Apron Fitting | Phalera | Legionary ‘cingulum’ | 1 st – 2 nd |
| 88408029 | Apron Fitting | Phalera | Legionary ‘cingulum’ | 1 st – 2 nd |
| 88408030 | Apron Fitting | Phalera | Legionary ‘cingulum’ | 1 st – 2 nd |
| 88408031 | Apron Fitting | Phalera | Legionary ‘cingulum’ | 1 st – 2 nd |
| 88408031 | Apron Fitting | Phalera | Legionary ‘cingulum’ | 1 st – 2 nd |
| 88408032 | Apron Fitting | Phalera | Legionary ‘cingulum’ | 1 st – 2 nd |
| 88408033 | Apron Fitting | Phalera | Legionary ‘cingulum’ | 1 st – 2 nd |
| 88408034 | Apron Fitting | Phalera | Legionary ‘cingulum’ | 1 st – 2 nd |
| 88408035 | Apron Fitting | Phalera | Legionary ‘cingulum’ | 1 st – 2 nd |
| 88408036 | Apron Fitting | Phalera | Legionary ‘cingulum’ | 1 st – 2 nd |
| 88408037 | Apron Fitting | Phalera | Legionary ‘cingulum’ | 1 st – 2 nd |
| 88408038 | Apron Fitting | Phalera | Legionary ‘cingulum’ | 1 st – 2 nd |
| 88408039 | Apron Fitting | Phalera | Legionary ‘cingulum’ | 1 st – 2 nd |
| 88408040 | Apron Fitting | Phalera | Legionary ‘cingulum’ | 1 st – 2 nd |
| 88408041 | Apron Fitting | Phalera | Legionary ‘cingulum’ | 1 st – 2 nd |
| 88408042 | Apron Fitting | Phalera | Legionary ‘cingulum’ | 1 st – 2 nd |
| 88408043 | Apron Fitting | Phalera | Legionary ‘cingulum’ | 1 st – 2 nd |

Brief background

This group of 44 objects includes phalera and studs attached to either leather straps or metal armour. Legionary apron phalera and studs were used to adorn the straps of the Roman 'apron'. These straps could total as many as eight, with 16 studs on each (Bishop and Coulston, 2006: 109). Representational evidence suggests the military apron was used in the 1st – 2nd centuries AD. However, it is possible that different forms of apron were used in different regions (Bishop and Coulston, 2006: 109). The purpose of these straps and studs is uncertain, but one hypothesis suggests

Typology and Chronology

Although there is no typology for these objects some elements help us to identify them. Some examples have rings on the underside, as well as niello decoration characteristic of 1st century military equipment (Bishop, 1992: 96). The *lorica* phalera are likely to date to the 1st – 3rd centuries AD through the period of use for *lorica*. Many leather studs dated to the 1st – 2nd centuries could have been used on the military apron, however, the Roman military kit included various leather straps. Malcolm Lyne tried to categorise these in his catalogue, with types A-I. This typology has been kept here, and where possible use is demonstrated.

Type A – Anthropomorphic

This type includes two examples. One has the appearance of Silenus (7351945) and the other is of a woman with long, flowing hair (7351948). Both examples date to the late 3rd – 4th centuries AD.

Type B – 'Mexican Hat' or 'Shield Boss'

There are four of this type at Richborough. This type was labelled Mexican Hat but has been renamed here as Shield Boss type. Dating is from the 1st – 4th century, with examples from contexts from the 1st – 3rd centuries at Richborough.

Legionary Apron Phalera

There are 38 objects which were identified as legionary apron phalera, and another three which were subsequently identified as apron fittings. Dating of these objects from Richborough is scant, and only a few can be dated to the late 3rd – 4th centuries AD.

Materials, design, and production

No XRF analysis was undertaken on these objects. They are all made of copper alloy.

These phalera appear to have been cast made.

The phalera in this group range in size. There appears to be two groups; those which are 11 – 26mm wide, and those are above 32mm wide. The ones above this tend to be Type A or B in this group.

Type B appears to have been attached to metal, most likely a cuirass and would have been welded. Types C - I, and the apron fittings were pierced through the leather of a strap.

Use, reuse and repair

These objects were used to adorn leather straps, possibly on military belts or baldric straps. There is no indication that they were reused for other purposes and none show any sign of repair.

Decoration

These phalera would have been used as decoration as well as having a functional purpose. The anthropomorphic examples (7351945 and 7351948) are particularly decorative with images of Silenus and a female bust, respectively.

Parallels

In his catalogue, Malcolm Lyne suggested that these might be minor military awards like those found at Luersfort in Germany. However, it is possible that these were also horse trappings, such as those found in Xanten, now in the British Museum collection (Museum No. 1854.0717). In any case.

Key contexts

| ID | Context no. | Context date | Period |
|----------|-------------|--------------|--------|
| 7351945 | AXVII.004 | 350 – 410+ | 13-14 |
| 7351948 | AWS.008 | N/A | N/A |
| 7350191 | AN.011.13 | N/A | N/A |
| 7350192 | A?.064.1 | N/A | N/A |
| 7351447 | A/S?.001 | N/A | N/A |
| 96000133 | A/S?.001 | N/A | N/A |
| 7350729 | AS.032.8 | 270 – 410+ | 10-14 |
| 7351432 | AVII.001 | 43 - 85 | 1-4 |
| 7351672 | A/S?.001 | N/A | N/A |
| 7351673 | A/S?.001 | N/A | N/A |
| 88408024 | A/S?.001 | N/A | N/A |
| 88408025 | A/S?.001 | N/A | N/A |
| 88408026 | A/S?.001 | N/A | N/A |

| | | | |
|----------|-----------|------------|-------|
| 88408027 | A/S?.001 | N/A | N/A |
| 88408028 | A/S?.001 | N/A | N/A |
| 88408029 | A/S?.001 | N/A | N/A |
| 88408030 | A/S?.001 | N/A | N/A |
| 88408031 | A/S?.001 | N/A | N/A |
| 88408031 | A/S?.001 | N/A | N/A |
| 88408032 | A/S?.001 | N/A | N/A |
| 88408033 | A/S?.001 | N/A | N/A |
| 88408034 | A/S?.001 | N/A | N/A |
| 88408035 | A/S?.001 | N/A | N/A |
| 88408036 | A/S?.001 | N/A | N/A |
| 88408037 | A/S?.001 | N/A | N/A |
| 88408038 | A/S?.001 | N/A | N/A |
| 88408039 | A/S?.001 | N/A | N/A |
| 88408040 | A/S?.001 | N/A | N/A |
| 88408041 | A/S?.001 | N/A | N/A |
| 88408042 | A/S?.001 | N/A | N/A |
| 88408043 | A/S?.001 | N/A | N/A |
| 88408044 | A/S?.001 | N/A | N/A |
| 88408045 | A/S?.001 | N/A | N/A |
| 96000012 | AXI/006.4 | 300 – 410+ | 12-14 |
| 96000058 | A/S?.001 | N/A | N/A |
| 96000059 | A/S?.001 | N/A | N/A |
| 96000060 | A/S?.001 | N/A | N/A |
| 96000061 | A/S?.001 | N/A | N/A |
| 96000062 | AXVII.078 | 300 – 410+ | 12-14 |

| | | | |
|----------|----------|------------|-------|
| 96000063 | AN.011.6 | 270 – 410+ | 10-14 |
| 96000064 | A/S?.001 | N/A | N/A |
| 96000065 | A/S?.001 | N/A | N/A |
| 96000117 | A/S?.001 | N/A | N/A |
| 96004328 | A/S?.001 | N/A | N/A |
| 96004411 | A/S?.001 | N/A | N/A |

Overview:

Of the 44 examples, six come from dateable contexts. Contexts for early examples are difficult to interpret. Two examples of Type B come from contexts which likely date to the monument construction phase (c.AD75-95), but these cannot be linked to any specific military activities. Many of the phalera were found in either the triple ditch fort or stone fort ditches. Those in the earth fort would have been sealed by the late 3rd century and probably belonged to soldiers of this period. Many of these phalera could have come from the strap of the 3rd century baldric (Bishop and Coulston 2006; 162). The legionary apron fittings suffer from the same problem. Only being found in late contexts, if these were phalera from the 1st century apron, they were mixed in with later material when the two fort ditches were dug. The two anthropomorphic examples date to the 1st century AD and are heavily residual in their late contexts. Since one (7351945) was found the cobbles covering the Chalk House, then this could have come from a disturbed 1st – 2nd century context when laying the material for the cobbled surface. The other (7351948) came from Area XXII, where the material is described as a spread from the stone fort construction trenches (Cunliffe 1968: 29). This phalera possibly came from that construction trench.

Strap Ends (4th - 5th century) = 36 objects

| ID | Object | Type | Sub-type | Object date |
|------------|-----------|--------|----------|-------------|
| 96000209 | Strap end | C1D2E1 | F7G8H1 | 350AD-410AD |
| 96000210 | Strap end | C1D2E1 | F7G8H1 | 350AD-410AD |
| 7351371 | Strap end | C1D2E2 | F?G?H1 | 350AD-410AD |
| 7351817 | Strap end | C1D3E2 | F6.1G7H1 | 350AD-410AD |
| 7350149 | Strap end | C2D3E2 | F7G3H1 | 350AD-410AD |
| 7350150 | Strap end | C2D3E2 | F2.1G4H1 | 350AD-410AD |
| 7351325 | Strap end | C3D?E? | F?G?H1 | 350AD-410AD |
| 7350549 | Strap end | C3D?E? | F2.1G8H1 | 350AD-410AD |
| 7351405 | Strap end | C3D1E1 | F1G7H1 | 350AD-410AD |
| 96000204 | Strap end | C3D1E1 | F1G8H1 | 350AD-410AD |
| 7350187 | Strap end | C3D1E1 | F3G8H1 | 350AD-410AD |
| 7350980 | Strap end | C3D1E1 | F3G8H1 | 350AD-410AD |
| 96000203 | Strap end | C3D1E2 | F1G8H1 | 350AD-410AD |
| 7351367 | Strap end | C3D1E3 | F7G8H1 | 350AD-410AD |
| 96000205 | Strap end | C3D2E1 | F3G8H1 | 350AD-410AD |
| 7351939 | Strap end | C4D?E? | F8G5H1 | 350AD-410AD |
| 7351155 | Strap end | C4D1E1 | F1G8H1 | 350AD-410AD |
| 96000208 | Strap end | C4D1E3 | F7G8H1 | 350AD-410AD |
| MISSING.83 | Strap end | C4D3E3 | F7G3H1 | 350AD-410AD |
| 7351411 | Strap end | C4D4E3 | F1G8H1 | 350AD-410AD |
| 7351379 | Strap end | C4D4E3 | F2.1G8H1 | 350AD-410AD |
| 96000202 | Strap end | C4D4E3 | F7G1H1 | 350AD-410AD |
| 96000201 | Strap end | C4D4E3 | F7G8H1 | 350AD-410AD |
| 96000211 | Strap end | C6D?E? | F2.1G?H1 | 350AD-410AD |
| 7350084 | Strap end | C6D2E2 | F1G8H1 | 350AD-410AD |
| 7350035 | Strap end | C7D3E2 | F1G4H1 | 350AD-410AD |
| 96000207 | Strap end | C?D1E3 | F2.1G3H1 | 350AD-410AD |
| 7351797 | Strap end | C?D2E2 | F2.1G8H1 | 350AD-410AD |
| 7351396 | Strap end | C?D4E3 | F7G8H1 | 350AD-410AD |
| 96000200 | Strap end | C?D4E3 | F7G8H1 | 350AD-410AD |
| 7350432 | Strap end | C?D?E? | F?G?H1 | 350AD-410AD |
| 7350689 | Strap end | C?D?E? | F7G8H1 | 350AD-410AD |
| 96000206 | Strap end | C?D?E? | F?G?H1 | 350AD-410AD |
| 96000212 | Strap end | C?D?E? | F8G?H1 | 350AD-410AD |

| | | | | |
|------------|-----------|---|---|-------------|
| MISSING.84 | Strap end | ? | ? | 350AD-410AD |
| BM.2 | Strap end | ? | ? | 350AD-410AD |

Brief background

Strap-ends were used to reinforce the strap of a belt opposite the buckle (Simpson, 1976: 198). They are attached by a rivet through the leather strap, or by a loop through which the strap is fed. Several different types of strap-end have been identified. Keller (1971) identified Amphora-shaped and Heart-shaped on continental sites, which was followed up by Simpson (1976: 198-202) for some British sites. Lancet-shaped have also been identified (Hawkes and Dunning, 1961: Group 5A; Clarke, 1979) on British and continental sites. There is some confusion over the typology. Böhme (1974) and Sommer (1984) both produced typologies for belt fittings, including strap-ends. While Böhme recognises Lancet-shaped, Sommer identifies them as an extension of the Amphora-shape.

As well as these, Torthworth, or 'Nail-cleaner' type (Eckardt and Crummy, 2006) have been identified as an insular development in Britain. Originally named for the example found at Torthworth, Glos., some examples might have been used as nail-cleaners (see below ~). As well as these there is also the Prototype Torthworth type (Clarke, 1979: 281-2). They are characteristically like Torthworth strap-ends but lack the bifid tip that is also found on nail-cleaners.

Malcolm Lyne (1999) included the strap ends in his study on 4th century belt fittings, however, more work can be done to draw some broader conclusions.

Typology and Chronology

The typology used here for strap ends was produced from the Richborough collection and PAS finds (Chapter 12). Rather than an overall shape it considers specific attributes of the strap-ends to better understand their development.

Materials, design, and production

XRF analysis was undertaken on all available examples.

Within the collection there are several clusters of measurement. However, the majority fall in the Form A/B category of body height to width ratio which suggests a continental influence. There are a few narrow examples which arrived on the site late in the 4th century, but for the most part the measurements suggest that the population of Richborough did not engage with the narrow insular styles.

The strap-ends were attached in a variety of ways. The most common form of attachment is by one or two rivets that will have pierced the leather strap. Other means of attachment are via a circular loop which would be attached to a bar on the end of the strap and a horizontal slit through which the strap could pass and likely be riveted to itself.

Use, reuse and repair

Strap-ends were used to finish a flat strip of leather, commonly on the end of a belt. The bifid tip on some examples is reminiscent of 'nail-cleaners' and might have been used for this purpose. There is one example from Richborough, Amphora-shaped strap-end (96000203), which was modified at the terminal into a bifid tip.

Decoration

There are multiple types of decoration on the strap ends. For the most part these revolve around the circle and dot pattern. There are also some more varied designs which are found on insular types.

Parallels

The Richborough strap-ends are paralleled on several sites in Britain and on the continent. Exact parallels for the strap-ends are difficult to find. This is not only true of Richborough but of many sites. Although there are similar forms and decorations, most strap-ends vary slightly in some form.

Some examples from the Richborough collection appear to be unparalleled. This is particularly evident on 7350980, which is crudely manufactured and has an unparalleled central circular perforation rather than a heart or circle and dot decoration. Another example (7351405) is also unparalleled with a loop attachment rather than rivets. One example (96000202) is difficult to parallel. It is far more elongated than other examples and is connected by two rivets and has punched decoration around the edge. While examples from Carnuntum (Sommer, 1984: Taf.19.2) and Lankhills cemetery (Clarke, 1979: 280, Fig.36) have edge decoration, no other examples are this elongated. There is one unusual example from Richborough (7351371) with lugs near the terminal which is unparalleled.

Key contexts

| ID | Context no. | Context date | Period |
|----------|-------------|--------------|--------|
| 7350187 | AW.015.2 | 350 | 13 |
| 7350432 | AN.011.9 | 270 - 410+ | 10-14 |
| 7350980 | AS.016 | 350 - 410+ | 13-14 |
| 96000205 | AWS.008 | N/A | N/A |
| 7351405 | SC.001 | N/A | N/A |
| 7350549 | A?.100 | N/A | N/A |
| 7350689 | A/S?.001 | N/A | N/A |

| | | | |
|------------|--------------|------------|-------|
| 96000206 | A/S?.001 | N/A | N/A |
| 96000203 | AW.027.5 | 270 - 410+ | 10-14 |
| 7351325 | A?.091 | N/A | N/A |
| 7351367 | A?.066 | N/A | N/A |
| 96000204 | A?.100 | N/A | N/A |
| 7351411 | AW.027.20 | 270 - 410+ | 10-14 |
| 7351379 | AN.011.11 | 270 - 410+ | 10-14 |
| 7351396 | AN.013 | N/A | N/A |
| 96000200 | AS.025 | N/A | N/A |
| 96000201 | A/S?.001 | N/A | N/A |
| 96000202 | AXXIII.008.4 | 350 - 410+ | 13-14 |
| MISSING.83 | AW.028.4 | 410+ | 14 |
| 7351939 | A?.100 | N/A | N/A |
| 96000207 | AXX.001 | 350 - 410+ | 13-14 |
| 96000208 | AN.013 | N/A | N/A |
| 7351155 | A?.091 | N/A | N/A |
| 96000212 | A?.049.6 | 410+ | 14 |
| MISSING.84 | A?.066 | N/A | N/A |
| 96000209 | A?.100 | N/A | N/A |
| 96000210 | A?.100 | N/A | N/A |
| 7351797 | AN.011.13 | N/A | N/A |
| 7350150 | AN.011.9 | 270 - 410+ | 10-14 |
| 7351817 | A?.031 | N/A | N/A |
| 7350035 | A/S?.001 | N/A | N/A |
| 7351371 | AV.016 | N/A | N/A |
| 7350084 | AX.041.4 | 270-410+ | 10-14 |

| | | | |
|----------|----------|-----|-----|
| 7350149 | A?.100 | N/A | N/A |
| 96000211 | A?.031 | N/A | N/A |
| BM.2 | A/S?.001 | N/A | N/A |

Overview:

Of the 36 examples, 10 come from dateable contexts. Two examples come from the bottom of the shore fort ditches (7350432, 96000203). One from Pit 148c which was filled in the middle of the 4th century (Bushe-Fox, 1949: 98). Another (96000212) and comes 5' down in the shore fort ditch. This a relatively high level in the shore fort ditches and would have been deposited in the 5th century. Almost all examples come from the topsoil or surface layers.

The Amphora-shape example from Pit 148c demonstrates a use of these objects from almost the beginning of their use. Two examples (96000203 and 96000212) are particularly interesting. The former is Amphora-shaped with reworking to create a bifid tip. Its late context might suggest that there is an overlap in use with Tortworth 'nail-cleaner' types on the site. One chip-carved example (96000212) with a split butt suggests it is of late Roman production. Its position in the middle layer of the shore fort ditch might suggest a 5th century filling of the ditches.

Strap Fittings (Terminals) (1st – 4th century) = 20 objects

| ID | Object | Type | Sub-type | Object date |
|----------|---------------|----------------|---------------|--|
| 7350493 | Strap Fitting | Strap Terminal | H.1.a | Late 2 nd – 4 th |
| 7350583 | Strap Fitting | Strap Terminal | H.1.a | Late 2 nd – 4 th |
| 7350633 | Strap Fitting | Strap Terminal | H.1.a | Late 2 nd – 4 th |
| 7350832 | Strap Fitting | Strap Terminal | H.1.a | Late 2 nd – 4 th |
| 7351312 | Strap Fitting | Strap Terminal | H.1.a | Late 2 nd – 4 th |
| 96000107 | Strap Fitting | Strap Terminal | H.1.a | Late 2 nd – 4 th |
| 96000108 | Strap Fitting | Strap Terminal | H.1.a | Late 2 nd – 4 th |
| 7351415 | Strap Fitting | Strap Terminal | H.1.b | Late 2 nd – 4 th |
| 7351438 | Strap Fitting | Strap Terminal | H.1.b | Late 2 nd – 4 th |
| 7351532 | Strap Fitting | Strap Terminal | H.1.b | Late 2 nd – 4 th |
| 7350098 | Strap Fitting | Strap Terminal | H.2 | Late 2 nd – 3 rd |
| 7350311 | Strap Fitting | Strap Terminal | H.6.1 | Mid – Late 3 rd |
| 7350624 | Strap Fitting | Strap Terminal | F.1/2 | 1 st AD |
| 7351154 | Strap Fitting | Strap Terminal | F.1/2 | 1 st AD |
| 7351337 | Strap Fitting | Strap Terminal | F.1/2 | 1 st AD |
| 96000109 | Strap Fitting | Strap Terminal | F.1/2 | 1 st AD |
| 7350354 | Strap Fitting | Strap Terminal | Beneficiarius | 2 nd – 3 rd |
| 7351317 | Strap Fitting | Strap Terminal | Uncertain | 1 st AD |
| 7351326 | Strap Fitting | Strap Terminal | Uncertain | 1 st AD |
| 7351641 | Strap Fitting | Strap Terminal | Uncertain | 1 st AD |

Brief background

Strap terminals were attached to the end of the split end belt in the 2nd – 3rd centuries AD (Bishop and Coulston 2006: 160, Fig.101). The Lyon example shows them in association with the

baldric of this period. However, the typology shows examples in the 1st and 4th centuries (Hoss 2014), but these 4th century deposits could be residual.

Typology and Chronology

The typology and chronology come from Hoss (2014) study of 1st – 3rd century belt fittings.

Type H.1.a

There are seven examples of this type from Richborough. This type of strap terminal has a rectangular or semi-circular eyelet with a lancet or tongue shaped body (Hoss 2014). Type H1a is flat and dates from the last quarter of the 2nd century to around the mid-late 4th century.

Type H.1.b

There are three examples of this type from Richborough. This type is like H.1.a, however the body of is slightly arched (Hoss 2014). This type also has concentric bands around parts of the body and neck of the strap terminal.

Type H.2

There is one example of this type from Richborough. This type has a round profile and is often called club-shaped and is found on military sites (Hoss 2014). These date to the mid – late 2nd century.

Type H.6.1

There is one example of this type from Richborough. This type consists of two parts connected by a hinge with one end riveted to the strap (Hoss 2014). Both hinged parts mirror each other in design and are relatively plain compared with other variants. H.6.1 can be toothed at the end (Hoss 2014). This distribution shows a military use, and they date to the second half of the 3rd century.

Type F.1/2

There are four examples of this type from Richborough.

Beneficiarius Lance Type

There is one example of this type from Richborough. This type falls outside Hoss' study. It has been identified primarily on the German Limes (Oldenstein 1976: 152-7, Hunter 2016: 266-71). Oldenstein (1976: 156-7) gave a date of the late 2nd – early 3rd century but dated the latest on the Limes to AD260.

Materials, design, and production

No XRF analysis was undertaken on these objects. They are all made of copper alloy.

These strap terminals were cast made.

The strap terminals of types have a similar metrology. H1 widths are between 9-12mm and heights between 36-49 mm. H2 is a similar length at 40 mm but as a different type is much thinner at

3mm. H6 is a different type and the object is not complete, but would have had a length of c.88 mm. Some variation demonstrates different production areas but also the likelihood of individual replacements on belt straps rather than matching pairs. Weights are around 3-5g with the H6 example significantly higher at 9.1g for only half the object. The Beneficiarius strap terminal is not dissimilar at 38 x 15 mm and weighs 4.4g of the piece remaining

The majority are attached by a loop through which a hinge was attached and riveted to the strap. Type H6 already has this rivet as part of the strap terminal at one end rather and is distinguished by the hinge.

Use, reuse and repair

These objects were attached the end of the split end belt of the 2nd – 3rd century military belt. There is no indication that they were used for any other purpose and there is no sign of repair.

Decoration

There is little decoration on the strap terminals. Type F.1/2 are plain on the surface but are of openwork design. Types H.1 and H.6 are plain and type H.2 is plain save for small ridges that divide the stem into five sections. The *Beneficiarius* terminal is in the form of the lance they carried.

Parallels

Hoss' (2014) study shows that there although there are few types, many strap terminals are quite distinct, so exact parallels are quite unlikely. Their general distribution shows a military pattern in the 2nd – 3rd centuries. All types are found along the military frontier in Europe. Type F.1/2 are rarely paralleled in Britain, with only one of F.1 identified by Hoss (2014) from Chichester. Types H.1.a and H.1.b are more common and in Britain are seen on Hadrian's Wall and Newstead (Bishop and Coulston 2006: 144, Fig.88). Types H.2. and H.6. are unparalleled in Britain in (Hoss 2014).

The Beneficiarius strap terminal appears primarily on the German Limes but two have been found in Britain at Silchester and Cramond (Hunter 2016: 267). The find from Cramond is dated to the late 2nd – early 3rd century and was associated with coins of Caracalla (c.AD206-09) (Hunter 2016: 266). This linked the find to the movement of Roman officials during the Severan campaign (Hunter 2016: 269). If this is the case then, although without context, it could demonstrate the continued use of Richborough by the military after the port town but before the shore fort. At this time, the *mansio* on Site III was still standing and could have been in use.

Key contexts

| ID | Context no. | Context date | Period |
|----|-------------|--------------|--------|
|----|-------------|--------------|--------|

| | | | |
|----------|------------|------------|-------|
| 7350493 | AWS.008 | N/A | N/A |
| 7350583 | AN.010.5 | 270 – 410+ | 10-14 |
| 7350633 | AWS.008 | N/A | N/A |
| 7350832 | A?.046 | 270 | 10 |
| 7351312 | A?.050.4 | 270 – 410+ | 10-14 |
| 96000107 | A?.066 | N/A | N/A |
| 96000108 | A?.048.9 | 410+ | 14 |
| 7351415 | AWS.008 | N/A | N/A |
| 7351438 | A/S?.001 | N/A | N/A |
| 7351532 | A?.064.1 | N/A | N/A |
| 7350098 | AW.027.1 | 270 – 410+ | 10-14 |
| 7350311 | AN.011.2 | 410+ | 14 |
| 7350624 | AXVI.005.1 | 90+ | 4-14 |
| 7351154 | A?.091 | N/A | N/A |
| 7351337 | AXV.001 | 150 - 250 | 7-8 |
| 96000109 | A/S?.001 | N/A | N/A |
| 7350354 | AWS.008 | N/A | N/A |
| 7351317 | AXXIV.002 | 270 - 350 | 10-12 |
| 7351326 | A?.015.11 | 270 - 295 | 10-11 |
| 7351641 | S4.001 | 100 - 200 | 5-7 |

Overview:

Of the 20 examples, 11 come from dateable contexts. Type H1, H2 and H6 appear solely in the top soil or in the stone fort ditches. Therefore, these objects could have been deposited any time between the early 3rd and early 5th century. However, the heart-shaped strap terminals appear in better contexts. One object (7351337) was found below the stone fort east-west road. However, evidence from elsewhere suggests that this road was laid after the Antonine period, with a likely construction at the time of the earth or stone fort (Bushe-Fox 1949: 58). Another (7351326) was found

in the bottom of the middle earth fort ditch. The date of the filling is around the late AD260-70s and was likely deposited by a soldier on site at the time of the earth fort construction. Finally, one example (7350624) was found above a burnt layer in Area XVI. This layer seems to represent the levelling of wattle and daub huts on the site c.AD80-90. There is no definitive evidence to suggest that any of these date to the 2nd – 3rd centuries, but it is a distinct possibility.

The *beneficiarius* mount (7350354) is supposedly from a context of AD280-400+. However, the area in which it was found was poorly investigated and much of the material could date to an earlier or later period.

01. 02. Combatant equipment

Early Helmets (Bosses) = 11 objects

| ID | Object | Type | Sub-type | Object date |
|----------|--------|-----------------|----------|---|
| 7351383 | Helmet | ? | Boss | 1 st – 2 nd century |
| 7351675 | Helmet | ? | Boss | 1 st – 2 nd century |
| 96000319 | Helmet | ? | Boss | 1 st – 2 nd century |
| 96000320 | Helmet | Imperial-Gallic | Boss | 1 st – 2 nd century |
| 96000321 | Helmet | Imperial-Gallic | Boss | 1 st – 2 nd century |
| 96000322 | Helmet | Imperial-Gallic | Boss | 1 st – 2 nd century |
| 96000323 | Helmet | ? | Boss | 1 st – 2 nd century |
| 96000324 | Helmet | ? | Boss | 1 st – 2 nd century |
| 96000325 | Helmet | ? | Boss | 1 st – 2 nd century |
| 96000326 | Helmet | ? | Boss | 1 st – 2 nd century |
| 96000327 | Helmet | ? | Boss | 1 st – 2 nd century |

Brief background

Bosses served two purposes on early Roman helmets. Firstly, they covered rivets, particularly those connecting the cheek-piece to the main dome and secondly were used for decoration on the cheek pieces.

Typology and Chronology

There is no typology for the bosses per se. However, from their form some can be attributed to particular helmet types.

Imperial-Gallic Type

There are three examples of this type from Richborough. They are distinctive in their look from their punched shape creating concentric circles around the centre. They could possibly be associated with the Imperial-Gallic Type D (see. Bishop and Coulston 2006: 102, Fig.59 for a drawing with similar).

They date to the 1st – 2nd century AD

Uncertain Types

There are eight examples of uncertain type from Richborough. As they are likely from helmets they will have been used on 1st – 2nd century helmets, rather than later types.

Materials, design, and production

No XRF analysis was undertaken on these objects.

These bosses were beaten from sheet metal and are punched into shape.

Where a complete diameter can be found the bosses are between 20-25mm and 5-8mm deep. One example (96000324) is 33mm in diameter and might be from armour rather than a helmet.

These objects were welded to the helmets.

Use, reuse and repair

These objects were used as helmet bosses. It is possible that they were used for another purpose but have been identified as likely used on helmets. There is no indication that they were repaired.

Decoration

There is no decoration on the objects, however, they were made to be decorative.

Parallels

It is difficult to parallel helmet bosses. Those of the Imperial-Gallic helmets are found on military sites in Britain and the continent.

Key contexts


| ID | Context no. | Context date | Period |
|----------|-------------|--------------|--------|
| 7351383 | AXI.010.1 | 410+ | 14 |
| 7351675 | A/S?.001 | N/A | N/A |
| 96000319 | A/S?.001 | N/A | N/A |
| 96000320 | AN.007 | 270+ | 10-14 |
| 96000321 | A?.061 | N/A | N/A |
| 96000322 | A/S?.001 | N/A | N/A |
| 96000323 | S4.004.4 | N/A | N/A |
| 96000324 | AXXI.005.1 | N/A | N/A |
| 96000325 | AXX.002 | 280-300 | 10-12 |
| 96000326 | A/S?.001 | N/A | N/A |
| 96000327 | A?.091 | N/A | N/A |

Overview:

Of the 11 examples, 7 have some form of context data. Of these, 5 are in stratigraphic contexts.

However, none can be dated to the 1st – 2nd century and most are residual.

Early Helmets (Brow Bands and Guards) (1st – 2nd century = 10 objects)

|  | Object | Type | Sub-type | Object date |
|---|--------|----------|------------|---|
| 96000309 | Helmet | Imperial | Brow Band | 1 st – 2 nd century |
| 7351343 | Helmet | Imperial | Brow Band | 1 st – 2 nd century |
| 96004380 | Helmet | Imperial | Brow Band | 1 st – 2 nd century |
| 7350688 | Helmet | Imperial | Brow Guard | 1 st – 2 nd century |
| 96000310 | Helmet | Imperial | Brow Guard | 1 st – 2 nd century |
| 7351667 | Helmet | Imperial | Ear Guard | 1 st – 2 nd century |
| 96000328 | Helmet | Imperial | Ear Guard | 1 st – 2 nd century |
| 96000340 | Helmet | Imperial | Neck Guard | 1 st – 2 nd century |
| 96000357 | Helmet | ? | Brow ? | 1 st – 2 nd century |
| 96000360 | Helmet | ? | Misc | 1 st – 2 nd century |

Brief background

Many helmets of the Early Principate and into the 2nd century had guards attached for the brow, ears, and neck as well as decorative brow bands.

Typology and Chronology

These fittings likely belong to the Imperial-Gallic/Italic helmets of the 1st century AD.

Imperial Gallic/Italic – Brow Guards

There are two examples of this type from Richborough. The brow guard covers the area above the brow band and is riveted to the sides of the helmet. They date to the 1st – 2nd century AD.

Imperial Gallic/Italic – Ear Guards

There are two examples of this type from Richborough. The ear guards are riveted over the sides of the helmet to protect the ears. They date to the 1st – 2nd century AD.

Imperial Gallic/Italic – Neck Guards

There is one example of this type from Richborough. The neck guards of the Imperial helmets were part of the helmet bowl. The shallow angle of the guard and the embossed circular decoration suggests the Gallic Types E-H. They date to the 1st – 2nd century AD.

Helmet – Unknown

There are two examples from helmets which are unidentified.

Materials, design, and production

No XRF analysis was undertaken on these objects.

The various parts of the helmets listed here were all beaten out from sheet metal.

None of the helmet pieces are complete enough to draw any conclusions from their measurements.

The brow and ear guards were riveted to the helmet. The neck guard was made as one with the helmet bowl and the brow band was welded to the helmet

Use, reuse and repair

These objects were used as various guards on early Roman helmets. There is no indication they were used for another purpose and no sign of repair.

Decoration

The only decorated objects are the brow bands (96000309, 96000357, 96004380) which are decorated with embossed transverse lines.

Parallels

These fittings are commonly found on Imperial helmets on Roman military sites from the 1st – 2nd centuries AD. Examples can be found in Bishop and Coulston 2006: 100-6).

Key contexts

| ID | Context no. | Context date | Period |
|----------|-------------|--------------|--------|
| 96000309 | A?.050.2 | 410+ | 14 |
| 7351343 | AVII.002 | 270+ | 10-14 |
| 96004380 | A/S?.001 | N/A | N/A |
| 7350688 | AVI.006 | 410+ | 14 |
| 96000310 | AVIII.001 | N/A | N/A |
| 7351667 | A/S?.001 | N/A | N/A |
| 96000328 | A/S?.001 | N/A | N/A |
| 96000340 | AS.026.3 | 43-54 | 1 |
| 96000357 | AXVIII.018 | 70 | 3 |
| 96000360 | A/S?.001 | N/A | N/A |

Overview:

Of the 10 examples, six have some form of context data. Of these, four are in 1st century contexts of which one of which (96000340) is of note. The neck guard was found near the bottom of Pit 179 (actually a well) outside the south wall of the shore fort. The filling in the bottom 14' suggested a Claudian date for deposition (Bushe-Fox 1949: 99). This pit was likely opened in the reign of Claudius and then filled to the top 8' c.AD75. After this it might have been used as a refuse pit and then was filled by the 2nd century. Other finds include a Colchester 2-piece brooch (7351571), a pair of dividers (96000870), nail (96001514) as well as a picture lamp of c.AD43-75/95. The presence of this well suggests occupation in this area of the site from c.AD43 to the end of the 1st century.

Early Helmets (Cavalry Sports Helmet) = 2 objects

| ID | Object | Type | Sub-type | Object date |
|---------|--------|------|----------|---|
| 7351027 | Helmet | ? | ? | 1 st – 4 th century |
| 7350484 | Helmet | ? | ? | 1 st – 4 th century |

Brief background

Cavalry 'sports' helmets were made for a kind of mock battle called the '*hippika gymnasia*' and were never intended as battle helmets (Breeze, Bishop 2013: 7). The helmets are made from two parts; the helmet bowl, and face mask, which are elaborately decorated. These decorations take on many forms such as imitating hair or caps, facial features, and sometimes incised figures (Breeze, Bishop 2013: 7).

Typology and Chronology

There is no clear typology for these helmets as they are often quite different but comprise of the same basic parts.

This wavy piece of metal might be from such a helmet, as Malcolm Lyne has suggested an eyebrow. However, eyebrows on the helmets are most often cast as part of the face mask and I have been unable to find a parallel.

Similarly, the sheet of metal might be from a cheek piece of one of these helmets. The curved section suggests bending around an ear, but the sheet is too thick to be effective in battle.

Materials, design, and production

No XRF analysis was undertaken on this object.

The object has been cut from sheet metal.

It is about the right size and shape for an eyebrow on a face mask, however there is no parallel with which to compare. The cheek piece is too distorted for any meaningful measurements.

There is no sign of any rivets, so the eyebrow was presumed to have been welded. The cheek piece has broken sections that might have been riveted.

Use, reuse and repair

These objects were possibly used as decoration on a helmet. There is no indication it was used for another purpose and no sign of repair.

Decoration

The objects are decorative, but they have no decoration on either side.

Parallels

None known.


Key contexts

| ID | Context no. | Context date | Period |
|---------|-------------|--------------|--------|
| 7351027 | A/S?.001 | N/A | N/A |
| 7350484 | AW.027.15 | 410+ | 14 |

Overview:

The objects unfortunately have no context or have one which is likely residual.

Early Helmets (Cheek Plates) = 11 objects

|  | Object | Type | Sub-type | Object date |
|---|--------|------------------------|----------|---|
| 7351694 | Helmet | Coolus/Imperial Gallic | ? | 1 st – 2 nd century |
| 7351901 | Helmet | Coolus/Imperial Gallic | ? | 1 st – 2 nd century |
| 88396049 | Helmet | Coolus/Imperial Gallic | ? | 1 st – 2 nd century |
| 88396050 | Helmet | Coolus/Imperial Gallic | | 1 st – 2 nd century |
| 96000311 | Helmet | Coolus/Imperial Gallic | | 1 st – 2 nd century |
| 96000313 | Helmet | Coolus/Imperial Gallic | | 1 st – 2 nd century |
| 96000314 | Helmet | Coolus/Imperial Gallic | | 1 st – 2 nd century |
| 96000315 | Helmet | Coolus/Imperial Gallic | | 1 st – 2 nd century |
| 96000316 | Helmet | Coolus/Imperial Gallic | | 1 st – 2 nd century |
| 96000317 | Helmet | Coolus/Imperial Gallic | | 1 st – 2 nd century |
| 96000318 | Helmet | Coolus/Imperial Gallic | | 1 st – 2 nd century |

Brief background

There are multiple variations of helmets used in the 1st – 2nd centuries AD. Most common are the Coolus and Imperial Gallic types.

Typology and Chronology

It is likely that these cheek pieces came from either the Coolus or Imperial Gallic helmet types, however, the pieces are too fragmentary and undiagnostic to tell.

Materials, design, and production

No XRF analysis was undertaken on these objects.

These objects were cut and hammered from sheet metal.

General/Specific metrology

These objects would have been attached to the helmet by hinges and rivets.

Use, reuse and repair

These objects were used as cheek pieces on Imperial Roman helmets. There is no indication they were used for another purpose and no sign of repair.

Decoration

There is no decoration on these objects.

Parallels

There are multiple parallels on military sites across the Empire, however, due to the preservation this cannot be narrowed down further.

Key contexts

| ID | Context no. | Context date | Period |
|-----------------|-------------|--------------|--------|
| 7351694 | A/S?.001 | N/A | N/A |
| 7351901 | A/S?.001 | N/A | N/A |
| 88396049 | A/S?.001 | N/A | N/A |
| 88396050 | A/S?.001 | N/A | N/A |
| 96000311 | AXIII.006 | 80 | 3-4 |
| 96000313 | A/S?.001 | N/A | N/A |
| 96000314 | AVIII.001 | N/A | N/A |
| 96000315 | A/S?.001 | N/A | N/A |
| 96000316 | A/S?.001 | N/A | N/A |
| 96000317 | A/S?.001 | N/A | N/A |

96000318

AVIII.001


N/A

N/A

Overview:

Of the 11 examples, one has some form of context data. This was in the road metal of the port town road (c.AD80) giving it an early context and likely being residual from the invasion or an occupant of the port town.

Early Helmets (Crest-Plume Holders and Stiffeners) = 9 objects

|  | Object | Type | Sub-type | Object date |
|---|--------|----------|----------|---|
| 7351217 | Helmet | Imperial | Forked | 1 st – 2 nd century |
| 96000305 | Helmet | Imperial | Forked | 1 st – 2 nd century |
| 96000306 | Helmet | Imperial | Forked | 1 st – 2 nd century |
| 96000307 | Helmet | Imperial | Forked | 1 st – 2 nd century |
| 96000308 | Helmet | Imperial | Forked | 1 st – 2 nd century |
| 7351421 | Helmet | Imperial | Knob | 1 st – 2 nd century |
| 96000303 | Helmet | Imperial | Plate | 1 st – 2 nd century |
| 96000304 | Helmet | Imperial | Plate | 1 st – 2 nd century |
| 96000338 | Helmet | Imperial | ? | 1 st – 2 nd century |

Brief background

Imperial Roman helmets could incorporate a crest affixed longitudinally on the top. These were made of several parts. The hair of the crest was held in a crest box and this was attached to either a forked or knobbed holder.

Typology and Chronology

The forked plume holders are associated with the Imperial-Gallic and Imperial-Italic helmets of the 1st century AD while the knob is associated with the Coolus helmets.

Crest Holder – Forked

There are five examples of this type from Richborough. They are shaped like a two-pronged fork and the plume would be held through the middle. The holder would either be placed through a hole in the top of the helmet bowl and either twisted or slotted into place (Bishop and Coulston 2006: 103). They date to the 1st – 2nd century AD.

Crest Holder – Knob

There is one example of this type from Richborough. They are in the shape of a small knob with a slot in the top and two holes on opposite sides. The plume would be attached in this slot with a pin through the holes to secure it in place. This type would be twisted onto the helmet bowl. They date to the 1st – 2nd century AD.

Crest Holder – Plates

There are two examples of this type from Richborough. These plates were secured to the top of the helmet bowl to help secure the plume holder. They date to the 1st – 2nd century.

Crest Holder – Uncertain

There is one uncertain example from Richborough. It is part of a crest holder, most likely a forked type, but as an object it is unclear.

Materials, design, and production

No XRF analysis was undertaken on these objects.

All the examples here would have been cast in moulds.

Many of the forked crest holders are broken and twisted, but one (7351217) stands at almost full height at 105mm and width of the forks is 42mm. The knob is far smaller as a method of attachment at 14mm high.

The crest holders were to the top of the helmet bowl through a hole and then slotted or twisted into place. The plates were welded to the top of the helmet. The two plates (96000303 and 96000304) both have slots which suggest the crest holders were twisted into place.

Use, reuse and repair

These objects were used as crest holders on Imperial Roman helmets. There is no indication they were used for another purpose and no sign of repair.

Decoration

There is no decoration on these objects.

Parallels

These crest holders are found with 1st century helmets, so finds are possible wherever parts of Imperial-Gallic/Italic or Coolus helmets are found. One of the knob shaped holders was found at Chichester (Bishop and Coulston 2006: 105, Fig.61.2).

Key contexts

| ID | Context no. | Context date | Period |
|----------|-------------|--------------|--------|
| 7351217 | AW.021.3 | 43-70 | 1-3 |
| 96000305 | A/S?.001 | N/A | N/A |
| 96000306 | A/S?.001 | N/A | N/A |
| 96000307 | AN.003.1 | 270+ | 10-14 |

| | | | |
|----------|----------|------|-----|
| 96000308 | A?.100 | N/A | N/A |
| 7351421 | A?.070 | N/A | N/A |
| 96000303 | S4.004.5 | N/A | N/A |
| 96000304 | A?.049.5 | 410+ | 14 |
| 96000338 | A/S?.001 | N/A | N/A |

Overview:

Of the 11 examples, eight have some form of context data. One of these (7351217) comes from a 1st century context, in Pit 35. The context is complicated but the measurements for the depth of the object suggest it was found in a fill post AD95 with pottery up to AD120. This could suggest the presence of the military on the site during the construction phase of the monument. However, the pottery is dated to AD120 which suggests a later filling. It is clear that site was much disturbed by the monument construction and earlier objects could have been redeposited in the following years.

Early Helmets (Fittings) = 5 objects

| ID | Object | Type | Sub-type | Object date |
|----------|--------|------|----------|---|
| 96004113 | Helmet | ? | ? | 1 st – 4 th century |
| 96004114 | Helmet | ? | ? | 1 st – 4 th century |
| 96004115 | Helmet | ? | ? | 1 st – 4 th century |
| 96004116 | Helmet | ? | ? | 1 st – 4 th century |
| 96004117 | Helmet | ? | ? | 1 st – 4 th century |

Brief background

Early Roman helmets had various pieces and fittings. Many of these fittings were bosses which covered rivets but could also be decorative.

Typology and Chronology

These objects were listed as pivot heads from a helmet visor; however, it is unclear from which type of helmet they came.

Materials, design, and production

No XRF analysis was undertaken on these objects.

The objects appear to have been cast.

The objects are all similar dimensions but vary in weight.

The attachment method is unclear.

Use, reuse and repair

These objects were possibly used as pivot heads from a Roman helmet visor. There is no indication they were used for another purpose and no sign of repair.

Decoration

There is no decoration on these objects.

Parallels

No exact parallel found.

Key contexts


| ID | Context no. | Context date | Period |
|----|-------------|--------------|--------|
|----|-------------|--------------|--------|

| | | | |
|----------|-----------|-----|-----|
| 96004113 | AVIII.001 | N/A | N/A |
| 96004114 | AVIII.001 | N/A | N/A |
| 96004115 | AVIII.001 | N/A | N/A |
| 96004116 | AVIII.001 | N/A | N/A |
| 96004117 | AVIII.001 | N/A | N/A |

Overview:

All these objects come from the same context which is unfortunately undated. However, many objects in this area are of 1st – 2nd century date and it is in this area where the metal workshop was found.

Late Helmets (Brow Bands) (3rd – 4th century)= 3 objects

|  | Object | Type | Sub-type | Object date |
|---|--------|-----------|----------|---|
| 7351656 | Helmet | Brow Band | N/A | 3 rd – 4 th century |
| 96000358 | Helmet | Brow Band | N/A | 3 rd – 4 th century |
| 96000359 | Helmet | Brow Band | N/A | 3 rd – 4 th century |

Brief background

Roman helmets had multiple decorative fittings; some had a functional purpose, and some were purely decorative. This section deals with the few pieces that could be part of late helmets.

Typology and Chronology

There are three examples of this type from Richborough. They are attached to brow of the helmet and can be highly decorative or quite simple in design. They date to the 3rd – 4th century

Materials, design, and production

No XRF analysis was undertaken on these objects.

These objects were hammered out from sheet metal.

The metrology of these objects adds little to the discussion due to their fragmentary nature.

These objects were either held on by rivets or welded into place.

Use, reuse and repair

These objects were used as decoration on late Roman helmets. It is possible that some of the brow bands might have been box decoration, but the plates appear to have come from helmets bowls. There are no signs of repair.

Decoration

These objects were used as decoration and two have clear signs of added decoration. One brow band (96000358) has raised dots along the central band.

Parallels

These objects are too fragmentary or do not have enough diagnostic features to provide good parallels. It is possible that the plates are individual designs rather than of mass production.


Key contexts

| ID | Context no. | Context date | Period |
|----------|-------------|--------------|--------|
| 7351656 | A/S?.001 | N/A | N/A |
| 96000358 | A?.050.2 | 410+ | 14 |
| 96000359 | AS.004 | N/A | N/A |

Overview:

Of the three examples, one has some form of context data.

Late Helmets (Cheek Plates) (3rd – 4th century) = 8 objects

|  | Object | Type | Sub-type | Object date |
|---|--------|-----------|----------|---|
| 88396172 | Helmet | Cavalry | N/A | 3 rd – 4 th century |
| 7350377 | Helmet | Uncertain | N/A | 3 rd – 4 th century |
| 88396175 | Helmet | Uncertain | N/A | 3 rd – 4 th century |
| 88396178 | Helmet | Uncertain | N/A | 3 rd – 4 th century |
| 88396179 | Helmet | Uncertain | N/A | 3 rd – 4 th century |
| 88396180 | Helmet | Uncertain | N/A | 3 rd – 4 th century |
| 88396181 | Helmet | Uncertain | N/A | 3 rd – 4 th century |
| 96000348 | Helmet | Uncertain | N/A | 3 rd – 4 th century |

Brief background

Cheek-plates were attached to the side of helmets for extra protection. Their attachment and shape varied throughout the Roman period.

Typology and Chronology

Cheek-Plate – Cavalry

There is one example of this type from Richborough. It has been suggested that the form comes from a cavalry helmet (Lyne 1994: 104), but the type is uncertain. It dates to the 3rd – 4th century.

Cheek-Pieces – Uncertain

There are seven examples of this type from Richborough. They all appear to be shaped as though they were pair of cheek-plates, but types are uncertain. They probably date to the 3rd – 4th century.

Materials, design, and production

No XRF analysis was undertaken on these objects.

The objects were likely hammered from sheet metal.

The metrology of the objects adds little to the discussion.

These objects were attached to the helmet via rivets.

Use, reuse and repair

The form of this objects suggests they were part of helmet cheek-plates. There is no indication they were used for another purpose and there is no sign of repair.

Decoration

There is no decoration on the objects.

Parallels

Given the fragmentary nature of the objects, it is difficult to draw parallels.


Key contexts

| ID | Context no. | Context date | Period |
|----------|-------------|--------------|--------|
| 88396172 | A/S?.001 | N/A | N/A |
| 7350377 | A?.049.1 | 270-410+ | 10-14 |
| 88396175 | A/S?.001 | N/A | N/A |
| 88396178 | A/S?.001 | N/A | N/A |
| 88396179 | A/S?.001 | N/A | N/A |
| 88396180 | A/S?.001 | N/A | N/A |
| 88396181 | A/S?.001 | N/A | N/A |
| 96000348 | AXXIII.024 | 350-410+ | 13-14 |

Overview:

Of the eight examples, two have some form of context data. Both contexts are 4th – 5th century.

Late Helmets (Crest Holders) (3rd – 4th century) = 1 object

|  | Object | Type | Sub-type | Object date |
|---|--------|-----------|----------|---|
| 7351655 | Helmet | Uncertain | ? | 3 rd – 4 th century |

Brief background

Late Roman helmets rarely had crests like earlier helmets. Two types that did was the Berkasovo II and Intercisa Helmets.

Typology and Chronology

Uncertain

There is one example of this type from Richborough. Malcolm line tentatively identified this as part of a late Roman helmet crest-holder but it is still unclear. It likely dates to the 3rd – 4th century.

Materials, design, and production

No XRF analysis was undertaken on this object.

The object has been hammered from sheet metal.

Since the object is fragmentary the metrology adds little.

Since the object is fragmentary it is unclear how it was attached.

Use, reuse and repair

This object was possibly used as a helmet crest-holder. There is no indication it was used for another purpose and no sign of repair.

Decoration

There is no decoration on this object.

Parallels

Without more diagnostic features it is difficult to provide parallels.


Key contexts

| ID | Context no. | Context date | Period |
|---------|-------------|--------------|--------|
| 7351655 | A/S?.001 | N/A | N/A |

Overview:

There is no context data for this object.

Late Helmets (Finials) (3rd – 5th century) = 6 objects

|  | Object | Type | Sub-type | Object date |
|---|--------|--------|----------------------------|---|
| 7350198 | Helmet | Finial | Baldenheim/ Spangenhelm | 3 rd – 5 th century + |
| 7350199 | Helmet | Finial | Baldenheim/ Spangenhelm | 3 rd – 5 th century + |
| 7351612 | Helmet | Finial | Baldenheim/ Spangenhelm | 3 rd – 5 th century + |
| 96000361 | Helmet | Finial | Baldenheim/ Spangenhelm | 3 rd – 5 th century + |
| 96000362 | Helmet | Finial | Baldenheim/ Spangenhelm | 3 rd – 5 th century + |
| 7350612 | Helmet | Finial | Uncertain | 3 rd – 4 th century |

Brief background

Some late Roman and Early Medieval helmets included a finial at the peak. Most commonly are the Roman Spangenhelm and Early Medieval Baldenheim helmets. These helmets were banded segmental bowls and were common in the Roman east from the 1st century AD and their development has been greatly debated (James 1986, Bishop and Coulston 2006:214-6). It is likely that in the Roman world banded segmental bowl helmets were produced in the workshops listed in the *Notitia Dignitatum* (James 1986: 257, Vogt 2006: 25). These helmet fittings were previously published by Malcolm Lyne (1994) and much of the following is informed by his interpretations.

Typology and Chronology

Helmet Finials – Banded Segmental Bowls

There are five examples of this type from Richborough. It is unclear to which type these helmet finials belong. Lyne (1994: 104) suggested they might be Spangenhelm, however, it is more prudent to simply connect them to helmets with banded segmental bowls. It is possible that they could be from Early Medieval helmets from the 4th – 10th century. They date to the 3rd – 5th century +.

Helmet Finials – Uncertain

There is one example of this type from Richborough. The object is a knob attached to a concave brass cap with iron corrosion products on the inside (Lyne 1994: 104). It dates to the 3rd – 4th century.

Materials, design, and production

No XRF analysis was undertaken on these objects.

Each of these objects appear to have been cast.

The objects are all a similar size and weight apart from 96000361 which is much taller and heavier.

These objects were attached in various ways.

Use, reuse and repair

These objects were used as helmet finials. There is some indication that a couple of the examples could have been lock pins, but they are better places as helmet finials when compared to lock pins from Richborough. There is no sign of repair.

Decoration

There is little decoration on the objects. One example (96000361) has late Roman chip-carving which would date it to the late 4th – early 5th century. The others have no decoration but are decorative, resembling ‘chess pawns’.

Parallels

The finials are quite varied. They might belong to Spangenhelm helmets which are found on multiple late Roman military sites. However, they could have been used on banded segmented bowl helmets. However, if these are from Baldenheim helmets then they might date to the 5th century AD and show military personnel still moving between the continent and Richborough.

Key contexts

| ID | Context no. | Context date | Period |
|----------|-------------|--------------|--------|
| 7350198 | AN.003.3 | N/A | N/A |
| 7350199 | A?.064.1 | N/A | N/A |
| 7351612 | A?.100 | N/A | N/A |
| 96000361 | A?.100 | N/A | N/A |
| 96000362 | S1.011 | 270+ | 10-14 |
| 7350612 | AS.039 | N/A | N/A |

Overview:

Of the six examples, four have some form of context data. All of these come from the latest layer on the site. These contexts can be associated with the 3' of surface soil across the site. It is possible there are post-Roman contexts within this layer, but it appears to have been an abandonment layer formed sometime in the 5th century.

Late Helmets (Fragments) = 1 object

| ID | Object | Type | Sub-type | Object date |
|----------|--------|------|----------|---|
| 96000354 | Helmet | N/A | N/A | 3 rd – 4 th century |

Brief background

There are several fragments along with other objects that were associated with 96000354.

Typology and Chronology

There is no typology for these fragments. They are listed here as they were found to have been numbered alongside other helmet pieces.

Materials, design, and production

No XRF analysis was undertaken on these objects

No production methods could be discerned.

The metrology of these objects is not of use to this discussion.

No means of attachment could be seen

Use, reuse and repair

These objects appear to have been used as parts of late helmets, but this is uncertain. There is no sign of repair.

Decoration

There is no decoration on these objects.

Parallels

These objects could not be paralleled.


Key contexts

| ID | Context no. | Context date | Period |
|----------|-------------|--------------|--------|
| 96000354 | A/S?.001 | N/A | N/A |

Overview:

There is no context data for this fragment.

Late Helmets (Helmets 1-5) (2nd – 5th century) = 13 objects

|  | Object | Type | Sub-type | Object date |
|---|----------|-------------------------------|----------|---|
| 7351900 | Helmet 1 | Aux. Cavalry/ Intercisa | H/? | 2 nd – 5 th century |
| 88396173 | Helmet 1 | Aux. Cavalry/ Intercisa | H/? | 2 nd – 5 th century |
| 88396176 | Helmet 1 | Aux. Cavalry/ Intercisa | H/? | 2 nd – 5 th century |
| 88396177 | Helmet 1 | Aux. Cavalry/ Intercisa | H/? | 2 nd – 5 th century |
| 96000349 | Helmet 1 | Aux. Cavalry/ Intercisa | H/? | 2 nd – 5 th century |
| 7350888 | Helmet 2 | Leather Cap | N/A | 4 th – 5 th century |
| 96000346 | Helmet 2 | Leather Cap | N/A | 4 th – 5 th century |
| 96000350 | Helmet 2 | Leather Cap | N/A | 4 th – 5 th century |
| 7351168 | Helmet 3 | Intercisa/ Deurne-Concești | 3/? | 4 th century |
| 96000353 | Helmet 3 | Intercisa/ Deurne-Concești | 3/? | 4 th century |
| 7350723 | Helmet 4 | Deurne-Concești | ? | 3 rd – 4 th century |
| 7350885 | Helmet 4 | Deurne-Concești | ? | 3 rd – 4 th century |
| 88396174 | Helmet 5 | Imperial Gallic? | ? | 3 rd – 5 th century |

Brief background

To a large extent these helmets have been published by Malcolm Lyne (1994). What is repeated here abbreviated for quick reference and some detail added on what was not discussed in the paper. Lyne (1994) split the helmets into 3 or 4 different objects as well as miscellaneous fittings. The paper archived showed a little difference between what pieces were considered as part of the same helmet and what was published. This has been rectified here and the following section reflects the published

interpretation. A fifth and sixth helmet has been added to the group based on objects found in the archive as well as Lyne's interpretation of the helmet fittings.

Typology and Chronology

Helmet 1 – Auxiliary Cavalry Type H/Intercisa

There is one example of this type from Richborough. The Intercisa helmet consists of the bowl which (Lyne 1994: Fig.1.3) and the Auxiliary helmet parts are the neck guard, crest and cheek-piece fragments (Lyne 1994: Figs.1.1-2 and 1.4). The pieces date to the 2nd – 4th century.

Helmet 2 – Leather Cap

There is one example of this type from Richborough. This helmet consists of copper-alloy sheeting which shows no sign of being attached to a metal helmet (Lyne 1994: 101, Figs.2.1-4). This suggests that the fittings were attached to a leather cap, possibly used as ceremonial headgear (Lyne 1994: 101). It dates to the 4th – 5th century.

Helmet 3 – Intercisa 3 or Deurne/Concesti

There is one example of this type from Richborough. A front or back piece of this helmet suggests it is an Intercisa 3 or Deurne/Concesti type (Lyne 1994: 101). They date to the 3rd – 4th century.

Helmet 4 – Uncertain

There is one example of this type from Richborough. The type is uncertain but could be of the Deurne or Concesti type (Lyne 1994: 104). They date to the 3rd – 4th century. Malcolm Lyne (1994: 102-104) lists a piece of sheathing with the two objects in the table above as part of this helmet, however, the small finds number he gives is a hairpin. The location of the sheathing is unclear.

Helmet 5 – Uncertain

There is one example of this type from Richborough. The helmet consists of a conical cap which probably belonged to a form of pointed iron helmet, but the type is uncertain. Its likely dates to the 3rd – 5th century.

Materials, design, and production

No XRF analysis was undertaken on these objects.

These helmets were produced in a manner of different ways. Most pieces would have been hammered from sheet metal with fittings riveted to the helmet.

The helmets are largely fragmentary, so the metrology adds little to the discussion.

Attachment of the helmet is not applicable.

Use, reuse and repair

These objects were used as military or ceremonial helmets. There is no indication that they were used for another purpose but there are signs of repair. Helmet 1 shows extensive repair. Originally it was a cavalry helmet, however, later the bowl of the helmet had a new crest, neck-guard and cheek piece added. Helmet 3 has a crest plume holder in the style of the 1st century. However, Lyne (1994: 101) could not find a parallel for the decoration or the method of attachment the holder was soldered onto the helmet. Either, as suggested (Lyne 1994: 101), this is an archaicism, or it could be that this is a 1st century example which has been recycled for a 4th century helmet.

Decoration

There is no decoration visible on the helmet fragments, however, a couple of pieced are decorative. A fragment of a Chi-Rho (7350723) and a clover (7350885) were possibly used to decorate a helmet.

Parallels

There are no clear examples of these helmet types on the PAS. The Intercisa ridge helmet found across the Empire in the late 3rd – 5th centuries as is the Deurne-Concești type helmet but likely developed from helmets worn by Sassanids (James 1986: 107-34). The Intercisa is hypothesised to have been an infantry helmet due to the lack of ear coverings whereas the Deurne-Concești which has ear coverings is for cavalry (Bishop, Coulston 2006: 210-1).

Key contexts

| ID | Context no. | Context date | Period |
|----------|-------------|--------------|--------|
| 7351900 | AS.032.8 | 270-410+ | 10-14 |
| 88396173 | A/S?.001 | N/A | N/A |
| 88396176 | A/S?.001 | N/A | N/A |
| 88396177 | A/S?.001 | N/A | N/A |
| 96000349 | A/S?.001 | N/A | N/A |
| 7350888 | A?.049.5 | 410+ | 14 |
| 96000346 | A?.049.5 | 410+ | 14 |
| 96000350 | A?.050.4 | 270-410+ | 10-14 |
| 7351168 | AXXIII.040 | 410+ | 14 |
| 96000353 | AXXIII.040 | 410+ | 14 |
| 7350723 | AW.027.15 | 410+ | 14 |

| | | | |
|----------|----------|----------|-------|
| 7350885 | AW.027.1 | 270-410+ | 10-14 |
| 88396174 | A/S?.001 | N/A | N/A |

Overview:

Of the five helmets, four have some form of context data. The helmets all come from late contexts, some possibly stretching into the 5th century, such as the shore fort ditches. The best context for a helmet is Helmet three from Pit 314. This pit dates to post AD350 and was the resting place for a man, woman, and child. Among the objects found were a box (88380910-20, 96001265 and 96001281) a 4th century buckle (96000231) a bridle fitting (96000765), a spindle whorl (78305266) and several armlets. It is unclear why the family were deposited in the pit, but a likely explanation could be disease as a report of the bones says there was no sign of trauma.

Late Helmets (Neck Guards) (3rd – 4th century) = 3 objects

| ID | Object | Type | Sub-type | Object date |
|----------|--------|------|----------|---|
| 7350877 | Helmet | ? | ? | 3 rd – 4 th century |
| 96000351 | Helmet | ? | ? | 3 rd – 4 th century |
| 96000352 | Helmet | ? | ? | 3 rd – 4 th century |

Brief background

Some late Roman helmets were highly decorated. Some officers helmets were heavily decorated and ornamented, but others would have had simpler designs.

Typology and Chronology

Uncertain

There are three examples of this type from Ricborough. Malcolm Lyne identified them as late Roman helmet appliques. While this is possible their exact purpose is unclear. Lyne (1994) did not include them in his paper on late Roman helmets from Richborough. They likely date to the 3rd – 4th century AD.

Materials, design, and production

No XRF analysis has been undertaken on these objects.

These objects have been hammered from sheet metal.

The objects are roughly similar sizes and shapes suggesting a similar purpose.

Each of the objects has complete or broken holes for rivets to be applied.

Use, reuse and repair

These objects were possibly used for helmet decoration. There is no indication they were used for another purpose and no sign of repair.

Decoration

While these objects are not decorated they appear to have been used for decoration.

Parallels

No parallels found as yet.

Key contexts


| ID | Context no. | Context date | Period |
|----|-------------|--------------|--------|
|----|-------------|--------------|--------|

| | | | |
|----------|----------|------|-----|
| 7350877 | A?.066 | N/A | N/A |
| 96000351 | AS.033.1 | 410+ | 14 |
| 96000352 | AXVI.041 | N/A | N/A |

Overview:

Of the three objects, none come from securely datable contexts.

Late Helmets (Plates) (3rd – 4th century) = 2 objects

|  | Object | Type | Sub-type | Object date |
|---|--------|-------|----------|---|
| 96000343 | Helmet | Plate | N/A | 3 rd – 4 th century |
| 96000355 | Helmet | Plate | N/A | 3 rd – 4 th century |

Brief background

Roman helmets had multiple decorative fittings; some had a functional purpose, and some were purely decorative. This section deals with the few pieces that could be part of late helmets.

Typology and Chronology

Plates

There are two examples of this type from Richborough. These plates are for decoration and are curved suggesting they were fitted to a curved surface, such as a helmet bow. They date to the 3rd – 4th century.

Materials, design, and production

No XRF analysis was undertaken on these objects

These objects were hammered out from sheet metal, apart from one plate (96000355) which appears to have been cast.

The metrology of these objects adds little to the discussion due to their fragmentary nature.

These objects were either held on by rivets or welded into place.

Use, reuse and repair

These objects were used as plates from helmet bowls. There are no signs of repair.

Decoration

One of the plates (96000343) is diamond in shape with four triangular holes along each strait edge of the diamond.

Parallels

These objects are too fragmentary or do not have enough diagnostic features to provide good parallels. It is possible that the plates are individual designs rather than of mass production.


Key contexts

| ID | Context no. | Context date | Period |
|----------|-------------|--------------|--------|
| 96000343 | AXVII.005 | N/A | N/A |
| 96000355 | A/S?.001 | N/A | N/A |

Overview:

Of these two examples, neither has any context data.

Lorica Hamata (1st – 5th century) = 2 objects

|  | Object | Type | Sub-type | Object date |
|---|-------------|------|----------|---|
| 7351937 | Mail Armour | ? | ? | 1 st – 5 th century |
| 96003214 | Mail Armour | ? | ? | 1 st – 5 th century |

Brief background

Lorica Hamata (Ring mail rather than chain mail) was used from the Roman Republic through to the end of the Roman period (Bishop and Coulston 2006: 63; 95; 170; 208). It was primarily worn by auxiliaries but also at times by legionaries and cavalry. It is likely that an undergarment was worn made of leather or fabric (Bishop and Coulston 2006: 63).

Typology and Chronology

The mail shirt is made up of several different elements. There is no discernible typology in the collection.

Materials, design, and production

No XRF analysis was undertaken on these objects.

Mail armour was made from individual linked rings riveted together. The most common method of producing the wire for the rings was outlined by Simkins (1994: 20). Once the rings were made, they were added to the shirt and riveted through a hole in the wire.

Unsurprisingly, the rings on more complete example (7351937) are of similar size. The individual link is also of a similar size and is likely to be from mail armour.

Once the rings were made, they were added to the shirt and riveted through a hole in the wire.

Use, reuse and repair

These objects were used as part of mail armour. There is no indication they were used for another purpose and no sign of repair. In fact, they were discarded from a broken mail shirt.

Decoration

There is no decoration on the objects.

Parallels

Mail armour is found on sites of all Roman periods. Large pieces have been found on several sites across the Empire (Bishop and Coulston 2006: 95; 170).


Key contexts

| ID | Context no. | Context date | Period |
|----------|-------------|--------------|--------|
| 7351937 | AXVII.042.1 | 270 – 295 | 10-11 |
| 96003214 | A?.091 | N/A | N/A |

Overview:

Of the two examples, one comes from a datable context. Unfortunately, neither can tell us much more about the objects use. One (7351937) was found inside the Chalk House and likely dates to the late 3rd century. The other (96003214) is unstratified.

Lorica Segmentata (Buckles and Hinges) = 44 objects

|  | Object | Type | Sub-type | Object date |
|---|---------|-----------|------------------|---|
| 7350001 | Cuirass | Corbridge | Plate | 1 st – 2 nd century |
| 7350003 | Cuirass | Corbridge | Buckle and Plate | 1 st – 2 nd century |
| 7350006 | Cuirass | Corbridge | Buckle and Plate | 1 st – 2 nd century |
| 7350007 | Cuirass | Corbridge | Buckle and Plate | 1 st – 2 nd century |
| 7350300 | Cuirass | Corbridge | Buckle and Plate | 1 st – 2 nd century |
| 7350307 | Cuirass | Corbridge | Plate | 1 st – 2 nd century |
| 7350309 | Cuirass | Corbridge | Buckle and Plate | 1 st – 2 nd century |
| 7350546 | Cuirass | Corbridge | Buckle and Plate | 1 st – 2 nd century |
| 7450967 | Cuirass | Corbridge | Buckle | 1 st – 2 nd century |
| 7351031 | Cuirass | Corbridge | Buckle and Plate | 1 st – 2 nd century |
| 7351034 | Cuirass | Corbridge | Buckle and Plate | 1 st – 2 nd century |
| 7351103 | Cuirass | Corbridge | Buckle and Plate | 1 st – 2 nd century |
| 7351801 | Cuirass | Corbridge | Buckle and Plate | 1 st – 2 nd century |
| 88380821 | Cuirass | Corbridge | Buckle and Plate | 1 st – 2 nd century |
| 96000032 | Cuirass | Corbridge | Buckle and Plate | 1 st – 2 nd century |
| 96000037 | Cuirass | Corbridge | Buckle and Plate | 1 st – 2 nd century |
| 96000039 | Cuirass | Corbridge | Buckle | 1 st – 2 nd century |
| 96000040 | Cuirass | Corbridge | Buckle | 1 st – 2 nd century |
| 96000041 | Cuirass | Corbridge | Buckle | 1 st – 2 nd century |
| 96000045 | Cuirass | Corbridge | Plate | 1 st – 2 nd century |
| 96000046 | Cuirass | Corbridge | Plate | 1 st – 2 nd century |
| 96000081 | Cuirass | Corbridge | Buckle | 1 st – 2 nd century |

| | | | | |
|----------|---------|-----------|-----------|---|
| 96004402 | Cuirass | Corbridge | Buckle | 1 st – 2 nd century |
| 7350308 | Cuirass | Corbridge | Hinge | 1 st – 2 nd century |
| 7350717 | Cuirass | Corbridge | Hinge | 1 st – 2 nd century |
| 7351108 | Cuirass | Corbridge | Hinge | 1 st – 2 nd century |
| 7351110 | Cuirass | Corbridge | Hinge | 1 st – 2 nd century |
| 7351184 | Cuirass | Corbridge | Hinge | 1 st – 2 nd century |
| 7351800 | Cuirass | Corbridge | Hinge | 1 st – 2 nd century |
| 88396168 | Cuirass | Corbridge | Hinge | 1 st – 2 nd century |
| 88396169 | Cuirass | Corbridge | Hinge | 1 st – 2 nd century |
| 96000028 | Cuirass | Corbridge | Hinge | 1 st – 2 nd century |
| 96000029 | Cuirass | Corbridge | Hinge | 1 st – 2 nd century |
| 96000034 | Cuirass | Corbridge | Hinge | 1 st – 2 nd century |
| 96000035 | Cuirass | Corbridge | Hinge | 1 st – 2 nd century |
| 96000036 | Cuirass | Corbridge | Hinge | 1 st – 2 nd century |
| 7350843 | Cuirass | Corbridge | Uncertain | 1 st – 2 nd century |
| 96000030 | Cuirass | Corbridge | Uncertain | 1 st – 2 nd century |
| 96000031 | Cuirass | Corbridge | Uncertain | 1 st – 2 nd century |
| 96000033 | Cuirass | Corbridge | Uncertain | 1 st – 2 nd century |
| 96000038 | Cuirass | Corbridge | Uncertain | 1 st – 2 nd century |
| 96000042 | Cuirass | Corbridge | Uncertain | 1 st – 2 nd century |
| 96000044 | Cuirass | Corbridge | Uncertain | 1 st – 2 nd century |
| 96004368 | Cuirass | Corbridge | Uncertain | 1 st – 2 nd century |

Brief background

Many parts of the Corbridge type *lorica segmentata* cuirass were held together and done up with buckles (Bishop 2002: 31-44). On the Corbridge A type they were used to fasten breastplates, backplates and the uppermost girth hoop to these plates. On the Corbridge B/C type they were only

used to fasten the breast- and backplates. The buckles used to attach the breast- and backplates were attached to a two-part hinged buckle plate attached to the breast- and backplates by rivets. On the opposite breast- or backplate was a similar two-part hinged plate, but this was attached to a strap for the buckle. The buckles that attached the breast- and backplates to the uppermost girth hoop were hingeless and were attached by a single rivet.

| <i>Type</i> | <i>Corbridge A</i> | <i>Corbridge B/C</i> |
|-------------------------------|--------------------|----------------------|
| <i>Hinged buckle fittings</i> | 4 | 2 |
| <i>Hinged strap fittings</i> | 4 | 2 |
| <i>Hingeless buckles</i> | 4 | - |

Typology and Chronology

There is no clear typology for the fittings. It can only be said that hingeless fittings are found solely on Corbridge A. However, Bishop (2002: 37, Fig.5.6) suggests that some forms are more common than others. The forms discussed in this section are all the more common variety.

Corbridge A and B/C – Buckles and Plates

There are 23 examples of this type from Richborough. In total, 13 of the examples have a buckle and a hinge. Where this is the case nine have a hinge, one has no hinge and three are uncertain. The example with no hinge can be linked to the Corbridge Type A. They date to the 1st – 2nd century.

Corbridge A and B/C – Hinges

There are 13 examples of this type from Richborough. It is unclear whether any of these can be associated with Type A or B/C. One example (96000043) still has part of a buckle attached, demonstrating it comes from the breastplate. They date to the 1st – 2nd century.

Corbridge A and B/C – Uncertain

There are eight examples of uncertain type from Richborough. It is unclear whether these are from strap fittings or buckle fittings. They date to the 1st – 2nd century.

Materials, design, and production

No XRF analysis was undertaken on these objects.

Bishop (2002: 95) says that the copper alloy fittings were beaten out from ingots. This goes some way to explaining why many fittings are finished off in such a haphazard manner. However, these objects were likely much in demand for repair and replacement that they are suited a production line method which would have resulted in poor finishing and mismatching fittings (Bishop 2002: 79; 95).

Due to the fragmentary nature of the objects, there are few examples to suggest much about the metrology. However, the width of many of the objects is similar, usually between 15 – 20mm. There was probably standardisation due to the production line nature but being beaten from ingots would have resulted in some variation.

All the objects discussed were attached to the cuirass plates by rivets through the buckle or hinge plates.

Use, reuse and repair

These objects were used as fasteners for various parts of the *lorica segmentata* cuirass. There is no indication that they were used for another purpose and no clear signs of repair. It is quite likely that it was more convenient to change the entire fitting.

Decoration

There is no obvious decoration on any of the fittings, however one example (88380821) has rivet holes are surrounded by stamped concentric circles.

Parallels

These fittings are found on multiple military sites from the 1st – 2nd centuries AD. The main example is from Corbridge.

Key contexts

| ID | Context no. | Context date | Period |
|---------|-------------|--------------|--------|
| 7350001 | AVIII.010 | N/A | |
| 7350003 | AW.026.6 | 410+ | 14 |
| 7350006 | AS.015 | N/A | N/A |
| 7350007 | A?.064.1 | N/A | N/A |
| 7350300 | S4.001 | N/A | N/A |
| 7350307 | AVIII.001 | 43 – 75 | 1-4 |
| 7350309 | AV.001 | N/A | N/A |
| 7350546 | AWS.008 | N/A | N/A |
| 7450967 | A/S?.001 | N/A | N/A |
| 7351031 | A/S?.001 | N/A | N/A |
| 7351034 | A/S?.001 | N/A | N/A |

| | | | |
|----------|------------|---------|-----|
| 7351103 | AXVIII.001 | 43 – 75 | 1-3 |
| 7351801 | A?.021 | 44 – 95 | 1-4 |
| 88380821 | AX.018 | 75 – 95 | 3-4 |
| 96000032 | AXVII.048 | 43 – 75 | 1-3 |
| 96000037 | AXVI.020 | 75 | 3-4 |
| 96000039 | AV.004.1 | N/A | N/A |
| 96000040 | AXVIII.006 | 75 | 3-4 |
| 96000041 | AS.017.3 | N/A | N/A |
| 96000045 | A/S?.001 | N/A | N/A |
| 96000046 | A/S?.001 | N/A | N/A |
| 96000081 | A/S?.001 | N/A | N/A |
| 96004402 | A/S?.001 | N/A | N/A |
| 7350308 | AVIII.001 | 65 – 75 | 2-3 |
| 7350717 | A?.004.1 | 43 – 54 | 1 |
| 7351108 | AVIII.001 | 65 – 75 | 2-3 |
| 7351110 | A/S?.001 | N/A | N/A |
| 7351184 | AXVII.050 | 43 – 75 | 1-3 |
| 7351800 | A/S?.001 | N/A | N/A |
| 88396168 | AVIII.001 | 65 – 75 | 2-3 |
| 88396169 | AVIII.001 | 65 – 75 | 2-3 |
| 96000028 | AVIII.001 | 65 – 75 | 2-3 |
| 96000029 | A?.066 | N/A | N/A |
| 96000034 | A/S?.001 | N/A | N/A |
| 96000035 | A/S?.001 | N/A | N/A |
| 96000036 | AXVI.038.1 | N/A | N/A |
| 7350843 | AXVIII.028 | 75 – 95 | 3-4 |
| 96000030 | AW.027.15 | 410+ | 14 |
| 96000031 | AXVI.038.1 | 75 – 95 | 3-4 |
| 96000033 | A/S?.001 | N/A | N/A |


| | | | |
|----------|----------|-----|-----|
| 96000038 | AVI.006 | N/A | N/A |
| 96000042 | A/S?.001 | N/A | N/A |
| 96000044 | A/S?.001 | N/A | N/A |
| 96004368 | A/S?.001 | N/A | N/A |

Overview:

Of the 44 objects, 18 come from datable contexts. One area of the fort stands out. Areas 8 and 16 accounts for seven of the contextualised examples. This is the most from one area. Unfortunately, many do not have a specific context. One buckle and plate (96000037) came from Gully WO69, which was part of the second series of buildings in Areas 8 and 16 dated to c.AD55-75. Several examples (7350307, 7350308, 7351108, 96000028) were all found together in Area 8 along with other *lorica segmentata* fittings (Bushe-Fox 1932: 82, Pl.XII). This was interpreted to have been part of a metalworker's stock for recycling.

Other than this there is a general scattering across the site. Those from Areas 10, 17 and Site 4 are all south of the road and in areas of activity associated with the buildings in these areas. Those from Area 5 are in an area where there are no known early structures. Another area like this is the Motor Road to the south of the shore fort walls. Again, the activity in this area is the possibility of early structures.

Lorica Segmentata (Decorative Fittings) (1st – 2nd century) = 7 objects

|  | Object | Type | Sub-type | Object date |
|---|---------|-------------------|----------------------|--|
| 88380813 | Cuirass | Corbridge B/C? | Decorative Washer | 1 st – 2 nd century |
| 88380816 | Cuirass | Corbridge A | Decorative Washer | 1 st – 2 nd century |
| 88380818 | Cuirass | Corbridge A | Decorative Washer | 1 st – 2 nd century |
| 96000007.1 | Cuirass | Corbridge | Decorative Washer | 1 st – 2 nd century |
| 96000007.2 | Cuirass | Corbridge | Decorative Washer | 1 st – 2 nd century |
| 96000007.3 | Cuirass | Corbridge | Decorative Washer | 1 st – 2 nd century |
| 96000008 | Cuirass | Corbridge | Washer | 1 st – 2 nd century |

Brief background

The decorative washers are a characteristic of the Corbridge Type *lorica segmentata* (Bishop 2002: 23) and are found on no other types.

Typology and Chronology

There is no distinctive typology for these types of decorative bosses. They all appear on the Corbridge Type cuirass and have a stamped rosette pattern with a raised, beaded border (Bishop 2002: 40).

Those on the B/C Type had broad flat borders. It is unclear whether this is always the case or not.

Materials, design, and production

No XRF analysis was undertaken on these objects.

The metal for these washers would have been beaten out and then a stamp was hammered on for the decoration.

Of the complete examples the diameters are similar.

These washers were welded onto the cuirass. Through the centre there was a rivet that held the internal leathers in place.

Use, reuse and repair

These objects were used as leathering washers on the Corbridge Type cuirass. There is no indication that they were used for any other purpose and no sign of any repair. However, their context might suggest they were in the process of being recycled.

Decoration

Each of the washers is embossed with a stamped rosette or petal decoration.

Parallels

These fittings are found on multiple military sites from the 1st – 2nd centuries AD. They are characteristic of the Corbridge types


Key contexts

| ID | Context no. | Context date | Period |
|------------|-------------|--------------|--------|
| 88380813 | AVIII.003 | 75 – 95 | 3-4 |
| 88380816 | AVIII.003 | 75 – 95 | 3-4 |
| 88380818 | AVIII.003 | 75 – 95 | 3-4 |
| 96000007.1 | A/S?.001 | N/A | N/A |
| 96000007.2 | A/S?.001 | N/A | N/A |
| 96000007.3 | A/S?.001 | N/A | N/A |
| 96000008 | A/S?.001 | N/A | N/A |

Overview:

Of the seven examples, three come from datable contexts. They all come from one significant context in Area 8. All were, apart from one (96000008) were found together in Area 8 along with other *lorica segmentata* fittings (Bushe-Fox 1932: 82, Pl.XII). This was interpreted to have been part of a metalworker's stock for recycling

Lorica Segmentata (Hoops) (1st – 3rd = 57 objects

|  | Object | Type | Sub-type | Object date |
|---|---------------------|-------------------------|----------|---|
| 78303002 | Segmented armour | Corbridge/ Newsteads | Plate | 1 st – 3 rd century |
| 78303045 | Segmented armour | Corbridge/ Newsteads | Plate | 1 st – 3 rd century |
| 88380812 | Segmented armour | Corbridge/ Newsteads | Plate | 1 st – 3 rd century |
| 88380814 | Segmented armour | Corbridge/ Newsteads | Plate | 1 st – 3 rd century |
| 88380815 | Segmented armour | Corbridge/ Newsteads | Plate | 1 st – 3 rd century |
| 88380817 | Segmented armour | Corbridge/ Newsteads | Plate | 1 st – 3 rd century |
| 88407978 – 8023 (46 objects)* | Segmented armour | Corbridge/ Newsteads | Plate | 1 st – 3 rd century |
| 90000001 – 5 (5 objects)* | Segmented armour | Corbridge/ Newsteads | Plate | 1 st – 3 rd century |

It should be noted that almost all these objects were originally given the same AML number. Although they might have been found together there was no clear way to tell how many belonged to the same object.

Brief background

Lorica segmentata is made of several overlapping plates that cover the torso. The various types of *lorica* are made up of a different number of these plates (Bishop 2002).

| <i>Plate</i> | <i>Kalkriese</i> | <i>Corbridge</i> | <i>Newsteads</i> |
|--------------|------------------|------------------|------------------|
|--------------|------------------|------------------|------------------|

| | | | |
|--------------------------|----|-------|----|
| <i>Breast</i> | 2 | 2 | 2 |
| <i>Mid-collar</i> | 2 | 2 | 2 |
| <i>Back</i> | 6? | 6 | 2 |
| <i>Upper shoulder</i> | 6? | 6 | 6? |
| <i>Lesser shoulder</i> | 8? | 8 | 8 |
| <i>Girth hoop halves</i> | ? | 16/14 | 12 |

Typology and Chronology

Although there are the main types of *lorica*, the only way to identify a plate with a type is if there are distinctive fittings attached. Unfortunately, none of the pieces discussed here have any of these fittings.

Materials, design, and production

No XRF analysis was undertaken on these objects.

These *lorica* plates were beaten out from sheet metal from ingots (Bishop 2002: 77).

None of the pieces are complete enough for any measurement to be significant.

The plates were attached together by leathers riveted to the insides or by hinges fittings and buckles (see Bishop 2002: 23-59).

Use, reuse and repair

These objects were used as *lorica segmentata* plates. There is no indication they were used for another purpose and no sign of repair.

Decoration

There is no decoration on the objects.

Parallels

These plates are most closely paralleled in the Kalkriese, Corbridge and Newsteads Types. They are found on many military sites across the Roman Empire.

Key contexts

| ID | Context no. | Context date | Period |
|----------|-------------|--------------|--------|
| 78303002 | A?.091 | N/A | N/A |
| 78303045 | A?.091 | N/A | N/A |
| 88380812 | A?.091 | N/A | N/A |


| | | | |
|----------------------------------|-----------------|-----|-----|
| 88380814 | A?.091 | N/A | N/A |
| 88380815 | A?.091 | N/A | N/A |
| 88380817 | A/S?.001 | N/A | N/A |
| 88407978 – 8023 (46 objects)* | A?.091/A/S?.001 | N/A | N/A |
| 90000001 – 5 (5 objects)* | A/S?.001 | N/A | N/A |

Overview

Unfortunately, none of the objects in this group have any form of contextual data.

:

Lorica Segmentata (Lobate Hinges) (1st – 2nd century) = 28 objects

|  | Object | Type | Sub-type | Object date |
|---|---------|--------------|----------|---|
| 96000018 | Cuirass | Lobate Hinge | A | 1 st – 2 nd centuries |
| 7351109 | Cuirass | Lobate Hinge | B | 1 st – 2 nd centuries |
| 7351404 | Cuirass | Lobate Hinge | B | 1 st – 2 nd centuries |
| 96000011 | Cuirass | Lobate Hinge | B | 1 st – 2 nd centuries |
| 96000016 | Cuirass | Lobate Hinge | B | 1 st – 2 nd centuries |
| 96000017 | Cuirass | Lobate Hinge | B | 1 st – 2 nd centuries |
| 96000021 | Cuirass | Lobate Hinge | B | 1 st – 2 nd centuries |
| 96000013 | Cuirass | Lobate Hinge | B/C | 1 st – 2 nd centuries |
| 96000015 | Cuirass | Lobate Hinge | B/C | 1 st – 2 nd centuries |
| 7350252 | Cuirass | Lobate Hinge | C | 1 st – 2 nd centuries |
| 7350321 | Cuirass | Lobate Hinge | C | 1 st – 2 nd centuries |
| 7350488 | Cuirass | Lobate Hinge | C | 1 st – 2 nd centuries |
| 7351122 | Cuirass | Lobate Hinge | C | 1 st – 2 nd centuries |
| 7351145 | Cuirass | Lobate Hinge | C | 1 st – 2 nd centuries |
| 88380819 | Cuirass | Lobate Hinge | C | 1 st – 2 nd centuries |
| 96000009 | Cuirass | Lobate Hinge | C | 1 st – 2 nd centuries |
| 96000010 | Cuirass | Lobate Hinge | C | 1 st – 2 nd centuries |
| 96000014 | Cuirass | Lobate Hinge | C | 1 st – 2 nd centuries |
| 96000019 | Cuirass | Lobate Hinge | C | 1 st – 2 nd centuries |
| 96000043 | Cuirass | Lobate Hinge | C | 1 st – 2 nd centuries |
| 88380820 | Cuirass | Lobate Hinge | D | 1 st – 2 nd centuries |
| 7350381 | Cuirass | Lobate Hinge | ? | 1 st – 2 nd centuries |
| 7351121 | Cuirass | Lobate Hinge | ? | 1 st – 2 nd centuries |
| 88396170 | Cuirass | Lobate Hinge | ? | 1 st – 2 nd centuries |
| 88396171 | Cuirass | Lobate Hinge | ? | 1 st – 2 nd centuries |

| | | | | |
|----------|---------|--------------|---|---|
| 88396191 | Cuirass | Lobate Hinge | ? | 1 st – 2 nd centuries |
| 88396200 | Cuirass | Lobate Hinge | ? | 1 st – 2 nd centuries |
| 96000020 | Cuirass | Lobate Hinge | ? | 1 st – 2 nd centuries |
| 96000023 | Cuirass | Lobate Hinge | ? | 1 st – 2 nd centuries |

Brief background

There are generally two types of hinge: sub-lobate and lobate. All 26 examples from Richborough are of the lobate type. Although lobate hinges have no typology of their own, the different forms are identifiable on different types of *lorica segmentata*. The main reason for there being no exact typology is that all shapes of lobate hinge have been found on each type of *lorica*. However, there are some observable differences.

Typology and Chronology

Malcolm Lyne split the 26 examples into four types he saw at Richborough. However, although Robinson (1975: 177, Fig.182) suggested a typology for these, features he used are seen repeated from the 1st – 3rd centuries (Bishop, 2002: 40). There are differences, but they do not provide good dating.

Malcolm's types are A, B, C and D. Type C is clearly most common, but this might just reflect the batch of armour worn by the incoming military.

Malcolm Lyne Type A

There is one example of this type from Richborough. This type has the usual three lobate shapes with rivet holes. There is a triangular perforation in the centre of the body. The bottom two rivets have bulges around them to the sides.

Malcolm Lyne Type B

There are four examples of this type from Richborough. This type has the usual three lobate shapes with rivet holes. The bottom two rivets have bulges around them to the sides.

Malcolm Lyne Type B/C

There are two examples of this type from Richborough. They do not have enough diagnostic elements to make a judgement.

Malcolm Lyne Type C

There are 10 examples of this type from Richborough. This type has the usual three lobate shapes with rivet holes. The bottom two rivets have less pronounced curves around the bottom two rivets.

Malcolm Lyne Type D

There is one example of this type from Richborough. This type has the usual three lobate shapes with rivet holes. The bottom two rivet holes are nearer the centre of the body rather than near the edge. The bottom edge of the hinge has a convex curve.

Malcolm Lyne Type ?

There are eight examples of this type from Richborough. They do not have enough diagnostic elements to make a judgement.

Materials, design, and production

No XRF analysis was undertaken on these objects

All the examples from Richborough appear to have been cast in moulds.

There is little variation in the sizes of the hinges. Complete examples are around 30mm in height and with similar widths. The larger outliers in the group are due to corrosion products or extra parts and the smaller are incomplete examples.

Use, reuse and repair

Lobate hinges were used on *lorica segmentata* in different ways:

- To connect the breastplate and backplate to the mid-collar plate.
- To connect each section of the upper shoulder guards.

They are one of many different fittings found on *lorica segmentata*.

There is no indication that they were reused as different objects and no sign of repair.

Decoration

The lobate hinges do not have any decoration; however, one form does have a triangular perforation through the centre.

Parallels

The lobate hinges from Richborough are found on the Corbridge (1st – 2nd centuries AD) and Newsteads (2nd – 3rd centuries AD) *lorica segmentata*. Given the context dates (below) and form of the hinges they were most likely used with the Corbridge type *lorica*. Bishop (2002: 37, Fig.5.6) shows that Malcolm's Type A is rarer than forms B and C. Type D does not seem to be paralleled.

Key contexts


| ID | Context no. | Context date | Period |
|----------|-------------|--------------|--------|
| 96000018 | AVIII.001 | 65 – 75 | 2-3 |
| 7351109 | A/S?.001 | N/A | N/A |
| 7351404 | A?.091 | N/A | N/A |
| 96000011 | AN.013 | N/A | N/A |
| 96000016 | AN.011.12 | 410+ | 14 |
| 96000017 | AXXI.001 | 65 – 75 | 2-3 |
| 96000021 | A/S?.001 | N/A | N/A |
| 96000013 | A/S?.001 | N/A | N/A |
| 96000015 | AVIII.001 | 65 – 75 | 2-3 |
| 7350252 | A/S?.001 | N/A | N/A |
| 7350321 | A/S?.001 | N/A | N/A |
| 7350488 | A/S?.001 | N/A | N/A |
| 7351122 | AVIII.001 | 65 – 75 | 2-3 |
| 7351145 | AVIII.001 | 65 – 75 | 2-3 |
| 88380819 | A/S?.001 | N/A | N/A |
| 96000009 | AXVI.014 | 65 – 75 | 2-3 |
| 96000010 | AXVI.014 | 65 – 75 | 2-3 |
| 96000014 | A/S?.001 | N/A | N/A |
| 96000019 | A?.049.10 | 270 – 410+ | 10-14 |
| 96000043 | AVIII.001 | 65 – 75 | 2-3 |
| 88380820 | A/S?.001 | N/A | N/A |
| 7350381 | AN.011.9 | 270 – 410+ | 10-14 |
| 7351121 | A/S?.001 | N/A | N/A |
| 88396170 | AVIII.001 | 65 – 75 | 2-3 |

| | | | |
|----------|-----------|---------|-----|
| 88396171 | AVIII.001 | 65 – 75 | 2-3 |
| 88396191 | AVIII.001 | 65 – 75 | 2-3 |
| 88396200 | AVIII.001 | 65 – 75 | 2-3 |
| 96000020 | AS.039 | N/A | N/A |
| 96000023 | A/S?.001 | N/A | N/A |

Overview:

Of the 28 examples, 16 come from datable contexts. Two key contexts are in Area VIII and Area XVI. In Area VIII a clay floor was dated to c.AD55-75, while the objects from Area XVI were dated as Claudio-Neronian, with some intrusive later material. These floors belong to structures found to the north of the main east-west road. In the burnt deposit on the floor in Area VIII was found several bronze objects, including several of the lobate hinges. From Malcolm's typology, these include the Type A hinge, two of Type B and three of Type C. This proves that these forms were used at the same time. It was determined that these objects were stored ready to be melted down and reused (Bushe-Fox, 1932: 15). In Area XVI, lobate hinges came from a context of burnt material overlying a floor. The construction phases for the buildings to the north of the east-west road is unclear. The first buildings appear to date to soon after the Claudian invasion, while the second set of buildings were constructed either just before or soon into the Flavian period. Another piece was found to the North of the quadrifrons platform and was found in a layer dated to c.AD60-80. Since these are key pieces of the *lorica* and if one is simply lost a whole piece could come apart, casual loss is unlikely to be the reason. The collection of bronze objects might point to a metal workshop in this area, extended at some point around the early-Flavian period. Along with this there are multiple other fragments of *lorica* in Areas VIII and XVI (See *Lorica Segmentata*). There are also a couple of contextually late examples of early lobate hinges. These were in the inner ditch on the north side of the fort. However, since we now know that these ditches were cut through 1st – 3rd century layers, it is possible that these were mixed up in the rampart which was likely pushed back into the ditches as fill.

Lorica Segmentata (Tie Loops, Tie Rings and Vertical Fasteners) (1st – 2nd century) = 14 objects

|  | Object | Type | Sub-type | Object date |
|---|---------|---------------|--------------------------|---|
| 7350726 | Cuirass | Corbridge B/C | Tie Loop | 1 st – 2 nd century |
| 7350733 | Cuirass | Corbridge B/C | Tie Loop | 1 st – 2 nd century |
| 7351362 | Cuirass | Corbridge B/C | Tie Loop | 1 st – 2 nd century |
| 7351363 | Cuirass | Corbridge B/C | Tie Loop | 1 st – 2 nd century |
| 7351412 | Cuirass | Corbridge B/C | Tie Loop | 1 st – 2 nd century |
| 96000024 | Cuirass | Corbridge B/C | Tie Loop | 1 st – 2 nd century |
| 96004389 | Cuirass | Corbridge B/C | Tie Loop | 1 st – 2 nd century |
| 96000057 | Cuirass | Newsteads | Tie Plate | 2 nd – 3 rd century |
| 7351014 | Cuirass | Newsteads | Tie Ring | 2 nd – 3 rd century |
| 96000025 | Cuirass | Newsteads | Tie Ring | 2 nd – 3 rd century |
| 96000026 | Cuirass | Newsteads | Tie Ring | 2 nd – 3 rd century |
| 96000027 | Cuirass | Newsteads | Tie Ring | 2 nd – 3 rd century |
| 7350344 | Cuirass | Corbridge B/C | Vertical Fastener (f) | 1 st – 2 nd century |
| 7350739 | Cuirass | Corbridge B/C | Vertical Fastener (f) | 1 st – 2 nd century |

Brief background

The *lorica segmentata* cuirass included a number of different fasteners in order to hold all of the parts together. The collection included here are all associated with the Corbridge type cuirass and the terminology comes from Bishop (2002).

Typology and Chronology

The different types of fasteners discussed here can be associated with either the Type A or Type B/C Corbridge cuirass.

Tie Loops– Corbridge Type B/C

There are seven examples of this type from Richborough. Tie loops come in pairs and were used to fasten the girth loops (Bishop 2002: 102). Each tie hook has two holes for rivets and a rolled-up end into a hook. They were fastened together with leather. They date to the 1st – 2nd century

Tie Rings and Plates– Newsteads

There are five examples of this type from Richborough. These were used on the Newsteads cuirass to fasten the girth loops (Bishop 2002: 57). These came in six or seven pairs. They date to the 2nd – 3rd century.

.Vertical Fasteners – Corbridge Type B/C

There are two examples of this type from Richborough. These were used to connect upper and lower units (Bishop 2002: 102). There would be six in total on a cuirass. On this type they are a hook and eye form. The two examples here are the ‘female’ eye to receive the hook and would have been on the upper unit (Bishop 2002: 34, Fig.5.3d). They date to the 1st – 2nd century AD.

Materials, design, and production

No XRF analysis was undertaken on these objects.

The tie rings appear to have been cast, but the vertical fasteners and tie loops were cut from sheet metal.

Not much can be said about the metrology of the objects. Between complete examples their size and weight are fairly consistent

These objects were all attached to the various parts of the cuirass by rivets. These were either fastened through holes or in the case of the rings, fastened on the back of a shaft pushed through the girth hoop.

Use, reuse and repair

These objects were used to attach various parts of the cuirass together. There is no indication they were used for another purpose and no sign of repair. However, it is possible, given their attachment method, that they were attached and re-attached during their working life.

Decoration

There is no decoration on the objects.

Parallels

These fittings are found on multiple military sites from the 1st – 3rd centuries AD. The main two are the examples from Corbridge and Newsteads which lend their names to the types.


Key contexts

| ID | Context no. | Context date | Period |
|----------|-------------|--------------|--------|
| 7350726 | AXVI.038.1 | 75 – 95 | 3-4 |
| 7350733 | AVI.017.2 | N/A | N/A |
| 7351362 | A/S?.001 | N/A | N/A |
| 7351363 | AWS.008 | N/A | N/A |
| 7351412 | A/S?.001 | N/A | N/A |
| 96000024 | A?.079.3 | N/A | N/A |
| 96004389 | A/S?.001 | N/A | N/A |
| 96000057 | ANW.004 | N/A | N/A |
| 7351014 | AXVII.002 | 200 – 285 | 8-10 |
| 96000025 | S3.017.2 | 285 – 295 | 10-11 |
| 96000026 | AWS.008 | N/A | N/A |
| 96000027 | A/S?.001 | N/A | N/A |
| 7350344 | AV.001 | N/A | N/A |
| 7350739 | A/S?.001 | N/A | N/A |

Overview:

Of the 14 objects, three come from dateable contexts. Out of the nine Corbridge type tie loops and vertical fasteners, five are contextualised and so are three of the four Newsteads type fittings. Few of the Corbridge fitting have any reliable contextual data. Three are from the surface layer, one is from Area V with no context and the final one is from an unstratified layer. Two of the Newstead fitting contexts are key. One was found in Pit 26 (a well) which was cut through the foundation for the east wall. It is only one of two objects found in this pit; the other is an Antonine brooch (7350893). Along with the coins in this pit, it is still distinctly possible that it was dug and filled c.AD285 – 95.

Lorica Squamata (Scales) (1st – 4th century) = 4 objects

|  | Object | Type | Sub-type | Object date |
|---|-----------------|-------|----------|---|
| 7350013 | Lorica Squamata | Scale | ? | 1 st – 4 th century |
| 7350349 | Lorica Squamata | Scale | ? | 1 st – 4 th century |
| 7350489 | Lorica Squamata | Scale | ? | 1 st – 4 th century |
| 96004387 | Lorica Squamata | Scale | ? | 1 st – 4 th century |

Brief background

Lorica Squamata is armour made from metal scales which were wired together and then are sewn to a fabric backing (Bishop, Coulston 2006: 64). Although it generally dates to the early Empire, it was popular for centuries because it was easier to manufacture than mail armour (Bishop, Coulston 2006: 64).

Typology and Chronology

There is no clear typology of scale armour, however, there are several ways of wiring pieces together. However, this cannot be seen in the Richborough examples because they are single scales.

Materials, design, and production

No XRF analysis was undertaken on these objects.

These objects were hammered out from sheet metal and pierced.

The objects are of similar width and depth, but their lengths and weight vary because of damage.

They were attached to a fabric backing

Use, reuse and repair

These objects were used as scales on armour. There is no indication they were used for another purpose and there is no sign of repair.

Decoration

There is no decoration on these objects.

Parallels

Lorica Squamata scales are a relatively common find on military sites and exact parallels are impossible because of the largely individual nature of the objects.

Key contexts

| ID | Context no. | Context date | Period |
|----------|-------------|--------------|--------|
| 7350013 | A?.049.10 | 270 – 410+ | 10-14 |
| 7350349 | A/S?.001 | N/A | N/A |
| 7350489 | AS.024 | N/A | N/A |
| 96004387 | A/S?.001 | N/A | N/A |

Overview:

Of the four examples, only one comes from a dateable context in the 4th century which is likely residual.

Shields (Binding and Fittings) (1st – 7th century) = 15 objects

| ID | Object | Type | Sub-type | Object date |
|----------|--------|---------|----------|-------------|
| 88396051 | Shield | Binding | N/A | N/A |
| 88396052 | Shield | Binding | N/A | N/A |
| 88396053 | Shield | Binding | N/A | N/A |
| 96000282 | Shield | Binding | N/A | N/A |
| 96000283 | Shield | Binding | N/A | N/A |
| 96000284 | Shield | Binding | N/A | N/A |
| 96000285 | Shield | Binding | N/A | N/A |
| 96000286 | Shield | Binding | N/A | N/A |
| 96000287 | Shield | Binding | N/A | N/A |
| 96000288 | Shield | Binding | N/A | N/A |
| 96000289 | Shield | Binding | N/A | N/A |
| 96004104 | Shield | Binding | N/A | N/A |
| 96004105 | Shield | Binding | N/A | N/A |

| | | | | |
|----------|--------|---------|-----|-----|
| 96004338 | Shield | Binding | N/A | N/A |
| 96004360 | Shield | Binding | N/A | N/A |
| 96004361 | Shield | Binding | N/A | N/A |
| 78303024 | Shield | Fitting | N/A | N/A |
| 96000299 | Shield | Fitting | N/A | N/A |
| 96000300 | Shield | Fitting | N/A | N/A |
| 96000301 | Shield | Fitting | N/A | N/A |
| 96000302 | Shield | Fitting | N/A | N/A |

Brief background

Shields, Roman and non-Roman come with a variety of decorative and functional fittings. The main one discussed here is the binding that covered the edge of the shield.

Typology and Chronology

There is no typology of these objects. Their use on shields is common and appear at all periods during Roman Britain.

Some chronology of the objects can be demonstrated with examples from contexts in the mid-1st century and late 4th century. It is possible that some come from post-Roman shields. In all cases the shield binding is straight, suggesting it was used on 1st century rectangular shields.

Materials, design, and production

No XRF analysis was undertaken on these objects.

Some of the fittings appear to have been cast, however, the binding was most often cut from sheet metal.

Metrology of these objects is not applicable.

The shield binding was attached over the edge of the wooden shield and attached by rivets. The various fittings were attached the front or back of the shield by rivets.

Use, reuse and repair

These objects were used as shield binding and fittings. There is no indication they were reused as other objects and there is no sign of repair. They are all very fragmentary.

Decoration

There is no decoration on the objects, however, one fitting (96000300) might have been used at shield decoration.

Parallels

Parts of shields such as these are found on many Roman sites. There are clearly associated with the military but not diagnostic enough to be worth commenting on parallels.

Key contexts


| ID | Context no. | Context date | Period |
|----------|-------------|--------------|--------|
| 88396051 | A/S?.001 | N/A | N/A |
| 88396052 | A/S?.001 | N/A | N/A |
| 88396053 | A/S?.001 | N/A | N/A |
| 96000282 | AS.002.5 | N/A | N/A |
| 96000283 | A/S?.001 | N/A | N/A |
| 96000284 | A/S?.001 | N/A | N/A |
| 96000285 | A/S?.001 | N/A | N/A |
| 96000286 | A/S?.001 | N/A | N/A |
| 96000287 | AWS.008 | N/A | N/A |
| 96000288 | AXVIII.016 | 43 – 65 | 1-2 |
| 96000289 | A?.091 | N/A | N/A |
| 96004104 | A/S?.001 | N/A | N/A |
| 96004105 | A/S?.001 | N/A | N/A |
| 96004338 | A/S?.001 | N/A | N/A |
| 96004360 | A/S?.001 | N/A | N/A |
| 96004361 | A/S?.001 | N/A | N/A |
| 78303024 | A/S?.001 | N/A | N/A |
| 96000299 | A?.050.7 | 410+ | 14 |
| 96000300 | A?.049.9 | 270 – 410+ | 10-14 |

| | | | |
|----------|----------|-----|-----|
| 96000301 | AE.001 | N/A | N/A |
| 96000302 | A/S?.001 | N/A | N/A |

Overview:

Of the 18 examples, two come from datable contexts. The best recorded example (96000288) comes from area 18 in the lowest level above the natural layers. Most examples are unstratified or in the shore fort ditches.

Shields (Bosses) (4th – 7th century) = 6 objects

|  | Object | Type | Sub-type | Object date |
|---|---------------|-----------------------|----------------|--|
| 96000291 | Shield (Boss) | Dickinson and Harke 1 | 1 | AD450 – 650 |
| 96000294 | Shield (Boss) | Dickinson and Harke 1 | 1 | AD450 – 650 |
| 88396047 | Shield (Boss) | Dickinson and Harke 4 | Rhenan-Vermand | Late 4 th – Early 5 th century |
| 96000290 | Shield (Boss) | Dickinson and Harke 4 | Rhenan-Vermand | Late 4 th – Early 5 th century |
| 96000292 | Shield (Boss) | Dickinson and Harke 4 | Rhenan-Vermand | Late 4 th – Early 5 th century |
| 96000293 | Shield (Boss) | Dickinson and Harke 4 | Rhenan-Vermand | Late 4 th – Early 5 th century |

Brief background

A shield boss, or umbo, is attached to the centre of the shield by a series of rivets. It is used to deflect blows from the centre of the shield but can also be purely decorative.

Typology and Chronology

The typology used here is the same that Malcolm Lyne used in his catalogue. There are no changes to the types as reinvestigation of the objects agreed with his *segmentata*.

Dickinson and Harke Group 1.1

There are two examples of this type from Richborough.

| Group | Height (mm) | Diameter (mm) | Wall (mm) | Height | Flange (mm) |
|-------|-------------|---------------|-----------|--------|-------------|
| 1 | 65 – 95 | 148 – 181 | 14 – 25 | | 20 – 40 |

Group date from AD450 – 650.

Dickinson and Harke Group 4 – Rhenan-Vermand

There are four examples of this Group from Richborough. This group is distinguished by a height of 110 – 175mm, diameter of 150 – 200mm and a low wall height. (Dickinson and Harke 1992: 19). It also has straight sides to the cone. They date to the late 4th – early 5th century. The earliest datable example is from Vermand with a *TAQ* of AD406.

Materials, design, and production

No XRF analysis was undertaken on these objects.

The shield bosses were produced in either one or two pieces. Salter (Harke and Salter 1984: 60-1) believed they were cast in one piece, however. Stansfeld (1979: 25-6) suggested they were made in two parts. One part consisted of the cone and apex and the other consisted of the wall and flange. They were then joined by welding.

The size of the shield boss is key to determining its typology and chronology. The Rhenan-Vermand types fit squarely within their typology. Both Group 1.1 examples are clearly Group 1.1 based on the 39mm and 35mm flanges.

The shield boss is attached to the wooden shield by means of four or five rivets through the flange. A further explanation can be found in Dickinson and Harke (1992: 35).

Use, reuse and repair

These objects were used as shield bosses. There is no indication that they were used for any other purpose and no sign of repair to the objects. In fact, some are in poor condition and one (96000291) looks to have been beaten in, possibly by an attacker.

Decoration

There is no decoration on these objects.

Parallels

There are three records on the PAS for Kent. From the descriptions two are Group 3 and one, found near Maidstone (Kent-08EAB1) is of Group 1 which would be usual for Kent.

Elsewhere, the Group 1 examples are mostly paralleled in the Upper Thames, Wessex, and East Anglia regions (Dickinson and Harke 1992: 10, Table.2). Only three were noted from Kent. The dating from AD450-650 leaves a wide scope of interpretations as to when they arrived at Richborough.

The Type 4 Rhenan-Vermand, named as such due to an early find near Vermand with a *TAQ* of AD406 (Dickinson and Harke 1992: 19). From this and other examples it is reasonable to assume a late

Roman/Early Medieval usage. This type was developed on the continent and arrived in Britain from the Germanic regions in the late 4th century.


Key contexts

| ID | Context no. | Context date | Period |
|----------|--------------|--------------|--------|
| 96000291 | AXXIII.008.2 | 410+ | 14 |
| 96000294 | A/S?.001 | N/A | N/A |
| 88396047 | A/S?.001 | N/A | N/A |
| 96000290 | AXXIII.038.1 | 350 – 410 | 13-14 |
| 96000292 | A?.049.5 | 410+ | 14 |
| 96000293 | A/S?.001 | N/A | N/A |

Overview:

Of the six examples, three come from datable contexts. One of the Type 1 examples (96000291) was found in the black earth in Area XX. This was possibly in the top of a pit. However, more interestingly, it was found in the top 1' of soil. This is uncommon at Richborough as in many places the top 3' was removed. It sits above the latest Roman occupation and possibly demonstrates a layer of Early Medieval activity. The other two examples (96000292 and 96000293) were found in the middle layer of the stone fort ditch and in Pit 305. The ditch find does not indicate the date of the filling, but it must have been after AD400. Pit 305 must have been filled sometime in the late 4th – early 5th centuries.

Shields (Grips) (1st – 7th century) = 9 objects

|  | Object | Type | Sub-type | Object date |
|---|-------------|-----------------------------------|----------|-------------|
| 96000297 | Shield Grip | Dickinson and B Harke Type I | | |
| 96000295 | Shield Grip | Dickinson and A Harke Type III | | |
| 96000843 | Shield Grip | Dickinson and A Harke Type III | | |
| 96000298 | Shield Grip | Dickinson and B Harke Type III | | |
| 96004101 | Shield Grip | Dickinson and B Harke Type III | | |
| 88396045 | Shield Grip | N/A | N/A | N/A |
| 88396046 | Shield Grip | N/A | N/A | N/A |
| 96000296 | Shield Grip | N/A | N/A | N/A |
| 96004054 | Shield Grip | N/A | N/A | N/A |

Brief background

Shield grips are attached to the rear of the shield behind the boss. They come in a variety of attachment methods and can sometimes be attached to the boss itself.

Typology and Chronology

The typology for shield grips comes from Dickinson and Harke (1992).

Dickinson and Harke Type Ib

There is one example of this type from Richborough. This type is a short grip that is flanged on the ends (Dickinson and Harke 1992: 24). They are most often associated with shield bosses of Groups 1, 2 and 3; primarily 1 and 3. This gives their date from AD450 – 650.

Dickinson and Harke Type IIIa and IIIb

There are four examples of this type from Richborough.

| <i>Type</i> | <i>No.</i> | <i>Description</i> | <i>Boss Group</i> |
|-------------|------------|------------------------------|------------------------------------|
| <i>IIIa</i> | 2 | Flat and straight midsection | 1 and 3 |
| <i>IIIb</i> | 2 | Flanged midsection | 1, 2 and 3; primarily with group 3 |

This gives their date from AD450 – 650, however most likely post AD500

Unknown Types

There are four examples of unknown types from Richborough. There is little to be said about them and the form probably dates to the 1st century AD.

Materials, design, and production

No XRF analysis was undertaken on these objects

Each of the shield grips were made from cast iron in one piece.

Significant measurements are difficult to determine and the objects are fragments and in poor condition.

Shield grips were attached in multiple ways. Dickinson and Harke (1992: 37, Fig.24) demonstrate 7 variations of attachment. It is not possible to tell from the Richborough collection what form of attachment was used and attachment seems to have been local or even personal (Dickinson and Harke 1992: 38).

Use, reuse and repair

These objects were used as shield grips. There is no indication that they had any other function and there is no indication that they were repaired.

Decoration

There is no decoration on the shield grips.

Parallels

There is one example on the PAS of a shield grip from Kent which is attachment Type C1 or D1 (KENT-FA7617).

Like the Group 3 bosses, Type IIIb grips are the predominant type in Kent with 11 examples. (Dickinson and Harke 1992: 26, Table 6). Type IIIa is only found once elsewhere in Kent and there are eight examples of Type Ia.


Key contexts

| ID | Context no. | Context date | Period |
|----------|-------------|--------------|--------|
| 96000297 | AXVI.035.5 | 350 – 410+ | 13-14 |
| 96000295 | A/S?.001 | N/A | N/A |
| 96000843 | A/S?.001 | N/A | N/A |
| 96000298 | A/S?.001 | N/A | N/A |
| 96004101 | AW.027.14 | 410+ | 14 |
| 88396045 | A/S?.001 | N/A | N/A |
| 88396046 | A/S?.001 | N/A | N/A |
| 96000296 | A/S?.001 | N/A | N/A |
| 96004054 | A/S?.001 | N/A | N/A |

Overview:

Of the 9 examples, two come from datable contexts. One example (96000297) comes from the topsoil in Section 47. The other, from an important context, is one of the Type IIIb examples (96004101). This comes from the middle layer of the stone fort ditch on the west side of the fort. Dickinson and Harke (1992: 24) demonstrated that 16 of their 20 examples were associated with Group 3 bosses dated post AD500. However, it is possible these were used with Group 1 or 2 bosses. It is possible that this example provided a post AD500 date for the filling of the stone fort ditches.

Swords and Daggers (Sword Fittings) = 7 objects

|  | Object | Type | Sub-type | Object date |
|---|------------|------|----------|--|
| 96000369 | Handle | A14 | N/A | 1 st – 4 th century |
| 96000370 | Handle | A14 | N/A | 1 st – 4 th century |
| 96000371 | Handle | A14 | N/A | 1 st – 4 th century |
| 96000373 | Handle | A14 | N/A | 1 st – 4 th century |
| 96005001 | Handle | A14 | N/A | 1 st – 4 th century |
| 96000374 | Hilt Guard | K/O | N/A | 8 th – 10 th century |
| 96005002 | Pommel | N/A | N/A | 1 st – 4 th century |

Brief background

Swords consist of several parts. Below the handle is the hilt guard, handle, and pommel. These parts are usually quite diagnostic to a particular sword type and period. These objects have been grouped together as there are comparatively few objects and they all relate to one part of the sword.

Typology and Chronology

The typology is dependent upon the sword type and period.

Handles – Type A14

There are five examples of this type from Richborough. These are lathe-turned handles which is a broad group. They might not all be sword handles but could be miscellaneous turned cylinders (Greep 1983: 400). They date to the 1st – 4th century

Hilt Guards

There is one example of this type from Richborough. This type of hilt guard appears on late Saxon/Viking swords of type K and O (Petersen 1919: Figs.89-93) and could be compared to the Saxon sword (Cunliffe 1968: 115). It dates to the 8th – 10th century.

Pommels

There are three examples of this type from Richborough. They are all circular pommel fittings.

Materials, design, and production

No XRF analysis was undertaken on these objects. They are made from bone, copper-alloy, and iron.

The bone examples have been carved from leg bones either as one piece or two halves fastened together. The metal examples appear to have been cast.

Due to the varying degrees of preservation and type the measurements vary. However, several of the same bone types have similar lengths.

The handles were attached to the tang of the blade. This was usually by stuffing material between the two and securing at each end with a nut and the pommel/guard.

Use, reuse and repair

These objects were used as sword handles and handle fittings. There is no indication they were used for another purpose and there is no sign of repair.

Decoration

There is no decoration on the objects. The bone handles are grooved for the fingers to grip.

Parallels

It is difficult to parallel the hilt guard and pommel. Greep (1983: 787-8) offers parallels from Silchester, Dorchester, Colchester, Brislington, Cirencester, Caerwent and Segontium. It is therefore not clear whether these all have a military association.

Key contexts

| ID | Context no. | Context date | Period |
|----------|-------------|--------------|--------|
| 96000369 | AXVI.017.2 | 100 – 200 | 5-7 |
| 96000370 | AW.027.16 | 410+ | 14 |
| 96000371 | A?.100 | N/A | N/A |
| 96000373 | AXVII.003.2 | 95 – 200 | 5-7 |
| 96005001 | A?.061 | N/A | N/A |
| 96000374 | AW.027.15 | 410+ | 14 |
| 96005002 | AX.014 | N/A | N/A |

Overview:

Of the 7 examples, 4 have some form of context data. If the bone handles are from military swords, then they are either residual from the early military occupation or represent some military presence during the 2nd century. However, this could easily be soldiers passing through and having their swords mended. A couple date to the very latest period and cannot be securely dated.

Swords and Daggers (Blades) (1st – 9th century) = 7 objects

| ID | Object | Type | Sub-type | Object date |
|----------|-------------|-------------|----------|---|
| 78303046 | Sword Blade | Gladius | ? | 1 st – 2 nd century |
| 96000376 | Sword Blade | Pugio | ? | 1 st century |
| 96000375 | Sword Blade | Ring Pommel | ? | 1 st – 3 rd century |
| 96000377 | Sword Blade | Uncertain | ? | ? |
| 88396054 | Sword Blade | Uncertain | ? | ? |
| 96000497 | Sword Blade | Uncertain | ? | ? |

Brief background

There are multiple Roman swords from Richborough. The swords are heavily encrusted and fragmentary making a positive identification difficult.

Typology and Chronology

Gladius

There is one example of this type from Richborough. The exact type is not currently identified. It most likely dates to the 1st – 2nd century AD.

Pugio

There is one example of this type from Richborough. The exact type is not currently identified. It most likely dates to the 1st – 2nd century AD.

Ring Pommel

There is one example of this type from Richborough. The exact type is not currently identified. These swords were a Roman adoption from those used in Free Germany, Crimea and near the Danube (Bishop Coulston 2006: 133). It most likely dates to the 1st – 3rd century AD.

Uncertain

There are three examples of this type from Richborough. The exact type is not currently identified. It most likely dates to the 2nd – 3rd century AD.

Materials, design, and production

No XRF analysis was undertaken on these objects. There is X-Rays of object

Each of the swords appear to have been made by hammering out bars of metal.

The overall metrology of the swords is difficult as they are quite fragmentary, but the general shape and measurements means some can be identified to some extent.

There would have been multiple associated objects attached to the swords, such as handles, hilts and pommels made from various materials as well as sheaths and sword belts discussed elsewhere.

Use, reuse and repair

These objects were used as swords. There is no indication that they were ever used for a different purpose and no sign of repair.

Decoration

There is no decoration on the objects.

Parallels


Key contexts

| ID | Context no. | Context date | Period |
|----------|-------------|--------------|--------|
| 78303046 | A/S?.001 | N/A | N/A |
| 96000376 | A/S?.001 | N/A | N/A |
| 96000375 | S1.035.2 | 150 – 200 | 7-8 |
| 96000377 | AWS.008 | N/A | N/A |
| 88396054 | A/S?.001 | N/A | N/A |
| 96000497 | AWS.008 | N/A | N/A |

Overview:

Of the six examples, only one comes from a dateable context. This is the ring pommel sword from the building on Site I. It is interesting that the sword should be found here. The house is clearly one of status and being close to the monument increases this status. The site was not a military one at this stage, however, this house might have been occupied by some Roman official who would have owned a sword. It's position on the main road means anyone in the house could see others entering or leaving the port.

Swords and Daggers (Scabbard Chapes) = 22 objects

|  | Object | Type | Sub-type | Object date |
|---|----------|-------|---------------|---|
| 7351322 | Scabbard | Metal | Type 1 | 1 st – 4 th century |
| 96000388 | Scabbard | Metal | Type 1 | 1 st – 4 th century |
| 7351104 | Scabbard | Metal | Type 3 | 1 st – 2 nd century |
| 96000381 | Scabbard | Metal | Type 4 | 1 st – 2 nd century |
| 96000382 | Scabbard | Metal | Type 4 | 1 st – 2 nd century |
| 7351334 | Scabbard | Metal | Type 4 | 1 st – 2 nd century |
| 96000378 | Scabbard | Metal | Type 3/4 | 1 st – 2 nd century |
| 96000379 | Scabbard | Metal | Type 3/4 | 1 st – 2 nd century |
| 96000380 | Scabbard | Metal | Type 3/4 | 1 st – 2 nd century |
| 96000383 | Scabbard | Metal | Type 3/4 | 1 st – 2 nd century |
| 96000384 | Scabbard | Metal | Type 3/4 | 1 st – 2 nd century |
| 96000385 | Scabbard | Metal | Type 3/4 | 1 st – 2 nd century |
| 96000386 | Scabbard | Metal | Type 3/4 | 1 st – 2 nd century |
| 7350188 | Scabbard | Metal | Type 6 | 2 nd – 3 rd century |
| 7350189 | Scabbard | Metal | Type 6 | 2 nd – 3 rd century |
| 7351351 | Scabbard | Metal | Type 6 | 2 nd – 3 rd century |
| 96000387 | Scabbard | Metal | Semi-circular | Uncertain |
| 7351930 | Scabbard | Metal | Circular | Uncertain |
| 96000389 | Scabbard | Bone | Type 1 | 1 st – 4 th century |
| 96000390 | Scabbard | Bone | Type 1 | 1 st – 4 th century |
| 96000391 | Scabbard | Bone | Type 2 | 1 st – 4 th century |
| 96000392 | Scabbard | Bone | Type ? | 1 st – 4 th century |

Brief background

Scabbard chapes were used to hold together the lower end of the scabbard (Marchant 1991: 91). The chape was either attached to the scabbard via a rivet or possibly using some kind of glue (Marchant 1991: 91). Most are made from copper alloy but iron and bone chapes were also used and come in a variety of shapes.

Typology and Chronology

The typology used here for scabbard chapes is by Marchant (1991: 91-133). These are split into type by material, copper alloy, iron, bone and ivory. Greep (1983: 109-18) also provides a typology for bone and ivory scabbard chapes which will be used alongside Marchant.

Type 1 – Pelta type

There are two examples of this type from Richborough. It gets the name from its characteristic cut-outs (Marchant 1991: 92). It is a widely used form and has a rounded lower end with a flat or convex front face (Marchant 1991: 92). There are also triangular projections that emanate from the upper edge (Marchant 1991: 92). They date to the 1st – 4th century.

Type 3 – Decorated triangular type

There is one example of this type from Richborough. They are triangular with a rounded lower end (Marchant 1991: 102). They are mostly openwork save for a crossbar near the upper end (Marchant 1991: 102). Decoration can include triangular indentations which are enamelled; either along the crossbar or all over the face (Marchant 1991: 102). They date to the 1st – 2nd century.

Type 4 – Other triangular type

There are two examples of this type from Richborough. They are formed of simple pockets of bronze in a triangular shape (Marchant 1991: 105). They are crudely formed with little decoration and no two are alike (Marchant 1991: 105). They date to the 1st – 2nd century.

Type 3/4

There are eight examples of this type from Richborough. As the two types above, these examples could not be narrowed down, however, they are the tips of triangular scabbard chapes. They date to the 1st – 2nd century.

Type 6 – Oval/Circular type

There are three examples of this type from Richborough. They are characterised by their shape, mid-rib and pelta cut-outs (Marchant 1991: 107). They date to the 2nd – 3rd century.

Type Semi-circular

There are two examples of this type from Richborough. This form could not be placed into the typology. It is a simple semi-circular binding with rivet holes at either end.

Type 1 – Rectangular

There are two examples of this type from Richborough. This type is rectangular with pelta cut-outs and grooves in the margins (Marchant 1991: 116). It is often slightly curved with one end with triangular notches and the other chamfered. It equates to Greep's (1983) Type 2. They date to the 1st – 4th century.

Type 2

There is one example of this type from Richborough. This type is like Type 1 but with a mid-rib with an elliptical front panel (Marchant 1991: 120). It equates to Greep's (1983) Type 3. They date to the 1st – 4th century.

Type ?

There is one example of this type from Richborough. The type could not be defined.

Materials, design, and production

No XRF analysis was undertaken on these objects.

The metal examples were cast as one piece rather than in two halves and then riveted together. The bone examples were made in two halves and then slotted together.

Most of the objects are fragmentary. The size of the chape might not be indicative of the type of scabbard or sword since they cover the tip rather than always down to the widest point of the blade.

These objects were attached to the end of the scabbard via a rivet or glue. The bone examples were made in two pieces, slotted together and then slid into place.

Use, reuse and repair

These objects were used as scabbard chapes. There is no indication they were used for another purpose and there is no sign of repair.

Decoration

Many of the objects have some form of decoration. The decorated Metal Type 3 and some of the Type 3/4 have fields for enamelling and two of the Metal Type 6 examples (7450188 and 7350189) are covered in circle and dot decoration. The bone examples have various cut outs and ridges, and one example (96000390) has pelta shaped cut-outs. The chape found on ring pommel swords is highly decorated. It has two rings of enamel around a central enamelled field. The outer ring has yellow rosettes surrounded by dark blue enamel. The inner ring has dark leaves, possibly ferns, surrounded by light blue/green. The centre circle is a chequerboard pattern of light and dark squares.

Parallels

Type

British Parallels

Continental Parallels

| | | |
|-------------------|--|---|
| Metal Type 1 | Borough-under-Stainmore, Caerleon, Canterbury, Chester, Chesters, Colchester, Corbridge, Gestingthorpe, Great Chesterford, Greatchesters, Lancaster, Manchester, Milecastle 35 + 48, Newstead, Ravenglass, South Shields, Vindolanda, Wroxeter | Neuss, Niederbiber, Stockstadt, Theilenhofen, Weissenburg, Thorsbjerg, Zugmantel, |
| Metal Type 3 | Benwell, Chester, Chesters, Corbridge, Housesteads, South Shields, Vindolanda | Several in Denmark |
| Metal Type 4 | Caerleon, Chester, London | None |
| Metal Type 6 | Chesters, Fremington Hagg, Housesteads, York | Butzbach, Niederbiber, Osterburken, Saalburg? Zugmantel |
| Metal Circular | | |
| Bone Type 1 | Caerleon, Colchester, Corbridge, London, Lydney, South Shields, York | Buch, Holzhausen, Mainz, Niederbieber, Pfunz, Saalburg, Scheveningen, Stockstadt, Zugmantel |
| Bone Type 2 | Caerleon, Chester, Exeter, Silchester, York | Bonn, Niederbieber, Saalburg, Stockstadt, Osterburken, Deganfeld |

Key contexts


| ID | Context no. | Context date | Period |
|----------|-------------|--------------|--------|
| 7351322 | AVI.024 | N/A | N/A |
| 96000388 | A?.015.2 | 270 – 295 | 10-11 |
| 7351104 | AW.038 | N/A | N/A |
| 96000381 | A/S?.001 | N/A | N/A |
| 96000382 | A/S?.001 | N/A | N/A |
| 7351334 | AXII.002 | 270 – 295 | 10-11 |
| 96000378 | AN.003.3 | N/A | N/A |
| 96000379 | A/S?.001 | N/A | N/A |

| | | | |
|----------|--------------|-----------|-------|
| 96000380 | AN.013 | N/A | N/A |
| 96000383 | SC.001 | N/A | N/A |
| 96000384 | AXVI.024.1 | 43 – 80 | 1-3 |
| 96000385 | AXXIII.012.1 | 270 – 295 | 10-11 |
| 96000386 | A/S?.001 | N/A | N/A |
| 7350188 | AXVI.015.1 | 270 – 295 | 10-11 |
| 7350189 | AXVII.003.1 | N/A | N/A |
| 7351351 | A?.100 | N/A | N/A |
| 96000387 | AXVI.038.1 | N/A | N/A |
| 7351930 | S1.002 | N/A | N/A |
| 96000389 | AXVII.034.2 | 95 – 200 | 5-7 |
| 96000390 | S4.001 | N/A | N/A |
| 96000391 | AW.026.8 | 410+ | 14 |
| 96000392 | A/S?.001 | N/A | N/A |

Overview:

Of the 22 examples, 15 have some form of context data. The stratigraphy of the different types is difficult to determine. Many are in residual or indeterminate contexts. The distribution is wide across the site with no area standing out. A few examples are in datable contexts and generally fall within the object dates, apart from the few residual objects in the shore fort ditches or surface layer. One Metal Type 3/4 might be associated with metalworking in Area XVI for military equipment.

Swords and Daggers (Scabbard Fittings) (1st – 4th century) = 47 objects

|  | Object | Type | Sub-type | Object date |
|---|----------|-----------------|----------|---|
| 96005000 | Scabbard | Pugio Scabbard | B2 | 1 st century AD |
| 7350810 | Scabbard | Scabbard Runner | 2 | 1 st – 3 rd century |
| 7351059 | Scabbard | Scabbard Runner | 2 | 1 st – 3 rd century |
| 7351377 | Scabbard | Scabbard Runner | 2 | 1 st – 3 rd century |
| 96000396 | Scabbard | Scabbard Runner | 2 | 1 st – 3 rd century |
| 96000397 | Scabbard | Scabbard Runner | 2 | 1 st – 3 rd century |
| 96000398 | Scabbard | Scabbard Runner | 2 | 1 st – 3 rd century |
| 96000399 | Scabbard | Scabbard Runner | 2 | 1 st – 3 rd century |
| 96000400 | Scabbard | Scabbard Runner | 2 | 1 st – 3 rd century |
| 96000401 | Scabbard | Scabbard Runner | 2 | 1 st – 3 rd century |
| 96000402 | Scabbard | Scabbard Runner | 2 | 1 st – 3 rd century |
| 96000403 | Scabbard | Scabbard Runner | 2 | 1 st – 3 rd century |
| 7350718 | Scabbard | Binding | N/A | 1 st – 4 th century |
| 7350791 | Scabbard | Binding | N/A | 1 st – 4 th century |
| 7351053 | Scabbard | Binding | N/A | 1 st – 4 th century |
| 7351698 | Scabbard | Binding | N/A | 1 st – 4 th century |
| 96000418 | Scabbard | Binding | N/A | 1 st – 4 th century |
| 96000419 | Scabbard | Binding | N/A | 1 st – 4 th century |
| 96000420 | Scabbard | Binding | N/A | 1 st – 4 th century |
| 96000421 | Scabbard | Binding | N/A | 1 st – 4 th century |
| 96000422 | Scabbard | Binding | N/A | 1 st – 4 th century |
| 96000423 | Scabbard | Binding | N/A | 1 st – 4 th century |
| 96000424 | Scabbard | Binding | N/A | 1 st – 4 th century |

| | | | | |
|----------|----------|-----------------|------------------|---|
| 7351393 | Scabbard | Belt Attachment | Dagger Frog | 1 st – 2 nd century |
| 96000411 | Scabbard | Belt Attachment | Dagger Frog | 1 st – 2 nd century |
| 96000412 | Scabbard | Belt Attachment | Dagger Frog | 1 st – 2 nd century |
| 96000413 | Scabbard | Belt Attachment | Dagger Frog | 1 st – 2 nd century |
| 7351609 | Scabbard | Belt Attachment | Buckle | 1 st – 2 nd century |
| 96000416 | Scabbard | Belt Attachment | Buckle | 1 st – 2 nd century |
| 7350428 | Scabbard | Belt Attachment | Pelta | 1 st – 3 rd century |
| 7351161 | Scabbard | Belt Attachment | Pelta | 1 st – 3 rd century |
| 7351189 | Scabbard | Belt Attachment | Pelta | 1 st – 3 rd century |
| 7351320 | Scabbard | Belt Attachment | Pelta | 1 st – 3 rd century |
| 96000404 | Scabbard | Belt Attachment | Pelta | 1 st – 3 rd century |
| 96000405 | Scabbard | Belt Attachment | Pelta | 1 st – 3 rd century |
| 96000406 | Scabbard | Belt Attachment | Pelta | 1 st – 3 rd century |
| 96000407 | Scabbard | Belt Attachment | Pelta | 1 st – 3 rd century |
| 96000408 | Scabbard | Belt Attachment | Pelta | 1 st – 3 rd century |
| 96000409 | Scabbard | Belt Attachment | Pelta | 1 st – 3 rd century |
| 96000410 | Scabbard | Belt Attachment | Pelta | 1 st – 3 rd century |
| 7351323 | Scabbard | Belt Attachment | Suspension Loop | 1 st – 4 th century |
| 7351652 | Scabbard | Belt Attachment | Suspension Loop | 1 st – 4 th century |
| 96000393 | Scabbard | Belt Attachment | Suspension Loop | 1 st – 4 th century |
| 96000394 | Scabbard | Belt Attachment | Suspension Loop | 1 st – 4 th century |
| 96000395 | Scabbard | Belt Attachment | Suspension Loop | 1 st – 4 th century |
| 96003207 | Scabbard | Belt Attachment | Suspension Loop | 1 st – 4 th century |
| 7350839 | Scabbard | Belt Attachment | Rosette Fastener | 2 nd – 3 rd century |

Brief background

Roman scabbards had a variety of fittings to attach them to the belt or baldric. These fittings changed over time depending on the method of attachment.

Typology and Chronology

Several of the objects in this group do not have typologies. Where typologies could be used, Marchant (1991: 133-62) is used for the scabbard runners and Saliola and Casprini (2012) have been used for aspects of the pugio scabbard. The objects below relate to both the sword and dagger scabbards as many of the fittings were used on both.

Scabbard – Pugio Type B2

There is one example of this type from Richborough. This type is found with three fields of with silver for decoration (Saliola and Casprini 2012: 74). It has various forms of decoration and would have had a backplate (Saliola and Casprini 2012: 74, Table.VI/2). They date to the mid-late 1st century AD.

Scabbard Runner – Type 2

There are 11 examples of this type from Richborough. This type is Marchant's Type 2. There are many subdivisions (A-E), but these could not be identified in the Richborough collection. They are a flat strip of metal, rectangular and narrow (Marchant 1991: 141). They taper towards each end terminating in a variety of designs and are often stepped part way along the runner (Marchant 1991: 141-9). They date to the 1st – 3rd century.

Binding

There are 11 examples of this type from Richborough. The smaller pieces of binding are most likely to have belonged to scabbards rather than shields and are the most commonly found piece of scabbards (Marchant 1991: 89). They date to the 1st – 4th century.

Belt Attachment – Dagger Frog

There are four examples of this type from Richborough. These were attached to the end of opposite belt plates. The terminal of each was attached to the attachments on the scabbard (see Saliola and Casprini 2012: 67, Fig.VI/1.E). They date to the 1st – 3rd century.

Belt Attachment – Buckle

There are two examples of this type from Richborough. Connolly (1991) has suggested that small buckles of this form might have been used to attach the gladius to the belt before the use of the baldric. They date to the 1st – 2nd century AD.

Belt Attachment – Pelta

There are 11 examples of this type from Richborough. A pair of these pelta shaped studs on one side of the pugio scabbard were directly attached to a leather belt or strap. An example of these can be seen on the find from Nijmegen (Gerhartl-Witteveen and Hubrecht 1990: 104, No.13, Fig.13). It is a

similar attachment method C discussed by Saliola and Casprini (2012: 67-8, Fig.VI/1). They date to the 1st – 3rd century AD.

Belt Attachment – Suspension Loop

There are six examples of this type from Richborough. Suspension loops were used on both sword and pugio scabbards. On sword scabbards they are found in pairs either side of the scabbard and attached to the belt or baldric via leather straps. On the pugio they are found in different arrangements; C-E (Saliola and Casprini 2012: 67-9). They date to the 1st – 4th century AD

Belt Attachment – Rosette Fastener

There is one example of this type from Richborough. The fastener is found attached to openwork belt plates (Oldenstein 1976: 195, Taf.62.797) and could have been used to attach the 2nd – 3rd century pugio to the belt. They date to the 2nd – 3rd century.

Materials, design, and production

No XRF analysis was undertaken on these objects.

The objects in this section were made using a variety of production methods.

Due to the fragmentary nature of the objects, metrological data is not particularly useful to the discussion.

The attachment of most of the objects was done via rivets, studs or simply slotted onto the scabbard.

Use, reuse and repair

These objects were used as various parts of Roman scabbards. Some objects, such as the pelta fittings and phalera might have had another use. There is no sign of repair on the objects.

Decoration

Many of the objects are decorative or were used for decoration such as the peltae and the phalera. The main decorative piece is the scabbard (96005000).

Parallels

There is little significant about many of the finds to make direct parallels. Scabbard runners are found on military sites, and some towns, across Britain and along the German *limes* (Marchant 1991: 141-9). The pelta fittings are found paralleled on the pugio from Nijmegen (Gerhartl-Witteveen and Hubrecht 1990: 104, No.13, Fig.13).

The most interesting piece is the scabbard (96005000). There is no direct parallel, but it shows many characteristics of Period II identified by Saliola and Casprini (2012). These Period II scabbards appear in all parts of the Empire within the Western Empire. However, they are most prominent in Britannia, Germania, Noricum and Dalmatia, comprising of at least 70% of the corpus in each region (Saliola

and Casprini 2012: 132). They are less prominent in Gallia and Hispania making up only 30% and 37% respectively. This is unsurprising as by the time this type was first used, c.AD10 (Saliola and Casprini 2012: 74), there was little military activity in these regions after this time, whereas those regions with over 70% Period II, which dates from c.AD10 – c.AD70s, had a large increase in military activity. The absence of Period I from these regions also shows the use of relatively new equipment rather than long use of Republican/Early Imperial examples.

Key contexts

| ID | Context no. | Context date | Period |
|----------|-------------|--------------|--------|
| 96005000 | AS.002.7 | N/A | N/A |
| 7350810 | A/S?.001 | N/A | N/A |
| 7351059 | A/S?.001 | N/A | N/A |
| 7351377 | A?.100 | N/A | N/A |
| 96000396 | A?.061 | N/A | N/A |
| 96000397 | A?.061 | N/A | N/A |
| 96000398 | A?.066 | N/A | N/A |
| 96000399 | S4.004.3 | 43 – 200 | 1-7 |
| 96000400 | AV.018 | N/A | N/A |
| 96000401 | A/S?.001 | N/A | N/A |
| 96000402 | AX.041.1 | N/A | N/A |
| 96000403 | A/S?.001 | N/A | N/A |
| 7350718 | AN.011.9 | 270 – 410+ | 10-14 |
| 7350791 | A?.015.7 | 270 – 295 | 10-11 |
| 7351053 | AXVII.059.1 | 270 – 295 | 10-11 |
| 7351698 | A/S?.001 | N/A | N/A |
| 96000418 | A/S?.001 | N/A | N/A |
| 96000419 | A/S?.001 | N/A | N/A |
| 96000420 | A/S?.001 | N/A | N/A |

| | | | |
|----------|--------------|-----------|-------|
| 96000421 | AW.032 | N/A | N/A |
| 96000422 | A?.080.1 | N/A | N/A |
| 96000423 | AXVII.059.1 | 270 – 295 | 10-11 |
| 96000424 | A?.091 | N/A | N/A |
| 7351393 | A?.035 | N/A | N/A |
| 96000411 | A?.100 | N/A | N/A |
| 96000412 | A?.031 | N/A | N/A |
| 96000413 | AN.013 | N/A | N/A |
| 7351609 | AXVII.069.1 | N/A | N/A |
| 96000416 | AXVII.049 | 43 – 75 | 1-3 |
| 7350428 | A?.011.2 | N/A | N/A |
| 7351161 | AXVII.053 | 90 – 280 | 4-10 |
| 7351189 | A?.091 | N/A | N/A |
| 7351320 | A?.061 | N/A | N/A |
| 96000404 | AN.009 | 200 – 260 | 8 |
| 96000405 | AN.009 | 200 – 260 | 8 |
| 96000406 | AN.009 | 200 – 260 | 8 |
| 96000407 | AN.009 | 200 – 260 | 8 |
| 96000408 | A/S?.001 | N/A | N/A |
| 96000409 | A?.091 | N/A | N/A |
| 96000410 | A?.050.2 | 410+ | 14 |
| 7351323 | AXVI.030.3 | 50 – 85 | 1-3 |
| 7351652 | AXVI.030.3 | 50 – 85 | 1-3 |
| 96000393 | S1.005 | 100 – 200 | 5 – 7 |
| 96000394 | AS.010 | N/A | N/A |
| 96000395 | AXXIII.025.2 | 80 – 95 | 3-4 |

| | | | |
|----------|-----------|-----------|-------|
| 96003207 | A/S?.001 | N/A | N/A |
| 7350839 | AXI.006.3 | 270 – 295 | 10-11 |

Overview:

Of the 47 examples, 17 have some form of context data. The contexts reveal little meaningful distribution across the site. Several objects in Area XVI are associated with the building to the north of the E/W road which was used for the manufacture of armour. Those to the south of this road in Area XVII are both of early and late date. There also several early contexts outside the north and south walls. Although these contexts are mostly undated or residual, they suggest occupation in the 1st century in these areas. Key to the finds in these areas is the scabbard (96005000) found to the south of the shore fort wall and several pelta fittings (96000404-7) which might suggest a pugio deposited in Pit 226.

The Area XVI Armour (1st century) = 51 objects

These objects have been catalogued under one number, but the entry is made up of 48 pieces.

| <i>ID</i> | <i>Object</i> | <i>Type</i> | <i>Subtype</i> | <i>Object date</i> |
|-----------|---------------|-------------|----------------|---|
| 96000006 | Cuirass | ? | ? | 1 st – 2 nd century |
| 88407928 | Cuirass | ? | ? | 1 st – 2 nd century |
| 88407929 | Cuirass | ? | ? | 1 st – 2 nd century |
| 88407930 | Cuirass | ? | ? | 1 st – 2 nd century |
| 88407931 | Cuirass | ? | ? | 1 st – 2 nd century |
| 88407932 | Cuirass | ? | ? | 1 st – 2 nd century |
| 88407933 | Cuirass | ? | ? | 1 st – 2 nd century |
| 88407934 | Cuirass | ? | ? | 1 st – 2 nd century |
| 88407935 | Cuirass | ? | ? | 1 st – 2 nd century |
| 88407936 | Cuirass | ? | ? | 1 st – 2 nd century |
| 88407937 | Cuirass | ? | ? | 1 st – 2 nd century |
| 88407938 | Cuirass | ? | ? | 1 st – 2 nd century |
| 88407939 | Cuirass | ? | ? | 1 st – 2 nd century |
| 88407940 | Cuirass | ? | ? | 1 st – 2 nd century |
| 88407941 | Cuirass | ? | ? | 1 st – 2 nd century |
| 88407942 | Cuirass | ? | ? | 1 st – 2 nd century |
| 88407943 | Cuirass | ? | ? | 1 st – 2 nd century |

| | | | | |
|----------|---------|---|---|---|
| 88407944 | Cuirass | ? | ? | 1 st – 2 nd century |
| 88407945 | Cuirass | ? | ? | 1 st – 2 nd century |
| 88407946 | Cuirass | ? | ? | 1 st – 2 nd century |
| 88407947 | Cuirass | ? | ? | 1 st – 2 nd century |
| 88407948 | Cuirass | ? | ? | 1 st – 2 nd century |
| 88407949 | Cuirass | ? | ? | 1 st – 2 nd century |
| 88407950 | Cuirass | ? | ? | 1 st – 2 nd century |
| 88407951 | Cuirass | ? | ? | 1 st – 2 nd century |
| 88407952 | Cuirass | ? | ? | 1 st – 2 nd century |
| 88407953 | Cuirass | ? | ? | 1 st – 2 nd century |
| 88407954 | Cuirass | ? | ? | 1 st – 2 nd century |
| 88407955 | Cuirass | ? | ? | 1 st – 2 nd century |
| 88407956 | Cuirass | ? | ? | 1 st – 2 nd century |
| 88407957 | Cuirass | ? | ? | 1 st – 2 nd century |
| 88407958 | Cuirass | ? | ? | 1 st – 2 nd century |
| 88407959 | Cuirass | ? | ? | 1 st – 2 nd century |
| 88407960 | Cuirass | ? | ? | 1 st – 2 nd century |
| 88407961 | Cuirass | ? | ? | 1 st – 2 nd century |
| 88407962 | Cuirass | ? | ? | 1 st – 2 nd century |
| 88407963 | Cuirass | ? | ? | 1 st – 2 nd century |
| 88407964 | Cuirass | ? | ? | 1 st – 2 nd century |
| 88407965 | Cuirass | ? | ? | 1 st – 2 nd century |

| | | | | |
|----------|---------|---|---|---|
| 88407966 | Cuirass | ? | ? | 1 st – 2 nd century |
| 88407967 | Cuirass | ? | ? | 1 st – 2 nd century |
| 88407968 | Cuirass | ? | ? | 1 st – 2 nd century |
| 88407969 | Cuirass | ? | ? | 1 st – 2 nd century |
| 88407970 | Cuirass | ? | ? | 1 st – 2 nd century |
| 88407971 | Cuirass | ? | ? | 1 st – 2 nd century |
| 88407972 | Cuirass | ? | ? | 1 st – 2 nd century |
| 88407973 | Cuirass | ? | ? | 1 st – 2 nd century |
| 88407974 | Cuirass | ? | ? | 1 st – 2 nd century |
| 88407975 | Cuirass | ? | ? | 1 st – 2 nd century |
| 88407976 | Cuirass | ? | ? | 1 st – 2 nd century |
| 88407977 | Cuirass | ? | ? | 1 st – 2 nd century |

Brief background

In 1930 the remainder of two buildings first uncovered in 1927 was excavated. These buildings were found just inside the west wall of the shore fort, along the north side of the east-west road (Bushe-Fox 1949). The buildings date to the 1st century AD and can be separated into two phases. The first is of two buildings separated by a north-south road whilst the second saw the two buildings connected and the road disused. The buildings date from AD43/44 – c.75 and the *lorica segmentata* was found in a destruction layer below a layer of clean sand which came from the foundation cut for the monument, demonstrating use and abandonment dates of the building

Typology and Chronology

There are various pieces of broken armour in the deposit. Unlike the objects spread around the site, it is worth discussing this collection in isolation to determine the building use and activity within.

Materials, design, and production

No XRF analysis was undertaken on these objects.

The various pieces of armour were made in casts or hammered from sheet metal.

The pieces are far too fragmented for the metrology to be significant.

The pieces are of different parts of the armour and were attached primarily with rivets.

Use, reuse and repair

The pieces of this object were used as segmented armour. There is no indication they were used for another purpose and there is no sign of repair. However, it is possible that they were stored to be melted down and remade.

Decoration

The condition of the pieces makes spotting any decoration difficult, but a few pieces do have spots which would have displayed decorative washers.

Parallels

Parallels for this armour are found on multiple Roman sites, particularly military.


Key contexts

| ID | Context no. | Context date | Period |
|-----------------------|-------------|--------------|--------|
| 96000006, 88407928-77 | AXVI.006.6 | 65 – 75 | 2-3 |

Overview:

All the armour comes from one context. This is recorded as 8" below the burnt red layer associated with the destruction of wattle and daub buildings above. Using section drawings of the area it can be determined that this was a layer of destruction material within the building pre-dating the monument construction. It is also close to this area (Area 8) that another, smaller collection of *lorica segmentata* fittings was found discussed elsewhere in this thesis (see Chapter 10).

Artillery Components (Catapult Parts) (1st – 4th century) = 8 objects

|  | Object | Type | Sub-type | Object date |
|---|----------|-----------------------|----------|---|
| 88396063 | Catapult | Iron Lever | N/A | 1 st – 4 th century |
| 88396088 | Catapult | Roller | N/A | 1 st – 4 th century |
| 96000896 | Catapult | Trigger | N/A | 1 st – 4 th century |
| 96004094 | Catapult | Washers and Plates | N/A | 1 st – 4 th century |
| 96004124 | Catapult | Washers and Plates | N/A | 1 st – 4 th century |
| 96004343 | Catapult | Washers and Plates | N/A | 1 st – 4 th century |
| 96004344 | Catapult | Washers and Plates | N/A | 1 st – 4 th century |
| 96004349 | Catapult | Washers and Plates | N/A | 1 st – 4 th century |

Brief background

As the Roman catapult was primarily made of wood, few copper alloy parts are ever recovered or correctly identified. Baatz (1978) collected evidence for these parts and used the ancient treatises to reconstruct the Roman ballista. The ballista itself has several copper alloy parts, including washers, levers, the trigger, and windlass. Campbell (2011) re-examined the evidence for the principles of the catapult.

Typology and Chronology

There is no typology for catapult parts, and a wider survey would be required to produce one.

However, there are several named parts which will serve as a typology. Baatz (1978: 2, Fig.1) shows these parts

Washers and Washer Plates

There are five examples of this type from Richborough. The washers and washer plates were found in pairs on the top and bottom corners of the frame. They were used for the iron lever to rest which held the cords or sinew or hair under tension (Baatz 1978: 3, Fig.1). They date to the 1st – 4th century AD.

Iron Lever

There is one example of this type from Richborough. The iron lever, as described above, sat in the washer attached the sinew or hair. They date to the 1st – 4th century AD.

Rollers

There is one example of this type from Richborough. The rollers were used on larger stone-throwers to pull the sider backwards (Baatz 1978: 6). They date to the 1st – 4th century AD.

Triggers

There is one example of this type from Richborough. The trigger is a claw which holds back the string under tension. They date to the 1st – 4th century.

Materials, design, and production

No XRF analysis was undertaken on these objects.

Most of the objects would have been hammered out from sheet metal; however, the washers were likely cast.

Nothing significant can be said about the metrology of the objects as they are fragmentary.

The parts were attached in several ways. The washers and plates were riveted in place. The trigger parts were part of the mechanism bolted to the frame. The iron lever was slotted into the washer and it is unclear how the roller was attached.

Use, reuse and repair

These objects were used as parts of Roman catapults. There is no indication that they were used for another purpose and there is no sign of repair. The finds suggest both bolt and stone-throwers, which backs up the evidence of bolt heads and stone balls found at Richborough.

Decoration

There is no decoration on most of the objects, however, the pulley possibly has some decoration on one apex: perhaps a zoomorphic decoration.

Parallels

Since catapult parts are poorly identified there are few parallels beyond those which have been found almost complete (for example the Hatra ballista, see. Baatz 1978).

Key contexts


| ID | Context no. | Context date | Period |
|----------|-------------|--------------|--------|
| 88396063 | A/S?.001 | N/A | N/A |
| 88396088 | A/S?.001 | N/A | N/A |

| | | | |
|----------|-----------|----------|-----|
| 96000896 | AVIII.001 | N/A | N/A |
| 96004094 | AW.010.1 | 90 - 130 | 5-6 |
| 96004124 | A/S?.001 | N/A | N/A |
| 96004343 | A/S?.001 | N/A | N/A |
| 96004344 | A/S?.001 | N/A | N/A |
| 96004349 | A/S?.001 | N/A | N/A |

Overview:

Of the eight examples, one comes from datable contexts. This example (96004094) was found to the west of the stone fort. The example from Area VIII (9600896) is unstratified but might relate to the metalworking in this area. Whether this represents their use in these areas defending against inland and seaborne attacks is unclear.

Caltrops (1st – 4th century) = 29 objects

|  | Object | Type | Sub-type | Object date |
|---|---------|------------------|----------|---|
| 78303026 | Caltrop | Mass of Caltrops | N/A | 1 st – 4 th century |
| 78303042 | Caltrop | Forged | N/A | 1 st – 4 th century |
| 88396072 | Caltrop | Forged | N/A | 1 st – 4 th century |
| 88396073 | Caltrop | Forged | N/A | 1 st – 4 th century |
| 96000647 | Caltrop | Mass of Caltrops | N/A | 1 st – 4 th century |
| 96000648 | Caltrop | Mass of Caltrops | N/A | 1 st – 4 th century |
| 96000649 | Caltrop | Forged | N/A | 1 st – 4 th century |
| 96000650 | Caltrop | Forged | N/A | 1 st – 4 th century |
| 96000651 | Caltrop | Forged | N/A | 1 st – 4 th century |
| 96000652 | Caltrop | Forged | N/A | 1 st – 4 th century |
| 96000653 | Caltrop | Forged | N/A | 1 st – 4 th century |
| 96000654 | Caltrop | Forged | N/A | 1 st – 4 th century |
| 96000655 | Caltrop | Sheet Metal | N/A | 1 st – 4 th century |
| 96000656 | Caltrop | Forged | N/A | 1 st – 4 th century |
| 96000657 | Caltrop | Forged | N/A | 1 st – 4 th century |
| 96000658 | Caltrop | Forged | N/A | 1 st – 4 th century |
| 96000659 | Caltrop | Forged | N/A | 1 st – 4 th century |
| 96000660 | Caltrop | Forged | N/A | 1 st – 4 th century |
| 96000661 | Caltrop | Forged | N/A | 1 st – 4 th century |
| 96000662 | Caltrop | Forged | N/A | 1 st – 4 th century |
| 96000663 | Caltrop | Forged | N/A | 1 st – 4 th century |

| | | | | |
|----------|---------|-------------|-----|---|
| 96000664 | Caltrop | Forged | N/A | 1 st – 4 th century |
| 96000665 | Caltrop | Forged | N/A | 1 st – 4 th century |
| 96000666 | Caltrop | Forged | N/A | 1 st – 4 th century |
| 96000667 | Caltrop | Forged | N/A | 1 st – 4 th century |
| 96000668 | Caltrop | Sheet Metal | N/A | 1 st – 4 th century |
| 96000669 | Caltrop | Forged | N/A | 1 st – 4 th century |
| 96000670 | Caltrop | Forged | N/A | 1 st – 4 th century |
| 96000671 | Caltrop | Forged | N/A | 1 st – 4 th century |

Brief background

A caltrop is a weapon largely used to disable an attacking enemy before they reach their enemy or target. Vegetius (III.24) describes them as a four spiked object so no matter how they are thrown onto the ground it sits on three spikes with the fourth sticking upward. This would puncture the feet of enemy troops or horses or stick in the wheels of vehicles to unsteady them.

Typology and Chronology

There is no actual typology of Roman caltrops, so they are listed here based on their construction. Only two of the totals are hammered from sheet metal, while all others (24) were forged. There also three masses of multiple caltrops which were also likely forged.

Materials, design, and production

No XRF analysis was undertaken on these objects.

Most of these objects were forged, while only a couple were hammered into shape.

The caltrops range in size with spikes upwards of 60mm in length.

These objects were not attached to any other but were thrown by hand over the ground.

Use, reuse and repair

These objects were used as caltrops to disable an oncoming enemy. There is no signs of other use or repair. It is possible that the masses of caltrops were stored for recycling or kept as a supply.

Decoration

There is no other decoration on these objects.

Parallels

While caltrops are found in ones or twos on Roman sites, particularly military, one key site to parallel is Caerleon where 17 were found in one building perhaps kept as a supply (Bishop, Coulston: 2006: 79)

Key contexts

| ID | Context no. | Context date | Period |
|----------|-------------|--------------|--------|
| 78303026 | A/S?.001 | N/A | N/A |
| 78303042 | A/S?.001 | N/A | N/A |
| 88396072 | A/S?.001 | N/A | N/A |
| 88396073 | AXI.012 | 280 – 295 | 10-11 |
| 96000647 | A/S?.001 | N/A | N/A |
| 96000648 | AXXIII.032 | 280+ | 10-14 |
| 96000649 | A/S?.001 | N/A | N/A |
| 96000650 | A/S?.001 | N/A | N/A |
| 96000651 | A?.049.10 | 270 – 410+ | 10-14 |
| 96000652 | AXVII.001 | N/A | N/A |
| 96000653 | AN.013 | N/A | N/A |
| 96000654 | AS.007 | N/A | N/A |
| 96000655 | A/S?.001 | N/A | N/A |
| 96000656 | A/S?.001 | N/A | N/A |
| 96000657 | S1.037.1 | 95 – 260 | 5-8 |
| 96000658 | S3.019 | 120 – 260 | 6-8 |
| 96000659 | AW.010.1 | 90 – 130 | 5-6 |
| 96000660 | AW.027.18 | 410+ | 14 |
| 96000661 | AN.013 | N/A | N/A |
| 96000662 | A?.064.1 | N/A | N/A |
| 96000663 | A?.049.10 | 270 – 410+ | 10-14 |

| | | | |
|----------|-------------|------------|-------|
| 96000664 | AN.013 | N/A | N/A |
| 96000665 | AXVII.004 | 350 – 410+ | 13-14 |
| 96000666 | AXVII.003.3 | 350 – 410+ | 13-14 |
| 96000667 | A?.091 | N/A | N/A |
| 96000668 | AWS.008 | N/A | N/A |
| 96000669 | AXI.010.1 | 410+ | 14 |
| 96000670 | AWS.008 | N/A | N/A |
| 96000671 | AN.012.4 | 270 – 410+ | 10-14 |

Overview:

Of the 29 examples, 10 come from dateable contexts from nearly all periods. It is interesting that they are scattered over a wide area rather than concentrated like at Caerleon. One reason is that many of these might be residual from the invasion base in AD43. It is difficult to see a use from the AD50s to the 3rd century and unless Carausius was expecting an attack from the landward west side of the fort then they might be left over invasion supply or possibly been deployed and subsequently disturbed by site modifications over the course of the Roman period.

Ferrules (1st – 4th century) = 14 objects

|  | Object | Type | Sub-type | Object date |
|---|---------|---------|----------|---|
| 7350838 | Ferrule | Ball | N/A | 1 st – 4 th century |
| 7351216 | Ferrule | Conical | N/A | 1 st – 4 th century |
| 7351799 | Ferrule | Conical | N/A | 1 st – 4 th century |
| 78303037 | Ferrule | Conical | N/A | 1 st – 4 th century |
| 96000631 | Ferrule | Conical | N/A | 1 st – 4 th century |
| 96000632 | Ferrule | Conical | N/A | 1 st – 4 th century |
| 96000633 | Ferrule | Conical | N/A | 1 st – 4 th century |
| 96000634 | Ferrule | Conical | N/A | 1 st – 4 th century |
| 96000635 | Ferrule | Conical | N/A | 1 st – 4 th century |
| 96000636 | Ferrule | Conical | N/A | 1 st – 4 th century |
| 96000637 | Ferrule | Conical | N/A | 1 st – 4 th century |
| 96000638 | Ferrule | Conical | N/A | 1 st – 4 th century |
| 96004354 | Ferrule | Conical | N/A | 1 st – 4 th century |
| 96004391 | Ferrule | Conical | N/A | 1 st – 4 th century |

Brief background

Ferrules in this case are used are hollow, shaped pieces of metal attached to the end of sticks or poles to strengthen the end and stop it from splitting or wearing. In conical form they are a spike to hold the stick in the ground. On the end of throwing weapons such as javelins they would have acted as a counterbalance to the head.

Typology and Chronology

There is no definitive chronology for Roman ferrules. All but one here is conical in shape.

Materials, design, and production

No XRF analysis was undertaken on these objects.

These objects could have been hammered from sheet metal or cast in a mould

These objects come in a range of lengths and widths. These measurements, particularly the diameter of the opening, likely indicate the function of the stick or pole to which they were attached.

These objects were affixed to the end of a stick or pole. To keep them in place a pin could be hammered through the ferrule and pole or the opening could have been stuffed with material to keep it tight.

Use, reuse and repair

These objects were used as ferrules on the end of sticks or poles, most likely weapons. There is no indication that they were used for another purpose and no signs of repair.

Decoration

There is no decoration on these objects.

Parallels

There is no wide-ranging study to produce a good discussion on parallels.


Key contexts

| ID | Context no. | Context date | Period |
|----------|-------------|--------------|--------|
| 7350838 | A?.050.4 | 270 – 410+ | 10-14 |
| 7351216 | A/S?.001 | N/A | N/A |
| 7351799 | AXVII.064.5 | 270+ | 10-14 |
| 78303037 | A/S?.001 | N/A | N/A |
| 96000631 | A/S?.001 | N/A | N/A |
| 96000632 | AXVI.038.1 | N/A | N/A |
| 96000633 | A/S?.001 | N/A | N/A |
| 96000634 | A/S?.001 | N/A | N/A |
| 96000635 | A/S?.001 | N/A | N/A |
| 96000636 | A/S?.001 | N/A | N/A |
| 96000637 | A/S?.001 | N/A | N/A |
| 96000638 | A/S?.001 | N/A | N/A |
| 96004354 | A/S?.001 | N/A | N/A |
| 96004391 | A/S?.001 | N/A | N/A |

Overview:

Of the 15 objects, only three have any form of context data. Of these two come from datable contexts but the date does not clearly indicate the period of use.

Franciscas (4th – 5th century) = 1 object

|  | Object | Type | Sub-type | Object date |
|---|-----------|----------------|----------|---|
| 96000644 | Francisca | Formengruppe 1 | Formen B | 5 th – 7 th century |

Brief background

Franciscas were small axe headed weapons used by Merovingians and other Germanic peoples. They could have been used as throwing weapons, however, it is likely they were also used in close combat.

Typology and Chronology

The main typology for franciscas is by Hübener (1980). The franciscas are split into 10 types (A-J). Hübener's study primarily focused on Types A-C, which were the most numerous and gave the best length and weight data. The 'traditional' francisca is triangular in profile, has a curved axe head, a concave underside and an 'S' curved topside. Hübener (1980: 79) considers these to start around AD480 whereas Legoux, Perrin and Vallet (2004: 25; 52) consider a start date of c.AD440/50.

Formengruppe 1, Formen B

There are examples of this type from Richborough. These differ from 'traditional' franciscas as they have a convex front face rather than an exaggerated 'S' curve, sometimes with a slight upwards curve at the cutting edge (Hübener 1980). They appear to be a development on the Formengruppe D (Hübener 1980). They date to the mid-5th to 7th century.

Materials, design, and production

No XRF analysis was undertaken on these objects.

These franciscas appear to have been made in a mould and then finished by hand.

Hübener (1980: 70-1) made comparisons between the size and weight of the franciscas. There is less correlation with the Type B compared with Type A. However, with lengths between 102 – 131mm and weights between 203.3 – 478.6g, these fall within the smallest of Type B. These examples are confined to the Rhine river basin (Hübener 1980: 89).

The francisca heads were attached to a wooden shaft possibly by a nail or simply wedged in place.

Use, reuse and repair

These objects were used as franciscas, either thrown or wielded by hand. There is no indication they were used for another purpose; however, they could have been multifunctional. There is no sign of repair.

Decoration

There is no decoration on these objects.

Parallels

There are only four examples of franciscas on the PAS and none are from Kent. Franciscas are paralleled from Belgium, France, and Germany. The lighter examples are found along the Rhine, whereas the heavier examples are found along the Meuse and Schelt (Hübener 1980: 90). In Britain there are examples from Housesteads, Caister-by-Norwich, Gesingthorpe, Coldham, and the shore fort at Brancaster (Bohme, 1986: 518, Abb.41).


Key contexts

| ID | Context no. | Context date | Period |
|----------|-------------|--------------|--------|
| 96000644 | A?.064.1 | N/A | N/A |

Overview:

The one example comes from top layer context. This, along with their object date secures their use in the latest periods on the site. One example was possibly brought to Britain in the 4th century, but the others were likely brought over after AD440 and could be considered evidence of a Saxon raid.

Projectiles (Shafts) (1st - 4th century) = 1 object

|  | Object | Type | Sub-type | Object date |
|---|--------|------------|----------|---|
| 96000675 | Shaft | Projectile | Shaft | 1 st - 3 rd century |

Brief background

The various projectiles used by the Roman army had wooden shafts attached to their metal fittings

Typology and Chronology

There is no typology applicable to this object. There are nine iron fragments as well as a bag of smaller fragments. It is difficult to know the weapon, but it was mostly likely some form of projectile.

Materials, design, and production

No XRF analysis was undertaken on this object.

The wood was carved into a shaft for a projectile.

The metrology of the object provided no further information.

There is no clear way of knowing how the shaft was attached to the metal fittings as it is unclear to which weapon it belonged.

Use, reuse and repair

This wooden object was used as the shaft for a projectile. There is no indication that it was used for another purpose and no sign of repair.

Decoration

There is no decoration on the shaft.

Parallels

There is not enough information to draw parallels.


Key contexts

| ID | Context no. | Context date | Period |
|----------|--------------|--------------|--------|
| 96000675 | AXXIII.012.2 | 270 - 295 | 10-11 |

Overview:

The remains of the shaft were found in the western length of the middle triple ditch between Sections 19 and 20. The depth of 3' indicates that it was deposited in the backfilling, probably c.AD268-72.

Projectiles (Shots) (1st – 4th century) = 10 objects

|  | Object | Type | Sub-type | Object date |
|---|--------|--------------|----------|---|
| 78303089 | Shot | Ball | N/A | 1 st – 5 th century |
| 78303090 | Shot | Sling Bullet | N/A | 1 st – 5 th century |
| 78305265 | Shot | Ball | N/A | 1 st – 5 th century |
| 88396068 | Shot | Ball | N/A | 1 st – 5 th century |
| 88396069 | Shot | Ball | N/A | 1 st – 5 th century |
| 88396070 | Shot | Ball | N/A | 1 st – 5 th century |
| 88396071 | Shot | Ball | N/A | 1 st – 5 th century |
| 88396139 | Shot | Ball | N/A | 1 st – 5 th century |
| 88396140 | Shot | Ball | N/A | 1 st – 5 th century |
| 88396142 | Shot | Ball | N/A | 1 st – 5 th century |

Brief background

Shots of stone have been used for millennia as projectiles, from various types of weapons.

Typology and Chronology

There is nothing to be said about the typology of these shots apart from there being nine balls and one sling bullet.

Materials, design, and production

No XRF analysis was undertaken on these objects.

These shots were made from various stones and worked to a smooth, spherical finish.

The shots vary in size from 45 – 100mm in diameter.

These objects were placed in a container on a weapon to be fired.

Use, reuse and repair

These objects were used as projectile weapons. There is no indication they were used for another purpose and no sign of repair.

Decoration

There is no decoration on these objects.

Parallels

It is often difficult to parallel shots of this kind as many naturally occurring stone balls can be mistaken for shots.


Key contexts

| ID | Context no. | Context date | Period |
|----------|-------------|--------------|--------|
| 78303089 | A/S?.001 | N/A | N/A |
| 78303090 | AXVII.001 | N/A | N/A |
| 78305265 | AVI.014.2 | 100 – 150 | 5-6 |
| 88396068 | A/S?.001 | N/A | N/A |
| 88396069 | A/S?.001 | N/A | N/A |
| 88396070 | A/S?.001 | N/A | N/A |
| 88396071 | AXVII.001 | N/A | N/A |
| 88396139 | A/S?.001 | N/A | N/A |
| 88396140 | A/S?.001 | N/A | N/A |
| 88396142 | A/S?.001 | N/A | N/A |

Overview:

Of the 10 examples, only two have some form of contextual data. Of these, only the slingshot (78305265) is apparently securely dated. Malcolm Lyne's object sheet for this object records it as being 7'6" down in Pit 61. However, the excavation reports say this pit was never cleared out (Bushe-Fox 1932: 72).

Projectiles (Socketed) (1st – 4th century) = 46 objects

|  | Object | Type | Sub-type | Object date |
|---|----------------|------|----------|-------------|
| 96000581 | Spearhead | 1 | 1 | |
| 96000585 | Ballista Bolt? | 1 | 1 | |
| 96000591 | Spearhead | 1 | 1 | |
| 88396066 | Spearhead | 1 | 2 | |
| 96000567 | Spearhead | 1 | 2 | |
| 96000577 | Spearhead | 1 | 2 | |
| 96000578 | Spearhead | 1 | 2 | |
| 96000579 | Spearhead | 1 | 2/3 | |
| 96000582 | Spearhead | 1 | 2/3 | |
| 96000672 | Spearhead | 1 | 3 | |
| 96000589 | Spearhead | 1 | 4 | |
| 96000586 | Spearhead | 1 | 5 | |
| 96000587 | Spearhead | 1 | 5 | |
| 96000590 | Spearhead | 1 | 6 | |
| 96000568 | Spearhead | 1 | 7 | |
| 96000569 | Spearhead | 1 | 8 | |
| 96000677 | Spearhead | 1 | 9 | |
| 96000611 | Spearhead | 1 | 10 | |
| 96000604 | Ballista Bolt | 2 | 1 | |
| 96000606 | Ballista Bolt | 2 | 1 | |
| 96000607 | Ballista Bolt | 2 | 1 | |
| 96000610 | Ballista Bolt | 2 | 1 | |
| 96000612 | Ballista Bolt | 2 | 1 | |

| | | | |
|----------|---------------|-----------|---|
| 96000609 | Ballista Bolt | 2 | 2 |
| 96000601 | Ballista Bolt | 2 | 3 |
| 96000602 | Ballista Bolt | 2 | 3 |
| 96000603 | Ballista Bolt | 2 | 3 |
| 96000605 | Ballista Bolt | 2 | 3 |
| 96000608 | Spearhead | 2 | 4 |
| 96000595 | Ballista Bolt | 3 | 1 |
| 96000596 | Ballista Bolt | 3 | 1 |
| 96000598 | Ballista Bolt | 3 | 1 |
| 96000599 | Ballista Bolt | 3 | 1 |
| 96000628 | Ballista Bolt | 3 | 2 |
| 96000600 | Ballista Bolt | 3 | 3 |
| 96000594 | Ballista Bolt | 4 | ? |
| 96000597 | Ballista Bolt | 4 | ? |
| 96000574 | Spearhead | 5 | 1 |
| 96000571 | Spearhead | 5 | 2 |
| 96000565 | Plumbatae | Uncertain | ? |
| 96000566 | Plumbatae | Uncertain | ? |
| 88396067 | Spearhead | Uncertain | ? |
| 88396147 | Spearhead | Uncertain | ? |
| 96000588 | Spearhead | Uncertain | ? |
| 96000592 | Ballista Bolt | Uncertain | ? |
| 96000593 | Spearhead | Uncertain | ? |
| 96000611 | Spearhead | Uncertain | ? |

Brief background

Typology and Chronology

Since it is often difficult to classify weapons based on their appearance, I decided to take a different approach after speaking with Mike Bishop about the problem. For this typology I took several measurements where possible and in a complete/near complete condition.

- Weight (g) (W)
- Socket diameter (mm) (SD)
- Socket length (mm) (SL)
- Head length (mm) (HL)
- Head width (widest point) (mm) (HW)

I then entered this data into an Excel spreadsheet to see if there was any correlation between the different parts of the projectile heads and attempt to establish groups. After this they were then separated into subgroups based upon their appearance. It must be said that this is still somewhat subjective like any typology. The objects still had to be categorised to an extent upon appearance and the purpose of this exercise is to see if any parts the design correlate with another.

| | 1 | 2 | 3 |
|--------------|----------|----------|----------|
| W/SD | 0.754888 | 0.984394 | 0.912919 |
| SD/SL | 0.789245 | 0.909109 | 0.814275 |
| SL/HL | 0.378885 | 0.880378 | 0.621491 |
| HL/HW | 0.096831 | 0.485371 | 0.573663 |
| SD/HW | 0.71465 | 0.70179 | 0.51707 |
| SL/HW | 0.363989 | 0.905638 | 0.678292 |
| W/HW | 0.520412 | 0.681841 | 0.617948 |
| SD/HL | 0.46851 | 0.818483 | 0.51707 |
| W/SL | 0.661805 | 0.915157 | 0.726895 |
| W/HL | 0.749256 | 0.792808 | 0.543383 |

There are clearly some elements that correlate between projectile types. So, a large extent Weight and Socket Length and Socket Diameter correlate across each projectile. This would suggest that the overall length of the object correlates to its weight. This would make sense for two reasons. Firstly, the bigger, in his case longer, an object gets the heavier it will get. Secondly, if thrown it would be important that the head is well balanced. The strong correlation across all parts of Group 2 (Ballista Bolts), despite the two different shaped heads, is to be expected as they are extremely uniform and scale evenly as they get bigger. This would be important for a smooth flight. It is interesting that in Group 1 (Ballista Bolts/Spearheads) that there is much inconsistency. There is strong correlation in some areas, particularly weight and socket sizes. However, there is poor correlation between the head and socket. This is because there is a high degree of variation in the shape of the head. This group therefore goes together because of its socket uniformity. Group 3 is another difficult one as there is a moderate-high degree of correlation between elements. This might be because of the very slight

variations between sub-types. Groups 4-6 have been left off this analysis because there are too few examples, but they do appear to be of different types.

Group 1

There are 18 examples of Group 1 from Richborough. This group is spearheads of 10 different subtypes.

- 1.1 – Flat leaf shaped head with sharp angle in the centre of the head
- 1.2 – Flat leaf shaped head with shallow angle in the centre of the head
- 1.3 – Flat leaf shaped blade with almost no angle in the centre of the head
- 1.4 – Pointed head tapering from the shoulder at the socket to the tip
- 1.5 – Short leaf shaped head with central rib
- 1.6 – Pointed head tapering from the shoulder at the socket to the tip with central rib
- 1.7 – Head with curved, thin barbs
- 1.8 – Head with wide, sharp barbs
- 1.9 –
- 1.10 – Trident head

Group 2

There are 11 examples of this type from Richborough. This group is ballista bolts of four variations. They date to the 1st – 4th century.

Group 3

There are seven examples of this type from Richborough. This group is ballista bolts of three variations. They date to the 1st – 4th century.

Group 4

There are two examples of this type from Richborough. This group is ballista bolts. They date to the 1st – 4th century.

Group 5

There are two examples of this type from Richborough. This group is spearheads of two variations. They date to the 1st – 4th century.

Group 6

There are two examples of this type from Richborough. This group is arrowheads of two variations. They date to the 1st – 4th century.

Plumbatae

There are two examples of this type from Richborough. They have barbed heads and a large bulb in the shaft which means that when they hit and go through a target they cannot be removed. They date to the 3rd – 4th century.

Ballista bolts/Spearheads Uncertain

There are six examples of these objects which could not be put into any of the above groups.

Materials, design, and production

No XRF analysis was undertaken on these objects.

Many of these objects would have been cast, however, the simpler examples could have been hammered.

The general and specific metrology of these objects is dealt with in the database table.

These objects were attached to wooden shafts, usually by a pin perpendicularly through the socket and shaft.

Use, reuse and repair

These objects were used as projectiles and possible for some close-range combat. There is no indication they were used for another purpose and no sign of repair.

Decoration

There is no decoration on these objects.

Parallels

Key contexts

| ID | Context no. | Context date | Period |
|----------|-------------|--------------|--------|
| 88396066 | A?.100 | N/A | N/A |
| 88396067 | A/S?.001 | N/A | N/A |
| 88396147 | A/S?.001 | N/A | N/A |
| 96000565 | AX.016 | N/A | N/A |
| 96000566 | AW.010.1 | 90 - 130 | 5-6 |
| 96000567 | A/S?.001 | N/A | N/A |
| 96000568 | AS.040 | N/A | N/A |
| 96000569 | AS.034 | 410+ | 14 |
| 96000571 | AX.036.3 | N/A | N/A |
| 96000574 | A/S?.001 | N/A | N/A |


| | | | |
|----------|----------|------------|-------|
| 96000577 | A?.100 | N/A | N/A |
| 96000578 | A/S?.001 | N/A | N/A |
| 96000579 | A/S?.001 | N/A | N/A |
| 96000581 | A/S?.001 | N/A | N/A |
| 96000582 | A?.064.1 | N/A | N/A |
| 96000585 | A/S?.001 | N/A | N/A |
| 96000586 | A/S?.001 | N/A | N/A |
| 96000587 | A?.049.9 | 270 – 410+ | 10-14 |
| 96000588 | A?.091 | N/A | N/A |
| 96000589 | A?.050.2 | 410+ | 14 |
| 96000590 | A?.027 | N/A | N/A |
| 96000591 | A/S?.001 | N/A | N/A |
| 96000592 | A/S?.001 | N/A | N/A |
| 96000593 | A/S?.001 | N/A | N/A |
| 96000594 | A?.091 | N/A | N/A |
| 96000595 | A/S?.001 | N/A | N/A |
| 96000596 | A/S?.001 | N/A | N/A |
| 96000597 | A/S?.001 | N/A | N/A |
| 96000598 | A?.011.2 | 410+ | 14 |
| 96000599 | AW.040 | N/A | N/A |
| 96000600 | A/S?.001 | N/A | N/A |
| 96000601 | A/S?.001 | N/A | N/A |
| 96000602 | A?.048.7 | 270 – 410+ | 10-14 |
| 96000603 | A/S?.001 | N/A | N/A |
| 96000604 | AS.002.2 | N/A | N/A |
| 96000605 | A/S?.001 | N/A | N/A |

| | | | |
|----------|-----------|------------|-------|
| 96000606 | A/S?.001 | N/A | N/A |
| 96000607 | A?.049.5 | 410+ | 14 |
| 96000608 | AWS.008 | N/A | N/A |
| 96000609 | AW.027.5 | 270 – 410+ | 10-14 |
| 96000610 | A/S?.001 | N/A | N/A |
| 96000611 | A/S?.001 | N/A | N/A |
| 96000612 | A?.091 | N/A | N/A |
| 96000628 | AW.027.11 | 270 – 410+ | 10-14 |
| 96000672 | A/S?.001 | N/A | N/A |
| 96000677 | A/S?.001 | N/A | N/A |

Overview:

Of the 46 objects, nine are from some form of dateable contexts. However, many of these are from contexts with a wide date. Only one is from the 1st – 2nd century which appears to be a plumbata but the context is suspect and could be 4th century. The late dated contexts and many in the top soil makes sense because the 4th century is the only extended period of military activity on the site.

Projectiles (Tanged) (1st – 4th century) = 18 objects

|  | Object | Type | Sub-type | Object date |
|---|-----------|------|----------|---|
| 88396064 | Spearhead | ? | ? | 1 st – 4 th century |
| 96000584 | Spearhead | ? | ? | 1 st – 4 th century |
| 96000613 | Spearhead | ? | ? | 1 st – 4 th century |
| 96000630 | Spearhead | ? | ? | 1 st – 4 th century |
| 96000623 | Arrowhead | 1 | ? | 1 st – 4 th century |
| 96000624 | Arrowhead | 1 | ? | 1 st – 4 th century |
| 96000629 | Arrowhead | 1 | ? | 1 st – 4 th century |
| 96000614 | Arrowhead | 6 | ? | 1 st – 4 th century |
| 96000615 | Arrowhead | 6 | ? | 1 st – 4 th century |
| 96000616 | Arrowhead | 6 | ? | 1 st – 4 th century |
| 96000617 | Arrowhead | 6 | ? | 1 st – 4 th century |
| 96000618 | Arrowhead | 6 | ? | 1 st – 4 th century |
| 96000619 | Arrowhead | 6 | ? | 1 st – 4 th century |
| 96000621 | Arrowhead | 6 | ? | 1 st – 4 th century |
| 96000625 | Arrowhead | 7 | ? | 1 st – 4 th century |
| 96000626 | Arrowhead | 7 | ? | 1 st – 4 th century |
| 96000627 | Arrowhead | 7 | ? | 1 st – 4 th century |
| 96000622 | Arrowhead | ? | ? | 1 st – 4 th century |

Brief background

Spears and arrows have been used as weapons for warfare and hunting since the Palaeolithic. Throughout history they have taken on various forms based on function, culture and attachment to the shaft. Tanged projectiles, for the most part, are slotted into the shaft rather than placed over the top like socketed heads.

Typology and Chronology

The typology used here is from Marchant's (1991) thesis looking at Roman weaponry in Britain.

Unlike the socketed projectiles I have not developed a new typology here, but a similar one would be possible.

Spearheads – Type ?

There are four examples of this type from Richborough. There is no clear typology for tanged spearheads. The usual division is that spearheads are socketed. However, this group are too long and too heavy to be considered arrowheads. They might be javelins. They date to the 1st – 4th century.

Arrowhead – Type 1

There are three examples of this type from Richborough. This is the most common form in Roman contexts. It consists of three ribs which can either end in barbs or run straight (Marchant 1991: 22). They date to the 1st – 4th century.

Arrowhead – Type 6

There are nine examples of this type from Richborough. This is a quite simple form and easy to create from scrap metal or reusing nails (Marchant 1991: 31). They are flat bladed ending in two points. They date to the 1st – 4th century.

Arrowhead – Type 7

There are three examples of this type from Richborough. They are square or triangular in section of the “bodkin” variety of projectile heads and are usually around 4cm long (Marchant 1991: 34). They date to the 1st – 4th century.

Arrowhead – Type ?

There one unidentified example from Richborough. It likely dates to the 1st – 4th century.

Materials, design, and production

No XRF analysis was undertaken on these objects. All apart from the one uncertain arrowhead are made of iron, 96000622 is copper alloy.

For the most part these objects were cast, however, Type 6 could have been easily hammered out from sheet metal, scrap, or old nails.

There is a lot of uniformity, in the arrowheads. The biggest group (Type 6) is usually between 51-65mm long. They are also all light, usually only weighing a few grams. The spearheads are all much longer, over 100mm in length and several times heavier.

The usual method for attachment is to slot the tang of the projectile into a slit in the wood and then fix with some adhesive and/or thread.

Use, reuse and repair

These objects were used as projectile heads, most likely for arrows or spears. There is no clear indication that they were used for any other purpose, however, it is possible that some were recycled from other objects. There is no sign of any repair.

Decoration

There is no decoration on these objects.

Parallels

Marchant (1991: 22-41) lists multiple parallels from sites in Britain and the continent, however, these are largely military sites. Type 1 arrowheads have a main distribution in the north of Britain as do the Type 6. However, this is largely a quirk of the military site distributions. In the shore forts, Richborough and Brancaster are the only ones represented.

Key contexts

| ID | Context no. | Context date | Period |
|----------|-------------|--------------|--------|
| 88396064 | A/S?.001 | N/A | N/A |
| 96000584 | A/S?.001 | N/A | N/A |
| 96000613 | AW.028.1 | 270 – 410+ | 10-14 |
| 96000630 | AN.012.5 | 270 – 410+ | 10-14 |
| 96000623 | ANW.002 | N/A | N/A |
| 96000624 | A?.066 | N/A | N/A |
| 96000629 | A?.061 | N/A | N/A |
| 96000614 | AW.006 | N/A | N/A |
| 96000615 | A/S?.001 | N/A | N/A |
| 96000616 | A/S?.001 | N/A | N/A |
| 96000617 | AW.006 | N/A | N/A |
| 96000618 | A/S?.001 | N/A | N/A |
| 96000619 | AWS.008 | N/A | N/A |
| 96000621 | AW.027.5 | 270 – 410+ | 10-14 |
| 96000625 | A/S?.001 | N/A | N/A |


| | | | |
|----------|-------------|----------|-----|
| 96000626 | A/S?.001 | N/A | N/A |
| 96000627 | A/S?.001 | N/A | N/A |
| 96000622 | AXVII.071.3 | 70 – 150 | 3-6 |

Overview:

Of the 18 examples, only four come from dateable contexts and most of these are 3rd – 4th century and the others come from the topsoil. The only early example (96000622) is made of copper alloy and might not have had a military purpose. Given that all others come from late phases it is most likely they date to the 4th century. The propensity of Type 6 might indicate the lack of casting for these objects and perhaps the need to recycle as seen in the belt fittings and brooches.

01. 03. Combatant Dress or Cavalry Equipment

Buckles (1st – 4th century) = 27 objects

|  | Object | Type | Sub-type | Object date |
|---|--------|-------------|-------------|---|
| 7350872 | Buckle | Rectangular | Solid Frame | 1 st – 4 th century |
| 96000076 | Buckle | Rectangular | Solid Frame | 1 st – 4 th century |
| 96000077 | Buckle | Rectangular | Solid Frame | 1 st – 4 th century |
| 96000078 | Buckle | Rectangular | Solid Frame | 1 st – 4 th century |
| 96000079 | Buckle | Rectangular | Solid Frame | 1 st – 4 th century |
| 96000080 | Buckle | Rectangular | Solid Frame | 1 st – 4 th century |
| 96000242 | Buckle | Rectangular | Solid Frame | 1 st – 4 th century |
| 96000223 | Buckle | Rectangular | Uncertain | 1 st – 4 th century |
| 96000224 | Buckle | Rectangular | Uncertain | 1 st – 4 th century |
| 96000225 | Buckle | Rectangular | Uncertain | 1 st – 4 th century |
| 96000227 | Buckle | Rectangular | Uncertain | 1 st – 4 th century |
| 96000229 | Buckle | Rectangular | Uncertain | 1 st – 4 th century |
| 96000230 | Buckle | Rectangular | Uncertain | 1 st – 4 th century |
| 96000239 | Buckle | Rectangular | Uncertain | 1 st – 4 th century |
| 96000240 | Buckle | Rectangular | Uncertain | 1 st – 4 th century |
| 88390862 | Buckle | D-Shaped | N/A | 1 st – 4 th century |
| 88380877 | Buckle | D-Shaped | N/A | 1 st – 4 th century |
| 96000082 | Buckle | D-Shaped | N/A | 1 st – 4 th century |
| 96000083 | Buckle | D-Shaped | N/A | 1 st – 4 th century |
| 96000084 | Buckle | D-Shaped | N/A | 1 st – 4 th century |
| 96000086 | Buckle | D-Shaped | N/A | 1 st – 4 th century |
| 96000216 | Buckle | D-Shaped | N/A | 1 st – 4 th century |

| | | | | |
|----------|--------|----------|-----|---|
| 96000217 | Buckle | D-Shaped | N/A | 1 st – 4 th century |
| 96000218 | Buckle | D-Shaped | N/A | 1 st – 4 th century |
| 96000219 | Buckle | D-Shaped | N/A | 1 st – 4 th century |
| 96000235 | Buckle | D-Shaped | N/A | 1 st – 4 th century |
| 96000237 | Buckle | D-Shaped | N/A | 1 st – 4 th century |

Brief background

While several typologies for buckles have been compiled, there are examples that do not easily fall within their types. The following group are of various shapes that do not have a clear typology.

Typology and Chronology

Rectangular – Solid Frame

There are seven examples from Richborough. There are a variety of shapes and cross sections that do not clearly fit into any of the current typologies. It is possible that these were individually made rather than mass produced.

Rectangular – Uncertain Frame

There are eight examples from Richborough. Each of these examples is broken in such a way that it is not possible to tell whether the frame was solid or not.

D-Shaped

There are 10 examples from Richborough. There are a variety of shapes and cross sections that do not clearly fit into any of the current typologies. It is possible that these were individually made rather than mass produced.

Materials, design, and production

No XRF analysis was undertaken on these objects.

The buckles show that they were produced by both casting and cutting from sheet metal.

There is no uniformity in size due to the various nature of the group.

The solid framed examples were likely attached to a strap by a metal plate or strip of leather around the axle pin. It is unclear if all had buckle tongues, but some do have this remaining.

Use, reuse and repair

These objects were used as buckles. There is no indication that they had another use and there are no signs of repair. It is uncertain on what they were used. They could have been used on belts, horse harnesses or a variety of other straps.

Decoration

There is no decoration on any of the buckles.

Parallels

Without a proper identification of use or type it is difficult to draw parallels

Key contexts


| ID | Context no. | Context date | Period |
|----------|--------------|--------------|--------|
| 7350872 | AN.011.13 | N/A | N/A |
| 96000076 | A/S?.001 | N/A | N/A |
| 96000077 | A/S?.001 | N/A | N/A |
| 96000078 | AXXIII.007.1 | N/A | N/A |
| 96000079 | A/S?.001 | N/A | N/A |
| 96000080 | A/S?.001 | N/A | N/A |
| 96000242 | AW.029 | N/A | N/A |
| 96000223 | A/S?.001 | N/A | N/A |
| 96000224 | A?.066 | N/A | N/A |
| 96000225 | AS.006 | 150 - 350 | 7-12 |
| 96000227 | A/S?.001 | N/A | N/A |
| 96000229 | AXXIII.037 | 350 – 410+ | 13-14 |
| 96000230 | AWS.008 | N/A | N/A |
| 96000239 | A/S?.001 | N/A | N/A |
| 96000240 | A/S?.001 | N/A | N/A |
| 88390862 | A/S?.001 | N/A | N/A |
| 88380877 | A/S?.001 | N/A | N/A |
| 96000082 | A?.064.1 | N/A | N/A |
| 96000083 | AWS.008 | N/A | N/A |
| 96000084 | A/S?.001 | N/A | N/A |
| 96000086 | AN.011.17 | 270 – 410+ | 10-14 |

| | | | |
|----------|-------------|------------|-------|
| 96000216 | AN.011.12 | 410+ | 14 |
| 96000217 | A?.064.1 | N/A | N/A |
| 96000218 | AXVII.003.4 | 75 - 200 | 3-7 |
| 96000219 | AWS.008 | N/A | N/A |
| 96000235 | A/S?.001 | N/A | N/A |
| 96000237 | AN.011.9 | 270 - 410+ | 10-14 |

Overview:

Of the 27 examples, six come from datable contexts. Most date to the 4th century, indicating they might be late forms studied by Sommer (1984). However, they could be residual or used for other purposes.

Phalera and Studs (1st – 4th century) = 58 objects

|  | Object | Type | Sub-type | Object date |
|---|---------|------|----------|---|
| 7351338 | Phalera | B | N/A | 1 st – 4 th century |
| 88380929 | Phalera | B | N/A | 1 st – 4 th century |
| 96000172 | Phalera | B | N/A | 1 st – 4 th century |
| 7351088 | Phalera | C | N/A | 1 st – 4 th century |
| 7350417 | Phalera | D | N/A | 1 st – 4 th century |
| 7350422 | Phalera | D | N/A | 1 st – 4 th century |
| 7351636 | Phalera | D | N/A | 1 st – 4 th century |
| 96000134 | Phalera | D | N/A | 1 st – 4 th century |
| 96000135 | Phalera | E | N/A | 1 st – 4 th century |
| 7350613 | Phalera | F | N/A | 1 st – 4 th century |
| 7350687 | Phalera | F | N/A | 1 st – 4 th century |
| 7350939 | Phalera | F | N/A | 1 st – 4 th century |
| 7351637 | Phalera | F | N/A | 1 st – 4 th century |
| 96000136 | Phalera | F | N/A | 1 st – 4 th century |
| 96000137 | Phalera | F | N/A | 1 st – 4 th century |
| 96000138 | Phalera | F | N/A | 1 st – 4 th century |
| 96000139 | Phalera | F | N/A | 1 st – 4 th century |
| 7350418 | Phalera | F? | N/A | 1 st – 4 th century |
| 96000140 | Phalera | G | N/A | 1 st – 4 th century |
| 96000141 | Phalera | G | N/A | 1 st – 4 th century |
| 96000142 | Phalera | G | N/A | 1 st – 4 th century |
| 96000143 | Phalera | G | N/A | 1 st – 4 th century |
| 96000144 | Phalera | G | N/A | 1 st – 4 th century |

| | | | | |
|----------|---------|---------|-------------|---|
| 96000145 | Phalera | G | N/A | 1 st – 4 th century |
| 96000146 | Phalera | G | N/A | 1 st – 4 th century |
| 96000147 | Phalera | G | N/A | 1 st – 4 th century |
| 96000148 | Phalera | G | N/A | 1 st – 4 th century |
| 96000149 | Phalera | G | N/A | 1 st – 4 th century |
| 96000150 | Phalera | G | N/A | 1 st – 4 th century |
| 96000151 | Phalera | G | N/A | 1 st – 4 th century |
| 96000152 | Phalera | G | N/A | 1 st – 4 th century |
| 96000153 | Phalera | G | N/A | 1 st – 4 th century |
| 96000154 | Phalera | G | N/A | 1 st – 4 th century |
| 96000155 | Phalera | G | N/A | 1 st – 4 th century |
| 96000156 | Phalera | G | N/A | 1 st – 4 th century |
| 96000157 | Phalera | G | N/A | 1 st – 4 th century |
| 96000158 | Phalera | G | N/A | 1 st – 4 th century |
| 96000159 | Phalera | G | N/A | 1 st – 4 th century |
| 96000160 | Phalera | G | N/A | 1 st – 4 th century |
| 96000161 | Phalera | G | N/A | 1 st – 4 th century |
| 96000162 | Phalera | G | N/A | 1 st – 4 th century |
| 96004403 | Phalera | G | N/A | 1 st – 4 th century |
| 96004406 | Phalera | G | N/A | 1 st – 4 th century |
| 96004414 | Phalera | G | N/A | 1 st – 4 th century |
| 7351196 | Phalera | H | N/A | 1 st – 4 th century |
| 88380938 | Phalera | I | N/A | 1 st – 4 th century |
| 88380939 | Phalera | I | N/A | 1 st – 4 th century |
| 7350416 | Phalera | Phalera | N/A | 1 st – 3 rd century |
| 7351015 | Phalera | Phalera | Strap-Mount | 1 st – 3 rd century |

| | | | | |
|----------|---------|---------|-------------|---|
| 96000684 | Phalera | Phalera | Strap-Mount | 1 st – 3 rd century |
| 96000685 | Phalera | Phalera | Strap-Mount | 1 st – 3 rd century |
| 96000686 | Phalera | Phalera | Strap-Mount | 1 st – 3 rd century |
| 96000687 | Phalera | Phalera | Strap-Mount | 1 st – 3 rd century |
| 96000688 | Phalera | Phalera | Strap-Mount | 1 st – 3 rd century |
| 96000689 | Phalera | Phalera | Strap-Mount | 1 st – 3 rd century |
| 96000690 | Phalera | Phalera | Strap-Mount | 1 st – 3 rd century |
| 96000691 | Phalera | Phalera | Strap-Mount | 1 st – 3 rd century |
| 96000692 | Phalera | Phalera | Strap-Mount | 1 st – 3 rd century |

Brief background

This group of 58 objects includes phalera and studs attached to either leather straps. Unlike the group of Military Phalera, these items could not be pinned down to a particular use. These phalera and studs could have adorned the military belt, as well as horse harnesses or other leather straps.

Typology and Chronology

Although there is no typology for these objects some elements help us to identify them. Some examples have rings on the underside, as well as niello decoration characteristic of 1st century military equipment (Bishop, 1992: 96). The *lorica* phalera are likely to date to the 1st – 3rd centuries AD through the period of use for *lorica*. Many leather studs dated to the 1st – 2nd centuries could have been used on the military apron, however, the Roman military kit included various leather straps. Malcolm Lyne tried to categorise these in his catalogue, with types A-I. This typology has been kept here, and where possible use is demonstrated.

Type B

There are three examples of this type from Richborough.

Type C – Circular Enamelled

There is one example of this type from Richborough. It dates to the late 3rd – 4th centuries AD.

Type D – Circular with Concentric Rings

There are four examples of this type from Richborough. Only one could be dated to the late 3rd – 4th centuries AD.

Type E – Circular with Serrated Edge

There is one example of this type from Richborough. It has no context date.

Type F/F? – Circular Convex Headed Type

There are nine examples of this type from Richborough, with one other possible example. The dates are from the 1st – 4th century, with the majority in the early 3rd – late 4th centuries AD.

Type G – Circular Flat Headed Type

There are 26 examples of this type from Richborough. All the dateable examples are from the late 3rd – 4th centuries AD

Type H

There is one example of this type from Richborough. It has a central perforation surrounded by 10 dots and an array of overlapping flower petals and/or leaves.

Type I

There are two examples of this type from Richborough. They are dated to the late 3rd – 4th centuries AD. The dated example (7351196) has a flower decoration. A square sits in the centre of the design 10 circles around the edge of the square. There are numerous overlapping petals around the circular phalera with an incised border all the way around the edge. The second example (88380929) is convex and tapers to a point. The convex point is made from six triangles and the edge of the phalera is vertical and slightly raised.

Phalera – Strap-Mount

There are 11 examples of this type from Richborough. Malcolm Lyne suspected they came from horse harnesses, but there is no definitive identification. They date to the 1st – 3rd century.

Materials, design, and production

No XRF analysis was undertaken on these objects.

These objects were mostly cast.

The objects are highly varied and damaged which limits the usefulness of metrology.

Types A and B appear to have been attached to metal, most likely a cuirass and would have been welded. Types C – I, and the apron fittings were pierced through the leather of a strap.

Use, reuse and repair

These objects were used as decorative phalera on various leather straps. There is no indication they had any other function and there is no sign of repair to the objects.

Decoration

There are various forms of decoration on the phalera. Some are more elaborate with enamel or concentric circle decoration. For the most part they are plain in various shapes.

Parallels

There is a high level of variation in the group which makes drawing parallels difficult.

Key contexts

| ID | Context no. | Context date | Period |
|----------|-------------|--------------|--------|
| 7351338 | AXXI.005.1 | 90 - 250 | 4-8 |
| 88380929 | A?.091 | N/A | N/A |
| 96000172 | AXVIII.008 | 75 - 90 | 3-4 |
| 7351088 | S3.001 | 270 - 410+ | 10-14 |
| 7350417 | AN.012.5 | 270 - 410+ | 10-14 |
| 7350422 | AWS.008 | N/A | N/A |
| 7351636 | AXIX.001 | N/A | N/A |
| 96000134 | A/S?.001 | N/A | N/A |
| 96000135 | AXXIV.009 | N/A | N/A |
| 7350613 | AWS.008 | N/A | N/A |
| 7350687 | A/S?.001 | N/A | N/A |
| 7350939 | A/S?.001 | N/A | N/A |
| 7351637 | A/S?.001 | N/A | N/A |
| 96000136 | A?.014.9 | 270 - 295 | 10-11 |
| 96000137 | AVI.001 | 43 - 75 | 1-3 |
| 96000138 | A/S?.001 | N/A | N/A |
| 96000139 | AXVII.034.1 | 100 - 200 | 5-7 |
| 7350418 | AWS.008 | N/A | N/A |
| 96000140 | A?.064.1 | N/A | N/A |
| 96000141 | A/S?.001 | N/A | N/A |
| 96000142 | A/S?.001 | N/A | N/A |
| 96000143 | A?.050.1 | 270 - 410+ | 10-14 |
| 96000144 | A/S?.001 | N/A | N/A |
| 96000145 | A/S?.001 | N/A | N/A |

| | | | |
|----------|-----------|------------|-------|
| 96000146 | A/S?.001 | N/A | N/A |
| 96000147 | A/S?.001 | N/A | N/A |
| 96000148 | A/S?.001 | N/A | N/A |
| 96000149 | A?.016.1 | 270-295 | 10-11 |
| 96000150 | A?.042 | 43 - 270 | 1-7 |
| 96000151 | AXVI.022 | 300 - 410+ | 12-14 |
| 96000152 | A?.001 | 270 - 410+ | 10-14 |
| 96000153 | A?.064.1 | N/A | N/A |
| 96000154 | A?.015.1 | 270 - 295 | 10-11 |
| 96000155 | A?.050.1 | 270 - 410+ | 10-14 |
| 96000156 | AXXIV.001 | 270 - 295 | 10-11 |
| 96000157 | A/S?.001 | N/A | N/A |
| 96000158 | A/S?.001 | N/A | N/A |
| 96000159 | A?.066 | N/A | N/A |
| 96000160 | A?.050.4 | 270 - 410+ | 10-14 |
| 96000161 | AN.011.9 | 270 - 410+ | 10-14 |
| 96000162 | A/S?.001 | N/A | N/A |
| 96004403 | A/S?.001 | N/A | N/A |
| 96004406 | A/S?.001 | N/A | N/A |
| 96004414 | A/S?.001 | N/A | N/A |
| 7351196 | AWS.008 | N/A | N/A |
| 88380938 | A/S?.001 | N/A | N/A |
| 88380939 | A/S?.001 | N/A | N/A |
| 7350416 | AXVI.004 | 75 - 95 | 3-4 |
| 7351015 | S2.001 | N/A | N/A |
| 96000684 | S4.004.3 | 43 - 200 | 1-7 |

| | | | |
|----------|----------|------------|-------|
| 96000685 | A?.100 | N/A | N/A |
| 96000686 | A?.061 | N/A | N/A |
| 96000687 | AWS.006 | N/A | N/A |
| 96000688 | A/S?.001 | N/A | N/A |
| 96000689 | A/S?.001 | N/A | N/A |
| 96000690 | A?.049.8 | 270 – 410+ | 10-14 |
| 96000691 | A?.066 | N/A | N/A |
| 96000692 | A/S?.001 | N/A | N/A |

Overview:

Of the 58 objects listed here, 20 come from dateable. Contexts for early examples are difficult to interpret. Two examples of Type B come from contexts which likely date to the monument construction phase (c.AD75-95), but these cannot be linked to any specific military activities.

Many of the phalera were found in either the triple ditch fort or stone fort ditches. Those in the earth fort would have been sealed by the late 3rd century and probably belonged to soldiers of this period. Many of these phalera could have come from the strap of the 3rd century baldric (Bishop and Coulston 2006; 162) especially types D and E. These are often found on the German *limes* (Bishop and Coulston 2006; 162), which might be the origin for troops of this period at Richborough. There is nothing to suggest that these relate to 3rd century troops on the site earlier than c.AD260. Those in the surface layers and stone fort ditches could be heavily residual. There is multiple 1st – 3rd century objects in these contexts which were likely ploughed into the topsoil or deposited in the ditches when they were filled. They could have also been deposited when the stone fort ditches were dug.

The legionary apron fittings suffer from the same problem. Only being found in late contexts, if these were phalera from the 1st century apron, they were mixed in with later material when the two fort ditches were dug.

The two anthropomorphic examples are interesting. In his catalogue, Malcolm Lyne suggested that these might be minor military awards like those found at Luersfort in Germany. However, it is possible that these were also horse trappings, such as those found in Xanten, now in the British Museum collection (Museum No. 1854.0717). In any case, these two objects date to the 1st century AD and are heavily residual in their late contexts. Since one (7351945) was found the cobbles covering the

Chalk House, then this could have come from a disturbed 1st – 2nd century context when laying the material for the cobbled surface. The other (7351948) came from Area XXII, where the material is described as a spread from the stone fort construction trenches (Cunliffe 1968: 29). This phalera possibly came from that construction trench.

02. Objects associated with military non-combatant activities

02. 01. Crafts and Tools

Woodworking (Dolabrae) (1st – 4th century) = 1 object

|  | Object | Type | Sub-type | Object date |
|---|---------|------|----------|---|
| 96000814 | Dolabra | 2 | A | 1 st – 4 th century |

Brief background

Dolabrae were used much like mattocks. It has an axe blade at one end (vertical) and an adze blade at the other (horizontal) (Rees 1979: 306). They can be used for a range of tasks such as digging or quarrying as well as cutting back vegetation (Rees 1979: 312). However, it is likely that they had other uses as a multi-purpose tool.

Typology and Chronology

The typology for dolabrae was devised by Hanemann (2014: Abb.357). This typology is divided into 4 types (1-4) with subtypes (A-B) for types 1-3. Type 2 is the same as Manning's (1970: 19) types 2A ('military') and 2B ('civilian') types.

Type 2A

There is one example of this type from Richborough. The type has the typical features of the dolabrae. The type 2A differs from 2B as it has a wider axe blade and narrower adze blade (Manning 1970: 19). They date to the 1st – 4th century AD

Materials, design, and production

No XRF analysis was undertaken on this object.

The dolabra was produced by being cut and hammered from a block of iron. The hole through the middle was made by hammering a punch through the metal while it was still malleable.

The dolabra had a length of 340mm with a total weight of 731g.

The dolabra was attached to a wooden handle for use. Usually, mattock handle is wedged or held in place by a nail through the handle.

Use, reuse and repair

This object was used for digging, quarrying, and clearing away vegetation, as well as a variety of other tasks. There is no indication it was used for another purpose and there is no sign of repair.

Decoration

There is no decoration on the object.

Parallels

There is only one object on the PAS database identified as a dolabra (NCL-9F7911). The type from Richborough has been identified as a military type of dolabra. However, not all this type come from military contexts.

| <i>Type</i> | <i>Military</i> | <i>Urban/Civilian</i> |
|-------------|---|------------------------------|
| 2A | Carrawburgh, Housesteads, Carnuntum, Mauer an der Url, Saalburg, Zeiselmauer, Zugmantel | Magdalensberg, Pompeii, Wels |

It would therefore be erroneous to label the use of the Richborough example as military without examining the context.

Key contexts

| <i>ID</i> | <i>Context No.</i> | <i>Context date</i> | <i>Period</i> |
|-----------|--------------------|---------------------|---------------|
| 96000814 | S1.038 | 75 - 120 | 4/5 |

Overview:

The dolabra from Richborough has good context information. It was found in Well 2 on Site I. This well was reported as being full of 'iron slag...remains of several furnaces and portions of small crucibles' (Bushe-Fox 1926: 6). These furnace fragments likely came from the furnace to the north-west of Well 2, which were both found under the floor of Room 6 of the house on Site I (Bushe-Fox 1926: Pl.XXXII). Unfortunately, the dating of the well is not exact. A few fragments of 1st century pottery were found and the position under the floor suggests a filling date in the very late 1st - early 2nd century. Close to this area was found the pig of lead inscribed with NERVA. This was found under the floor of the adjacent Room 4 (Bushe-Fox 1926: 13). The context dates to the time of the monument construction which was an Imperial project. The military might have had a hand in the construction activities or tools could have been provided through official link.

03. Objects associated with horse activities

03. 01. Cavalry Equipment

Harness Trappings (1st – 3rd century) = 57 objects

|  | Object | Type | Sub-type | Object date |
|---|-----------------|---------|------------|---|
| 96000678 | Harness Fitting | Pendant | 1 | 1 st – 3 rd century |
| 7351390 | Harness Fitting | Pendant | 1S | 1 st – 3 rd century |
| 96000679 | Harness Fitting | Pendant | 4A | 1 st – 3 rd century |
| 7350305 | Harness Fitting | Pendant | 4B | 1 st – 3 rd century |
| 7351328 | Harness Fitting | Pendant | 4B | 1 st – 3 rd century |
| 7351186 | Harness Fitting | Pendant | 4G | 1 st – 3 rd century |
| 7350010 | Harness Fitting | Pendant | 5A | 1 st – 3 rd century |
| 96000717 | Harness Fitting | Pendant | 5E | 1 st – 3 rd century |
| 7350372 | Harness Fitting | Pendant | 5F | 1 st – 3 rd century |
| 96000698 | Harness Fitting | Pendant | 6C | 1 st – 3 rd century |
| 7350719 | Harness Fitting | Pendant | 9 | 1 st – 3 rd century |
| 96000697 | Harness Fitting | Pendant | 9C | 1 st – 3 rd century |
| 96000700 | Harness Fitting | Pendant | 9D | 1 st – 3 rd century |
| 96000701 | Harness Fitting | Pendant | 9E | 1 st – 3 rd century |
| 7351302 | Harness Fitting | Pendant | 9G | 1 st – 3 rd century |
| 7351473 | Harness Pendant | Pendant | 9S | 1 st – 3 rd century |
| 7350255 | Harness Fitting | Pendant | 10T | 1 st – 3 rd century |
| 7351191 | Harness Fitting | Pendant | Misc. Leaf | 1 st – 3 rd century |
| 7351195 | Harness Fitting | Pendant | Misc. Leaf | 1 st – 3 rd century |
| 96000707 | Harness Fitting | Pendant | Misc. Leaf | 1 st – 3 rd century |
| 7350420 | Harness Fitting | Pendant | Frag. | 1 st – 3 rd century |
| 7350435 | Harness Fitting | Pendant | Frag. | 1 st – 3 rd century |
| 7350836 | Harness Fitting | Pendant | Frag. | 1 st – 3 rd century |

| | | | | |
|----------|-----------------|-------------------|-------|---|
| 96000699 | Harness Fitting | Pendant | Frag. | 1 st – 3 rd century |
| 96000680 | Harness Fitting | Strap Fastener | 6 | 1 st – 3 rd century |
| 96000705 | Harness Fitting | Strap Fastener | ? | 1 st – 3 rd century |
| 7350702 | Harness Fitting | Strap Mount | Acorn | 1 st – 3 rd century |
| 7351016 | Harness Fitting | Strap Mount | Acorn | 1 st – 3 rd century |
| 7351414 | Harness Fitting | Strap Mount | 4F | 1 st – 3 rd century |
| 96000681 | Harness Fitting | Strap Mount | 6 | 1 st – 3 rd century |
| 7351200 | Harness Fitting | Strap Mount | 6C | 1 st – 3 rd century |
| 7351936 | Harness Fitting | Strap Mount | 6C | 1 st – 3 rd century |
| 96000682 | Harness Fitting | Strap Mount | 6C | 1 st – 3 rd century |
| 7351029 | Harness Fitting | Strap Mount | 6G | 1 st – 3 rd century |
| 7350636 | Harness Fitting | Strap Terminal | 1F | 1 st – 3 rd century |
| 96000693 | Harness Fitting | Strap Terminal | 6D | 1 st – 3 rd century |
| 96000695 | Harness Fitting | Strap Terminal | 8A | 1 st – 3 rd century |
| 7351369 | Harness Fitting | Strap Terminal | 8J | 1 st – 3 rd century |
| 7351106 | Harness Fitting | Strap Distributor | N/A | 1 st – 3 rd century |
| 7351175 | Harness Fitting | Strap Distributor | N/A | 1 st – 3 rd century |
| 7351397 | Harness Fitting | Strap Distributor | N/A | 1 st – 3 rd century |
| 7351407 | Harness Fitting | Strap Distributor | N/A | 1 st – 3 rd century |
| 96000702 | Harness Fitting | Phalera | 2A | 1 st – 3 rd century |
| 96000703 | Harness Fitting | Phalera | 2E | 1 st – 3 rd century |
| 7351410 | Harness Fitting | Phalera | 9 | 1 st – 3 rd century |
| 96000683 | Harness Fitting | Phalera | 10 | 1 st – 3 rd century |
| 7350182 | Harness Fitting | Junction Loop | 3A-C | 1 st – 3 rd century |
| 96000694 | Harness Fitting | Junction Loop | 7A | 1 st – 3 rd century |
| 96000696 | Harness Fitting | Junction Loop | 8D | 1 st – 3 rd century |

| | | | | |
|----------|-----------------|----------------|--------------|---|
| 7350251 | Harness Fitting | Junction Loop | 9A | 1 st – 3 rd century |
| 96000723 | Harness Fitting | Junction Loop | 10 | 1 st – 3 rd century |
| 7351112 | Harness Fitting | Misc. Fittings | Lunate Mount | 1 st – 3 rd century |
| 7351305 | Harness Fitting | Misc. Fittings | Lunate Mount | 1 st – 3 rd century |
| 7350637 | Harness Fitting | Misc. Fittings | Mount | 1 st – 3 rd century |
| 7350844 | Harness Fitting | Misc. Fittings | Mount | 1 st – 3 rd century |
| 96000706 | Harness Fitting | Misc. Fittings | Mount | 1 st – 3 rd century |
| 96000704 | Harness Fitting | Misc. Fittings | Stud | 1 st – 3 rd century |

Brief background

The horse harness is known from two main sources: pictorial and archaeological. The evidence from tombstones is considered more reliable than official sculpture to understand how the harness functioned (Bishop 1988: 67). The archaeological evidence from hoards is also important as it shows the various parts of the harness in association (Bishop 1988: 68). Site finds usually display a range of features, whereas hoards include a narrower range of types (Bishop 1988: 68).

Typology and Chronology

The typology for harness trappings comes from Bishop's (1988) study of examples from the whole of the Roman empire.

Pendant

There are 24 examples of this type from Richborough. Pendants come in many forms and were used as aesthetic decoration or magical or apotropaic symbols (Bishop 1988: 107-8). The pendants might have irritated the horses, so they might have been backed with leather (Bishop 1988: 108).

Strap-Fastener (Female)

There are two examples of this type from Richborough. These fittings have a hinged 'keyhole' with the fastening element hinged to the main body (Bishop 1988: 103). The male section rested between the body of and hinged section. They date to the 1st – 3rd century AD.

Strap-Mount

There are eight examples of this type from Richborough. These appear to be non-functional parts of the harness (Bishop 1988: 103). They are symmetrical longitudinally and are attached with two or three rivets (Bishop 1988: 103-4). They date to the 1st – 3rd century AD.

Strap-Terminal

There are four examples of this type from Richborough. These fittings weighted the ends of straps (Bishop 1988: 103). There is provision for butting or crimping of the strap and finished with a terminal knob (Bishop 1988: 103). They date to the 1st – 3rd century.

Strap-Terminal

There are four examples of this type from Richborough. They have two loops at either end, or three loops arranged next to each other. They date to the 1st century BC to the 1st century AD.

Phalerae

There are four examples of this type from Richborough. These were used as junctions for the junction loops on straps (Bishop 1988: 106). Where the rear of the phalera is intact then the function can be determined. They date to the 1st – 3rd century AD.

Junction-Loop

There are five examples of this type from Richborough. These fittings are made of a decorated upper plate which was bent over on itself (Bishop 1988: 102-3). The back was riveted to the front, forming a loop attached to the junction (Bishop 1988: 102-3). They date to the 1st – 3rd century AD.

Misc. Fittings

There are six examples of this type from Richborough. These objects resemble those used as horse trappings but do not fit into the object groups outlined by Bishop.

Materials, design, and production

No XRF analysis was undertaken on these objects.

Some objects were cast in moulds while others were or could have been hammered out from sheet metal (see Bishop 1988 for production methods of each object type).

It is difficult to determine the exact metrology of many of the objects as they are mostly broken.

These objects were attached in a variety of ways to the horse harness (see Bishop 1988: 102-3 for details).

Use, reuse and repair

The various objects in this group were used as part of the Roman horse harness. They have used both functions, decorative and symbolic. There is no indication that they were used for another purpose and there is sign of repair or reuse on one pendant (96000679) as it has solder on the back. Several objects show typical break patterns as described by Bishop (1988: 102-3).

Decoration

Several of the objects are decorated. Where type can be discerned, they fall into Bishops typological groups. However, there are a couple of objects of note. One strap-mount (7351200) has niello

decoration as does a leaf pendant (7351390) and two others (7350702 and 7351016) are acorn shaped; a known military symbol. The three strap distributors with three loops each have a decoration in the centre. One (7351175) has a horse head in the centre, one (7351397) has an anthropomorphic face and the final one (7351407) has a bird head.

Parallels

It is possible to provide several parallels for the objects from Bishop's (1988) catalogue.

| <i>Type</i> | <i>Sub- type</i> | <i>Parallels</i> | <i>No.</i> |
|----------------------|----------------------|--|------------|
| <i>Pendant</i> | 1S | Thamusida | 1 |
| <i>Pendant</i> | 4A | Colchester, Hofhiem | 2 |
| <i>Pendant</i> | 4B | Mainz | 1 |
| <i>Pendant</i> | 4G | Rottweil | 1 |
| <i>Pendant</i> | 5A | Baden, Colchester, London, Rottweil, Sisek, Vindonissa | 6 |
| <i>Pendant</i> | 5E | Castleford, Chester, Hofheim, Hufingen, Neuß, Rottweil, Strasbourg, Vindonissa, Weisbaden, Unknown | 24 |
| <i>Pendant</i> | 5F | Lorensberg | 1 |
| <i>Pendant</i> | 6C | Hod Hill, Hofheim, Mainz, Vindonissa | 4 |
| <i>Pendant</i> | 9C | None | 0 |
| <i>Pendant</i> | 9D | Vindonissa, Unknown | 8 |
| <i>Pendant</i> | 9E | Ausburg-Oberhausen, Baden, Hofheim, Mainz, Rodgen, Strasbourg, | 6 |
| <i>Pendant</i> | 9G | Casteford, Corbridge, Hufingen, Nijmegen, Vindonissa, | 9 |
| <i>Pendant</i> | 10T | Nijmegen | 1 |
| <i>Junction Loop</i> | 7A | London | 1 |
| <i>Junction Loop</i> | 8D | Hofheim, Longthorpe, Oberstimm | 3 |
| <i>Junction Loop</i> | 9A | Rheingoheim | 1 |
| <i>Strap-Mount</i> | 4F | Hofheim | 1 |
| <i>Strap-Mount</i> | 6C | Aislingen, Doorwerth, Fremington Hagg, Hofheim, Newstead, Rheingonheim, Rißtissen, Sheepen, | 26 |

| | | | |
|-----------------------|----|---|----|
| <i>Strap-Mount</i> | | Thamusida, | |
| | 6G | Baden, Banasa, Fremington Hagg, Hofheim, Rheingonheim, Rißtissen, Thamusida, Verulamium, Volubilis, Woodcock Hall | 13 |
| <i>Strap-Terminal</i> | 1F | Ausburg-Oberhausen | 1 |
| <i>Strap-Terminal</i> | 6D | Sheepen | 1 |
| <i>Strap-Terminal</i> | 8A | Newstead, Rißtissen | 3 |
| <i>Strap-Terminal</i> | 8J | None | 0 |

Within this group the vast majority are from sites in Britain and Germania Superior and Inferior, along the Roman border, which is no surprise, with a few further afield. A wider distribution of Bishop's catalogue and updated with sites since 1988 would be needed to see if this holds any special significance for Richborough.

Key contexts

| ID | Context no. | Context date | Period |
|----------|--------------|--------------|--------|
| 96000678 | A/S?.001 | N/A | N/A |
| 7351390 | AVI.011 | 65 - 80 | |
| 96000679 | A?.100 | N/A | N/A |
| 7350305 | AN.011.9 | 270 - 410+ | 10-14 |
| 7351328 | AXVII.064.4 | 95 - 200 | 5-7 |
| 7351186 | A?.014.2 | 275 - 295 | 10-11 |
| 7350010 | A?.031 | N/A | N/A |
| 96000717 | A?.050.4 | 270 - 410+ | 10-14 |
| 7350372 | AXVIII.013.3 | 75 - 95 | 4 |
| 96000698 | AVIII.001 | 54 - 75 | 1-2 |
| 7350719 | AWS.008 | N/A | N/A |
| 96000697 | AVI.011 | 65 - 80 | 2-3 |
| 96000700 | A?.066 | N/A | N/A |
| 96000701 | A/S?.001 | N/A | N/A |


| | | | |
|----------|--------------|------------|-------|
| 7351302 | A?.091 | N/A | N/A |
| 7351473 | AS.003.3 | 75 – 95 | 3-4 |
| 7350255 | A?.031 | N/A | N/A |
| 7351191 | AXXIII.014.4 | 275 - 295 | 10-11 |
| 7351195 | AXVII.020 | 95 - 120 | 5-6 |
| 96000707 | A?.066 | N/A | N/A |
| 7350420 | AN.011.3 | N/A | N/A |
| 7350435 | A?.050.4 | 270 – 410+ | 10-14 |
| 7350836 | AN.011.9 | 270 – 410+ | 10-14 |
| 96000699 | A/S?.001 | N/A | N/A |
| 96000680 | A/S?.001 | N/A | N/A |
| 96000705 | AXVII.042.2 | 270 - 350 | 10-12 |
| 7350702 | AVI.024 | N/A | N/A |
| 7351016 | AXVI.015.1 | 270 – 295 | 10-11 |
| 7351414 | AVI.004 | 150 - 200 | 7 |
| 96000681 | A/S?.001 | N/A | N/A |
| 7351200 | AXVIII.003 | 150 - 200 | 7 |
| 7351936 | AXXIII.049.2 | 100 - 260 | 5-8 |
| 96000682 | A/S?.001 | N/A | N/A |
| 7351029 | S3.001 | N/A | N/A |
| 7350636 | A?.020 | N/A | N/A |
| 96000693 | AN.011.6 | 270 – 410+ | 10-14 |
| 96000695 | AXI.035 | 270 - 300 | 10-12 |
| 7351369 | A?.079.1 | N/A | N/A |
| 7351106 | S3.001 | N/A | N/A |
| 7351175 | AWS.008 | N/A | N/A |

| | | | |
|----------|------------|------------|-------|
| 7351397 | A?.064.1 | N/A | N/A |
| 7351407 | S1.021 | N/A | N/A |
| 96000702 | AXVI.028.2 | N/A | N/A |
| 96000703 | AVI.004 | 75 - 95 | 4 |
| 7351410 | AXV.004 | 43 - 75 | 1-3 |
| 96000683 | AX.004 | 75 - 95 | 4 |
| 7350182 | AX.004 | N/A | N/A |
| 96000694 | AS.032.8 | 270 - 410+ | 10-14 |
| 96000696 | A?.049.5 | 410+ | 14 |
| 7350251 | AN.010.4 | 270 - 410+ | 10-14 |
| 96000723 | AN.011.4 | 410+ | 14 |
| 7351112 | A?.093 | N/A | N/A |
| 7351305 | A?.091 | N/A | N/A |
| 7350637 | AXI.018 | 75 - 95 | 4 |
| 7350844 | AS.039 | N/A | N/A |
| 96000706 | A?.079.3 | N/A | N/A |
| 96000704 | A?.049.5 | 410+ | 14 |

Overview:

Of the 57 examples, 29 come from dateable contexts. Of these, six are in the shore fort ditches and two are poorly contextualised. Of the remaining 20, 50% are from Areas along the E/W road (Areas VIII, XVI, XVII, XXIII) and another five are from the NW corner of the shore fort (Area VI). Only a few are from elsewhere. Most of these can be dated to the 1st century, primarily to before c.AD75 or just after.

Harness Trappings (3rd – 4th century) = 10 objects

|  | Object | Type | Sub-type | Object date |
|---|---------------|---------------|----------|---|
| 7350250 | Horse Harness | Yoke Fittings | N/A | 3 rd – 4 th century |
| 7351408 | Horse Harness | Yoke Fittings | N/A | 3 rd – 4 th century |
| 7351409 | Horse Harness | Yoke Fittings | N/A | 3 rd – 4 th century |
| 96000718 | Horse Harness | Yoke Fittings | N/A | 3 rd – 4 th century |
| 96000719 | Horse Harness | Yoke Fittings | N/A | 3 rd – 4 th century |
| 96000720 | Horse Harness | Yoke Fittings | N/A | 3 rd – 4 th century |
| 7350016 | Horse Harness | Pendant | N/A | 3 rd – 4 th century |
| 7350179 | Horse Harness | Pendant | N/A | 3 rd – 4 th century |
| 7351169 | Horse Harness | Pendant | N/A | 3 rd – 4 th century |
| 96000721 | Horse Harness | Pendant | N/A | 3 rd – 4 th century |

Brief background

The horse harness included many other fittings that were functional and or decorative. Pendants were attached to various parts of the harness for decoration and loops were used to attach the straps for guiding the horse.

Typology and Chronology

Yoke Fittings

There are six examples of this type from Richborough. These yoke fittings are rectangular in shape. They have a simple horizontal crossbar with vertical sides. The joining crossbar is decorated with various designs (Wilbers-Rost and Rost 2009: 223, Pl.1.3). They date to the 3rd – 4th century AD.

Pendants

There are four examples of this type from Richborough. There are a large variety of harness pendants; some are openwork whilst others are solid. There is usually little similarity unless found with others in horse burials. They date to the 3rd – 4th century.

Materials, design, and production

No XRF analysis was undertaken on these objects. They are all made of copper alloy.

These objects were all made in casts.

The remaining yoke fittings and pendants are varied, and the metrology reveals little of interest.

The yoke fittings would have been attached by the crossbar with a strap passed through. The pendants would have hung from phalera.

Use, reuse and repair

These mounts were used on horse harnesses. There is no indication that they had any other purpose or were repaired in any way.

Decoration

The yoke fittings and pendants have various decorative forms, with circle and dot decoration (7350016) as well as openwork designs around a central, swirling motif (96000721).

Parallels


Key contexts

| ID | Context no. | Context date | Period |
|----------|-------------|--------------|--------|
| 7350250 | S3.005 | 275 – 295 | 10-11 |
| 7351408 | AS.018 | N/A | N/A |
| 7351409 | A?.064.1 | N/A | N/A |
| 96000718 | A/S?.001 | N/A | N/A |
| 96000719 | A/S?.001 | N/A | N/A |
| 96000720 | A?.100 | N/A | N/A |
| 7350016 | A/S?.001 | N/A | N/A |
| 7350179 | A?.037 | N/A | N/A |
| 7351169 | A?.049.5 | 410+ | 14 |
| 96000721 | S1.002 | N/A | N/A |

Overview:

Of the 10 examples, two come from dateable contexts. With no 3rd – 4th century contexts could be postulated that these were used into the 4th century by a cavalry unit. The other objects can for the most part be dated to the 3rd – 4th century.

Harness Decoration (Pendants) (3rd – 5th century) = 13 objects

|  | Object | Type | Sub-type | Object date |
|---|-----------------|---------|----------|---|
| 7351850 | Harness Pendant | Pendant | Tusk | 3 rd – 5 th century |
| 7351851 | Harness Pendant | Pendant | Tusk | 3 rd – 5 th century |
| 78301933 | Harness Pendant | Pendant | Tusk | 3 rd – 5 th century |
| 96000738 | Harness Pendant | Pendant | Tusk | 3 rd – 5 th century |
| 96000739 | Harness Pendant | Pendant | Tusk | 3 rd – 5 th century |
| 96000740 | Harness Pendant | Pendant | Tusk | 3 rd – 5 th century |
| 96000741 | Harness Pendant | Pendant | Tusk | 3 rd – 5 th century |
| 96000774 | Harness Pendant | Pendant | Tusk | 3 rd – 5 th century |
| 7350323 | Harness Pendant | Pendant | Fitting | 3 rd – 5 th century |
| 7350390 | Harness Pendant | Pendant | Fitting | 3 rd – 5 th century |
| 96000742 | Harness Pendant | Pendant | Fitting | 3 rd – 5 th century |
| 96000743 | Harness Pendant | Pendant | Fitting | 3 rd – 5 th century |
| 96000744 | Harness Pendant | Pendant | Fitting | 3 rd – 5 th century |

Brief background

Amongst the various harness fittings are these bone pendants made from tusks or horns. There are two to each pendant which are connected in the middle by a sheet of metal. Bishop (1988: 107) reiterates the interpretation that their *lunula* shape represents the moon and femininity. The late pendants likely came from the same region and were used by *limitanei* (Fingerlin 1981: 425-7).

Typology and Chronology

There is no good typology for these pendants. However, Fingerlin (1981: 425-7) suggest that the means of suspension changes between the early and late examples. The early examples are pierced for hanger rings and often have simple metal fittings. The late examples do not have these hanger rings and are often not pieced. They must have been suspended by some other means.

3rd – 5th century pendants

There are 8 examples of this type from Richborough. These late examples do not have these hanger rings and are often not pieced. They must have been suspended by some other means. They date to the 3rd – 5th century.

3rd – 5th century pendant fittings

There are 5 examples of this type from Richborough. These include triangular fittings with a circular terminal as well as pins used to hold them in place on the pendant. They date to the 3rd – 5th century.

Materials, design, and production

No XRF analysis was undertaken on these objects.

These pendants were produced by a pair of tusks or horns, presumably from the same animal, and fixing them together in the centre with sheet of metal. Other metal fittings and rings were attached with rivets or pins.

The pendants range in size and are dictated by the size of the tusks.

It is unclear how the late examples were attached.

Use, reuse and repair

These objects were used as horse harness pendants. There is no indication that were had another purpose, but it is possible that not all were used on harnesses, put as personal amulets. There is no sign of repair on any of the objects.

Decoration

Most of the Richborough examples are plain boars' tusks. However, there are some decorative fittings. There are three examples (7350323, 7350390 and 96000742) are triangular decorative fittings which were fitted to the top of the tusk or horn, which can be seen on another example (7351850) from Richborough. The first two examples are plain, whereas the latter has incised 'chevron' decoration with a simple incised line border. This example was presumably for someone of high status as the fittings are silver.

Parallels

The late examples can be paralleled from Montierung and Schongau am Lech (Fingerlin 1981: 424, Abb.4) as well as well as graves in Monceau-le-Neuf and Brumath (Hawkes and Dunning 1961: 29-31).

Key contexts

| ID | Context no. | Context date | Period |
|---------|-------------|--------------|--------|
| 7351850 | AN.016 | N/A | N/A |

| | | | |
|----------|-----------|------------|-------|
| 7351851 | AWS.008 | N/A | N/A |
| 78301933 | A/S?.001 | N/A | N/A |
| 96000738 | AXVII.004 | 350 – 410+ | 13-14 |
| 96000739 | S3.008 | N/A | N/A |
| 96000740 | AV.001 | N/A | N/A |
| 96000741 | A/S?.001 | N/A | N/A |
| 96000774 | A/S?.001 | N/A | N/A |
| 7350323 | A?.063 | N/A | N/A |
| 7350390 | AWS.007.2 | N/A | N/A |
| 96000742 | A?.061 | N/A | N/A |
| 96000743 | AXVI.023 | 95 – 410+ | 4-14 |
| 96000744 | A?.050.2 | 410+ | 14 |

Overview:

Of the 13 examples, three come from dateable contexts. However, many of these are non-specific or unstratified. Two late examples come from Areas XVI and XVII which might indicate horse activity in this area. Since the others are scattered across the site in unstratified contexts it is not clear if these belonged to cavalry of the 4th century or incoming Saxons in the 5th century.

01. Horse Bridles and Harnesses

Harness Fittings (Bridle Bits, Cheek Pieces, Terret Rings and Other Fittings) (1st – 4th century) = 51 objects

| ID | Object | Type | Sub-type | Object date |
|----------|------------------------------------|-------------|----------|--|
| 7351504 | Harness Fitting | Terret | II | 2 nd century BC – 2 nd century AD |
| BM.5 | Harness Fitting | Terret | XVIII | Uncertain |
| 96000768 | Harness Fitting | Terret | XIX | 1 st – 3 rd century |
| 96000769 | Harness Fitting | Terret | XIX | 1 st – 3 rd century |
| 96000762 | Harness Fitting | Terret | XX | 1 st – 4 th century |
| 96000746 | Bridle Bit | Snaffle | Plain | 2 nd century BC – 4 th century AD |
| 96000747 | Bridle Bit | Snaffle | ? | 2 nd century BC – 4 th century AD |
| 96000748 | Bridle Bit | Snaffle | ? | 2 nd century BC – 4 th century AD |
| 96000745 | Bridle Bit | Curb | 1 | 1 st – 4 th century |
| 96000770 | Bridle Bit | Curb | 1 | 1 st – 4 th century |
| 96000749 | Bridle Bit | Curb | 2 | 1 st – 4 th century |
| 96000750 | Bridle Bit | Curb | 2 | 1 st – 4 th century |
| 96000803 | Bridle Bit | Curb | 2 | 1 st – 4 th century |
| 78602037 | Bridle Fitting | Cheek Piece | Toggle | 1 st – 2 nd century |
| 96000771 | Bridle Fitting | Cheek Piece | Toggle | 1 st – 2 nd century |
| 7350960 | Bridle Fitting/ Harness Fitting | ? | ? | Uncertain |
| 78301945 | Bridle Fitting/ Harness Fitting | ? | ? | Uncertain |
| 78303019 | Bridle Fitting/ Harness Fitting | ? | ? | Uncertain |

| | | | | |
|----------|------------------------------------|---|---|-----------|
| 78303032 | Bridle Fitting/ Harness Fitting | ? | ? | Uncertain |
| 88396091 | Bridle Fitting/ Harness Fitting | ? | ? | Uncertain |
| 88396092 | Bridle Fitting/ Harness Fitting | ? | ? | Uncertain |
| 88396093 | Bridle Fitting/ Harness Fitting | ? | ? | Uncertain |
| 88396094 | Bridle Fitting/ Harness Fitting | ? | ? | Uncertain |
| 88396095 | Bridle Fitting/ Harness Fitting | ? | ? | Uncertain |
| 88396096 | Bridle Fitting/ Harness Fitting | ? | ? | Uncertain |
| 96000751 | Bridle Fitting/ Harness Fitting | ? | ? | Uncertain |
| 96000754 | Bridle Fitting/ Harness Fitting | ? | ? | Uncertain |
| 96000755 | Bridle Fitting/ Harness Fitting | ? | ? | Uncertain |
| 96000756 | Bridle Fitting/ Harness Fitting | ? | ? | Uncertain |
| 96000757 | Bridle Fitting/ Harness Fitting | ? | ? | Uncertain |
| 96000758 | Bridle Fitting/ Harness Fitting | ? | ? | Uncertain |
| 96000759 | Bridle Fitting/ Harness Fitting | ? | ? | Uncertain |
| 96000760 | Bridle Fitting/ Harness Fitting | ? | ? | Uncertain |

| | | | | |
|----------|------------------------------------|---|---|-----------|
| 96000761 | Bridle Fitting/ Harness Fitting | ? | ? | Uncertain |
| 96000763 | Bridle Fitting/ Harness Fitting | ? | ? | Uncertain |
| 96000765 | Bridle Fitting/ Harness Fitting | ? | ? | Uncertain |
| 96000766 | Bridle Fitting/ Harness Fitting | ? | ? | Uncertain |
| 96000767 | Bridle Fitting/ Harness Fitting | ? | ? | Uncertain |
| 96000775 | Bridle Fitting/ Harness Fitting | ? | ? | Uncertain |
| 96000777 | Bridle Fitting/ Harness Fitting | ? | ? | Uncertain |
| 96003380 | Bridle Fitting/ Harness Fitting | ? | ? | Uncertain |
| 96003381 | Bridle Fitting/ Harness Fitting | ? | ? | Uncertain |
| 96003382 | Bridle Fitting/ Harness Fitting | ? | ? | Uncertain |
| 96003405 | Bridle Fitting/ Harness Fitting | ? | ? | Uncertain |
| 96003406 | Bridle Fitting/ Harness Fitting | ? | ? | Uncertain |
| 96003407 | Bridle Fitting/ Harness Fitting | ? | ? | Uncertain |
| 96003408 | Bridle Fitting/ Harness Fitting | ? | ? | Uncertain |
| 96003409 | Bridle Fitting/ Harness Fitting | ? | ? | Uncertain |

| | | | | |
|----------|------------------------------------|---|---|-----------|
| 96003410 | Bridle Fitting/ Harness Fitting | ? | ? | Uncertain |
| 96003411 | Bridle Fitting/ Harness Fitting | ? | ? | Uncertain |
| 96003412 | Bridle Fitting/ Harness Fitting | ? | ? | Uncertain |
| 96003413 | Bridle Fitting/ Harness Fitting | ? | ? | Uncertain |

Brief background

Bridles and harnesses have been used since the iron age. The bridle is used to aid in the direction of the equine and includes the bit and reins. The harness allows the equine to pull vehicles for transport or farm work. There is an assumption here that these were used on equines, but it is just as likely they were used on cattle for ploughing.

Typology and Chronology

The typology for terrets comes from Lewis' (2015) study. The bridle typology comes from Manning (1985). The cheek piece typology comes from Greep (1983) for bone objects, but this can also apply to the similar copper-alloy example.

Terrets Type II – Simple Terret

There is one example of this type from Richborough. These are a basic D-shape. There is a certain amount of variation within the form and have been observed to have influenced later forms (Lewis 2015: 87-9). They date to the 2nd century BC – 2nd century AD.

Terrets Type XVIII – Crescentic Terret

There is one example of this type from Richborough. These are D-shaped, but the breadth of the ring grows towards the apex giving it the crescent shape (Lewis 2015: 95). A narrow rim runs along the edges of the ring and both faces if the ring is enamelled (Lewis 2015: 95). The date of these is uncertain.

Terrets Type XIX – Dropped-bar Terret

There are two examples of this type from Richborough. They consist of a main circular or sub-circular ring and a smaller attachment loop below, which is usually rectangular (Lewis 2015: 96). They date to the 1st – 3rd century.

Terrets Type XX – Skirted Terrets

There is one example of this type from Richborough. These consist of a circular or sub-circular and a smaller attachment loop that is shielded by a skirt (Lewis 2015: 96-7). The skirts range from simple to more complex designs. They date to the 1st – 4th century AD.

Bridle Bits – Snaffle

There are three examples of this type from Richborough. They consist of either a solid, linked, or spiral-twisted bar with rings at either end (Manning 1985: 66). They date to the 2nd century BC – 4th century AD.

Bridle Bits – Curb

There are five examples of this type from Richborough. Type 1 is the simplest form. It is common in civilian contexts and consists of a two-link snaffle bit with cheekpieces (Manning 1985: 67). Type 2 has a U-shaped bar at the centre which attaches to the headstall and the remainder of the bit (Manning 1985: 68). They were possibly confined to army use based on their findspots (Manning 1985: 68). They date to the 1st – 4th century.

Bridle Fittings – Cheek Piece

There are two examples of this type from Richborough. Greep (1983: 469-70) divides the bone examples of these into five types. They are plain, decorated with incised lines, decorated with cross hatching, decorated with line-in-filled triangles, rectangles and lozenges, and others. There appears to be no typology for copper alloy examples. Greep (1983: 466) suggested that bone examples are a copy of copper alloy examples. Copper alloy examples often have infilled enamelled fields (Greep 1983: 469). Many uses have been suggested and a likely option is to thread the toggle, attached to a leather strap, through the ring attached to the bit (Dobiat 1979). This use would match the wear patterns found on these objects (Greep 1983: 467). They date to the 1st – 2nd century AD.

Bridle Fittings/Harness Fittings

There are 37 examples of this type from Richborough. The sizes vary and could be part of the equine bridle or harness. As there are multiple rings on the bridle and harness, it is not surprising to see such a large amount. They might not all be Roman and can date from the IA to the Post-Medieval/Modern period.

Materials, design, and production

No XRF analysis was undertaken on these objects.

Since there are no obvious joins in any of the objects, it is safe to assume they were cast from moulds.

The main metrological evidence comes from the terret rings as they are the most complete. They range in diameter from 20 – 92mm. It has been suggested that those below 33mm are too small to act as rein guides, however, they might have lain flat rather than standing upright on the yoke (Palk

1992: 72). This is working on the assumption that these are Roman objects and might have been used differently in other periods (see below).

There are various modes of attachment for these objects. What they all have in common is they were attached to the equine via a series of leather straps for guidance.

Use, reuse and repair

These objects had various uses on the horse bridle/harness. There is no indication of any other use and no signs of repair. On several of the objects, particularly the terret rings there is use wear where the reigns passed through and rubbed.

Decoration

There are over 300 parallels on the PAS for Roman terrets. Of these, 18 are from Kent and many display the dropped bar style. Lewis' (2015) study of terrets only covered the area to the north of the Fosse Way and to the south of Hadrian's Wall and only covered the period from 400BC – AD200. Lewis' (2015: 67, Table 3.3) found of 596 terrets, simple, dropped bar and skirted were well represented but crescentic only accounted for eight examples. Dropped bar and skirted terrets seem to be an imported form (Lewis 2015: 76, Table 4.1). Not much is known about crescentic terrets and there are a few parallels from Eauze (France), Faiyum (Egypt) and London. Bushe-Fox (1949: 106) also lists similar terrets from Bapchild (Kent), Runnymede, Colchester and Westhall (Suffolk).

Parallels

The best objects here to parallel are the terret rings. Lewis (2015: 157, Map 3) demonstrates that simple terrets were widely used in Roman Britain over a long period. Skirted and Dropped Bar terrets are imported forms to Britain (Lewis 2015: 207). Skirted terrets have a fairly even distribution but Dropped bar terrets are more often concentrated in the North East and North West of Britain.

Key contexts

| ID | Context no. | Context date | Period |
|----------|-------------|--------------|--------|
| 7351504 | A/S?.001 | N/A | N/A |
| BM.5 | ? | N/A | N/A |
| 96000768 | AV.015.2 | N/A | N/A |
| 96000769 | S1.015 | N/A | N/A |
| 96000762 | AX.041.1 | N/A | N/A |
| 96000746 | AXVII.009 | 270 – 295 | 10-11 |
| 96000747 | A/S?.001 | N/A | N/A |


| | | | |
|----------|-----------|------------|-------|
| 96000748 | A?.100 | N/A | N/A |
| 96000745 | A?.050.4 | 270 – 410+ | 10-14 |
| 96000770 | A?.015.11 | 270 – 295 | 10-11 |
| 96000749 | A?.100 | N/A | N/A |
| 96000750 | AVI.024 | N/A | N/A |
| 96000803 | A/S?.001 | N/A | N/A |
| 78602037 | A/S?.001 | N/A | N/A |
| 96000771 | S1.004 | 100 - 150 | 5-6 |
| 7350960 | A/S?.001 | N/A | N/A |
| 78301945 | A/S?.001 | N/A | N/A |
| 78303019 | A/S?.001 | N/A | N/A |
| 78303032 | A/S?.001 | N/A | N/A |
| 88396091 | A/S?.001 | N/A | N/A |
| 88396092 | A/S?.001 | N/A | N/A |
| 88396093 | A/S?.001 | N/A | N/A |
| 88396094 | A/S?.001 | N/A | N/A |
| 88396095 | A/S?.001 | N/A | N/A |
| 88396096 | A/S?.001 | N/A | N/A |
| 96000751 | A/S?.001 | N/A | N/A |
| 96000754 | AWS.008 | N/A | N/A |
| 96000755 | AWS.008 | N/A | N/A |
| 96000756 | A?.100 | N/A | N/A |
| 96000757 | A/S?.001 | N/A | N/A |
| 96000758 | A?.064.1 | N/A | N/A |
| 96000759 | A/S?.001 | N/A | N/A |
| 96000760 | A/S?.001 | N/A | N/A |

| | | | |
|----------|--------------|------------|-------|
| 96000761 | A/S?.001 | N/A | N/A |
| 96000763 | AXXIII.008.3 | 300 – 410+ | 12-14 |
| 96000765 | AXXIII.040 | 350 – 410+ | 13-14 |
| 96000766 | A/S?.001 | N/A | N/A |
| 96000767 | AXXIV.005 | N/A | N/A |
| 96000775 | A/S?.001 | N/A | N/A |
| 96000777 | A/S?.001 | N/A | N/A |
| 96003380 | A/S?.001 | N/A | N/A |
| 96003381 | A/S?.001 | N/A | N/A |
| 96003382 | A/S?.001 | N/A | N/A |
| 96003405 | A?.100 | N/A | N/A |
| 96003406 | A?.100 | N/A | N/A |
| 96003407 | A?.100 | N/A | N/A |
| 96003408 | A?.100 | N/A | N/A |
| 96003409 | A?.100 | N/A | N/A |
| 96003410 | A?.100 | N/A | N/A |
| 96003411 | A?.100 | N/A | N/A |
| 96003412 | A?.100 | N/A | N/A |
| 96003413 | A?.100 | N/A | N/A |

Overview:

Of the 52 examples, six come from dateable contexts. Only one example (7351504) is in an early context as all others are in 3rd – 4th century contexts or the surface layer. Of the 14, only 8 can be said to be in good Roman contexts. The remaining 47 pose a conundrum. Although it is possible, they are Roman, the field inside the walls was ploughed. It is likely this activity went on for centuries; therefore, we cannot be certain that these are Roman fittings. Where we do have them in Areas or Sites, they are mostly to the south of the E/W road.

Harness Trappings (3rd – 4th century) = 8 objects

|  | Object | Type | Sub-type | Object date |
|---|--------|----------|----------|---|
| 7350364 | Mount | Circular | ? | 3 rd – 4 th century |
| 7350421 | Mount | Circular | ? | |
| 7351365 | Mount | Shell | ? | |
| 7351662 | Mount | Shell | ? | |
| 96000127 | Mount | Shell | ? | |
| 96000128 | Mount | Shell | ? | |
| 96000129 | Mount | Shell | ? | |
| 96000130 | Mount | Shell | ? | |

Brief background

Oldenstein (1976: 187-8, Taf.57) identified these shell shaped mounts as decoration on horse harnesses. The circular mounts are likely for a similar use. They are similar in attachment to the belt mounts of the 3rd – 4th century but do not follow the openwork design. They were found along the Germanic *limes* and is also paralleled at Burgenae on the Danube (Radman-Livaja 2006: 1503, Fig.3.26).

Typology and Chronology

The mounts in this section were used for decoration in the 3rd – 4th centuries AD. However, according to Oldenstein (1976: 187-8) and most likely decorated horse harnesses.

Malcom Lyne presented this collection of belt mounts as Types C1 and C2 (shell) and Type D (circular).

Circular Mounts

There are two examples of this type from Richborough. These fittings were identified by Oldenstein (1976: 186, Taf.56, nos.686-95) as circular arched fittings with two rear studs for attachment. Oldenstein's examples came primarily from the German *limes* they date to the late 3rd – late 4th century.

Shell Mounts

There are six examples of this type from Richborough. Identified by Oldenstein (1976: 187-88, fig.57, nos.696-703). The fittings are shell shaped and have two studs on the back for attachment. Many of these are found on the German *limes* and date to the late 3rd – late 4th century on the German *limes* (Oldenstein 1976: 187).

Materials, design, and production

No XRF analysis was undertaken on these objects. They are all made of copper alloy.

These mounts were all made in casts. Malcolm Lyne in the catalogue suggested because object 7350357 was unfinished version of 7351536, that there was production at Richborough.

There is some uniformity in the shell shaped mounts with some clustering (h 26 and 42mm, w 31 – 37mm, d 12 – 16mm). They are also of similar weights when accounting for their completeness.

These mounts were attached to horse harness straps by two protrusions on the rear which penetrated the strap.

Use, reuse and repair

These mounts were used as decoration on horse harnesses. There is no indication that they had any other purpose or were repaired in any way.

Decoration

The shell types come in two forms, either plain or decorated with transverse ribs to resemble a cockle shell. One of the circular examples (7350364) has two bands of concentric circles surrounding a central dot.

Parallels

There are no parallels for these on the PAS for Kent. Oldenstein (1976: 187-8) identified parallels from forts on the Germanic *limes* and they have been found as far away as the Danube.

Key contexts


| ID | Context no. | Context date | Period |
|----------|-------------|--------------|--------|
| 7350364 | AXVII.001 | N/A | N/A |
| 7350421 | AWS.008 | N/A | N/A |
| 7351365 | A/S?.001 | N/A | N/A |
| 7351662 | A/S?.001 | N/A | N/A |
| 96000127 | A/S?.001 | N/A | N/A |

| | | | |
|----------|----------|-----|-----|
| 96000128 | A/S?.001 | N/A | N/A |
| 96000129 | A/S?.001 | N/A | N/A |
| 96000130 | AWS.008 | N/A | N/A |

Overview:

Unfortunately, none of these objects come from securely dated contexts.

Girth Buckles (1st – 4th century) = 9 objects

|  | Object | Type | Sub-type | Object date |
|---|--------|--------------|----------|---|
| 7350437 | Buckle | Girth Buckle | 1 | 1 st – 4 th century |
| 7350620 | Buckle | Girth Buckle | 1 | 1 st – 4 th century |
| 7350622 | Buckle | Girth Buckle | 1 | 1 st – 4 th century |
| 7350627 | Buckle | Girth Buckle | 1 | 1 st – 4 th century |
| 7350629 | Buckle | Girth Buckle | 1 | 1 st – 4 th century |
| 7350630 | Buckle | Girth Buckle | 1 | 1 st – 4 th century |
| 7350676 | Buckle | Girth Buckle | 1 | 1 st – 4 th century |
| 7351127 | Buckle | Girth Buckle | 1 | 1 st – 4 th century |
| 96000220 | Buckle | Girth Buckle | 1 | 1 st – 4 th century |

Brief background

Bishop (1988: 94, Fig.36) suggested that these buckles fulfilled the purpose of horse girth buckles. The girth is a strap that helps to secure the saddle to the horse. Roman archaeological examples are difficult to prove (Bishop 1988: 94). Even where there is much evidence for horse burials these buckles are not often found when compared to other equipment (Nowakowski 2009).

Typology and Chronology

The typology for girth buckles comes from Bishop (1988: 94, Fig.36) There are four different types. Types 1, 2 and 4 have moulded loops whereas Type 3 are composite with side pieces, a cross-member, spindle, and tongue (Bishop 1988: 94).

Bishop Type 1

There are nine examples of this type from Richborough. These are rectangular buckles with three solid sides. The short sides terminate in loops for the buckle pin.

Materials, design, and production

No XRF analysis was undertaken on these objects.

The buckles were made from rods of metal. The ends were flattened out and rolled to form loops which were joined to the frame.

There is a degree of uniformity in the size of the buckles with widths of 30 – 36mm and depths of 12 – 18mm. The two made from bracelets are both bigger at 52 x 19 and 40 x 25mm.

The buckles might have been attached to the girth straps by a buckle plate or leather wrapped around the buckle pin.

Use, reuse and repair

These objects were used as horse girth buckles. It is possible that they were used for other purposes, but clothing buckles tend to be solid without a separate pin. There is no sign of repair but two of the buckles (7351127 and 96000220) have decoration and the terminal ends are not solid but rolled around from a single sheet. These two were recycled from bracelets. The decoration suggests that they were recycled from bracelets with A1 decoration which are common in Britannia (Swift 2012a).

Decoration

There is no decoration on these objects apart from the two recycled from bracelets.

Parallels

There are not many parallels for these buckles. Bishop (1988: Table 2) shows 19 examples, 13 of which are Type 1. Only two of these are from Britain (Chichester and Waddon Hall). The majority are from sites along the *limes* in Germany.

Key contexts


| ID | Context no. | Context date | Period |
|----------|-------------|--------------|--------|
| 7350437 | AWS.08 | N/A | N/A |
| 7350620 | AS.021.2 | N/A | N/A |
| 7350622 | AW.027.19 | 410+ | 14 |
| 7350627 | AW.036 | N/A | N/A |
| 7350629 | A?.031 | N/A | N/A |
| 7350630 | AWS.008 | N/A | N/A |
| 7350676 | AW.027.7 | 270 – 410+ | 10-14 |
| 7351127 | S3.010 | N/A | N/A |
| 96000220 | S3.010 | N/A | N/A |

Overview:

Of the nine examples, two come from datable contexts. The two recycled bracelets must date to the 4th century, so it would be likely that these all date to the 4th century, especially as others were found in the surface and short fort ditch. However, these contexts have objects from the 1st – 4th century. The two recycled bracelets are from north of the platform.

02. Horseshoes and Riders Fittings

Horseshoes (1st – 4th century) = 1 object

|  | Object | Type | Sub-type | Object date |
|---|-----------|-------------|-----------|---|
| 96000781 | Horseshoe | Hipposandal | Manning 1 | 1 st – 4 th century |

Brief background

Hipposandals were used as a temporary horseshoe for unshod animals (Manning 1985: 63). Many different uses have been suggested, but horseshoes are the most reasonable (Manning 1985: 63). There is a suggestion of a Gallic origin has been made based on their distribution in Britain, Gaul, and Germania (Manning 1985: 63).

Typology and Chronology

Manning (1985: 63-66) has suggested four types of hipposandal.

Type 1

There is one example of this type from Richborough. It has a long hooked or looped vertical neck at the front, wings at the side and a hooked heel. It dates to the 1st – 4th century.

Materials, design, and production

No XRF analysis was undertaken on this object.

The object was hammered out from sheet metal.

The object is incomplete, so the complete dimensions are lost. However, the reconstruction drawing suggests; w 100mm x d 190 mm x h 104mm

The hipposandal would have been attached to the hoof with leather straps rather than nailed to the hoof.

Use, reuse and repair

This object was used as a horseshoe. Other suggestions have been made but horseshoes are most likely. There is no sign of repair.

Decoration

There is no decoration on the object.

Parallels

There are 10 examples of hipposandals on the PAS, none of which are in Kent. Manning (1985: 63-66) has parallels from London, Cambridgeshire, and Hod Hill.


Key contexts

| ID | Context no. | Context date | Period |
|----------|-------------|--------------|--------|
| 96000781 | AW.033 | N/A | N/A |

Overview:

The object is from Solley's Field from the south of the fort. As the activity is unclear in this area it could be associated with the early supply base or the port town.

Riders Fittings (Spurs) (1st – 4th century)= 3 objects

|  | Object | Type | Sub-type | Object date |
|---|--------|-------------|----------|---|
| 7350306 | Spur | Single goad | ? | 1 st – 4 th century |
| 7351683 | Spur | Single goad | ? | 1 st – 4 th century |
| 96000778 | Spur | Single goad | ? | 1 st – 4 th century |

Brief background

Spurs have been used in horse riding since the Late Iron Age. The earliest spur types are prick spurs and date to the 1st century AD in Britain. The goad is the pointed part of the spur used for prodding and guiding the horse.

Typology and Chronology

There is no clear typology for Roman spurs, although the PAS finds recording guide provides terminology for each part. In their general form spurs have barely changed for centuries and come in several types. However, in the Roman period there was the 'single goad spur'; the goad being the prick used to goad the horse. Most of the terminology, including the word spur, is Medieval (Clarke 1995: 126). There are too few examples in the Richborough collection to develop a typology.

Materials, design, and production

No XRF analysis was undertaken on these objects.

These objects could be cast and/or hammered into shape.

There is only one complete example in the collection. It is unclear if it is a generic production or the size relates the riders shoe size.

These objects were attached to the rider's heel by leathers through the holes in the terminals.

Use, reuse and repair

These objects were used as riders' spurs. There is no indication they were used for another purpose and no sign of repair.

Decoration

There is no decoration on these objects.

Parallels

There are 55 examples of Roman spurs on the PAS, mostly with a north-east distribution. A full survey of Roman sites with spurs would be useful to understand the distribution by site type and if

there are any distinctions to be made between military and non-military spurs. However, I suspect that spurs were largely generic enough that lone riders would have used the same as the military. Additionally, it would be impossible to distinguish in many places the difference between military units and lone riders on military business.

Key contexts

| ID | Context no. | Context date | Period |
|----------|-------------|--------------|--------|
| 7350306 | S1.023.4 | 90 - 140 | 5-6 |
| 7351683 | A/S?.001 | N/A | N/A |
| 96000778 | A/S?.001 | N/A | N/A |

Overview:

Only one of the objects comes from a dateable context and is related to the port town rather than the military periods.

04. Objects associated with Trade, Manufacturing, and Industrial Activities

04. 01. Crafts and Tools

Clearing Tools (Hoes) (1st – 4th century) = 3 objects

| ID | Object | Type | Sub-type | Object date |
|----------|--------|------|----------|---|
| 96000804 | Hoe | 1 | A | 1 st – 4 th century |
| 7351902 | Hoe | 4 | ? | 1 st – 4 th century |
| 96000817 | Hoe | 4 | ? | 1 st – 4 th century |

Brief background

Hoes are agricultural tools used to break up and drag soil (Humphreys 2019: 503). It should be noted that their blades contrast with axes, where the blade is vertical, and are like adzes (Humphreys 2019: 503).

Typology and Chronology

The typology for hoes comes from Hannemann (2014: Abb.160) who splits them into five different types (1-5) and sub-types for some examples. Humphreys (2019: 504) has added two new types (6-7) with the same sub-types.

Type 1 Hoes/Forks

There is one example of this type from Richborough. This type has an adze like blade (Humphreys 2019: 505), but the downward angle is not as extreme. They date to the 1st – 4th century.

Type 4 Hoes/Forks

There are two examples of this type from Richborough. On one side of the central hole is the blade and on the other is a pair of tines resembling a two-pronged fork. These tines can be triangular, parallel-sided, or continually expanding (Humphreys 2019: 507). There might be some distinction in size between the east and west of Britain (Manning 1976: Fig.7), but this is far from certain. They appear to be a Roman introduction to Britain based on their appearance on the continent (Rees 1979: 309). They date to the 1st – 4th century.

Materials, design, and production

No XRF analysis was undertaken on these objects.

These objects were likely cast in a mould and finished on an anvil.

Type 4 hoes are typically c.20cm long (Humphreys 2019: 507). The two examples from Richborough are 188mm (7351902) and 255mm (96000817) long. The latter example is slightly wider and deeper at 337.7g as opposed to 227.8g. Visually there is little difference in form and the latter is just a larger

example. The type one hoe is similar in size but is slightly shorter (126mm) and slightly heavier (367.8g).

These objects were attached to a wooden handle placed through the central opening.

Use, reuse and repair

These objects were used as hoes. In classical texts these Type 4 examples are identified as *ascia rostrum* (White 1967: 66-8). They were used for weeding, aerating soil, and tending to plants. However, contextual evidence from Lydney and Thealby Mine could suggest they were used for hard digging or mining (Humphreys 2019: 508). There is no indication they were used for another purpose and there is no sign of repair.

Decoration

There is no decoration on these objects.

Parallels

Type 1 hoes are difficult to parallel and Manning (1970: 19) saw similarities in tools from Eastern Europe. Type 4 are easier to parallel and are found on primarily military and urban sites across the Roman Empire.

| <i>Type</i> | <i>Britain</i> | <i>Continent</i> |
|-------------|--|-------------------------------|
| 4 | Caerwent, Cirencester, Housesteads, Lydney, Rough Castle, Silchester, South Harting, Thealby Mine, Usk, Warrington, Wroxeter | Avenches, Saalburg, Zugmantel |

Key contexts


| ID | Context no. | Context date | Period |
|----------|-------------|--------------|--------|
| 96000804 | A?.050.4 | 270 - 410+ | 10-14 |
| 7351902 | AXVII.028.1 | 270 - 410+ | 10-14 |
| 96000817 | AXVII.034.2 | 95 - 200 | 5-7 |

Overview:

Of the two examples, one has good context data. The smaller example (7351902) was a surface find, but interestingly the other (96000817) was found in the same area, although they were found in different seasons of excavation. The latter example was found in the top 3' of Pit 256. The lower part of the pit is dated to the 1st century, but the pit appears to have sunk and the top 3' was filled during

the 2nd century; indicated by coins of Hadrian and Veru (TPQ AD161). It was also found with 14 other objects.

Clearing Tools (Rakes) (1st – 4th century) = 4 objects

|  | Object | Type | Sub-type | Object date |
|---|--------|------|----------|---|
| 96000495 | Rake | 1 | A | 1 st – 4 th century |
| 96000496 | Rake | 1 | ? | 1 st – 4 th century |
| 96000494 | Rake | 3 | B | 1 st – 4 th century |
| 96004058 | Rake | ? | ? | 1 st – 4 th century |

Brief background

Rake tines are the teeth that are inserted into the rake head (Humphreys 2019: 551). In Britain, they are found on civilian and military sites after the Roman conquest and show a strong Roman influence (Humphreys 2019: 551). It has also been suggested that these tines could have been used as harrows rather than rakes (Rees 1979: 318). These multi-tined tools are attached to draught animals and dragged over fields (Humphreys 2019: 552).

Typology and Chronology

The typology for rake tines comes from Duvauchelles (1990: 45-6) typology, based on the shape of the junction between the blade and tang. Humphreys (2019: 552-3) further developed the typology to include sub-types (A and B) for the form of the tang. Type A has a tang clenched downwards, whilst Type B has a sideways clenched tang.

Type 1A

There is one example of this type from Richborough. The tang is narrow and attached to the underside of a rectangular-sectioned blade (Humphreys 2019: 553). They date to the 1st – 4th century.

Type 1

There is one example of this type from Richborough. As above but with tang missing.

Type 3B

There is one example of this type from Richborough. This type has no clear step between the blade and tang as the tang expands to join the blade (Humphreys 2019: 553). They date to the 1st – 4th century.

Type Uncertain

There is one example of uncertain type from Richborough.

Materials, design, and production

No XRF analysis was undertaken on these objects.

These objects were likely hammered out on an anvil from sheet metal.

There appear to be two groupings in the collection. The Type 1? and 3A (96000495 and 96000496) examples are the same weight (25.8g), although the Type 1? is longer. The other two examples (96000494 and 960004058) are the same size, but the uncertain type is slightly heavier.

The tines were placed through holes in a wooden frame and the tang is then clenched on the opposite side of the frame.

Use, reuse and repair

These objects were used as rake or harrow tines. The difference in size, and particularly weight, might indicate different uses. A better understanding of these objects is needed, but it could be that the heavier tines were used on harrows as they would need to be substantially stronger to cut through soil than the rake tines used for leaves or straw. There is no indication that these objects were used for another purpose and there is no sign of repair.

Decoration

There is no decoration on these objects.

Parallels

To draw significant parallels more study of rake tines is required. Some parallels can be drawn with London.

| <i>Type</i> | <i>No.</i> |
|-------------|------------|
| 1A | 12 |
| 1B | 6 |
| 1 | 1 |
| 2A | 6 |
| 3A | 1 |
| 3B | 7 |
| 4A | 3 |
| 4B | 4 |
| ? | 9 |


Key contexts

| ID | Context no. | Context date | Period |
|----------|-------------|--------------|--------|
| 96000495 | A/S?.001 | N/A | N/A |
| 96000496 | A/S?.001 | N/A | N/A |
| 96000494 | A/S?.001 | N/A | N/A |
| 96004058 | A/S?.001 | N/A | N/A |

Overview:

Unfortunately, none of these objects have any specific context data.

Clearing Tools (Reaping Hooks) (1st – 4th century) = 3 objects

|  | Object | Type | Sub-type | Object date |
|---|--------------|------|----------|---|
| 9600849 | Reaping Hook | 1 | A | 1 st – 4 th century |
| 78303002 | Reaping Hook | 6 | ? | 1 st – 4 th century |
| 96000819 | Reaping Hook | 6 | ? | 1 st – 4 th century |

Brief background

Reaping hooks have varied uses. Although agricultural uses are most common for cutting stalks or grain, they could also be used to prune small trees or harvest fruit as well as possible craft uses in leatherworking, basketry (Humphreys 2019: 575).

Typology and Chronology

The typology for these objects is taken from Humphreys (2019: 576-84). The number stands for the blade shape and the letter for the handle tang.

Type 1A

There is one example of this type from Richborough. The tang is a simple Type A which slots into a handle. The Type 1 blade curves backwards at the tang at a shape angle before curving inwards (Humphreys 2019: 579). They date to the 1st – 4th century.

Type 6

There are two examples of this type from Richborough. The handle tang is broken. This type of blade is mostly upright before curving to a near right angle (Humphreys 2019: 581). The tip of the blade is blunt with a small, raised tab on the end (Humphreys 2019: 581). They date to the 1st – 4th century.

Materials, design, and production

No XRF analysis was undertaken on these objects.

These objects would have been hammered from iron rods or sheets.

The Type 6 example is broken so the full size is unknown, but the Type 1 is complete (apart from the missing organic handle) and is 260mm at the longest point and 80mm at the widest.

These objects would have been attached to a handle covering the tang.

Use, reuse and repair

These objects were used as reaping hooks. Type 1 is well suited to reaping and is likely an agricultural tool (Humphreys 2019: 579). The Type 6 is well suited as a pruning or harvesting tool (Humphreys 2019: 581).

Decoration

There is no decoration on these objects.

Parallels

Humphreys (2019: 579) identifies three Type 1 examples and one of Type 6 from London.


Key contexts

| ID | Context no. | Context date | Period |
|----------|-------------|--------------|--------|
| 96000849 | A/S?.001 | N/A | N/A |
| 78303022 | A/S?.001 | N/A | N/A |
| 96000819 | A?.042 | 43 - 75 | 1-3 |

Overview:

Of the three objects, one has some context data.

Clearing Tools (Spades) (1st - 4th century) = 6 objects

|  | Object | Type | Sub-type | Object date |
|---|--------------|------|----------|---|
| 7351827 | Spade | 1 | C | 1 st - 4 th century |
| 96000846 | Spade | 1 | C | 1 st - 4 th century |
| 96000848 | Spade | 2 | C | 1 st - 4 th century |
| 96000845 | Spade | 2 | ? | 1 st - 4 th century |
| 96000847 | Spade | ? | ? | 1 st - 4 th century |
| 7351472 | Spade Handle | ? | ? | 1 st - 4 th century |

Brief background

Roman spades are digging tools and differ from shovels in that they have a flat blade without raised sides (Humphreys 2019: 587). Modern spades are most made of iron, whereas in the Roman period the spade shoe was made of iron and the handle was made from wood. These spade shoes were a Roman introduction to Britain and are primarily found on urban Roman sites (Manning 1970: 24-6; Rees 1979: 326).

Typology and Chronology

The typology for spade shoes comes from Manning (1970) and is split into two main types based upon the shape of the blade; either rounded (Type 1) or squared (Type 2). These are then split into several sub-types (A-C). Humphreys (2019: 588) has added a sub-type D to both types to accommodate finds from London. In addition, Humphreys (2019: 588) has renumbered some of the Manning types. The typology used here is that presented from the study of London tools.

Type 1C (Manning 1D)

There are three examples of this type from Richborough. This type has a rounded tip which is a little squarer than the other Type 1 examples (Manning 1970: 22). At the top of the edges there is a straight side piece, and the inside of the lug creates a step towards the side piece. At the top of the side piece are two lugs which attach to the wooden handle. They date to the 1st - 4th century AD.

Type 2C

There is one example of this type from Richborough. The tip on this type is straight and the side pieces are of similar construction to Type 1C. They date to the 1st - 4th century AD.

Type Uncertain

There is one example of this type from Richborough.

Handles

There is one example of this type from Richborough. The handle is turned from a single piece of bone. There is a rectangular cut out on one face for the spade/shovel handle and a hole on the opposite side for a nail to attach the two pieces. On another face are two small holes which were likely for more nails for reinforcement.

Materials, design, and production

No XRF analysis was undertaken on these objects.

The spade shoes were hammered out and shaped from sheets of iron.

Although a similar proportion of the shoes survive, the metrology is quite different. Type 1 shoes are the largest and heaviest. The range of size and weight might indicate the

| <i>ID</i> | <i>Type/Sub-type</i> | <i>Width (mm)</i> | <i>Weight (g)</i> |
|-----------|----------------------|-------------------|-------------------|
| 7351827 | 1C | 204 | 292 |
| 96000846 | 1C | 173 | 305 |
| 96000848 | 1C | 240 | 536 |
| 96000845 | 2C | 110 | 151 |

Each shoe has a socket that runs around the inner edge. The wooden handle and wooden part of the blade would sit in this socket. There are also rivets on the shoe lugs to attach to the wooden handle.

Use, reuse and repair

These spades were used as digging implements. There is no indication that they were used for another purpose and there is no sign of repair.

Decoration

There is no decoration on these objects.

Parallels

Of Type 1C, there is one example from London (Humphreys 2019: 590) and others from Frocester Court and Wesbury (Rees 1979: Figs.115-6). Of type 2C there are three possible examples from London (Humphreys 2019: 590) and three from 1st century Colchester (Manning 1970: Fig.3m; Rees 1979: Figs.120-1).


Key contexts

| ID | Context no. | Context date | Period |
|----------|-------------|--------------|--------|
| 7351827 | A/S?.001 | N/A | N/A |
| 96000846 | A?.050.2 | 410+ | 14 |
| 96000848 | AW.008 | N/A | N/A |
| 96000845 | A/S?.001 | N/A | N/A |
| 96000847 | A?.091 | N/A | N/A |
| 7351472 | AXVIII.016 | 43 - 60 | 1-2 |

Overview:

Of the six examples, one comes from a dateable context in the top of the outer shore fort ditch.

Fabric Working (Awls) (1st – 4th century) = 7 objects

|  | Object | Type | Sub-type | Object date |
|---|--------|------|----------|---|
| 96000839 | Awl | 1 | 1 | 1 st – 4 th century |
| 88396101 | Awl | 1 | 3 | 1 st – 4 th century |
| 96000825 | Awl | 3 | ? | 1 st – 4 th century |
| 96000824 | Awl | 9 | 1 | 1 st – 4 th century |
| 96000830 | Awl | 9 | 1 | 1 st – 4 th century |
| 96000838 | Awl | 9 | 2 | 1 st – 4 th century |
| 96000840 | Awl | 9 | 2 | 1 st – 4 th century |

Brief background

Fabric working, or stitching awls, are used for piercing holes in leather for sewing (Humphreys 2019: 377). They therefore need to be strong enough for the task but not so strong to make a too big of a hole (Humphreys 2019: 377).

Typology and Chronology

The typology for these awls comes from Humphreys (2019: 382-99).

Type 1.1

There is one example of this type from Richborough

Type 1.3

There is one example of this type from Richborough. The third variant in this type has, like the others, a square cross section, but has a flat-topped conical head rather than a point or a knob on the top or faceted corners. They often come with chisel like tips but are often narrow so are interpreted as stitching awls (Humphreys 2019: 384). They date to the 1st – 4th century.

Type 3

There is one example of this type from Richborough

Type 9.1

There are two examples of this type from Richborough. This is a relatively short variation. One end has a circular cross section while the other end is square. They date to the 1st – 4th century.

Type 9.2

There are two examples of this type from Richborough. This variation has a square cross section in the middle with each end tapering into more diamond shaped cross sections. They date to the 1st – 4th century.

Materials, design, and production

No XRF analysis was undertake on these objects.

These objects were most likely hammered out from rods of metal.

The Type 1 awl is relatively heavy at over 200g and is significantly longer and wider than the Type 9s which are light and thin.

The Type 1 awls would have had a wooden handle but the Type 9's was double ended with no handle.

Use, reuse and repair

These objects were used as awls for fabric working.

Decoration

There is no decoration on these objects.

Parallels

Some good parallels come from Humphreys (2019) study. For Type 1.3 come from primarily military sites, but also some urban (Humphreys 2019: 386, Table.19). Few of the parallels date to before AD85 so it is likely these fit into the urban periods at Richborough. Types 9.1 and 9.2 seem again to come from military and urban sites and might date much later, possibly to the 3rd – 4th century (Humphreys 2019: 397, Table.29).

Key contexts

| ID | Context no. | Context date | Period |
|----------|-------------|--------------|--------|
| 96000839 | A?.091 | N/A | N/A |
| 88396101 | S4.003.1 | 95 – 200 | 5-7 |
| 96000825 | A?.043 | 43 – 75 | 1-3 |
| 96000824 | S1.001 | N/A | N/A |
| 96000830 | AXVII.028.1 | 270 – 410+ | 10-14 |
| 96000838 | A/S?.001 | N/A | N/A |
| 96000840 | A/S?.001 | N/A | N/A |

Overview:

Of the seven examples, three come from datable contexts. The early example (88396101) fits the typological dating and comes from near the monument. The other (96000830) is a surface find so could be from any date in the 4th century.

Measuring (Dividers) (1st – 4th century) = 8 objects

| ID | Object | Type | Sub-type | Object date |
|----------|----------|------|----------|---|
| 7351904 | Dividers | 2 | ? | 1 st – 4 th century |
| 96000870 | Dividers | 2 | ? | 1 st – 4 th century |
| 96000871 | Dividers | 2 | ? | 1 st – 4 th century |
| 96000872 | Dividers | 2 | ? | 1 st – 4 th century |
| 96000873 | Dividers | 2 | ? | 1 st – 4 th century |
| 96000874 | Dividers | 2 | ? | 1 st – 4 th century |
| 96000888 | Dividers | 2 | ? | 1 st – 4 th century |
| 96000889 | Dividers | 2 | ? | 1 st – 4 th century |

Brief background

Divider callipers, or a compass, have multiple uses. The tips of each arm are sharpened so they can mark points on a surface from which to scribe an arc or circle in metal- or woodworking. They are also used for measuring points on a map or plan, with the two compass points then measured and converted to a scale of distance.

Typology and Chronology

There is no detailed typology for these objects. Manning (1985: 11-2) splits them into two groups based on how the rivet is closed. The first is more common with a domed head at each end and the second has a long stem with a wedge through it (Manning 1985: 12). From the example given by Manning (1985: A39), it would appear all these examples are of the second type.

Materials, design, and production

No XRF analysis was undertaken on these objects.

These objects could have been cast but it is also possible for them to have been hammered from iron rods.

Metrology is only reliable for the complete examples and these range from 114 – 181mm.

These objects were used by hand. The two points of the compass are connected by a rivet.

Use, reuse and repair

These objects were used as divider callipers. There is no indication they were used for another purpose and no sign of repair.

Decoration

There is no decoration on these objects.

Parallels

A fuller survey of these objects is needed; however, simple callipers of this type have been found in London, Rushall Down, Silchester, Wroxeter and multiple military sites in Germany (Manning 1985: 12). According to Worrell (2005: 463-4) they are an uncommon find. They can also be elaborately decorated like the set from Shouldham (Worrell 2005: 463: Fig.14). A plain set was also found at one of the shore forts, Caister-on-Sea, and was interpreted to have been used by a surveyor (Darling, Gurney 1993: 100-1, Fig.73.416).

Key contexts

| ID | Context no. | Context date | Period |
|----------|-------------|--------------|--------|
| 7351904 | S3.028 | N/A | N/A |
| 96000870 | AS.026.1 | 43-75 | 1-3 |
| 96000871 | ANW.004 | N/A | N/A |
| 96000872 | ANW.004 | N/A | N/A |
| 96000873 | A?.064.1 | N/A | N/A |
| 96000874 | AW.026.3 | 410+ | 14 |
| 96000888 | A?.091 | N/A | N/A |
| 96000889 | A?.091 | N/A | N/A |

Overview:

Of the eight examples, one has some context data. It is unclear whether these were used as surveyors' tools or for crafts as both would have been needed on the site. However, it could be supposed that large callipers were likely used by surveyors to cover long distances and smaller ones used for metalwork.

Measuring (Sundial) (1st – 4th century) = 1 object

| ID | Object | Type | Sub-type | Object date |
|----------|---------|------|----------|-------------|
| 78303734 | Sundial | | | |

Brief background

Typology and Chronology

Materials, design, and production

- XRF/Scientific analysis
- Production method
- General/Specific metrology
- Attachment

Use, reuse and repair

Decoration

Parallels

Key contexts

| ID | Context no. | Context date | Period |
|----------|-------------|--------------|--------|
| 78303734 | A/S?.001 | N/A | N/A |

Overview:

Unfortunately, there is no context for this object.

Metalworking (Punch) (1st – 4th century) = 1 object

| ID | Object | Type | Sub-type | Object date |
|---------|--------|------|----------|---|
| 7350644 | Punch | 2 | ? | 1 st – 4 th century |

Brief background

Fine metalworking punches were used to decorate metalwork through two techniques: chasing and repoussé. For chasing, the metal is placed on a hard surface and the front is hammered, which displaces the metal (Humphreys 2019: 541). For repoussé, the metal is placed on a yielding surface and the punch is hammered into the rear of the metal, which decorates the front (Humphreys 2019: 541).

Typology and Chronology

The typology for these objects comes from Humphreys (2019: 542-4) based on the examples from London. They are split into four types (1-4), with two sub-types for Type 1.

Type 2

There is one example of this type from Richborough. The stem is rectangular in section, with a burred butt, bowed, convex sides and a chisel like tip (Humphreys 2019: 543). They date to the 1st – 4th century AD.

Materials, design, and production

No XRF analysis was undertaken on this object.

This object was likely hammered out from a copper alloy bar.

The object is 75mm long, and an average of 6.5mm in diameter, with a weight of 20.5g. These dimensions suggest it could be held comfortably in the hand.

Attachment of this object is not applicable.

Use, reuse and repair

This object was used as a fine metalworking punch. This form was used as a chaser, which is the most common form of decoration in the Roman period (Humphreys 2019: 541). There is no indication that it was used for another purpose and there is no sign of repair.

Decoration

There is no decoration on this object.

Parallels

Humphreys (2019: 543) lists four examples of this type from London with similar looking tools from Gorhambury (Neal, Wardle et al. 1990: Figs.394, 396).

Key contexts

| ID | Context no. | Context date | Period |
|---------|-------------|--------------|--------|
| 7350644 | AW.027.19 | 410+ | 14 |

Overview:

There is no useful context data for this object. Found in the upper layers of the shore fort ditch suggests it was deposited in c.AD410+ but could be a much earlier example mixed in with backfill.

Metalworking (Sets) (1st – 4th century) = 1 object

| ID | Object | Type | Sub-type | Object date |
|---------|--------|------|----------|---|
| 7351907 | Chisel | ? | ? | 1 st – 4 th century |

Brief background

Some chisels and sets were used to cut into metal heated by a forge (Humphreys 2019: 441). Chisels are held with one hand and struck with a hammer, whilst sets are held by a long wooden handle, away from the user and struck with a sledgehammer (Humphreys 2019: 441).

Typology and Chronology

Manning (1985: 8-9) separates these by modern examples. However, as modern examples can take various forms and only the iron part of Roman examples remaining, it is sometimes difficult to tell the difference.

Set

There is one example of this type from Richborough. Manning (1985: 9, A18) identifies these tools (with thin blades, too thin for cold metal, and with short handles, too short to comfortably hold, as sets. However, they are similar to some chisels (Manning 1985: 9, A19).

Materials, design, and production

No XRF analysis was undertaken on this object.

This object was likely hammered from a metal rod.

The object is 180mm x 30mm x 15mm (LxWxD) and is 329.8g.

These tools were handheld.

Use, reuse and repair

This object was possibly used as a set. However, other authors have interpreted them as wood- or stone-working chisels (Gaitzsch 1980: 156-9; Pietsch 1983: 35; Duvauchelle 1990: 24). Hannemann (2014: 399-401) suggests the blade is too thin for a chisel and that they could be used as scrapers or spatulas. Salaman (1975: 116-8) suggests they might be caulking irons. Given the number of ships fittings at Richborough, this is plausible. Humphreys (2019: 441-2) follows Manning's lead and places these in his category 'Chisels: Hot-cutting tools' as burring to the head of one example suggests it was struck by a hammer.

Decoration

There is no decoration on these objects.

Parallels

| | |
|--------|---|
| Object | Parallels |
| Set | Brancaster, Ickham, Kingsholm, Verulamium, Aquileia, Avenches, Neupotz, Zugmantel |

Manning (1985: 9, A18) shows a set from Kingsholm which is a close parallel for the Richborough example. Other examples come from military and urban sites.

Key contexts

| ID | Context no. | Context date | Period |
|---------|-------------|--------------|--------|
| 7351907 | A?.100 | N/A | N/A |

Overview:

There is no useful context information for this object.

Metalworking (Tongs) (1st – 4th century) = 2 objects

| ID | Object | Type | Sub-type | Object date |
|----------|--------|------|----------|---|
| 78303031 | Tongs | 1 | A | 1 st – 4 th century |
| 96000821 | Tongs | 1 | A | 1 st – 4 th century |

Brief background

Tongs have a variety of purposes. They are gripping tools with flat jaws, identical or near identical halves held together by a rivet (Humphreys 2019: 603). They differ from pincers which have chisel-like or pointed tips (Humphreys 2019: 603).

Typology and Chronology

The typology for tongs comes from Hannemann (2014: 325, Abb.285) who lists 9 types and some sub-types.

Type 1A

There are two examples of this type from Richborough. This type has an oval eye with external gripping surfaces which touch for 1-2cm (Humphreys 2019: 605). They date to the 1st – 4th century AD.

Materials, design, and production

No XRF analysis was undertaken on these objects.

These objects were likely hammered out from metal bars.

The sizes for tongs are split into three groups by Hannemann (2014: 323-4).

| | | |
|-----------|-------------|-------------|
| 0 – 250mm | 250 – 400mm | 400 – 700mm |
| Group I | Group II | Group III |

However, there is little analysis on the meaning of different sizes. It is also subjective as the number on which these groups are based is unknown (Humphreys 2019: 604). This example falls into Group I.

Use, reuse and repair

These objects were used as tongs. They are multi-purpose and used in blacksmithing and leatherworking (Humphreys 2019: 603). There is no indication they were used for any other purpose and there is no sign of repair.

Decoration

There is no decoration on these objects.

Parallels

Type 1A tongs come from a range of sites; primarily military and urban.

| Group | Sites |
|----------|--|
| Group I | Haltern, Kingsholm, Pompeii, Silchester, Vindolanda |
| Group II | Pompeii, Santon Downham, Seltz, Sibson, Xanten-Wardt |

Key contexts

| ID | Context no. | Context date | Period |
|----------|-------------|--------------|--------|
| 78303031 | A/S?.001 | N/A | N/A |
| 96000821 | AXVI.006.5 | 43 – 75 | 1-3 |

Overview:

Of the two objects, only one has any clear context data. It was found within the timber buildings to the north of the main E/W road. Given the stash of armour fittings in this building it would seem as though this find helps toward the hypothesis as a metal workshop. However, given the reinterpretation in this thesis it cannot be definitively tied to the military.

Metalworking (Whetstones) (1st – 4th century) = 46 objects

| ID | Object | Type | Sub-type | Object date |
|----------|-----------|------|----------|---|
| 78303097 | Whetstone | A | N/A | 1 st – 4 th century |
| 78304826 | Whetstone | A | N/A | 1 st – 4 th century |
| 78304833 | Whetstone | A | N/A | 1 st – 4 th century |
| 78602070 | Whetstone | A | N/A | 1 st – 4 th century |
| 88396110 | Whetstone | A | N/A | 1 st – 4 th century |
| 88396111 | Whetstone | A | N/A | 1 st – 4 th century |
| 88396113 | Whetstone | A | N/A | 1 st – 4 th century |
| 88396116 | Whetstone | A | N/A | 1 st – 4 th century |
| 88396119 | Whetstone | A | N/A | 1 st – 4 th century |
| 88396123 | Whetstone | A | N/A | 1 st – 4 th century |
| 88396126 | Whetstone | A | N/A | 1 st – 4 th century |
| 88396132 | Whetstone | A | N/A | 1 st – 4 th century |
| 88396133 | Whetstone | A | N/A | 1 st – 4 th century |
| 78303091 | Whetstone | B | N/A | 1 st – 4 th century |
| 78303094 | Whetstone | B | N/A | 1 st – 4 th century |
| 78303108 | Whetstone | B | N/A | 1 st – 4 th century |
| 78304824 | Whetstone | B | N/A | 1 st – 4 th century |
| 78304825 | Whetstone | B | N/A | 1 st – 4 th century |
| 78304827 | Whetstone | B | N/A | 1 st – 4 th century |
| 78304828 | Whetstone | B | N/A | 1 st – 4 th century |
| 78304830 | Whetstone | B | N/A | 1 st – 4 th century |
| 78304831 | Whetstone | B | N/A | 1 st – 4 th century |
| 78304832 | Whetstone | B | N/A | 1 st – 4 th century |

| | | | | |
|----------|-----------|-----|-----|---|
| 78304834 | Whetstone | B | N/A | 1 st – 4 th century |
| 88396120 | Whetstone | B | N/A | 1 st – 4 th century |
| 88396121 | Whetstone | B | N/A | 1 st – 4 th century |
| 88396124 | Whetstone | B | N/A | 1 st – 4 th century |
| 88396125 | Whetstone | B | N/A | 1 st – 4 th century |
| 88396127 | Whetstone | B | N/A | 1 st – 4 th century |
| 88396130 | Whetstone | B | N/A | 1 st – 4 th century |
| 88396131 | Whetstone | B | N/A | 1 st – 4 th century |
| 88396134 | Whetstone | B | N/A | 1 st – 4 th century |
| 88396135 | Whetstone | B | N/A | 1 st – 4 th century |
| 88396137 | Whetstone | B | N/A | 1 st – 4 th century |
| 96000937 | Whetstone | B | N/A | 1 st – 4 th century |
| 88396112 | Whetstone | C/D | N/A | 1 st – 4 th century |
| 88396114 | Whetstone | C/D | N/A | 1 st – 4 th century |
| 88396115 | Whetstone | C/D | N/A | 1 st – 4 th century |
| 88396117 | Whetstone | C/D | N/A | 1 st – 4 th century |
| 88396118 | Whetstone | C/D | N/A | 1 st – 4 th century |
| 88396122 | Whetstone | C/D | N/A | 1 st – 4 th century |
| 88396128 | Whetstone | C/D | N/A | 1 st – 4 th century |
| 88396129 | Whetstone | C/D | N/A | 1 st – 4 th century |
| 88396136 | Whetstone | C/D | N/A | 1 st – 4 th century |
| 78305370 | Whetstone | N/A | N/A | 1 st – 4 th century |

Brief background

Whetstones are tools of fine-grained stone used to sharpen cutting implements (Thiebaux *et al.* 2016: 565). The stone needs to be hard enough to cut metal to sharpen it (Thiebaux *et al.* 2016: 566).

Typically, they are made of sandstone and fall into two main groups: ‘natural’ and ‘manufactured’ (Thiebaux *et al.* 2016: 556).

Typology and Chronology

There are four main types of whetstone (Thiebaux *et al.* 2016: 567, Fig.1).

- a) Parallelepiped with square cross-section
- b) Parallelepiped with rectangular cross-section
- c) Circular cylinder
- d) Elliptic cylinder

Type A

There are 13 examples of this type from Richborough. They date to the 1st – 4th century AD.

Type B

There are 23 examples of this type from Richborough. They date to the 1st – 4th century AD.

Type C/D

There are nine examples of this type from Richborough. They date to the 1st – 4th century AD.

Uncertain

There is also one of uncertain type.

Materials, design, and production

No XRF was undertaken on these objects. However, a summary of materials is found below:

| <i>Material</i> | <i>No.</i> | <i>%</i> |
|---------------------|------------|------------|
| <i>Sandstone</i> | 19 | 41.3 |
| <i>Schist</i> | 19 | 41.3 |
| <i>Limestone</i> | 1 | 2.2 |
| <i>Unident</i> | 7 | 15.2 |
| <i>Total</i> | 46 | 100 |

The production method of whetstones is explained by Thiebaux *et al.* (2016: 574-82). In short, the stone is quarried and cut into slabs from which bars are cut. They are then planed (square or rectangular) or fashioned with tools (circular or elliptical) into shape. Production centres have been identified in Gaul and Britain:

*Britain**Gaul**Wroxeter*

Buizingen

Usk

Le Chatelet-sur-Somonne

Nereth

The production method at both sites has been noted as similar (Theibaux *et al.* 582). It is beyond the scope of this study to demonstrate where the Richborough whetstones were produced, however, it would be a useful future area of research.

The whetstones are of various sizes. It is difficult to ascertain average lengths as many are broken. However, many are of similar width. The majority fall between 20 – 30mm with a few above and below this number. There are several outliers, one of 130mm wide (78303108) and one 62mm wide (78304832). These might have been used to sharpen larger blades by placing them on a flat surface rather than running the whetstone along the blade.

Use, reuse and repair

These objects were used for sharpening blades such as swords, knives, and shears. There needs to be further study on these objects to demonstrate their use wear and patterns. There is no indication they were used for another purpose and no sign of repair.

Decoration

There is no decoration on these objects.

Parallels

Key contexts

| ID | Context no. | Context date | Period |
|----------|-------------|--------------|--------|
| 78303097 | A/S?.001 | N/A | N/A |
| 78304826 | AVIII.008.2 | 75 – 95 | 3-4 |
| 78304833 | A?.061 | N/A | N/A |
| 78602070 | AXVI.016.2 | 43 - 200 | 1-7 |
| 88396110 | S3.002 | 43 - 150 | 1-6 |
| 88396111 | AXXIII.052 | 75 – 95 | 3-4 |

| | | | |
|----------|--------------|------------|-------|
| 88396113 | A/S?.001 | N/A | N/A |
| 88396116 | AN.012.7 | N/A | N/A |
| 88396119 | A/S?.001 | N/A | N/A |
| 88396123 | A/S?.001 | N/A | N/A |
| 88396126 | AIX.002 | 43 – 75 | 1-4 |
| 88396132 | A/S?.001 | N/A | N/A |
| 88396133 | AXXIII.045.1 | 75 – 95 | 3-4 |
| 78303091 | A?.066 | N/A | N/A |
| 78303094 | A/S?.001 | N/A | N/A |
| 78303108 | A?.049.8 | 270 - 410+ | 10-14 |
| 78304824 | S1.025.2 | 270 - 295 | 10-11 |
| 78304825 | AIX.005 | 60 – 75 | 2 |
| 78304827 | AIX.006.1 | 350 - 410+ | 13-14 |
| 78304828 | AW.011 | 95 - 200 | 5-7 |
| 78304829 | AVIII.001 | 43 – 75 | 1-3 |
| 78304830 | AX.041.5 | N/A | N/A |
| 78304831 | A?.050.4 | 270 - 410+ | 10-14 |
| 78304832 | AWS.008 | N/A | N/A |
| 78304834 | A/S?.001 | N/A | N/A |
| 88396120 | A/S?.001 | N/A | N/A |
| 88396121 | A/S?.001 | N/A | N/A |
| 88396124 | A/S?.001 | N/A | N/A |
| 88396125 | AVI.028 | 43 – 65 | 1-2 |
| 88396127 | A/S?.001 | N/A | N/A |

| | | | |
|----------|-------------|------------|-------|
| 88396130 | AXVII.052 | 43 – 95 | 1-4 |
| 88396131 | AXXIII.033 | 350 - 410+ | 13-14 |
| 88396134 | A/S?.001 | N/A | N/A |
| 88396135 | A/S?.001 | N/A | N/A |
| 88396137 | A/S?.001 | N/A | N/A |
| 96000937 | AXVI.003 | 75 – 95 | 3-4 |
| 88396112 | A/S?.001 | N/A | N/A |
| 88396114 | AXVII.001 | N/A | N/A |
| 88396115 | AXVII.034.2 | 95 - 200 | 5-7 |
| 88396117 | A?.064.1 | N/A | N/A |
| 88396118 | A/S?.001 | N/A | N/A |
| 88396122 | A/S?.001 | N/A | N/A |
| 88396128 | A/S?.001 | N/A | N/A |
| 88396129 | S4.006 | N/A | N/A |
| 88396136 | A/S?.001 | N/A | N/A |
| 78305370 | A?.091 | N/A | N/A |

Overview:

Of the 46 examples, 18 have some form of context data. The early whetstones are primarily in one section of the site. Area IX (2), Area VIII (2), Area XVI (1) and Area XVII (2) account for seven of the 8-10 examples with one other possibly of this date in Area XVI. However, a distinction needs to be made. Of these seven, two (78304826 and 88396126) can be dated to post-AD75, during the monument construction phase. The other five are in contexts of AD43-75.

During the 1st century, the buildings in Areas VIII/XVI and Area VII/XVII either side of the road would have been areas of intense activity in the supply base. The whetstones of this date in Area VIII

and Area XVI could well be associated with metalworking. There are several whetstones of potentially early date but there are no definitive military contexts.

The late whetstones are difficult to date by context. Of the eight examples, three (78303108, 78304831 and 88396116) are from the shore fort ditches and two others (78304832 and 78602069) are from the surface in Area SW. However, there was possible industrial activity in the vicinity (Area XXII) during the 4th century (Cunliffe 1968: 28-9).

Multi-Purpose Tools (Hammers) (1st – 4th century) = 3 objects

| ID | Object | Type | Sub-type | Object date |
|----------|--------|------|----------|---|
| 96000806 | Hammer | 2 | N/A | 1 st – 4 th century |
| 96000807 | Hammer | 2 | N/A | 1 st – 4 th century |
| 96000808 | Hammer | 2 | N/A | 1 st – 4 th century |

Brief background

Hammers hafted, striking tools which are blunt at one end. Some hammers are likely to have had particular functions, whilst others were general purpose.

Typology and Chronology

The typology for hammers from Hannemann (2014: Abb.362) with eight types and some sub-types.

Type 2

There are three examples of this type from Richborough. This type is a cross-pein hammer. The central hole has a central hole with a diamond-shaped casing (Humphreys 2019: 496). There is a blunt hammer head at one end and a blunt cross-pein on the other. They date to the 1st – 4th century.

Materials, design, and production

No XRF analysis was undertaken on these objects.

These objects were likely produced in a mould and finished on an anvil.

All the hammers are of different lengths and weights. The two smallest examples are of similar weight but the heaviest is c.3x as heavy.

These objects were attached to a wooden handle placed through the central hole.

Use, reuse and repair

These objects were used as hammers. Some examples of this type could have been used as smith's tools, but they are also useful as general-purpose hammers (Humphreys 2019: 498). The difference in weight and size might be an indicator of use. There is no indication that these objects were used for any other purpose and there is no sign of repair.

Decoration

There is no decoration on these hammers.

Parallels

There are multiple parallels for the Type 2 hammers on Roman sites in Britain and the continent (Humphreys 2019: 497). They are used on both military and civilian sites. On civilian sites they are found in hoards.

Key contexts

| <i>ID</i> | <i>Context No.</i> | <i>Context date</i> | <i>Period</i> |
|-----------|--------------------|---------------------|---------------|
| 96000806 | A/S?.001 | N/A | N/A |
| 96000807 | A/S?.001 | N/A | N/A |
| 96000808 | AS.001 | 280 – 410+ | 10-14 |

Overview:

Of the three examples, none have any useful context data.

Stonemasonry (Chisel) (1st – 4th century) = 3 objects

| ID | Object | Type | Sub-type | Object date |
|----------|--------|------|----------|---|
| 88396103 | Chisel | A | N/A | 1 st – 4 th century |
| 88396104 | Chisel | D | N/A | 1 st – 4 th century |
| 88396105 | Chisel | D | N/A | 1 st – 4 th century |

Brief background

Mason's chisels are used for stone carving. There are several specialist chisels used by masons to achieve different effects.

Typology and Chronology

The typology is based upon modern mason's chisels (Blagg 1976: Fig.1.G-K) of which there are five types (A-E). Humphreys (2019: 445) also identifies two types of chisels based on their handle form; either round- or square-sectioned.

Type A

There is one example of this type from Richborough. Type A chisels have pyramidal tip. It is used at a sharp angle to break off large flakes (Humphreys 2019: 444). It can also be used at a shallow angle to create channels, create level surfaces, or carve stone (Humphreys 2019: 444). They date to the 1st – 4th century.

Type D

There is one example of this type from Richborough. Type D chisels have a flat chisel tip. It is used to create elaborate architectural detail or sharply cut mouldings (e.g., foliage or Corinthian capitals) (Blagg 1976: 163). They date to the 1st – 4th century.

Materials, design, and production

No XRF analysis was undertaken on these objects.

These objects were likely hammered out from iron bars.

The objects are generally of similar size. The weights differ between Type A and D, with Type D the heavier. Perhaps the extra weight provided more stability with use.

These objects were handheld.

Use, reuse and repair

These objects were used as mason's chisels. Type D can be like woodworking chisels, however, mason's chisels tend to be wholly of metal, whereas woodworking chisels tend to have a tang

attached to a wooden handle (Blagg 1976: 163). It is possible that these could be used for woodworking. There is no sign of repair.

Decoration

There is no decoration on these objects

Parallels

Humphreys (2019: MAS01-04) lists four examples from London.

Key contexts

| ID | Context no. | Context date | Period |
|----------|-------------|--------------|--------|
| 88396103 | A/S?.001 | N/A | N/A |
| 88396104 | A/S?.001 | N/A | N/A |
| 88396105 | A/S?.001 | N/A | N/A |

Overview:

Of the three examples, none have any context data.

Stonemasonry (Trowels) = 1 object

| ID | Object | Type | Sub-type | Object date |
|----------|--------|------|----------|---|
| 88396102 | Trowel | ? | ? | 1 st – 4 th century |

Brief background

Trowels have two main uses: construction and gardening. However, it is more likely that they served the former purpose in antiquity (Humphreys 2019: 609). The evidence for trowels across the NW provinces and the introduction of masonry buildings helps to confirm this hypothesis (Duvauchelle 1990: 32; Humphreys 2019: 609).

Typology and Chronology

The typology for trowels comes from Gaizsch (1980: Abb.15) who divides them into 6 main types, with several subtypes.

Type Uncertain

There is one example of uncertain type from Richborough. They date to the 1st – 4th century.

Materials, design, and production

No XRF analysis was undertaken on this object.

The object was likely hammered out from sheet metal.

The object is too fragmentary for significant metrological analysis.

The object has a tang so it would have been attached to an organic handle.

Use, reuse and repair

This object was used as trowel in construction. There is no indication it was used for another purpose and there is no sign of repair.

Decoration

There is no decoration on this object.

Parallels

Without a typology, no exact parallels can be made.

Key contexts

| ID | Context no. | Context date | Period |
|----------|-------------|--------------|--------|
| 88396102 | A/S?.001 | N/A | N/A |

Overview:

The object has no contextual information.

Uncertain Function (Awls) (1st – 4th century) = 4 objects

| ID | Object | Type | Sub-type | Object date |
|----------|--------|------|----------|---|
| 96000833 | Awl | 1 | 3 | 1 st – 4 th century |
| 96000841 | Awl | 1 | ? | 1 st – 4 th century |
| 96000842 | Awl | 1 | ? | 1 st – 4 th century |
| 96000835 | Awl | 9 | 1 | 1 st – 4 th century |

Brief background

Awls of fabric working have been discussed above. These were identified for fabric working based upon the tips. Four awls in the Richborough collection no longer have the tip so function cannot be determined, however, types can still be identified.

Typology and Chronology

As above the typology for these awls comes from Humphreys (2019: 382-99). The types here are the same as those in Fabric Working (Awls) above but have been separated out as objects are sorted by function rather than type.

Materials, design, and production

See Fabric Working (Awls) above.

Use, reuse and repair

See Fabric Working (Awls) above.

Decoration

See Fabric Working (Awls) above.

Parallels

See Fabric Working (Awls) above.

Key contexts

| ID | Context no. | Context date | Period |
|----------|-------------|--------------|--------|
| 96000833 | A/S?.001 | N/A | N/A |
| 96000841 | A/S?.001 | N/A | N/A |
| 96000842 | A/S?.001 | N/A | N/A |
| 96000835 | A/S?.001 | N/A | N/A |

Overview:

Unfortunately, none of these objects have any context information and were all found in the topsoil.

Unidentified Tools (1st – 4th century) = 18 objects

| ID | Object | Type | Sub-type | Object date |
|----------|--------------|------|----------|---|
| 78303005 | Unidentified | ? | ? | 1 st – 4 th century |
| 78303010 | Unidentified | ? | ? | 1 st – 4 th century |
| 88396106 | Unidentified | ? | ? | 1 st – 4 th century |
| 96000532 | Unidentified | ? | ? | 1 st – 4 th century |
| 96000810 | Unidentified | ? | ? | 1 st – 4 th century |
| 96000818 | Unidentified | ? | ? | 1 st – 4 th century |
| 96000823 | Unidentified | ? | ? | 1 st – 4 th century |
| 96000827 | Unidentified | ? | ? | 1 st – 4 th century |
| 96000828 | Unidentified | ? | ? | 1 st – 4 th century |
| 96000829 | Unidentified | ? | ? | 1 st – 4 th century |
| 96000831 | Unidentified | ? | ? | 1 st – 4 th century |
| 96000834 | Unidentified | ? | ? | 1 st – 4 th century |
| 96000836 | Unidentified | ? | ? | 1 st – 4 th century |
| 96000837 | Unidentified | ? | ? | 1 st – 4 th century |
| 96000880 | Unidentified | ? | ? | 1 st – 4 th century |
| 96000881 | Unidentified | ? | ? | 1 st – 4 th century |
| 96000882 | Unidentified | ? | ? | 1 st – 4 th century |
| 96000885 | Unidentified | ? | ? | 1 st – 4 th century |

Brief background

These 18 objects are listed as tools but need functional identification.

Typology and Chronology

These objects need typological identification

Materials, design, and production

- XRF/Scientific analysis
- Production method
- General/Specific metrology
- Attachment

Use, reuse and repair

There is no certain use for these objects and no signs of repair.

Decoration

There is no decoration on these objects.

Parallels

There are no identified parallels.

Key contexts

| ID | Context no. | Context date | Period |
|----------|-------------|--------------|--------|
| 78303005 | A/S?.001 | N/A | N/A |
| 78303010 | A/S?.001 | N/A | N/A |
| 88396106 | A/S?.001 | N/A | N/A |
| 96000532 | S1.037.1 | 95 - 260 | 5-8 |
| 96000810 | A/S?.001 | N/A | N/A |
| 96000818 | A/S?.001 | N/A | N/A |
| 96000823 | AWS.008 | N/A | N/A |
| 96000827 | A/S?.001 | N/A | N/A |
| 96000828 | A/S?.001 | N/A | N/A |
| 96000829 | AWS.008 | N/A | N/A |
| 96000831 | A?.010 | 280 - 410+ | 10-14 |
| 96000834 | A/S?.001 | N/A | N/A |
| 96000836 | A/S?.001 | N/A | N/A |
| 96000837 | A/S?.001 | N/A | N/A |
| 96000880 | A/S?.001 | N/A | N/A |
| 96000881 | A/S?.001 | N/A | N/A |

| | | | |
|----------|----------|-----|-----|
| 96000882 | A/S?.001 | N/A | N/A |
| 96000885 | A/S?.001 | N/A | N/A |

Overview:

Of the 18 objects, only two have any form of context data.

Woodworking (Adze) (1st – 4th century) = 1 object

| ID | Object | Type | Sub-type | Object date |
|----------|--------|------|----------|---|
| 96000805 | Adze | 4 | ? | 1 st – 4 th century |

Brief background

Adze are woodworking tools used for cutting large pieces of wood as well as for trimming surfaces (Humphreys 2019: 369). They function somewhere between a plane, which might not be strong enough and an axe, which is not delicate enough (Humphreys 2019: 369). It is rarely used today, but is still used in shipbuilding, coopering and wheel-making (Humphreys 2019: 369).

Typology and Chronology

The typology for the adze is split between the IA and Roman types. Typologies for the Roman types have been devised by Pietsch (1983), Duvauchelle (1990) and Hanemann (2014).

| Hannemann 2014 | Pietsch 1983 | Duvauchelle 1990 |
|----------------|--------------|------------------|
| Typ 1A | Typ 1/2 | Type 1/2 |
| Typ 1B | Typ 1/2 | Type 1/2 |
| Typ 2 | | |
| Typ 3A | Typ 3 | Type 3 |
| Typ 3B | Typ 4 | Type 4A/B |
| Typ 3C | | Type 5 |
| Typ 4 | | |
| Typ 5 | | Type 6 |

Humphreys (2019: 371) used the same system for the typology of adze's from London. Hannemann's was used as it covers the widest range of types; so, it will be used here for Richborough. The typology focuses on two parts: the shape of the blade, and the shape of the poll.

Typ 4

There is one example of this type from Richborough. This type is similar to the Typ 3, but it has a dished blade which is useful for coopering. They date to the 1st – 4th century.

Materials, design, and production

No XRF was undertaken on these objects.

The objects would have been forged and hammered out on an anvil.

The object is a rather small example, (176mm long, 29mm high and 23mm deep).

The objects were attached to a wooden handle place through the central opening

Use, reuse and repair

This object was used for woodworking. The Typ 4 was specifically used for coopering. There is no indication they were used for another purpose and there is no sign of repair.

Decoration

There is no decoration on these objects.

Parallels

This appears to be a fairly unusual type and Humphreys (2019: 374) lists no examples from London. Hanemann (2014: 358) states the Typ 4 comes from...

Key contexts

| ID | Context no. | Context date | Period |
|----------|-------------|--------------|--------|
| 96000805 | A/S?.001 | N/A | N/A |

Overview:

Unfortunately, there is no context data for this object.

Woodworking (Auger) (1st – 4th century) = 4 objects

| ID | Object | Type | Sub-type | Object date |
|----------|--------|------|----------|---|
| 96000573 | Auger | A | 2.1/2.2 | 1 st – 4 th century |
| 96000575 | Auger | A | 3.3 | 1 st – 4 th century |
| 96000570 | Auger | C | 3.1 | 1 st – 4 th century |
| 96000572 | Auger | C | ? | 1 st – 4 th century |

Brief background

Augers are used for boring holes. In this case they are used for boring holes in wood. They consist of a shaft with a cutting end, atop which is a crossbar used to turn the auger and drill into the wood (Humphreys 2019: 420).

Typology and Chronology

The typology for these objects comes from a combination of the tang (Hanemann 2014: 385-91) and the cutting tip (Manning 1985, Fig.5) devised by Humphreys (2019: 424-9).

Type A.2.1/2.2

There is one example of this type from Richborough. The Type A head is a square-sectioned tang tapering to a point with a round sectioned stem (Humphreys 2019: 425). This example has a Type 2.1/2.2. The 2.1 tip is a diamond-shaped head with sharp corners, whereas the 2.2. is a more oval-shaped head, but these could be worn down Type 2.1s (Humphreys 2019: 428). They date to the 1st – 4th century.

Type A.3.3

There is one example of this type from Richborough. Head type as above but with a Type 3.3 tip which are dish spoon shaped, with 3.3. being widest at the back and tapering toward the tip (Humphreys 2019: 428). They date to the 1st – 4th century.

Type C.3.1

There is one example of this type from Richborough. The Type C head is an expanded square-sectioned pyramidal tang (Humphreys 2019: 425). The Type 3.1. head is as above, but this variant is widest near the tip (Humphreys 2019: 428). They date to the 1st – 4th century.

Type C.?

There is one example of this type from Richborough. Head type as above but there is no remaining tip. They date to the 1st – 4th century.

Materials, design, and production

No XRF analysis was undertaken on these objects.

These objects were most likely hammered from iron rods.

The objects are of similar lengths and weights apart from the broken example.

A double ended wooden handle would have been placed over the tang to turn the tip into the wood.

Use, reuse and repair

These objects were used as augers to drill holes into wood. There is no indication they were used for another purpose and no sign of repair.

Decoration

There is no decoration on these objects.

Parallels

There is no clear study on parallels of augers or drills, but Humphreys (2019: BOR01-56) notes 56 examples from London. There are multiple examples of A.2.1 but no parallels for the other examples from Richborough.

Key contexts

| ID | Context no. | Context date | Period |
|----------|-------------|--------------|--------|
| 96000570 | A?.100 | N/A | N/A |
| 96000572 | AXIII.007 | N/A | N/A |
| 96000573 | AS.011.1 | N/A | N/A |
| 96000575 | A/S?.001 | N/A | N/A |

Overview:

Unfortunately, none of these objects has good context data.

Woodworking (Axes) (1st – 4th century) = 9 objects

| ID | Object | Type | Sub-type | Object date |
|----------|--------|------|----------|---|
| 96000645 | Axe | 1 | A | 1 st – 4 th century |
| 96000643 | Axe | 1 | ? | 1 st – 4 th century |
| 96000641 | Axe | 2 | C | 3 rd – 4 th century |
| 96000642 | Axe | 2 | C | 3 rd – 4 th century |
| 7351908 | Axe | 3 | A | 1 st – 4 th century |
| 96000813 | Axe | 5 | B | 1 st – 4 th century |
| 7350438 | Axe | ? | ? | 1 st – 4 th century |
| 96000815 | Axe | ? | ? | 1 st – 4 th century |
| 96000816 | Axe | ? | ? | 1 st – 4 th century |

Brief background

Axes are hafted tools with a vertical blade used for chopping wood. Most Roman axes are wedge-shaped with a circular or oval shaft hole and some have an extended poll, used as a hammer (Humphreys 2019: 400).

Typology and Chronology

The typology for axes comes from Hannemann (2014: Abb.294) as Manning's (1985: Fig.3) is limited (Humphreys 2019: 401). The typology contains 21 types, including some sub-types. The typology also includes some possible Medieval/Post-Medieval axes (Type 6 and 16) where the dating is debated (Mossler 1974: Abb.34; Pietsch 1983: Taf.2, 37-41). It also includes some franciscas (Type 8) which shows the evolution from Type 7 axes (Hannemann 2014: 340; Humphreys 2019: 402).

Type 1

There is one example of this type from Richborough. Type 1 axe blades increase only a little in size (or not at all) from the poll to the tip (Humphreys 2019: 404). They date to the 1st – 4th century.

Type 1A

There is one example of this type from Richborough. This type is as above. The sub-type has a straight front face and curved rear face (Humphreys 2019: 404). They date to the 1st – 4th century.

Type 2C

There are two examples of this type from Richborough. The front and rear faces are heavily curved, with the hole close to the low-slung poll (Humphreys 2019: 405). They are like the Type 8 franciscas. They date to the 3rd - 4th century.

Type 3A

There is one example of this type from Richborough. This type is a variant of 2A which has a straight front face and curved rear face; this type has lugs (Humphreys 2019: 404-5). They date to the 1st - 4th century

Type 5B

There is one example of this type from Richborough. This type has a rectangular plate that extends along the shaft with triangular lugs around the eye (Humphreys 2019: 407). They date to the 1st - 4th century.

Type Uncertain

There is one example of this type from Richborough.

Materials, design, and production

No XRF analysis was undertaken on these objects.

These axes were made in moulds and then finished on an anvil. The hole for the shaft was punched through whilst the metal was hot.

The best examples range from 102 - 177mm long and the blades are between 46 - 60mm. Several authors (Manning 1985: 16; Pohanka 1986: 261-2; Pietsch 1983: Fig.12) show clusters of axes between lengths and weights. However, these groups are not entirely consistent, and Humphreys (2019: 410-2) demonstrated that the London axes do not fit these groups. Although the sample size is small, the Richborough axes follow a pattern of getting heavier as they get longer, which is like London.

The axe heads are attached to a wooden shaft placed through the hole.

Use, reuse and repair

These objects are used for chopping wood. The different forms, sizes and weights might be indicative of function, from heavy to light/precision use, but a wider functional study is required. There is no indication that they were used for another purpose and there is no sign of repair.

Decoration

There is no decoration on these objects.

Parallels

| Type | Parallels |
|------|---|
| 1A | |
| 2C | Burgh Castle, Coldham Common, Great Holts Farm, Hill Farm, Great Chesterford |
| 3A | Brampton, Camerton, Carlingwark Loch, Housesteads, Newstead, Strageath, Wilderspool, Avenches, Feldburg, Haltern, Saalburg, Zugmantel |
| 5B | Albing, Baumgarten am Tullnerfeld, Carnuntum, Keszthely-Fenekpuszta, Lauriacum, Mauer an der Url, Straubing, Vertault, Xanten-Wardt |

Type 1A axes are not common in Britain with only two types known from Verulamium and Camerton (Humphreys 2019: 404). Type 2C axes come almost always from military sites (Humphreys 2019: 405) and Type 5 is far more common on the continent.

Key contexts


| ID | Context no. | Context date | Period |
|----------|--------------|--------------|--------|
| 96000645 | AN.011.9 | 270 - 410+ | 10-14 |
| 96000643 | S3.009 | 410+ | 14 |
| 96000641 | AXXIII.017.6 | 300 - 350 | 12 |
| 96000642 | AW.027.16 | 410+ | 14 |
| 7351908 | A?.064.1 | N/A | N/A |
| 96000813 | A/S?.001 | N/A | N/A |
| 7350438 | A?.064.1 | N/A | N/A |
| 96000815 | AVI.026 | 43 - 200 | 1-7 |
| 96000816 | ANW.005 | N/A | N/A |

Overview:

Of the nine examples, six have some form of context data. However, these contexts are not closely dated. Two from the shore fort ditch (96000642 and 7350438) date to the late 3rd – 4th century and another from Area IV/36 (96000815) could date anywhere from the 1st – 3rd century. No context suggests use.

04. 05. Weighing Instruments

Balance Arms (Equal Arms and Steelyards) (1st – 4th century) = 13 objects

|  | Object | Type | Sub-type | Object date |
|---|-----------|---------------|------------|---|
| 7350152 | Balance | Equal Balance | 0.?.a.? | 1 st – 4 th century |
| 7350481 | Balance | Equal Balance | 0.II.a.? | 1 st – 4 th century |
| 7350540 | Balance | Equal Balance | 0.VA.?.? | 1 st – 4 th century |
| 96000960 | Balance | Equal Balance | 0.II.?.? | 1 st – 4 th century |
| 96000961 | Balance | Equal Balance | 0.IIA.a.λ | 1 st – 4 th century |
| 96000964 | Balance | Equal Balance | 0.II.a.? | 1 st – 4 th century |
| 7350351 | Steelyard | Steelyard | 2.II.a-d.? | 1 st – 4 th century |
| 7350434 | Steelyard | Steelyard | ?.?.?.? | 1 st – 4 th century |
| 7350640 | Steelyard | Steelyard | 1.II.a-d.? | 1 st – 4 th century |
| 7351179 | Steelyard | Steelyard | 2.II.a-d.? | 1 st – 4 th century |
| 96000959 | Steelyard | Steelyard | 2.II.a-d.? | 1 st – 4 th century |
| 96000963 | Steelyard | Steelyard | ?.?.?.? | 1 st – 4 th century |
| 96004075 | Steelyard | Steelyard | ?.II.?.? | 1 st – 4 th century |

Brief background

Weighing instruments such as these have been used since the 5th century AD. They were introduced to the Roman world in the 1st century BC and into Britain with the Roman invasion. It is unclear what weighing instruments and systems were used in the LPRIA in Britain, however, they must have been similar. There are three types of weighing balance; equal balances, steelyards, and dual balances (Smither 2017: 41-57). Weighing instruments are mostly found on urban and military sites in the 1st – 2nd century. By the 3rd there is more use on rural and villa sites and their use in the 4th century is mostly on urban and rural sites.

Typology and Chronology

The typology for steelyards was developed by Gronke and Weinlich (1992) and further developed by this author to incorporate all types of balance. An explanation of the typology can be found in the Roman Fins Group Datasheet 8.

Equal Balances

There are six examples of this type from Richborough. The types present lean toward the more usual 'Form II' for fulcrum loops and 'Form a' for suspension loops. However, there is the more unusual 'Form IIA' and 'Form VA' which appear from the late 2nd century. Both used 'Form λ' for the suspension hooks. There is one component of a wooden steelyard (7350434). Equal balances in general date to the 1st – 4th century.

Steelyards

There are seven examples of this type from Richborough. The types present lean toward the more usual 'Form 2' for the number of scales on the arm and 'Form a' for the suspension loops. Steelyards in general date to the 1st – 4th century.

Materials, design, and production

XRF analysis was undertaken on one of these objects (7351179). It was found that the main arm was brass, but the attachments were bronze, suggesting repairs.

The production for balances is complex. To produce the object, they could be cast in a mould or hammered into shape. However, they were produced empirically using practitioners' rules. On observation of repaired examples, apart from the weights (which are lead), all the components are made from one type of metal. Due to the large number of lead weights with an iron shank vs. the number of surviving iron arms it has been concluded that many more iron arms were produced than survive (Smither 2016).

The complete equal balances and steelyards are all a small size, up to 158mm. This would suggest they were used for smaller commodities such as precious metals, jewels, spices, or dispensing medicines.

The arms were hung from hooks to a beam or hook attached to a horizontal plane for the balance to hang level. The item to be weighed is added to the hook or pan for weighing and then weights add (equal balances) or the sliding weight moved (steelyards) to balance the loads mass.

Use, reuse and repair

These objects were used for weighing. There is no indication that they were used for another purpose. However, it cannot be ruled out that they were repaired at some point. They are all missing one or more component parts which are easily replaced if the arm is complete. One object (7351179) was repaired with attachments in a different material added later.

Decoration

There is little decoration on the equal balances. All are plain apart from one (7350152) which has a ring decoration at the load loop end. Steelyards have more decoration. Three examples (7351179, 7350640 and 96000959) have decoration on the terminal end for the latter and on the fulcrum loop end

for the other two. The fulcrum attachments on one (7351179) are also decorated similarly to the equal balance (7350152).

Parallels

There are no direct parallels for the arms are in almost all cases they are individual. It is only in London where there are some which might have been produced together. One example (7350351) is like some in Britain with a similar weighing range. On one side there are 12 measures (for up to 1 *libra* or *uncia*) and on the other side for between 1 – 4 *libra* or *uncia*. However, there are some interesting rare and possibly unique examples. The example with one scale (7350640) is paralleled in the Antiquarium Comunale Rom (Gronke and Weinlich 1992: 213) but is not seen anywhere else. The possibly unique example (7351179) is so because the fulcrum hooks are not hooking, but batons. The only way to suspend the balance is by holding it in hand rather than hanging. It is possible that it is paralleled on the same site. There is a baton (96000962) which is similar. As the steelyard has both attached, if it is from a similar steelyard, it must have come from a second example. The small finds notebooks for the steelyard shows a drawing with a weight attached. The chain for the weight is the same as the one still attached to the load loop. The weight is sub-spherical with what appears to be a decorative band around the circumference and a decorative attachment between the weight and the chain.

Key contexts

| ID | Context no. | Context date | Period |
|----------|-------------|--------------|--------|
| 7350152 | AN.013 | N/A | N/A |
| 7350481 | A?.091 | N/A | N/A |
| 7350540 | AXVII.001 | N/A | N/A |
| 96000960 | A?.079.2 | N/A | N/A |
| 96000961 | AW.034.1 | N/A | N/A |
| 96000964 | AWS.008 | N/A | N/A |
| 7350351 | A?.004.3 | 43 – 54 | 1 |
| 7350434 | A/S?.001 | N/A | N/A |
| 7350640 | AN.013 | N/A | N/A |
| 7351179 | AWS.008 | N/A | N/A |
| 96000959 | AW.027.12 | 410+ | 14 |
| 96000963 | AX.005 | N/A | N/A |

Overview:

Of the 13 examples, three come from datable contexts. One (96004075) was found in the filling of the middle triple ditch, giving it a *TPQ* of c.AD270. The other (96000964) was found in surface of the SW corner. The closest datable context of any balance arm (7350351) is the bank of the westernmost Claudian ditch. If the ditch was filled in within a year of the invasion, then this is the earliest context for a Roman steelyard in Britain. This form is the same as Franken's (1993: 81-4) *Typus Walbrook*. He places its production date starting in the second half of the 1st century. However, this example would put the date a few decades earlier and before AD43.

Balance Weights (Equal Arm) (1st – 4th century) = 22 objects

| ID | Object | Type | Sub-type | Object date |
|----------|----------------|------------|-----------|---|
| 7351231 | Balance Weight | Pan Weight | Drum | 1 st – 4 th century |
| 7351234 | Balance Weight | Pan Weight | Discodial | 1 st – 4 th century |
| 7351249 | Balance Weight | Pan Weight | Discodial | 1 st – 4 th century |
| 7351252 | Balance Weight | Pan Weight | Discodial | 1 st – 4 th century |
| 7351254 | Balance Weight | Pan Weight | Discodial | 1 st – 4 th century |
| 7351262 | Balance Weight | Pan Weight | Discodial | 1 st – 4 th century |
| 7351264 | Balance Weight | Pan Weight | Discodial | 1 st – 4 th century |
| 7351267 | Balance Weight | Pan Weight | Discodial | 1 st – 4 th century |
| 7351270 | Balance Weight | Pan Weight | Drum | 1 st – 4 th century |
| 7351272 | Balance Weight | Pan Weight | Drum | 1 st – 4 th century |
| 7351278 | Balance Weight | Pan Weight | Drum | 1 st – 4 th century |
| 7351290 | Balance Weight | Pan Weight | Discodial | 1 st – 4 th century |
| 7351509 | Balance Weight | Pan Weight | Drum | 1 st – 4 th century |
| 7351643 | Balance Weight | Pan Weight | Discodial | 1 st – 4 th century |
| 7351679 | Balance Weight | Pan Weight | Discodial | 1 st – 4 th century |
| 7351806 | Balance Weight | Pan Weight | Discodial | 1 st – 4 th century |
| 78305967 | Balance Weight | Pan Weight | Discodial | 1 st – 4 th century |
| 78602140 | Balance Weight | Pan Weight | Drum | 1 st – 4 th century |
| 78602142 | Balance Weight | Pan Weight | Drum | 1 st – 4 th century |
| 88396146 | Balance Weight | Pan Weight | Drum | 1 st – 4 th century |
| 96001037 | Balance Weight | Pan Weight | Drum | 1 st – 4 th century |
| 96001043 | Balance Weight | Pan Weight | Drum | 1 st – 4 th century |

Brief background

Equal balance weights were used with equal/dual balances. They would be placed in one pan to balance a mass to be weighed. These balances have been used for millennia and the technology cannot be ascribed to one single culture.

Typology and Chronology

There is no established typology for equal balance weights, however they are mostly recognisable in a few forms. These are discoidal (either square, rectangular, or circular) and 'drum' shaped, often referred to as 'cheese' shaped, as they resemble a cheese wheel with flat apexes and convex sides. Some are conical in form, however, since these weights only need to be a mass of known weight then they can take any form. Without contextual information it can be hard to tell if they are Roman or Medieval unless they are marked in some way. For the purpose of this study, they are split into discoidal or drum.

Discoidal

There are 12 examples of this type from Richborough. All but one is circular; the other is rectangular. They come in a variety of sizes and all but the rectangular example (where weight could be identified) were of 1, 2 or $\frac{1}{2}$ uncia. The rectangular weight represents $\frac{5}{12}$ (Quincunx) uncia. They date to the 1st – 4th century.

Drum

There are 10 examples of this type from Richborough. They have either flat apexes and either convex or trapezoidal profiled sides. They date to the 1st – 4th century.

Materials, design, and production

No XRF analysis was undertaken on these objects. They are made from a variety of materials, mostly lead (12) or copper alloy (7). The remainder are of various stones. The one made from marble is likely a product of recycling from the monument.

These objects can be produced in several ways. A cast which produces a weight of known mass is the easiest way to ensure accuracy. However, they can be hammered into shape.

The mass of these objects is key to understand their use. Often the weights are broken in some way, so the original mass is unknown. In the Richborough collection there are several examples where the original mass can be estimated.

| <i>ID</i> | <i>Mass (g)</i> | <i>Original Mass (g)</i> | <i>Roman weight (est.)</i> | <i>Use</i> |
|-----------|---------------------|------------------------------|----------------------------|------------|
| 7351290 | 115.9 | c.164 | Semis (marked) | Various |
| 7351806 | 12.1 | c.14 | Semiuncia | Various |

| | | | | |
|----------|-------|---------|-------------------------|---------------|
| 7351234 | 12.3 | c.14 | Semiuncia | Various |
| 7351231 | 13.4 | c.14 | Semiuncia | Various |
| 7351254 | 135.8 | c.136 | Quincunx (marked) | Coins weight? |
| 7351249 | 14.1 | c.14 | Semiunica | Various |
| 7351278 | 1578 | c.1640 | 5 libra (marked) | Various |
| 7351679 | 16.5 | c.14/16 | Semiuncia or 7/12 uncia | Various |
| 96001037 | 163.8 | c.164 | Semis (marked) | Various |
| 7351252 | 24.7 | c.27.3 | 1 uncia | Various |
| 7351272 | 325.1 | c.328 | 1 libra | Various |
| 7351262 | 45.1 | c.54.6 | 2 uncia (marked) | Various |
| 96001043 | 694 | c.654 | 2 libra (marked) | Various |
| 88396146 | 152.6 | c.164 | Semis (marked) | Various |
| 7351264 | 47 | c.45.5 | 7/12 uncia (marked) | Coin weight |
| 78602140 | 190.3 | c.191 | 7/12 libra (marked) | Coin weight |

Most of the weights conform closely to a Roman standard, even with damage. Several are marked telling us of their intended mass. The marked examples are often accurate or can be reconciled, apart from one example (96001043) which is 40g over its intended weight. Two examples (7351254 and 7351264) are interesting as they might have been late coin weights. The lighter weight conforms closely to the weight of 10 Solidus (10 x 4.55g) and the heavier is 30 Solidus (30 x 4.55). The latter might simply be a Quincunx, however the former is marked with an X. The white marble example (78602140) is interesting for its markings. The two lines could indicate 7/12 libra as this equates to c.191g. A final marked example (96001037) is a Byzantine weight of six uncia, dated roughly to the 3rd – 5th centuries. When it arrived at Richborough is unclear. The weight (96001043) marked as *dupondius* (DV) is 40g overweight. These weights were simply placed in one pan of equal/dual balances.

Use, reuse and repair

These objects were used as equal/dual balance weights. There is no indication that they were used for another purpose and no sign of repair. However, some are damaged which could be accidental (rendering the weight useless) or deliberate (to change the mass).

Decoration

There is no decoration on these weights, however, some do have marking indicating their mass (see above).

Parallels

Equal balance weights are difficult to parallel directly unless they are official in some way. In Britain, equal balance weights are primarily found in towns (Smither 2016). It is difficult to parallel weights exactly, likely due to the variety of sets made.

Key contexts

| ID | Context no. | Context date | Period |
|----------|-------------|--------------|--------|
| 7351231 | S1.010 | 410+ | 14 |
| 7351234 | AW.027.5 | 270 – 410+ | 10-14 |
| 7351249 | AXVII.003.6 | N/A | N/A |
| 7351252 | A/S?.001 | N/A | N/A |
| 7351254 | AXXIII.002 | 300 – 400 | 12-14 |
| 7351262 | AWS.008 | N/A | N/A |
| 7351264 | AN.013 | N/A | N/A |
| 7351267 | AS.009 | N/A | N/A |
| 7351270 | AXVI.017.2 | 95 – 200 | 5-7 |
| 7351272 | S1.001 | N/A | N/A |
| 7351278 | A/S?.001 | N/A | N/A |
| 7351290 | AXVI.028.2 | 80 – 95 | 4-5 |
| 7351509 | A/S?.001 | N/A | N/A |
| 7351643 | A/S?.001 | N/A | N/A |
| 7351679 | AXVII.004 | 350 – 410+ | 13-14 |
| 7351806 | A/S?.001 | N/A | N/A |
| 78305967 | A?.016.6 | 270 – 295 | 10-11 |
| 78602140 | A/S?.001 | N/A | N/A |
| 78602142 | A/S?.001 | N/A | N/A |
| 88396146 | A/S?.001 | N/A | N/A |
| 96001037 | A?.100 | N/A | N/A |

96001043

A?.049.1

270 – 410+

10-14

Overview:

Of the 22 examples, eight come from datable contexts. Two examples (7351270, 7351290) are associated with port town layers in Area XVI, whilst the remainder can be dated to AD260+. Perhaps interestingly, the *dupondius* was found in the shore fort ditch. Although not conclusively of the 4th century, it could show a false weight or a new mass for the *dupondius*, at least in Britain. It is also difficult to say whether the two weights in Area XVII can be associated with use in the Chalk House the occupation layer here was difficult to detect.

Balance Weights (Steelyards) (1st – 4th century) = 26 objects

| ID | Object | Type | Sub-type | Object date |
|----------|------------------|-----------------------|-------------------------|---|
| 7351276 | Steelyard Weight | Counterweight | Bi-Conical | 1 st – 4 th century |
| 7351280 | Steelyard Weight | Counterweight | Bi-Conical | 1 st – 4 th century |
| 96004308 | Steelyard Weight | Counterweight | Bi-Conical | 1 st – 4 th century |
| 96000956 | Steelyard Weight | Counterweight | Elongated | 1 st – 4 th century |
| 7350246 | Steelyard Weight | Sliding/Barrel Weight | Flora (Acorn) | 1 st – 4 th century |
| 7351165 | Steelyard Weight | Sliding/Barrel Weight | Flora (Acorn) | 1 st – 4 th century |
| 7351230 | Steelyard Weight | Sliding/Barrel Weight | Spherical/Sub-spherical | 1 st – 4 th century |
| 7351236 | Steelyard Weight | Sliding/Barrel Weight | Spherical/Sub-spherical | 1 st – 4 th century |
| 7351237 | Steelyard Weight | Sliding/Barrel Weight | Spherical/Sub-spherical | 1 st – 4 th century |
| 7351273 | Steelyard Weight | Sliding/Barrel Weight | Spherical/Sub-spherical | 1 st – 4 th century |
| 7351281 | Steelyard Weight | Sliding/Barrel Weight | Bi-Conical | 1 st – 4 th century |
| 7351292 | Steelyard Weight | Sliding/Barrel Weight | Bi-Conical | 1 st – 4 th century |
| 7351293 | Steelyard Weight | Sliding/Barrel Weight | Spherical/Sub-spherical | 1 st – 4 th century |
| 7351294 | Steelyard Weight | Sliding/Barrel Weight | Spherical/Sub-spherical | 1 st – 4 th century |

| | | | | |
|----------|------------------|-----------------------|-------------------------------|---|
| 7351295 | Steelyard Weight | Sliding/Barrel Weight | Spherical/Sub-spherical | 1 st – 4 th century |
| 7351344 | Steelyard Weight | Sliding/Barrel Weight | Flora (Acorn) | 1 st – 4 th century |
| 7351943 | Steelyard Weight | Sliding/Barrel Weight | Goddesses and Women (Minerva) | 1 st – 4 th century |
| 7351949 | Steelyard Weight | Sliding/Barrel Weight | Gods and Heroes (Harpocrates) | 1 st – 4 th century |
| 96001033 | Steelyard Weight | Sliding/Barrel Weight | Gods and Heroes (Silenus) | 1 st – 4 th century |
| 96001034 | Steelyard Weight | Sliding/Barrel Weight | Goddesses and Women (Minerva) | 1 st – 4 th century |
| 96001036 | Steelyard Weight | Sliding/Barrel Weight | Flora (Acorn) | 1 st – 4 th century |
| 96001038 | Steelyard Weight | Sliding/Barrel Weight | Spherical/Sub-spherical | 1 st – 4 th century |
| 96001039 | Steelyard Weight | Sliding/Barrel Weight | Bi-Conical | 1 st – 4 th century |
| BATT.1 | Steelyard Weight | Sliding/Barrel Weight | Goddesses and Women (Minerva) | 1 st – 4 th century |
| 7351245 | Steelyard Weight | ? | ? | 1 st – 4 th century |
| 7351291 | Steelyard Weight | ? | ? | 1 st – 4 th century |

Brief background

Steelyards weights are used in conjunction with steelyards. The steelyard sliding/barrel weight is used to balance the mass of what is to be weighed by sliding it along a scale marked with weights.

Some steelyards incorporate a weight in with the load hooks and chains. Anthropomorphic Roman weights have been studied by Franken (1994), however, there are many more types known; particularly plain weights

Typology and Chronology

There are many types of steelyard weight. The two main types are sliding/barrel and counterweights. These are divided into two sub-types anthropomorphic/objects and plain. Counterweights are never anthropomorphic/objects. Within these there are many different forms (Smither 2016).

Gods and Heroes

There are two examples of this type from Richborough. These weights are in the form of deities or human males. Most common are those of Bacchus and his retinue. They date to the 1st – 4th century AD.

Goddesses and Women

There are three examples of this type from Richborough. These weights are in the form of deities and human females. The human weights are datable by their hairstyles (Franken 1994) They date to the 1st – 4th century AD.

Flora

There are four examples of this type from Richborough. This is a category not included by Franken but was devised later (Smither 2016). This category includes weights shaped like plants, which at this time includes acorns and pinecones. They date to the 1st – 4th century AD.

Sliding/Barrel – Plain (Bi-Conical)

There are three examples of this type from Richborough. They are shaped as two cones connected at their bases. One apex has a hook embedded in the weight to attach to the steelyard. They date to the 1st – 4th century AD.

Sliding/Barrel – Plain (Spherical/Sub-spherical)

There are eight examples of this type from Richborough. They are globular in shape, either completely spherical or slightly compressed. One apex has a hook embedded in the weight to attach to the steelyard. They date to the 1st – 4th century AD.

Counterweight – Plain (Bi-Conical)

There are three examples of this type from Richborough. They are part of the load instruments of steelyards and are found on a particular form Franken (1993) called Typus Walbrook. As part of the new weighing instrument typology (Smither 2016) they are found with type 2.II.a.α. They date to the 1st – 4th century AD.

Counterweight – Plain (Elongated)

There is one example of this type from Richborough. They are part of the load instruments of steelyards and are found on a particular form Franken (1993) called *Typus Rottenburg*. The Richborough example still has the hook attached. It dates to the 1st – 4th century AD.

Materials, design, and production

No XRF analysis was undertaken on these objects.

Steelyard weights are produced in a mould. The mostly likely production method is to create a hollow copper alloy/iron cast for the weight and then pour in the lead. This is because the melting point of lead is much cooler than copper/iron. Moulds such as this would also give a consistent weight and allow placement of the shank through the middle of the weight.

Weight is more important to the sliding/barrel weight than the counterweight. Whilst theoretically the sliding/barrel weight can be of any weight, it is far easier to produce a steelyard with recognisable weights to create the ratios between the divisions on the arm and the mass of the sliding/barrel weight. A study of weights from Pompeii (Damerow *et al.* 2002) demonstrated that these weights conformed to known Roman weights. Where complete/near complete, the weights in the Richborough collection conform to Roman weights and range from one uncia (c.27.3g) to eight libra (c.2624g). The lighter of these would have been used on small copper alloy steelyards for small, high value objects or in the production of metal objects. The heavier of these would have been used on large, iron, or wooden balances for heavy, low value objects such as meats, sacks of grain and amphora.

These objects were attached by a loop at one or both apices. The sliding/barrel weight had chains attached at one apex and the counterweights had chains at one apex and chains and a hook at the other.

Use, reuse and repair

These objects were used as weights on steelyards. There is no indication they were used for another purpose, however, there is sign of repair. One weight (7351294) has a copper alloy shank but the remains of an iron chain through the loop. This is unusual as in c.80% of cases the shank in the weight is the same as the other steelyard components. However, this weight is large (eight libra) and that is unusual as weights of this size have iron coatings and shanks rather than copper alloy.

Decoration

There is no decoration on the plain weights, and the figured weights are decorative in themselves. The weights were coated in metal, most often copper alloy, which would have glistened on display. The ones of deities would suggest a guarantee of the weights to the buyer, so they were not cheated. They have a military link with Jupiter, as his sacred tree is the oak.

Parallels

In total there are 650 steelyard weights dated as Roman on the PAS. There are many parallels on the PAS for plain weights and very few figured weights. All the examples from Kent are plain and mostly bi-conical. On archaeological sites, figured weights are mostly from towns and military sites (Smither 2016). As stated above, there is a possible link between acorns and the military, and to this group can be added Minerva which is also found at South Shields. There is a possible south-east distribution for Bacchic weights (Smither 2016: 126, Fig.91) which is mostly in the region of the Nene Valley. The Harpocrates weight is unparalleled in Britain but is found across the continent (Franken 1994). The elongated weight (96000956) is primarily found on the Germanic *limes* and not often in Britain (Franken 1993).

Key contexts

| ID | Context no. | Context date | Period |
|----------|-------------|--------------|--------|
| 7351276 | A/S?.001 | N/A | N/A |
| 7351280 | AXVII.034.2 | 100 – 200 | |
| 96004308 | AW.034.3 | 95 – 150 | |
| 96000956 | AS.022.2 | N/A | N/A |
| 7350246 | A?.014.1 | 260 – 270 | |
| 7351165 | A?.091 | N/A | N/A |
| 7351230 | AXI.007.2 | 270 – 295 | 10-14 |
| 7351236 | A/S?.001 | N/A | N/A |
| 7351237 | A/S?.001 | N/A | N/A |
| 7351273 | A/S?.001 | N/A | N/A |
| 7351281 | S3.028 | 410+ | 14 |
| 7351292 | A/S?.001 | N/A | N/A |
| 7351293 | A/S?.001 | N/A | N/A |
| 7351294 | A?.052 | N/A | N/A |
| 7351295 | AXII.003 | 75 – 95 | 4-5 |
| 7351344 | AXVII.068.1 | 100 – 200 | 5-7 |
| 7351943 | A?.049.8 | 270 – 410+ | 10-14 |

| | | | |
|----------|-------------|------------|-------|
| 7351949 | A/S?.001 | N/A | N/A |
| 96001033 | S1.030.5 | 200 – 410+ | 8-14 |
| 96001034 | AV.017 | 270+ | 10-14 |
| 96001036 | S1.006 | N/A | N/A |
| 96001038 | AX.041.1 | 43 – 95 | 1-5 |
| 96001039 | AN.011.17 | 270 – 410+ | 10-14 |
| BATT.1 | A/S?.001 | N/A | N/A |
| 7351245 | A/S?.001 | N/A | N/A |
| 7351291 | AXVII.086.5 | 50 – 70 | 1-3 |

Overview:

Of the 26 objects, 13 come from datable contexts. Of these, come from datable contexts. The Silenus weight (96001033) is from a 3rd – 4th century context and is stylistically dated to the 2nd – 3rd century (Franken 1994: 35). The Maenad weight (96001034) also dates contextually to AD 260+. The acorn weights are all from late contexts but could have been used during the 1st – 2nd century. The Minerva weight (7351943) is also in a late context but could be earlier. There are a couple of weights (7351295 and 7351291) which can be dated to the supply base, the latter of which is one of the heaviest weights (c.4.5 *libra*) which suggests the weighing of heavy goods, possibly the grain from the stores. The elongated weight with the hook would have also been attached to a large iron or wooden balance and was found in Area S to the south of the shore fort. The other two heavy weights (7351281 = c.5 *libra* and 7351294 = c.8 *libra*) are in late, but undatable contexts. The heavier of the two was found on Site III, so it might relate to weighing of goods in the Mansio.

Balance Pans (Equal Arm) = 4 objects

| ID | Object | Type | Sub-type | Object date |
|----------|------------------------|----------|----------|---|
| 7350937 | Pan (scales component) | Circular | N/A | 1 st – 4 th century |
| 7351133 | Pan (scales component) | Circular | N/A | 1 st – 4 th century |
| 7351445 | Pan (scales component) | Circular | N/A | 1 st – 4 th century |
| 96000965 | Pan (scales component) | Circular | N/A | 1 st – 4 th century |

Brief background

Mostly found on equal or dual balances and sometimes on steelyards, weighing pans were used to carry the mass to weighed and/or the known mass which it was weighed against.

Typology and Chronology

There is no typology for weighing pans. They are mostly circular but can also be square. They are often concave, to stop anything falling out but can also be flat. They are suspended from the balance arm by either three or four chains.

Circular Pans

There are four examples of this type from Richborough. At least three of the examples have three holes for suspension chains. Two are flat and two are slightly concave. They date to the 1st – 4th century.

Materials, design, and production

No XRF analysis was undertaken on these objects.

These pans were beaten from sheet metal. They would have been made as pairs as it is important, they are of the same weight for the arm to balance.

Two of the pans (7351133 and 7351445) are of similar size, with diameters of 31mm and 32/34mm and heights of 1mm. It is possible that they came from the same balances, but there is no contextual information for confirmation. However, they will have at least been part of similar balances. The other two examples are of slightly different size with diameters of 32mm and 37mm and heights of 5mm and 8mm.

The pans were attached to the arm by chains that passed through holes in the pan and attached to the load loop of the arm.

Use, reuse and repair

These objects were used as weighing instrument pans, most likely on equal or dual balances. There is no indication they were used for another purpose and no sign of repair. One of the pans (96000965) has suspension rings still in place.

Decoration

There is no decoration on these objects.

Parallels

Weighing instrument pans have been found on several Roman sites such as London, Colchester, Exeter, Kempston, Pevensey Castle and Wroxeter (Smither 2016: Appendix 1). They come in a range of sizes depending on their use for weighing smaller or larger quantities or items, so pans are individual to the weighing balance.

Key contexts

| ID | Context no. | Context date | Period |
|----------|-------------|--------------|--------|
| 7350937 | S1.001 | N/A | N/A |
| 7351133 | A/S?.001 | N/A | N/A |
| 7351445 | A/S?.001 | N/A | N/A |
| 96000965 | AXII.005 | N/A | N/A |

Overview:

Of the four examples, none come from datable contexts.

Balance Hooks (Equal Arm and Steelyards) (1st – 4th century) = 28 objects

| ID | Object | Type | Sub-type | Object date |
|----------|--------|---------------------------------|----------------|---|
| 7350926 | Hook | Equal/Dual Balance | Omega Shaped © | 1 st – 4 th century |
| 88499971 | Hook | Equal/Dual Balance | Omega Shaped © | 1 st – 4 th century |
| 96000966 | Hook | Equal/Dual Balance | Omega Shaped © | 1 st – 4 th century |
| 7350017 | Hook | Equal/Dual balance/Steelyard | Solid Loop | 1 st – 4 th century |
| 7350019 | Hook | Equal/Dual balance/Steelyard | Twisted Wire | 1 st – 4 th century |
| 7350383 | Hook | Equal/Dual balance/Steelyard | Hooked | 1 st – 4 th century |
| 7350440 | Hook | Equal/Dual balance/Steelyard | Twisted Wire | 1 st – 4 th century |
| 7350955 | Hook | Equal/Dual balance/Steelyard | Solid Loop? | 1 st – 4 th century |
| 7351514 | Hook | Equal/Dual balance/Steelyard | Solid Loop? | 1 st – 4 th century |
| 7351640 | Hook | Equal/Dual balance/Steelyard | Solid Loop | 1 st – 4 th century |
| 96000951 | Hook | Equal/Dual balance/Steelyard | Solid Loop? | 1 st – 4 th century |
| 96000962 | Hook | Steelyard | Baton | 1 st – 4 th century |
| 96000967 | Hook | Equal/Dual balance/Steelyard | Solid Loop | 1 st – 4 th century |
| 96000968 | Hook | Equal/Dual balance/Steelyard | Twisted Wire? | 1 st – 4 th century |

| | | | | |
|----------|------|---------------------------------|---------------|---|
| 96000969 | Hook | Equal/Dual balance/Steelyard | Solid Loop | 1 st – 4 th century |
| 96000970 | Hook | Equal/Dual balance/Steelyard | Solid Loop | 1 st – 4 th century |
| 96000975 | Hook | Equal/Dual balance/Steelyard | Solid Loop | 1 st – 4 th century |
| 96000976 | Hook | Equal/Dual balance/Steelyard | ? | 1 st – 4 th century |
| 96000977 | Hook | Equal/Dual balance/Steelyard | Hooked | 1 st – 4 th century |
| 96000979 | Hook | Equal/Dual balance/Steelyard | Solid Loop | 1 st – 4 th century |
| 96000981 | Hook | Equal/Dual balance/Steelyard | ? | 1 st – 4 th century |
| 96000982 | Hook | Equal/Dual balance/Steelyard | Solid Loop | 1 st – 4 th century |
| 96000984 | Hook | Equal/Dual balance/Steelyard | Solid Loop | 1 st – 4 th century |
| 96000985 | Hook | Equal/Dual balance/Steelyard | Solid Loop | 1 st – 4 th century |
| 96000987 | Hook | Equal/Dual balance/Steelyard | Twisted Wire? | 1 st – 4 th century |
| 96000988 | Hook | Equal/Dual balance/Steelyard | Hooked? | 1 st – 4 th century |
| 96000995 | Hook | Equal/Dual balance/Steelyard | Twisted Wire? | 1 st – 4 th century |
| 96005003 | Hook | Equal/Dual balance/Steelyard | Solid Loop | 1 st – 4 th century |

Brief background

Weighing instruments are made up of several component parts. Hooks are used to suspend the arm from the fulcrums(s) and are used on the load instruments of steelyards.

Typology and Chronology

Weighing instrument hooks can sometimes be diagnostic of the balance type, but in many cases, they could be associated with any of the three types of balance.

Equal Balance – Omega Shaped ©

There are three examples of this type from Richborough. They are sometimes found on steelyards, but in most cases, they are used to suspend the chains from either end of the equal or dual balance. In the third part of the weighing instrument typology, they are associated with 'Form c' or 'Form f' of the load attachment. These are most likely associated with 'Form c' as 'Form f' does not appear in Britain. They date to the 1st – 4th century.

Equal/Dual Balance or Steelyard – Solid Loop

There are 14 examples of this type from Richborough. They appear as fulcrum hooks on equal and dual balances as well as fulcrum or load hooks on steelyards. On equal and dual balances, they are generic and undiagnostic. On steelyards they are associated with copper alloy arms with protruding fulcrum loops (Form II) of the early 1st century AD; Franken's (1993: 77-81, Fig.4) Typus Pompeij. On iron arms they are associated with protruding (Form II) or riveted (IVA or IVB) fulcrum loops; Franken's (1993: 95-6, Fig.13) Typus Rottenbury for Form II and Typus Gilly-sur-Isere (Franken 1993: 98-100, Fig.16) for Forms IVA and IVB. They can also be used on the load instruments of steelyards on both copper alloy and iron examples and are associated with any form of load instruments. They date to the 1st – 4th century.

Equal/Dual Balance or Steelyard – Twisted Wire

There are five examples of this type from Richborough. They appear as fulcrum hooks on equal and dual balances as well as fulcrum hooks on steelyards. On equal and dual balances, they are generic and undiagnostic. On steelyards they are associated with copper alloy arms with protruding fulcrum loops (Form II) as well as on iron arms. They are mostly found in Britain on steelyard type 2.II.a.α fulcrum hook, which lines up with Franken's (1993: 81-3, Fig.6) Typus Walbrook. This type is common in the NW provinces. However, they can be found on arms with other fulcrum loop, load loop and load instrument arrangements. They date to the 1st – 4th century.

Equal/Dual Balance or Steelyard – Hooked

There are three examples of this type from Richborough. They are an unusual form. This type has not been noted on equal or dual balances, and on steelyards it is only seen as a fulcrum hook on Type 3.IVB.f.α. This lines up with Franken's (1993: 89-94, Fig.11) Typus Konstantinopel. This type is distributed in the Mediterranean region and Middle East. The closest example (96000977) also has a

ball on the end of the hook which is diagnostic of the type and only appears on types of the early-1st century AD with solid loops. The other two could belong to an equal balance or steelyard. The example with a ball on the hook dates to the 4th – 7th centuries, whilst the other to date to the 1st – 4th centuries.

Steelyard – Baton

There is one example of this type from Richborough. It is not hook shaped but it the attachment for a steelyard fulcrum loop. It dates to the 1st – 4th century.

Equal/Dual Balance or Steelyard – ?

There are two examples of this type from Richborough. It is unclear as to the hooks attachment and they could belong to any type of balance. One of these (96000976) is like the example above (96000977) and could be of the same type. They date to the 1st – 4th century.

Materials, design, and production

No XRF analysis was undertaken on these objects.

These objects were either made from bent rods of wire or hammered or cast into shape.

The hooks come in a range of sizes from 21-71mm high, demonstrating the range in size of balance used at Richborough. Two of the largest hooks (96000984 and 96000951) are made from iron, but the largest is copper alloy.

There are three main forms of attachment as discussed above; twisted wire, solid loop or hooked.

Use, reuse and repair

These objects were used as hooks on weighing instruments. Although they might have had another purpose, their closest parallels are with weighing instruments. There is no sign of repair.

Decoration

The hooks are largely undecorated. Some are shaped to be more aesthetically pleasing (96000977 and 96000981) or have vertical lines along the outside of the hook (7351514). The baton (96000962) is decorated with grooves around the shaft

Parallels

Weighing instrument hooks appear on a wide range of Roman sites in Britain and the continent, but it is not needed to list them all here (see Smither 2016: Appendix 2 for examples). The baton (96000962) is only paralleled with a steelyard at Richborough (96000959).

Key contexts

| ID | Context no. | Context date | Period |
|----|-------------|--------------|--------|
|----|-------------|--------------|--------|

| | | | |
|----------|------------|------------|-------|
| 7350926 | AS.032.2 | 410+ | 14 |
| 88400971 | A?.014.6 | 270 – 295 | 10-11 |
| 96000966 | AW.008 | N/A | N/A |
| 7350017 | AXV.008 | N/A | N/A |
| 7350019 | A?.013 | 270 – 295 | 10-11 |
| 7350383 | AN.011.9 | 270 – 410+ | 10-14 |
| 7350440 | AN.011.9 | 270 – 410+ | 10-14 |
| 7350955 | A?.066 | N/A | N/A |
| 7351514 | AWS.008 | N/A | N/A |
| 7351640 | A/S?.001 | N/A | N/A |
| 96000951 | A/S?.001 | N/A | N/A |
| 96000962 | AXVII.063 | 75/80-95 | 4-5 |
| 96000967 | A/S?.001 | N/A | N/A |
| 96000968 | AXVI.038.1 | N/A | N/A |
| 96000969 | A/S?.001 | N/A | N/A |
| 96000970 | A?.100 | N/A | N/A |
| 96000975 | AW.027.15 | 410+ | 14 |
| 96000976 | AW.039 | N/A | N/A |
| 96000977 | A?.100 | N/A | N/A |
| 96000979 | A?.091 | N/A | N/A |
| 96000981 | AN.012.2 | 410+ | 14 |
| 96000982 | A?.100 | N/A | N/A |
| 96000984 | A?.064.1 | N/A | N/A |
| 96000985 | AN.011.9 | 270 – 410+ | 10-14 |
| 96000987 | A/S?.001 | N/A | N/A |
| 96000988 | A/S?.001 | N/A | N/A |

| | | | |
|----------|------------|------|-----|
| 96000995 | A/S?.001 | N/A | N/A |
| 96005003 | AXXIII.009 | 410+ | 14 |

Overview:

Of the 28 objects, nine come from datable contexts. On one has a closely datable context. The baton (96000962) comes from Pit 267, dated to AD75-95. The pit cuts through one of the rooms in the building to the south of the east-west road and was probably a refuse pit (Cunliffe 1968: 33). This is an interesting example as it is a like the batons on a steelyard arm from Richborough (7351179) The majority of these date to the latest layers on the site; either the surface layer or the shore fort ditches. Only two (88400971 and 7350019) can be attributed to the earlier context of the earth fort ditches. The examples from Area XV (7350017) and Area XVI (96000968) might have been associated with activity along the roadside but their context does not allow for this interpretation.

Balance Chains (Steelyard) (1st – 4th century) = 10 objects

| ID | Object | Type | Sub-type | Object date |
|----------|--------|-----------|--------------|---|
| 7350391 | Chain | Steelyard | Twisted Wire | 1 st – 4 th century |
| 7350392 | Chain | Steelyard | Twisted Wire | 1 st – 4 th century |
| 7350398 | Chain | Steelyard | Twisted Wire | 1 st – 4 th century |
| 7350399 | Chain | Steelyard | Twisted Wire | 1 st – 4 th century |
| 7350725 | Chain | Steelyard | Twisted Wire | 1 st – 4 th century |
| 7351141 | Chain | Steelyard | Twisted Wire | 1 st – 4 th century |
| 96000992 | Chain | Steelyard | Twisted Wire | 1 st – 4 th century |
| 96000994 | Chain | Steelyard | Twisted Wire | 1 st – 4 th century |
| 96000996 | Chain | Steelyard | Twisted Wire | 1 st – 4 th century |
| 96000997 | Chain | Steelyard | Twisted Wire | 1 st – 4 th century |

Brief background

Weighing balances have a series of components. One is the chains that link the sliding/barrel weight, and load instruments to the arm. These take many different forms. Most often is links of twisted wire, however there are also 'figure 8' links and foxtail chains.

Typology and Chronology

There is not a typology for the chains of weighing balances, but certain chains are often associated with particular forms of balance.

Twisted Wire (Steelyards)

There are 10 examples of this type from Richborough. These chains were made from a single length of wire which was bent at either end or wrapped around the shaft to form a link. These are most often found on steelyards of Franken's (1993) Typus Walbrook and the 'α' form of load attachments.

Materials, design, and production

No XRF analysis was undertaken on these objects.

These chains were produced from a single length of wire wrapped around the shaft.

There is nothing significant about the metrology.

These links were attached by linking lengths of wire.

Use, reuse and repair

These chains links were used on steelyards. It is possible they had other used, but the primary known use is steelyards, and there this no sign of repair.

Decoration

There is no decoration on these objects.

Parallels

These chains are found on many Roman sites. Paralleling them would not be fruitful.

Key contexts

| ID | Context no. | Context date | Period |
|----------|-------------|--------------|--------|
| 7350391 | AS.032.9 | 270 – 410+ | 10-14 |
| 7350392 | A?.061 | N/A | N/A |
| 7350398 | AXVI.028.5 | 75 – 95 | 4-5 |
| 7350399 | AN.013 | N/A | N/A |
| 7350725 | AXVI.035.5 | N/A | N/A |
| 7351141 | AIX.006.2 | 350-410 | 13-14 |
| 96000992 | A/S?.001 | N/A | N/A |
| 96000994 | A/S?.001 | N/A | N/A |
| 96000996 | S3.029.1 | N/A | N/A |
| 96000997 | A?.066 | N/A | N/A |

Overview:

Of the 10 examples, three come from datable contexts. Of these, only one of these is in a secure context which is Pit 54, dated to AD350-410+

12. Objects associated with uncertain or multiple activities

12. 02. Fittings

Handles (Bone) (1st – 5th century) = 64 objects

| ID | Object | Type | Sub-type | Object date |
|----------|--------|------|----------|---|
| 7351463 | Handle | A | ? | 1 st – 5 th century |
| 78301934 | Handle | A | 1.1 | 1 st – 5 th century |
| 78301935 | Handle | A | 1.1 | 1 st – 5 th century |
| 78301936 | Handle | A | 1.1 | 1 st – 5 th century |
| 88396080 | Handle | A | 1.1 | 1 st – 5 th century |
| 88396081 | Handle | A | 1.1 | 1 st – 5 th century |
| 88396082 | Handle | A | 1.1 | 1 st – 5 th century |
| 88396083 | Handle | A | 1.1 | 1 st – 5 th century |
| 88396084 | Handle | A | 1.1 | 1 st – 5 th century |
| 88396085 | Handle | A | 1.1 | 1 st – 5 th century |
| 96000529 | Handle | A | 1.1 | 1 st – 5 th century |
| 96000531 | Handle | A | 1.1 | 1 st – 5 th century |
| 96000533 | Handle | A | 1.1 | 1 st – 5 th century |
| 7351471 | Handle | A | 2.1 | 1 st – 5 th century |
| 7351475 | Handle | A | 2.1 | 1 st – 5 th century |
| 7351478 | Handle | A | 2.1 | 1 st – 5 th century |
| 88396056 | Handle | A | 2.1 | 1 st – 5 th century |
| 88396057 | Handle | A | 2.1 | 1 st – 5 th century |
| 96000521 | Handle | A | 2.1 | 1 st – 5 th century |
| 96000522 | Handle | A | 2.1 | 1 st – 5 th century |
| 96000523 | Handle | A | 2.1 | 1 st – 5 th century |
| 96000524 | Handle | A | 2.1 | 1 st – 5 th century |
| 96000525 | Handle | A | 2.1 | 1 st – 5 th century |

| | | | | |
|----------|--------|---|------|---|
| 96000526 | Handle | A | 2.1 | 1 st – 5 th century |
| 96000528 | Handle | A | 2.1 | 1 st – 5 th century |
| 96000561 | Handle | A | 2.1 | 1 st – 5 th century |
| 7351298 | Handle | A | 2.2 | 1 st – 5 th century |
| 7351476 | Handle | A | 2.2 | 1 st – 5 th century |
| 96000536 | Handle | A | 2.2 | 1 st – 5 th century |
| 96000537 | Handle | A | 2.2 | 1 st – 5 th century |
| 96000554 | Handle | A | 2.2 | 1 st – 5 th century |
| 96000558 | Handle | A | 2.2 | 1 st – 5 th century |
| 96004119 | Handle | A | 2.2 | 1 st – 5 th century |
| 96004120 | Handle | A | 2.2 | 1 st – 5 th century |
| 96004121 | Handle | A | 2.2 | 1 st – 5 th century |
| 7351866 | Handle | A | 2.3 | 1 st – 5 th century |
| 7351205 | Handle | A | 2.4 | 1 st – 5 th century |
| 7351868 | Handle | A | 2.4 | 1 st – 5 th century |
| 96000527 | Handle | A | 2.5 | 1 st – 5 th century |
| 96000535 | Handle | A | 2.5 | 1 st – 5 th century |
| 96000534 | Handle | A | 3.2 | 1 st – 5 th century |
| 78301940 | Handle | A | 3.3 | 1 st - 4 th century |
| 78301946 | Handle | A | 3.3 | 1 st - 4 th century |
| 96000530 | Handle | A | 3.3 | 1 st - 4 th century |
| 96000542 | Handle | A | 8.1 | 1 st – 2 nd century |
| 7351462 | Handle | A | 8.3 | 1 st – 2 nd century |
| 96000549 | Handle | A | 9.1 | 1 st century AD |
| 96000543 | Handle | A | 10.2 | 1 st century AD |
| 7351869 | Handle | A | 15 | 1 st – 5 th century |

| | | | | |
|----------|--------|---|------|---|
| 96000540 | Handle | B | ? | 1 st – 5 th century |
| 96000550 | Handle | B | ? | 1 st – 5 th century |
| 7351856 | Handle | B | 1 | 1 st – 2 nd century |
| 96000551 | Handle | B | 1 | 1 st – 2 nd century |
| 96000559 | Handle | B | 1 | 1 st – 2 nd century |
| 7351204 | Handle | B | 1.1b | 1 st – 2 nd century |
| 96000552 | Handle | B | 1.3 | 1 st – 2 nd century |
| 7351867 | Handle | B | 1.4b | 1 st – 2 nd century |
| 7351813 | Handle | B | 3 | 1 st – 2 nd century |
| 7351865 | Handle | B | 3 | 1 st – 2 nd century |
| 96000541 | Handle | B | 4 | 1 st – 5 th century |
| 96000544 | Handle | C | 1.1 | 1 st – 5 th century |
| 78301941 | Handle | C | 2.1 | 3 rd – 4 th century |
| 96000555 | Handle | C | 2.1 | 3 rd – 4 th century |

Brief background

Bone handles were used on multiple objects such as swords, knives, and awls. Therefore, without context, it is sometimes difficult to suggest the use. Most handles were likely used for knives given their general form.

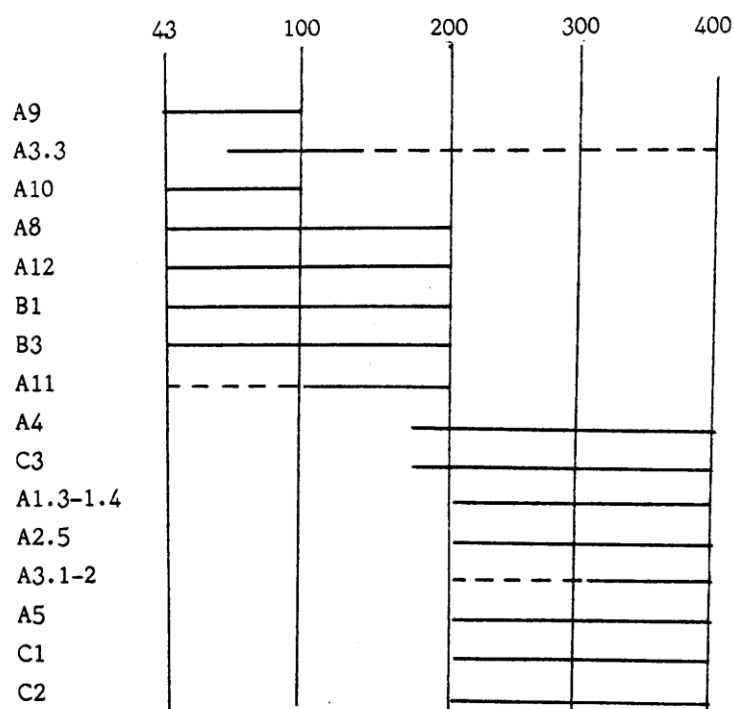
Typology and Chronology

Greep (1983: 374-422) produced a typology for these items which has been used for the Richborough collection. There are three main types with multiple sub-types (Greep 1983: 375-7).

| Type | Description |
|------|---|
| A | Single Piece. The ends were sawn off the bone or antler and the tang secured in the cavity using wood shavings or wedges. |
| B | Composite. Two D-shaped plates of bone or antler secured by two or three rivets (sometimes more). |
| C | Clasp. Like modern pen-knives. Single piece of bone or antler. The blade is fixed to the |

handle by a collar and rivet. The blade can then pivot and fits into a slot cut in the handle.

There is a distinct split in dating between the subtypes within each group



In total, 65 handles have been identified from Richborough. These do not include handles where the blade or tool is still in situ. These objects are discussed separately, but the handle type is still noted. Greep (1983: 766-800) listed 475 handles (not including sword handles) from Britain. Of these, 19 are from Richborough.

Type A

A

There is one example of this type from Richborough.

A.1.1

There are 12 examples of this type from Richborough. These are plain.

A.2.1

There are 15 examples of this type from Richborough. These are plain.

A.2.2

There are nine examples of this type from Richborough. Decorated with simple latitudinal grooving or ribbing.

A.2.3

There is one example of this type from Richborough. Decorated with incised lines.

A.2.4

There are two examples of this type from Richborough. Decorated with trellis work.

A.2.5

There are two examples of this type from Richborough. Decorated with ring and dots.

A.3.2

There is one example of this type from Richborough. Ring and dot decoration.

A.3.3

There are three examples of this type from Richborough. Other decoration.

A.8.1

There is one example of this type from Richborough. With one well-cut deep collar or ridge towards either edge on two sides.

A.8.3

There is one example of this type from Richborough. With incised lines arranged in a fan.

A.9.1

There is one example of this type from Richborough. Plain.

A.10.2

There is one example of this type from Richborough. Sub-rectangular section and central rib.

A.15

There is one example of this type from Richborough. Small single-piece handles with a sawn perforated slot for hafting.

Type B

B

There are two examples of this type from Richborough.

B.1

There are three examples of this type from Richborough. Knife handles consisting of two 'D'-sectioned plates.

B.1.1b

There is one example of this type from Richborough. Plates with close trellis in the outer zones. Form b has a central trellised zone, normally narrow but sometimes much larger.

B.1.3

There is one example of this type from Richborough. Plates with both outer zones of trellis work and the centre flanked by inverted 'V' or curving lines. These may be placed either side of a plain zone, or a small field of trellis decoration.

B.1.4b

There is one example of this type from Richborough. Other plates with central zones of similar arrangement to 4 a). Plates with outer trellised zones and a similarly decorated band in the centre placed longitudinally. To either side of this and on both sides of the fixing rivets are small ring and dots. The ring and dots are absent on one piece in this group but present a plain longitudinal zone in another.

B.3

There are two examples of this type from Richborough. Narrow rectangular composite handles with incised line decoration and one waisted end.

B.4

There is one example of this type from Richborough. Other composite handles.

Type C

C.1.1

There is one example of this type from Richborough. Tapering (from the bottom end) body, simple rounded head, oval section.

C.2.1

There are two examples of this type from Richborough. Plain antler clasps or possessing simple mouldings.

Materials, design, and production

No XRF analysis was undertaken on these objects.

Type A handles were produced by sawing off the ends of the bone or antler to create a cavity for the tang. Type B handles were produced by carving two plates from bone or antler. Type C handles are made from a single piece of bone or antler with a slot sawn through the centre, but not all the way down the length, in which to slot the blade.

The size of the handle is indicative of the size of the implement. However, in each of the four largest groups (A1.1, A.2.1, A2.2 and A2 overall) there is little similarity. When accounting for incomplete handles there is a wide range of lengths. There is also little correlation between length and width overall and in each of the largest groups. However, although there is still no correlation between length and width for Type B handles, they are all between 16-20mm in width and 51-79 (excluding

two fragments of 37 and 41mm. This might demonstrate a better standardisation in production from the one-piece Type A. There are too few Type C examples to comment.

The handles were attached to the blades either by slotting the tang into the cavity (Type A) of the bone or antler and secured by wood shavings or wedges, or by rivets (Type B and C).

Use, reuse and repair

These objects were used as handles. Whilst Type A could have been used for objects other than knives, such as awls, Types B and C were certainly made for knives. There is no indication that they had a different use and there is no sign of repair.

Decoration

The objects in made cases are highly decorative and these decorations are key to their typological identification (see above). However, there are some unusual forms which do not fit into the typology. One example (7351463) has a twisted carved shaft whilst one of Type B (96000540) has crude decoration like the types with fields of lines and cross-hatching. Another Type B example (96000550) appears to have been dyed green to imitate marble.

Parallels

Greep (1983: 766-800, Figs.273-313) lists multiple parallels for each type from Britain, as well as continental parallels.

| Type | Rich No. | Britain | Continent |
|-------|----------|---|-----------|
| A.1.1 | 12 | Odell, Silchester, Wendens Ambo, Chester, Dovedale, Exeter, Bagber, Milton Abbas, Dorchester, Jordans Hill, Rotherley, Brtaintree, Colchester, Gestingthorpe, Kelvedon, Cirencester, Frocester Court, Gloucester, Portchester, Verulamium, Ware, Longthorpe, High Cross, Leicester, London, Caister-by-Yarmouth, Scole, Wakerley, Corbridge, Housesteads, South Shields, Wallsend, Shakenoak, Wroxeter, Gatcombe, Latimer, Baylam Mill, Castle Hill, Stoneham Aspull, Malon, Carpow, Mumrills, Newstead, Caerleon, Caerwent, Segontium. | |
| A.2.1 | 15 | Silchester, Colchester, Cirencester, Kenchester, Verulamium, Ware, Longthorpe, Lincoln, London, Chesters, | |

| | | | |
|--------|---|--|------------------------------|
| | | Corbridge, South Shields, Hayton, Newstead, Caerleon, | |
| A.2.2 | 9 | Odell, Colchester, Great Chesterford, Clausentum, Portchester, Corbridge, Wroxeter, Castle Hill, Wickham, Catterick, | |
| A.2.3 | 1 | Silchester, Witham, Alveston, Portchester, Boxmoor, Verulamium, Shipham, Chichester, Fishbourne, Caerleon, Caerwent | |
| A.2.4 | 2 | Silchester, Colchester, Lydney, Verulamium, Corbridge, Wallsend, Alchester, Bloxham, Wroxeter, Chichester, York | |
| A.2.5 | 2 | Odell, Silchester, Gloucester, Portchester, Ware, London, Wakerley, Shakenoak, Wroxeter, Malton | |
| A.3.2 | 1 | Silchester, Dorchester, Bourton-on-the- Water, Cirencester, Frocester Court, Gloucester, Ware, Godmanchester, Canterbury, Wroxeter, | Trier, Worms, Heddrnheim |
| A.3.3 | 3 | Silchester, Scole, Wroxeter, | |
| A.8.1 | 1 | Cirencester, | Augst, Mainz, Vindonissa, |
| A.8.3 | 1 | London | Trier |
| A.9.1 | 1 | Verulamium, London, Caister-by-Norwich | Vindonissa, Cazerres, Mainz |
| A.10.2 | 1 | Colchester, Cirencester, Verulamium, Wroxeter | Trier, Augst, Vindonissa |
| A15 | 1 | Caister-by-Norwich, Corbridge, Aldborough | |
| B.1.1b | 1 | London, Long Melford | Augst, Straubing, Vindonissa |
| B.1.3 | 1 | Chester, London, Corbridge, Angmering, Caerleon | Saalburg, Vindonissa |
| B.1.4b | 1 | London | Vindonissa |
| B3 | 2 | Odell, Colchester, Winchester, London, | Vindonissa, Mainz, Augst, |

| | | | |
|-------|---|---|--------------|
| | | Staines | Trier, Dijon |
| B4 | 1 | Woodyates, Colchester, Verulamium, Canterbury | Augst |
| C.1.1 | 1 | Colchester, South Shields, Castle Hill, Malton | |
| C.2.1 | 2 | Silchester, Cirencester, Verulamium, Corbridge | |

It is difficult to read much into this list as in the 35 years since the study many more handles have been discovered and different techniques of small finds analysis have been developed. However, Richborough has a range of handles paralleled from continental forts as well as urban Roman centres and forts in Britain. Where these types can be dated in Britain, the majority (11) fall within the early period (AD43-200) with the minority (3) within the late (AD200-410). However, many types cannot be closely dated.

Key contexts

| ID | Context no. | Context date | Period |
|----------|--------------|--------------|--------|
| 7351463 | AXI.010.3 | 270 - 300 | 10-12 |
| 78301934 | A?.097 | 410+ | 14 |
| 78301935 | A?.067 | N/A | N/A |
| 78301936 | A/S?.001 | N/A | N/A |
| 88396080 | AXXIII.023 | 270 - 300 | 10-12 |
| 88396081 | AXXIII.008.3 | 300 - 410+ | 12-14 |
| 88396082 | AXXIII.023 | 270 - 300 | 10-12 |
| 88396083 | AXXIII.011.5 | 270 - 295 | 10-11 |
| 88396084 | AXVII.068.1 | 43 - 250 | 1-8 |
| 88396085 | AXXIII.008.3 | 300 - 410+ | 12-14 |
| 96000529 | AXI.010.1 | 270 - 410+ | 10-14 |
| 96000531 | S1.025.2 | 270 - 300 | 10-12 |

| | | | |
|----------|------------|------------|-------|
| 96000533 | AWS.008 | N/A | N/A |
| 7351471 | A?.100 | N/A | N/A |
| 7351475 | AVI.026 | N/A | N/A |
| 7351478 | AX.030 | 43 - 200 | 1-7 |
| 78301947 | AXI.011 | 270 - 300 | 10-12 |
| 78301948 | AXXIII.016 | 270 - 295 | 10-11 |
| 88396056 | AWS.008 | N/A | N/A |
| 88396057 | A?.061 | N/A | N/A |
| 96000521 | AV.001 | N/A | N/A |
| 96000522 | AXI.005 | 270-300 | 10-12 |
| 96000523 | | | |
| 96000524 | AXI.020 | 270 - 325 | 10-12 |
| 96000525 | A/S?.001 | N/A | N/A |
| 96000526 | AXVII.001 | N/A | N/A |
| 96000528 | AXVI.035.5 | 270-300 | 10-12 |
| 96000561 | S3.021 | N/A | N/A |
| 7351298 | AW.026.1 | 270 - 410+ | 10-14 |
| 7351476 | AN.011.9 | 270 - 410+ | 10-14 |
| 96000536 | S5.003.2 | N/A | N/A |
| 96000537 | A/S?.001 | N/A | N/A |
| 96000554 | AW.044 | N/A | N/A |
| 96000558 | A/S?.001 | N/A | N/A |
| 96004119 | A?.064.3 | 270 - 410+ | 10-14 |
| 96004120 | A?.062 | N/A | N/A |
| 96004121 | S1.012 | N/A | N/A |
| 7351866 | AXVIII.005 | N/A | N/A |

| | | | |
|----------|-------------|------------|-------|
| 7351205 | AXXIV.010 | N/A | N/A |
| 7351868 | AWS.008 | N/A | N/A |
| 96000527 | A/S?.001 | N/A | N/A |
| 96000535 | AWS.008 | N/A | N/A |
| 96000534 | A?.031 | N/A | N/A |
| 78301940 | AXXII.002.9 | 300 - 410+ | 12-14 |
| 78301946 | A/S?.001 | N/A | N/A |
| 96000530 | A?.100 | N/A | N/A |
| 96000542 | A/S?.001 | N/A | N/A |
| 7351462 | AXX.003 | N/A | N/A |
| 96000549 | AVII.002 | 100 - 200 | 5-7 |
| 96000543 | AVI.024 | N/A | N/A |
| 7351869 | A?.089.1 | N/A | N/A |
| 96000540 | S1.025.2 | 270 - 300 | 10-12 |
| 96000550 | A/S?.001 | N/A | N/A |
| 7351856 | A?.061 | N/A | N/A |
| 96000551 | AN.013 | N/A | N/A |
| 96000559 | S1.036 | 200 - 300 | 8-12 |
| 7351204 | S4.008 | N/A | N/A |
| 96000552 | AXVI.002 | N/A | N/A |
| 7351867 | A/S?.001 | N/A | N/A |
| 7351813 | AS.008.2 | N/A | N/A |
| 7351865 | AVI.007 | 85 - 90 | 4-5 |
| 96000541 | AXVI.028.4 | 85 - 90 | 4-5 |
| 96000544 | AS.039 | N/A | N/A |
| 78301941 | s4.003.1 | N/A | N/A |

96000555

S3.009

N/A

N/A

Overview:

Of the 65 examples, 49 have some form of context data. Few of the contexts suggest use. Two examples (88396080 and 88396082) were found among oyster shells whilst two others (96000529 and 7351463) were found in layers with domestic items. The two most populous areas for handles are Area XI and Area XXIII. These two areas show heavy occupation, especially in the 3rd – 5th century through pit digging, floor layers and hearths. Most other examples are unstratified, but a few come from pits. Two from Pit 7 were found with two shoe soles (96002038-9), hobnails (88400891-99), a whetstone (78304824) and a statue fragment (96003911). The pit dates to the mid-late 3rd century. One from Pit 91 (96000524) is the only find from this context.

Handles (Copper Alloy) (1st – 4th century) = 23 objects

| ID | Object | Type | Sub-type | Object date |
|----------|--------|-----------------|----------|-------------|
| 7351331 | Handle | A | ? | |
| 7351938 | Handle | A | 1 | |
| 96000546 | Handle | A | 1 | |
| 96000564 | Handle | A | 1 | |
| 96000547 | Handle | A | 2 | |
| 96000548 | Handle | A | 2 | |
| 7350701 | Handle | A | 2 | |
| 7350267 | Handle | Zoomorphic | Tubular | |
| 7351944 | Handle | Zoomorphic | Tubular | |
| 96000538 | Handle | Zoomorphic | Tubular | |
| 96000539 | Handle | Zoomorphic | Openwork | |
| 7350268 | Handle | Anthropomorphic | Tubular | |
| 7350834 | Handle | Plain | Tubular | |
| 7350648 | Handle | Plain | Tubular | |
| 7351666 | Handle | Plain | Tubular | |
| 96000520 | Handle | Plain | Tubular | |
| 96000545 | Handle | Plain | Tubular | |
| 96000556 | Handle | Plain | Tubular | |
| 96000560 | Handle | Plain | Tubular | |
| 7350641 | Handle | ? | ? | |
| 7350711 | Handle | ? | ? | |
| 7350927 | Handle | ? | ? | |
| 7351309 | Handle | ? | ? | |

Brief background

Typology and Chronology

The typology for these handles has come partly from Garbsch (1975: 68-107), who produced a basic typology for razor handles. There were split into four types (A-D) but only type A is relevant here. These were then split into what I have called Sub-type 1 (Closed/Solid) and 2 (Openwork) handles. In general, the handles all end with a circular decoration which is either solid or an open loop. There is also some detail on how far the blade goes into the handle (Garbsch 1975: 69) but this is hard to tell with the Richborough examples. I have also separated those handles which are zoo/anthropomorphic and others that are plain tubes. These were all interpreted as knife handles by Malcolm Lyne in the catalogue, but some might not be handles at all. I have placed them all in this category for better identification.

Type A

There is one example of this type from Richborough. It is impossible to tell which of A.1 or 2 these belonged to as both types had these loops at the end.

Type A.1

There are three examples of this type from Richborough. This type is characterised by having a solid handle. They date to the 1st – 2nd century.

Type A.2

There are three examples of this type from Richborough. This type is characterised by having an openwork handle. They date to the 1st – 2nd century AD.

Anthropomorphic

There is one example of this type from Richborough. This handle is characterised by having a human face at the end. They date to the 1st – 2nd century AD.

Zoomorphic

There are four examples of this type from Richborough. These handles are characterised by being in the shape of animals. They date to the 1st – 4th century AD.

Plain Tubes

There are seven examples of this type from Richborough. It is unclear if these are knife handles or handles at all in some cases. They date to the 1st – 4th century AD.

Uncertain

There are four uncertain examples from Richborough.

Materials, design, and production

No XRF analysis was undertaken on these objects.

All these objects appear to have been cast.

The objects are of widely varying sizes and weights. With few of specific types it is difficult to know whether the measurements are significant.

The handles were attached to the tang of the blade either by being slotted into the hole or sandwiched between two pieces held together by rivets. Garbsch (1975: 64) points out that the tang of the blade went into the handle to different depths.

Use, reuse and repair

Some examples of this object can be identified as knife/razor handles. In other cases, they might possibly be handles and in others it is unclear. There is no sign of repair.

Decoration

It is difficult to determine the decoration on some of the Type A handles because of the corrosion. The zoomorphic examples have a lion head pommel (7350267), two of dogs (7351944 and 96000538) and one which is a dog or possibly a horse (96000539). The anthropomorphic example has two faces looking in opposite directions which could represent Janus.

Parallels

Garbsch (1975: 72-3) shows that the Type A.1 and A.2 examples mostly come from the north-western provinces, however, this could be due to the limitations of the study.

Key contexts

| ID | Context no. | Context date | Period |
|---------|--------------|--------------|--------|
| 7350267 | A?.048.4 | 410+ | 14 |
| 7350268 | A?.049.10 | 270 - 410+ | 10-14 |
| 7350641 | AN.011.9 | 270 - 410+ | 10-14 |
| 7350648 | AXVII.004 | 350 - 410 | 13-14 |
| 7350701 | A?.091 | N/A | N/A |
| 7350711 | AXXIII.012.4 | 270 - 295 | 10-11 |
| 7350834 | A/S?.001 | N/A | N/A |
| 7350927 | AWS.008 | N/A | N/A |
| 7351309 | S1.001 | N/A | N/A |

| | | | |
|----------|------------|-----------|-------|
| 7351331 | AXVI.017.2 | 100 – 200 | 5-7 |
| 7351666 | A/S?.001 | N/A | N/A |
| 7351938 | AN.011.4 | 410+ | 14 |
| 7351944 | AWS.008 | N/A | N/A |
| 96000520 | AXI.010.1 | 350 - 410 | 13-14 |
| 96000538 | AV.001 | N/A | N/A |
| 96000539 | A?.049.3 | 410+ | 14 |
| 96000545 | A?.025 | N/A | N/A |
| 96000546 | A/S?.001 | N/A | N/A |
| 96000547 | A?.091 | N/A | N/A |
| 96000548 | AVI.019.2 | 70 - 200 | 4-7 |
| 96000556 | A?.050.2 | 410+ | 14 |
| 96000560 | A?.090 | N/A | N/A |
| 96000564 | AS.008.1 | N/A | N/A |

Overview:

Of the 23 examples, 11 come from datable contexts. For the most part these are 4th century, apart from a couple in the 1st – 2nd century. The two early examples are both Type As which Garbsch (1975: 73) dates to the 1st – 2nd century.

Handles (Shale) (1st – 4th century) = 1 object

| ID | Object | Type | Sub-type | Object date |
|----------|--------|------|----------|---|
| 96000553 | Handle | A | 5 | 1 st – 4 th century |

Brief background

See Handles (Bone) above.

Typology and Chronology

There is only one object in this category and although there is no typology for shale handles is most closely resembles Type A5 from Greep's (1983: 387) knife handle typology with an ovate section and incised lines.

Materials, design, and production

No XRF analysis was undertaken on this object.

This object was carved from shale.

The knife handle is incomplete.

Without the full handle it is uncertain how it attached to the knife tang.

Use, reuse and repair

This object was probably used as knife handle. There is no indication it was used for another purpose and no sign of repair.

Decoration

The object is decorated with vertical incised lines with small diagonal lines within these.

Parallels

Uncertain.

Key contexts

| ID | Context no. | Context date | Period |
|----------|-------------|--------------|--------|
| 96000553 | AXV.007 | | |

Overview:

Unfortunately, there is no context data for this object.

12. 03. Bladed Objects

Knives (1st – 10th century) = 73 objects

| ID | Object | Type | Sub-type | Object date |
|----------|--------|------|----------|---|
| 96000430 | Knife | 1 | | 1 st – 4 th century |
| 96000431 | Knife | 1 | | 1 st – 4 th century |
| 96000432 | Knife | 1 | | 1 st – 4 th century |
| 96000433 | Knife | 1 | | 1 st – 4 th century |
| 96000434 | Knife | 1 | | 1 st – 4 th century |
| 96000435 | Knife | 1 | | 1 st – 4 th century |
| 96000436 | Knife | 1 | | 1 st – 4 th century |
| 96000437 | Knife | 1 | | 1 st – 4 th century |
| 96000438 | Knife | 1 | | 1 st – 4 th century |
| 96000439 | Knife | 1 | | 1 st – 4 th century |
| 96000440 | Knife | 1 | | 1 st – 4 th century |
| 96000441 | Knife | 1 | | 1 st – 4 th century |
| 96000428 | Knife | 2 | | 1 st – 4 th century |
| 96000429 | Knife | 2 | | 1 st – 4 th century |
| 96000461 | Knife | 2 | | 1 st – 4 th century |
| 96000462 | Knife | 2 | | 1 st – 4 th century |
| 96000463 | Knife | 2 | | 1 st – 4 th century |
| 96000464 | Knife | 2 | | 1 st – 4 th century |
| 96000442 | Knife | 3 | | 1 st – 4 th century |
| 96000443 | Knife | 3 | | 1 st – 4 th century |
| 96000444 | Knife | 3 | | 1 st – 4 th century |
| 96000445 | Knife | 3 | | 1 st – 4 th century |
| 7351826 | Knife | 4 | | 1 st – 4 th century |
| 78303035 | Knife | 4 | | 1 st – 4 th century |

| | | | | |
|----------|-------|---|-----|---|
| 96000469 | Knife | 4 | | 1 st – 4 th century |
| 96000470 | Knife | 4 | | 1 st – 4 th century |
| 96000471 | Knife | 4 | | 1 st – 4 th century |
| 96000472 | Knife | 4 | | 1 st – 4 th century |
| 96000473 | Knife | 4 | | 1 st – 4 th century |
| 96000474 | Knife | 4 | | 1 st – 4 th century |
| 96000475 | Knife | 4 | | 1 st – 4 th century |
| 96000476 | Knife | 4 | | 1 st – 4 th century |
| 96000477 | Knife | 4 | | 1 st – 4 th century |
| 96000478 | Knife | 4 | | 1 st – 4 th century |
| 96000479 | Knife | 4 | | 1 st – 4 th century |
| 78303038 | Knife | 5 | 1 | 1 st – 4 th century |
| 96000465 | Knife | 5 | 1 | 1 st – 4 th century |
| 96000466 | Knife | 5 | 1 | 1 st – 4 th century |
| 96000467 | Knife | 5 | 1 | 1 st – 4 th century |
| 96000468 | Knife | 5 | 1 | 1 st – 4 th century |
| 96000446 | Knife | 8 | N/A | 1 st – 4 th century |
| 96000447 | Knife | 8 | N/A | 1 st – 4 th century |
| 96000448 | Knife | 8 | N/A | 1 st – 4 th century |
| 96000449 | Knife | 8 | N/A | 1 st – 4 th century |
| 96000450 | Knife | 8 | N/A | 1 st – 4 th century |
| 96000451 | Knife | 8 | N/A | 1 st – 4 th century |
| 96000452 | Knife | 8 | N/A | 1 st – 4 th century |
| 96000453 | Knife | 8 | N/A | 1 st – 4 th century |
| 96000454 | Knife | 8 | N/A | 1 st – 4 th century |
| 96000455 | Knife | 8 | N/A | 1 st – 4 th century |

| | | | | |
|----------|-------|-----------|-----|--|
| 96000456 | Knife | 1/3 | N/A | 1 st – 4 th century |
| 96000457 | Knife | 1/3 | N/A | 1 st – 4 th century |
| 96000458 | Knife | 1/3 | N/A | 1 st – 4 th century |
| 96000459 | Knife | 1/3 | N/A | 1 st – 4 th century |
| 96000460 | Knife | 1/3 | N/A | 1 st – 4 th century |
| 78602061 | Knife | ? | N/A | 1 st – 4 th century |
| 88281443 | Knife | ? | N/A | 1 st – 4 th century |
| 96000486 | Knife | Scramasax | N/A | 4 th – 10 th century |
| 78303033 | Knife | Misc | N/A | ? |
| 88396055 | Knife | Misc | N/A | ? |
| 96000480 | Knife | Misc | N/A | ? |
| 96000481 | Knife | Misc | N/A | ? |
| 96000482 | Knife | Misc | N/A | ? |
| 96000483 | Knife | Misc | N/A | ? |
| 96000484 | Knife | Misc | N/A | ? |
| 96000485 | Knife | Misc | N/A | ? |
| 96000487 | Knife | Misc | N/A | ? |
| 96000488 | Knife | Misc | N/A | ? |
| 96000489 | Knife | Misc | N/A | ? |
| 96000490 | Knife | Misc | N/A | ? |
| 96000491 | Knife | Misc | N/A | ? |
| 96000492 | Knife | Misc | N/A | ? |
| 96000493 | Knife | Misc | N/A | ? |

Brief background

Roman knives are multi-purpose objects. They usually consist of an iron blade, tang, and organic handle. Manning's (1985: 108-23) study of the knives in the British Museum is the most complete for

Roman knives. Manning (1985: 108) suggested that the slight variations in the shape of the blade revealed “no relevance to the function...” However, the study is now over 30 years old. Taylor (2015: 57-64) has used the Manning typology to suggest possible food preparation uses for the knives found at Vindolanda but a wider contextual study of knives would be required to expand upon use.

Typology and Chronology

The main typology is that of Manning (1985: 108-23), who provides 24 different types. However, Manning’s typology is based on the general shape of the blade and position of the tang. These are factors which are important to the knife function but do not tell the complete story. Therefore, I have begun to develop a new typology based upon the form of the functional parts. The main part is the tip form, which is split into nine types, with several sub-types. These are largely based on modern tip forms which have been used for centuries. There are also other factors which vary from knife to knife such as the tang form, the heel profile, and the grind (cutting edge).

| Type | Sub-type | Modern name | Manning (1985) Type | Grind profile | Tang form | Heel profile |
|------|----------|------------------|------------------------|---------------|-----------|--------------|
| 1 | | Straight/Normal | 11a/b, 12a | | | |
| 2 | | Trailing point | 9, 18a, 23, 24 | | | |
| 3 | | Drop point | 12b, 18b | | | |
| 4 | | Spear point | 16, 21 | | | |
| 5 | 1 | Sheepfoot | 1a/b/c/d, 2, 4, 10, 19 | | | |
| | 2 | Lambfoot | | | | |
| 6 | | Hawkbill/Talon | 6a/b/c/d, 7d | | | |
| 7 | 1 | Clip point | 7a/b/c | | | |
| | 2 | Long clip | | | | |
| | 3 | California clip | | | | |
| | 4 | Sabre clip | | | | |
| | 5 | Turkish clip | | | | |
| 8 | | Wharncliffe | 8, 13, 14 | | | |
| 9 | | Spey point | 20, 22 | | | |
| 1/3 | | Straight/Normal/ | 15 | | | |

Drop Point

5 1/2 Sheep/Lambfoot 17

Type 1

There are 12 examples of this type from Richborough. This blade has a straight cutting edge with a straight spine which gently curves toward the cutting edge to meet the tip. They date to the 1st – 4th century AD.

Type 1/3

There are five examples of this type from Richborough. They date to the 1st – 4th century AD.

Type 2

There are six examples of this type from Richborough. This type has a large curved cutting edge with a straight spine which curves to meet the tip. They date to the 1st – 4th century AD.

Type 3

There are four examples of this type from Richborough. This type has a convex curved to the cutting edge while the spine is straight and then curves to meet the tip. They date to the 1st – 4th century AD.

Type 4

There are 13 examples of this type from Richborough. This is a symmetrical blade with a straight cutting edge and spine before they both curve evenly to form the tip. They date to the 1st – 4th century AD.

Type 5.1

There are five examples of this type from Richborough. This type is similar to Type 1; however, the straight spine is longer and produces a steeper curve towards the tip. This reduces the piercing ability of the tip, not dissimilar to the modern Stanley Knife. They date to the 1st – 4th century AD.

Type 8

There are 10 examples of this type from Richborough. This type has a straight or slightly concave cutting edge. The key to this type is that the spine of the blade is never straight but gently curves continuously from the bolster. The name is from a modern knife in the early 19th century, but the basic design has been around longer. They date to the 1st – 4th century AD.

Type Uncertain

There are two examples of this type from Richborough. The date is uncertain.

Scramasax

There is one example of this type from Richborough. This type was used as both a cutting tool and weapon from the Early Medieval Period onwards (Ottaway 1995:Part 2, 1). They date to the 4th – 10th century.

Misc.

There are 15 uncertain examples of this type from Richborough. The date is uncertain.

Materials, design, and production

No XRF analysis was undertaken on these objects.

The knives were hammered out from bars or sheets of iron.

It is difficult to get any good metrology from the knives due to their fragmentation, however, it is likely that the measurements might relate to use.

The knives were not necessarily attached to any other object. However, the tang of the knife would have been surrounded by an organic handle and some knives had a loop at the end for attachment to a belt or hanging on a wall/beam.

Use, reuse and repair

These knives were multi-purpose and were used for a range of tasks. Based on the work of Taylor (2015: 57-64) it might be possible to suggest some more specific functions in food preparation. Type 11 (Taylor 2015: 63) was suggested a knife for meat preparation after butchery. Type 19, which is an unusual form, is like modern pairing knives, but could as easily be used for peeling or even as a razor blade. Unfortunately, most knives from Vindolanda were of types not found at Richborough. There is no indication that these objects were used for any other purpose and there is no sign of repair.

Decoration

There is no decoration on the objects.

Parallels

Manning's (1985) catalogue provides a good collection of knives from the British Museum. It is difficult to match up these new types with Manning's as he looks at overall shape rather than the functional cutting edge and tip for classification. Knives were used on every Roman site for several purposes. Further study is needed to suggest exact parallel use of knives on Roman sites to draw interesting parallels.

Key contexts

| ID | Context no. | Context date | Period |
|----------|-------------|--------------|--------|
| 96000430 | S5.003.2 | 270 – 410+ | 10-14 |
| 96000431 | A?.091 | N/A | N/A |
| 96000432 | AW.008 | N/A | N/A |
| 96000433 | A?.049.5 | 410+ | 14 |

| | | | |
|----------|-----------|------------|-------|
| 96000434 | A?.031 | N/A | N/A |
| 96000435 | A?.066 | N/A | N/A |
| 96000436 | A?.049.10 | 270 – 410+ | 10-14 |
| 96000437 | AXVII.009 | 270 – 410+ | 10-14 |
| 96000438 | A?.091 | N/A | N/A |
| 96000439 | S7.001 | N/A | N/A |
| 96000440 | A/S?.001 | N/A | N/A |
| 96000441 | A/S?.001 | N/A | N/A |
| 96000428 | A/S?.001 | N/A | N/A |
| 96000429 | AVIII.009 | N/A | N/A |
| 96000461 | AS.034 | 410+ | 14 |
| 96000462 | A/S?.001 | N/A | N/A |
| 96000463 | A/S?.001 | N/A | N/A |
| 96000464 | A?.017 | 270 – 300 | 10-12 |
| 96000442 | AX.028.2 | 270 – 320 | 10-12 |
| 96000443 | A/S?.001 | N/A | N/A |
| 96000444 | A/S?.001 | N/A | N/A |
| 96000445 | A/S?.001 | N/A | N/A |
| 7351826 | AS.032.8 | 270 – 410+ | 10-14 |
| 78303035 | A/S?.001 | N/A | N/A |
| 96000469 | A/S?.001 | N/A | N/A |
| 96000470 | A/S?.001 | N/A | N/A |
| 96000471 | A/S?.001 | N/A | N/A |
| 96000472 | A/S?.001 | N/A | N/A |
| 96000473 | A/S?.001 | N/A | N/A |
| 96000474 | A?.031 | N/A | N/A |


| | | | |
|----------|--------------|------------|-------|
| 96000475 | A?.019 | 270 – 320 | 10-12 |
| 96000476 | A/S?.001 | N/A | N/A |
| 96000477 | A/S?.001 | N/A | N/A |
| 96000478 | AVIII.011 | N/A | N/A |
| 96000479 | A/S?.001 | N/A | N/A |
| 78303038 | A/S?.001 | N/A | N/A |
| 96000465 | A/S?.001 | N/A | N/A |
| 96000466 | A/S?.001 | N/A | N/A |
| 96000467 | A/S?.001 | N/A | N/A |
| 96000468 | A?.049.10 | 270 – 410+ | 10-14 |
| 96000446 | A/S?.001 | N/A | N/A |
| 96000447 | A00XIX.014.2 | 200 – 300 | 8-12 |
| 96000448 | A/S?.001 | N/A | N/A |
| 96000449 | AW.005 | N/A | N/A |
| 96000450 | A/S?.001 | N/A | N/A |
| 96000451 | A/S?.001 | N/A | N/A |
| 96000452 | A/S?.001 | N/A | N/A |
| 96000453 | AV.015.1 | 270 – 410+ | 10-14 |
| 96000454 | A/S?.001 | N/A | N/A |
| 96000455 | A?.091 | N/A | N/A |
| 96000456 | AXXIII.029 | 295 – 410+ | 11-14 |
| 96000457 | AWS.008 | N/A | N/A |
| 96000458 | A/S?.001 | N/A | N/A |
| 96000459 | A?.064.1 | N/A | N/A |
| 96000460 | A/S?.001 | N/A | N/A |
| 78602061 | N/A | N/A | N/A |

| | | | |
|----------|----------|------------|-------|
| 88281443 | N/A | N/A | N/A |
| 96000486 | AX.041.4 | 270 – 410+ | 10-14 |
| 78303033 | A/S?.001 | N/A | N/A |
| 88396055 | A/S?.001 | N/A | N/A |
| 96000480 | A/S?.001 | N/A | N/A |
| 96000481 | AW.005 | N/A | N/A |
| 96000482 | A/S?.001 | N/A | N/A |
| 96000483 | A/S?.001 | N/A | N/A |
| 96000484 | AWS.008 | N/A | N/A |
| 96000485 | A/S?.001 | N/A | N/A |
| 96000487 | A/S?.001 | N/A | N/A |
| 96000488 | A?.091 | N/A | N/A |
| 96000489 | A/S?.001 | N/A | N/A |
| 96000490 | A/S?.001 | N/A | N/A |
| 96000491 | A/S?.001 | N/A | N/A |
| 96000492 | A/S?.001 | N/A | N/A |
| 96000493 | A?.066 | N/A | N/A |

Overview:

Of the 73 examples, 24 have some form of context data. Of these, 18 have area or site-specific data. There is no consistency in type use across any area/site or time, however, most come from the surface layer or shore fort ditches. However, the stratified Type 11 examples all come from late contexts. There are no examples from early contexts, either from the supply base or the port town period. Two knives (96000442 and 96000456) come from wells. One Type 12 (96000442) is from the top of Pit 86 with 4th century pottery. The other Type 15 (96000456) is from the bottom of Pit 287 with a ship nail (960001337). There are several knives with possible associated objects. The most interesting of these is a Type 11A/B (96000430) which was found in the same area as a Type A2.2 handle (96000536).

Shears (1st – 4th century) = 15 objects

|  | Object | Type | Sub-type | Object date |
|---|--------|--------------|----------|---|
| 78303015 | Shears | Avenches Lg | N/A | 1 st – 4 th century |
| 96000854 | Shears | Avenches Lg | N/A | 1 st – 4 th century |
| 96000867 | Shears | Avenches Lg | N/A | 1 st – 4 th century |
| 96000855 | Shears | Avenches Med | N/A | 1 st – 4 th century |
| 96000869 | Shears | Avenches Med | N/A | 1 st – 4 th century |
| 96000865 | Shears | Cortrat | N/A | 1 st – 4 th century |
| 96000859 | Shears | London Med | N/A | 1 st – 4 th century |
| 96000863 | Shears | London Sm | N/A | 1 st – 4 th century |
| 96000864 | Shears | London Sm | N/A | 1 st – 4 th century |
| 96000866 | Shears | London Sm | N/A | 1 st – 4 th century |
| 96000852 | Shears | Uncertain | N/A | 1 st – 4 th century |
| 96000853 | Shears | Uncertain | N/A | 1 st – 4 th century |
| 96000857 | Shears | Uncertain | N/A | 1 st – 4 th century |
| 96000858 | Shears | Uncertain | N/A | 1 st – 4 th century |
| 96000868 | Shears | Uncertain | N/A | 1 st – 4 th century |

Brief background

Shears have been used for centuries for several different tasks. Most commonly they are associated with sheep shearing but can also be used for fabric working. They are, much like scissors, a multipurpose object. Swift (2017: 56-101) studied the design of shears. Through the study of their ‘affordances’ (perceived functional properties), it is possible to ascertain the different uses for each form of shears as well as aspects the user (e.g., left or right handedness).

Typology and Chronology

A typology has been constructed by Swift (2017: 68-96) for shears. A more detailed explanation is found in her work and is summarised here.

| | | | | | | |
|-------------|-----------------|---------------|--------------|------------------|------------------|-------------|
| <i>Form</i> | <i>Material</i> | <i>Handle</i> | <i>Blade</i> | <i>Av. Blade</i> | <i>Av. Blade</i> | <i>Size</i> |
|-------------|-----------------|---------------|--------------|------------------|------------------|-------------|

| | | | <i>Set</i> (L/R) | <i>length</i> (cm) | <i>width</i> (cm) | (Manning <i>Type</i>) |
|-------------------|--------------|---------------------|---------------------|-----------------------|----------------------|---------------------------|
| <i>Merida</i> | Fe or CuA | Coil or U shaped | L or R | 4.9 | 1.5 | 3 |
| <i>Vindonissa</i> | Fe | U shaped | L or R | 9.3 | 2.1 | 2/3 |
| <i>Pompeii</i> | Fe or CuA | U shaped | L or R | 11.1 | 2.7 | 2/3 |
| <i>Cortrat</i> | Fe | U or Ω shaped | L | 5 | 2 | 2/3 |
| <i>London Sm</i> | Fe or CuA | U or Ω shaped | L or R | 6.2 | 1.7 | 2/3 |
| <i>London</i> | Fe | U shaped | L or R | 8.7 | 2.5 | 2 |
| <i>Med</i> | | | | | | |
| <i>Avenches</i> | Fe | U or Ω shaped | L or R | 8.1 | 2.3 | 2/3 |
| <i>Med</i> | | | | | | |
| <i>Berlingen</i> | Fe | U or Ω shaped | L or R | 10.7 | 3 | 2 |
| <i>Avenches</i> | Fe | U or Ω shaped | L or R | 13.9 | 3.3 | 2 |
| <i>Lg</i> | | | | | | |

The above table is abbreviated from Swift (2017: 81-7, Table.2.4) and data on the amount of shears can be found there. The descriptions of each type below are from the same table.

Cortrat

There is one example of this type from Richborough. These are small shears with short blades, truncated to an angled point. Blades are comparatively wide in relation to their length. Angle of blade point between 30 and 45 degrees (Swift 2017: 82, Table.2.4). They date to the 1st – 4th century.

London Small

There are three examples of this type from Richborough. On this type of the back of the blade curves near the tip to a blunt point. Back and edge of the blades parallel in most examples. Narrow blades compared to the length. The blade and handle length are similar (Swift 2017: 83, Table.2.4). They date to the 1st – 4th century.

London Medium

There is one example of this type from Richborough. This type is like the London Small. The difference is the blades are wider compared to the length (Swift 2017: 83, Table.2.4). They date to the 1st – 4th century.

Avenches Medium

There are two examples of this type from Richborough. On this type of the back of the blade curves shallowly towards a narrow-pointed tip. The angle at the tip is between 20 and 29 degrees. The blade and handle length are similar (Swift 2017: 84, Table.2.4). They date to the 1st – 4th century.

Avenches Large

There are three examples of this type from Richborough. This type is like the Avenches Medium but is a larger version (Swift 2017: 85, Table.2.4). They date to the 1st – 4th century.

Uncertain

There are five examples of uncertain type from Richborough.

Materials, design, and production

No XRF analysis was undertaken on these objects.

These objects were most likely hammered out from sheet metal on an anvil.

Measurement is key to the identification of some types as well as function. Unfortunately, exact measurements were not able to be taken due interruption caused by the Covid-19 pandemic.

| <i>ID</i> | <i>Type</i> | <i>Overall length (cm)</i> | <i>Blade length (cm)</i> | <i>Blade width (cm)</i> |
|-----------|--------------|--------------------------------|------------------------------|-----------------------------|
| 78303015 | Avenches Lg | N/A | | |
| 96000854 | Avenches Lg | N/A | | |
| 96000867 | Avenches Lg | N/A | N/A | |
| 96000855 | Avenches Med | N/A | | |
| 96000869 | Avenches Med | N/A | N/A | |
| 96000865 | Cortrat | | | |
| 96000859 | London Med | N/A | | |
| 96000863 | London Sm | | | |
| 96000864 | London Sm | N/A | N/A | |
| 96000866 | London Sm | N/A | N/A | |

In many cases not all points of measurement were available. However, in many cases a blade length and blade width were available or could be estimated. Even with the tips of the blades missing it was still possible to measure the angles and define a type.

Attachment is not applicable for these objects. However, the curve of the handle allows them to be hung.

Use, reuse and repair

These objects were used as shears. Swift (2017: 88, Table.2.5) attributed several 'affordances' to the shears.

| <i>Affordance</i> | <i>Short snips</i> | <i>Cutting in narrow spaces/precision cuts</i> | <i>Vertical cutting to guideline</i> | <i>Long cuts</i> | <i>Cutting thick or resistant materials</i> | <i>Cutting with strong pressure</i> | <i>Horizontal cutting</i> | <i>Safety cutting</i> |
|------------------------|--|--|--------------------------------------|------------------|---|-------------------------------------|---------------------------|-------------------------|
| <i>Related feature</i> | Short blades or strong taper/curve to narrow end | Narrow pointed blade end or blade tapers to point along length | Right-set blades | Long blades | Thick blades | Ω shaped handle | Left-set blades | Blunt end to blade tips |
| <i>Merida</i> | Y | Y | Y/N | N | N | N | N/Y | N |
| <i>Vindonissa</i> | N/Y | Y | Y/N | Y/N | N | N | N/Y | N |
| <i>Pompeii</i> | Y | Y | N/Y | Y/N | Y/N | N | Y/N | N |
| <i>Cortrat</i> | Y | N | N | N | Y | N/Y | Y | N |
| <i>London Sm</i> | Y | N | N/Y | N | N | N/Y | Y/N | Y |
| <i>London Med</i> | N | N | Y | Y/N | N | N | N | Y |
| <i>Avenches Med</i> | Y | Y | N/Y | Y/N | N | Y/N | Y/N | N |
| <i>Berlingen</i> | N | N | N/Y | Y | Y | N/Y | Y/N | Y |
| <i>Avenches Lg</i> | N | Y | N | Y | Y | Y/N | Y | N |

The shears from Richborough have various uses due to their affordances.

| <i>Type</i> | <i>Use</i> | <i>Contexts (not Richborough)</i> |
|---------------------|--|---|
| <i>Cortrat</i> | Cutting thick or tough material in short snips | Grooming (burial with toilet set), textile cutting |
| <i>London Sm</i> | Cutting delicate or thin materials in short snips | Grooming (burial with strigils), textile cutting |
| <i>London Med</i> | Cutting cloth in medium snips | None |
| <i>Avenches Med</i> | Dagging (removing soiled wool from sheep tail, smaller examples), sheep shearing (larger examples) | Leather working (found with lunette knife) |
| <i>Avenches Lg</i> | Sheep shearing | Leather working (shave animal skins?), Grooming (haircutting?), textile cutting |

From examples elsewhere the shears from Richborough could have had several uses. Although each type is useful for a particular purpose, contexts suggest that they had a range of domestic functions. Swift (2017: 73-96) provides more detail on the examples above. There is no indication that they were used for another purpose and there is no sign of repair. However, several other examples from Richborough were recycled into knives (see Shears/Knives).

Decoration

There is no decoration on these objects.

Parallels

There is no wide distribution study of Roman shears. Swift (2017: 56-7) states that shears first appear in the Iron Age and become more widespread in the Roman period. This is shown through examples of dated contexts where there is a not dissimilar percentage by century (Swift 2017: 71, Table.2.3). The best parallels to the Richborough examples come from the sites for which they are named. Swift (2017: 71-99) notes multiple parallels for each form.

Key contexts


| ID | Context no. | Context date | Period |
|----------|-------------|--------------|--------|
| 78303015 | A/S?.001 | N/A | N/A |
| 96000854 | A?.080.4 | N/A | N/A |

| | | | |
|----------|----------|------------|-------|
| 96000867 | AS.006 | N/A | N/A |
| 96000855 | A?.064.1 | N/A | N/A |
| 96000869 | A/S?.001 | N/A | N/A |
| 96000865 | A?.064.1 | N/A | N/A |
| 96000859 | A/S?.001 | N/A | N/A |
| 96000863 | A/S?.001 | N/A | N/A |
| 96000864 | AV.015.1 | N/A | N/A |
| 96000866 | AS.032.6 | 270 - 410+ | 10-14 |
| 96000852 | A/S?.001 | N/A | N/A |
| 96000853 | A/S?.001 | N/A | N/A |
| 96000857 | A/S?.001 | N/A | N/A |
| 96000858 | A/S?.001 | N/A | N/A |
| 96000868 | A/S?.001 | N/A | N/A |

Overview:

Of the 15 examples, only one comes from a datable context. Unfortunately, none of these contexts suggest use. Either they are on the surface, in the shore fort ditches or have no depth recorded. It might be significant that all three examples come from the south of the fort but without good stratigraphy this might be coincidence.

Shears/Knives (1st – 4th century) = 4 objects

|  | Object | Type | Sub-type | Object date |
|---|--------------|--------------|----------|---|
| 96000856 | Shears/Knife | Avanches Med | | 1 st – 4 th century |
| 96000861 | Shears/Knife | London Med | | 1 st – 4 th century |
| 96000862 | Shears/Knife | Berlingen | | 1 st – 4 th century |
| 96000860 | Shears/Knife | Uncertain | | 1 st – 4 th century |

Brief background

There are several collections of objects from Richborough which show recycling. This group is sets of shears made into knives. The shears have been broken either at the top of the handle or partway along and straightened

Typology and Chronology

There are four examples of shears/knives from Richborough. The typology used is that for shears (See Shears above). The types used to create knives are the same as others found at Richborough.

Materials, design, and production

No XRF analysis was undertaken on these objects.

The shears were originally made by hammering out sheet metal. The knives were created by cutting the shears along the handle.

For general metrology see Shears

The attachment of these objects it not applicable.

Use, reuse and repair

These objects were originally used as shears but were recycled into knives. The shears were used for a range of tasks from sheep shearing, fabric working and grooming. It is unclear why these shears were turned into knives. It could be that the shears were broken, and the unbroken blade/s provided a new use. Another explanation is that the industrial use of the shears had disappeared and there was a need for knives rather than shears. Given the small size of the shears it is likely these were used as razors. One example (96000856) is interesting. The curved handle is too small for an adult to fit their fingers and the curve makes it awkward to hold as food knife. However, when holding it with the index finger along the spine of the blade and placing the thumb around the curve of the handle, nesting the curve in the purlicue, makes it comfortable and stable for shaving the body at any angle.

Decoration

There is no decoration on these objects.

Parallels

For a discussion on parallels for shears see Shears (above).

Key contexts

| ID | Context no. | Context date | Period |
|----------|-------------|--------------|--------|
| 96000856 | A/S?.001 | N/A | N/A |
| 96000860 | A/S?.001 | N/A | N/A |
| 96000861 | AN.010.3 | 270 – 410+ | 10-14 |
| 96000862 | AXI.001 | 270 – 410+ | 10-14 |

Overview:

Of the four examples, two have some context information. They were both found in ditches, the north shore fort ditch (96000861) and middle earth fort ditch (96000862), which do not suggest a use.

12. 09. Food Production

Fishing (Hooks and Spears) (1st – 4th century) = 4 objects

| ID | Object | Type | Sub-type | Object date |
|----------|------------|------|----------|---|
| 7351828 | Fishhook | A | N/A | 1 st – 5 th century + |
| 7351903 | Fishhook | B? | N/A | 1 st – 5 th century + |
| 96000946 | Fishhook | C? | N/A | 1 st – 5 th century + |
| 96000973 | Fishhook | C | N/A | 1 st – 5 th century + |
| 7350303 | Fishhook | ? | N/A | 1 st – 5 th century + |
| 7350304 | Fishhook | ? | N/A | 1 st – 5 th century + |
| 96000943 | Fishhook | ? | N/A | 1 st – 5 th century + |
| 96000944 | Fishhook | ? | N/A | 1 st – 5 th century + |
| 96000945 | Fishhook | ? | N/A | 1 st – 5 th century + |
| 96000826 | Fish Spear | N/A | N/A | 1 st – 5 th century + |

Brief background

Fishing has been an activity since prehistory. There are three forms of fishing (Galili, Avshalom, Rosen 2013: 146)

- A) Manual collection without tools
- B) Passive fishing using tools and the fishes natural mobility
- C) Active fishing using tools to attack the fish

The objects in this section represent the latter two activities.

Also included in this section is a fish spear.

Typology and Chronology

There is no typology for fishing equipment in the Roman world and. In fact, equipment from other periods, particularly Medieval, look similar. It is a group of objects that has seen little development over the millennia.

The fishhooks have been split into three types based on an observation of attachment methods (Types A and B) (Galili, Avshalom, Rosen 2013: 150, Fig.4):

Type A – Hooks with a flat tying end

There is possibly example of this this type from Richborough. The end of the hook appears to have been flattened for tying. They date to the 1st – 5th century +

Type B – Hooks with grooves to improve tying

There is possibly one example of this this type from Richborough. The end of the hook is straight with no flat end and might have had tying grooves. They date to the 1st – 5th century +

Type C – Hooks with a hole for tying

There are two examples of this this type from Richborough. Both have holes for tying, but one appears to have been made from a bend brooch pin. They date to the 1st – 5th century +

Type ? – Uncertain

There are five of uncertain type from Richborough. The ends are broken off, so the type is not possible to determine. They date to the 1st – 5th century +

Fish Spear

There is one example of this this type from Richborough. These spears with two or more prongs are ideal for catching eels. The dating is unclear and could be dated to the Roman or Medieval periods.

Materials, design, and production

No XRF analysis was undertaken on these objects.

These hooks appear to have been cut from sheet metal.

The most complete copper alloy example is 38mm high (96000973). The others are between 21-33mm but are broken partway down the shaft. The two biggest examples (7351903 and 7351828) are both of iron and 68mm and 81mm high.

The hooks would have been attached to a line tied at the top either around the shaft or through a hole. The spear would have been attached to a wooden shaft.

Use, reuse and repair

These objects were used as fishhooks and spears. There is no indication they were used for another purpose. The barbs and sharpness would suggest fishhooks. The spear is a good shape for catching fish. There is no sign of repair. One example (96000946) is a brooch pin that has been turned into a hook.

Decoration

There is no decoration on these objects.

Parallels

Fishhooks are not common finds and because of their ubiquity throughout several periods it is unclear whether these examples are Roman. The same could be said of the spear.


Key contexts

| ID | Context no. | Context date | Period |
|----------|-------------|--------------|--------|
| 7351828 | A?.031 | N/A | N/A |
| 7351903 | AW.038 | N/A | N/A |
| 96000946 | S5.003.3 | N/A | N/A |
| 96000973 | A/S?.001 | N/A | N/A |
| 7350303 | A/S?.001 | N/A | N/A |
| 7350304 | A/S?.001 | N/A | N/A |
| 96000943 | A/S?.001 | N/A | N/A |
| 96000944 | A/S?.001 | N/A | N/A |
| 96000945 | A/S?.001 | N/A | N/A |
| 96000826 | ANE.001 | N/A | N/A |

Overview:

Of the 10 objects, four have some form of context data. None of these can be securely dated as Roman and likely come from the topsoil on the site. Two (7351828 and 96000826) were found in the NE corner of the site which would have been close to the shore.

Cooking (Flesh Hooks) (1st – 4th century) = 4 objects

|  | Object | Type | Sub-type | Object date |
|---|------------|------------|----------|---|
| 96000938 | Flesh Hook | Flesh Hook | 1 | 1 st – 4 th century |
| 96000939 | Flesh Hook | Flesh Hook | 1 | 1 st – 4 th century |
| 96000952 | Flesh Hook | Meat Hook | N/A | Uncertain |
| 96000955 | Flesh Hook | Meat Hook | N/A | Uncertain |

Brief background

Flesh hooks are used to hook animal carcasses. A common usage is hooking meat from a pot; however, they can also be used to hook hides during the production process.

Typology and Chronology

There are two examples of this type from Richborough. This type has two or three hooks on one side of the stem and often has a twist in the stem (Manning 1985: 105). They date to the 1st – 4th century AD.

Meat Hook

There are two examples of this type from Richborough. These served a similar purpose to the modern butchers hook for hanging meat (Manning 1985: 106). They date to the 1st – 4th century AD but the Richborough dates are uncertain.

Materials, design, and production

No XRF analysis was undertaken on the objects.

These meat and flesh hooks can be hammered out from rods of iron. However, one example is made from a recycled pilum point (see below).

Since the objects are for the most part incomplete the metrology adds little to the interpretation.

There is no attachment for the flesh hooks as they are handheld. The meat hooks were likely attached to chains or rope.

Use, reuse and repair

These objects were used in the processing of animal carcasses. Three of the objects were originally flesh or meat hooks. One of the objects (96000955) appears to have been made by bending a tanged pilum point.

Decoration

There is no decoration on these objects.

Parallels

Manning (1985: 105) lists a few flesh and meat hooks from the British Museum collection but with little to no provenance. Since these are objects that were used for centuries then context is important to their Roman identification.

Key contexts

| ID | Context no. | Context date | Period |
|----------|-------------|--------------|--------|
| 96000938 | AXVII.001 | N/A | N/A |
| 96000939 | AWS.008 | N/A | N/A |
| 96000952 | A/S?.001 | N/A | N/A |
| 96000955 | AWS.008 | N/A | N/A |

Overview:

Of the four examples, only one has any form of context data. This example comes from Area XVII. Two others come from Area SW but are in the surface soil.

Appendix 2 – How to use the Database

This appendix deals with how the Richborough collection has been catalogued. It is a summary and more detail on how to use the catalogue can be found in a document currently being written, called 'A Guide to the Richborough Collection.' This section discusses with catalogue of small finds, glass, and excavation volumes. Pottery, building material and coins is still in progress at the time of writing.

The cataloguing processes

When I began this study, the cataloguing process was already underway; only a few boxes finished. The cataloguing was undertaken by me, EH curators and conservators and volunteers. When cataloguing the collection, many decisions had to be made about the organisation. The finds were originally bagged separately but often places into larger bags as groups. It was first thought that this was by type, but after a few boxes it was hard to see any pattern. As a group we decided that each object would be bagged completely separately and organised into new boxes by object type in Malcolm's catalogue. It was also noticed that there were multiple problems with the numbering of objects. The AML had numbered the objects starting with '7830' and '735' followed by four digits. However, because of the age and illegibility of the writing on the object bags and labels there were several typos and duplicate numbers in the paper catalogue. The AML had also used the same number for different objects but with a 'point' number (i.e., .1, .2, .3, etc.) at the end; a practice no longer used by EH. This meant that these objects needed new numbers. Each object which ended with .1 kept the original number, each object after that was given a new number. The new numbers used for cataloguing start with '8838', '8839' and '8840', followed by four digits. Malcolm Lyne had also renumbered some objects (mostly those in Richborough museum). These new numbers started with '9600'. The objects in the museum had to be checked for their original number and their corresponding number in the catalogue.

Each object also had to be given an object type. This object type was taken from the list used by EH for their HOMS database. This list was not always useful for labelling the object type as the list has limitations; it does not always include specific terms for period objects. This is where it became necessary to include a Type and Sub-type category. There are also several objects in Malcolm Lyne's catalogue which are kept in other museums or are from other excavations; also kept in other museums. These do not have EH accession numbers so were labelled differently (Table 9.1).

Table 2-1 Codes for Richborough objects kept in other museums.

| <i>Museum/Collection code</i> | <i>Location</i> |
|--------------------------------------|----------------------------|
| <i>BM</i> | British Museum |
| <i>BATT</i> | Batteley Collection (1711) |
| <i>MAID</i> | Maidstone Museum |

A final consideration was given to the prior publication of objects. The first task was to record the objects published in the original five Richborough excavation reports. However, since the 1970s, the collection has been of huge interest for the study of different object classes; especially for PhD study. Where an object has played a significant part in a study (e.g., Bayley and Butcher 2004 on brooches, Lyne 1994, 1996, 1999 and other typological studies) the publication reference has been included. This is extremely useful information as under small finds were published in the original reports.

The paper catalogues

The original paper catalogue was completed by Malcolm Lyne from 1990-93 which consists of over 50 double ring binders which are separated into catalogues (Table 9.2).

Table 2-2 List of the Richborough paper catalogues.

| <i>Book(s)</i> | <i>Details</i> |
|-----------------------|---|
| <i>Index Folder</i> | Object types index, listed by file and box number; Excavation book index; List of each object type and |

Catalogues 1 - 75

Catalogues 76 - 82

Catalogues 90 - 114

AML number; Missing objects

Small finds catalogue

Glass vessel catalogue

Excavation books

To make the collection more accessible for research, this paper archive has been scanned. The collection was also stored in over 100 plastic containers which were cross referenced with the catalogue for them to be located. Over 200 objects from the collection, at the time of cataloguing, were on display in the site museum. These were inaccessible during the process but the information available from the paper catalogue was recorded. After the process of cataloguing the small finds in store was complete, volunteers then catalogued the site museum objects

Whilst researching for this thesis and cataloguing the objects, it soon became clear that the new catalogue needed to reflect modern approaches to small finds, as well as more research into the objects. The typologies needed updating and adding for objects where they were not used. This was one factor that led me to design the new catalogue based around 'activity groups' (Chapter 7). Each object has been placed into one of 15 activity groups which reflect the context and functional properties of the object. Within these groups the objects were then placed into sub-activity groups. The objects within these groups are then sorted by their relevant typologies. The catalogue itself is organised by the object type to make research of the collection easier. Each object group is headed by an object report page. This page lists basic details about the objects in the group.

Object storage

When catalogued, the objects were repacked into plastic containers. Each box was given a number with the prefix 'RICH'. The objects were repacked based on Malcolm Lyne's catalogue. This puts the boxes slightly at odds with the catalogue as reidentification of objects occurred after repacking. However, each object on the catalogue is cross referenced with the box number which makes them possible to find. Any researcher must be aware that what is written on the finds bag might not match what is in the catalogue. Beyond this PhD, much more research into other object types is needed.

Until such time that it is possible to relabel the finds bags, the ID in the paper and digital catalogue is the most up to date identification. Written on the front of each box is the 'RICH' number, the object numbers inside or whether there is a list inside and the object type. Inside each box is a photograph of how the box is packed and the original box label. The objects in the boxes have been packed in sequential order and bag size order for easy storage. Each object record sheet has all the information needed to find the location of the object.

The digital catalogue

The following table (Table 9.3) provides a detailed description of each of the column headings on the Excel database. This database can be found on the included CD as Appendix 4. This proved a challenge at the database is designed to be uploaded to the EH database called HOMS. However, this database is primarily used for data storage and is not set up for research. This meant new categories had to be made on the Excel database to reflect the needs of archaeological researchers.

Table 2-3 Description of the column headings in the Richborough catalogue.

| <i>Column heading</i> | <i>Description</i> |
|---|---|
| <i>ID Number</i> | English Heritage accession number |
| <i>Region</i> | English Heritage region |
| <i>Category Level 1</i> | Activity Category |
| <i>Category Level 2</i> | Sub-Category |
| <i>Category Level 3</i> | Object name |
| <i>Object Type</i> | Object type from English Heritage list |
| <i>Type / Sub-type</i> | Object types and sub-types |
| <i>Other Type</i> | Any other type distinctions |
| <i>Current location Level 1 / 2 / 3 / 4 / 5 / Container /</i> | Location of object within the store and when it was |
| <i>Current location date / Home location</i> | last recorded there |
| <i>Site</i> | Site where object was found |
| <i>Date made / Earliest date / Latest date</i> | Object date based on typology |

| | |
|--|--|
| <i>Culture</i> | English heritage historical period |
| <i>Materials</i> | From English Heritage list |
| <i>Measurements / Other measurements</i> | Objects measured in mm (millimetres) and g (grams) |
| <i>Description (Recent) / Description (Lyne) / Description (Bushe-Fox)</i> | Descriptions made when cataloguing the collection since 2016 (Recent), by Malcolm Lyne (early 1990s), and from Richborough Reports (Bushe-Fox 1922-1968) |
| <i>Completeness</i> | Is the entire recorded object present |
| <i>Item count / Whole / Part</i> | How many parts are there and are they complete (Whole) or not (Part) |
| <i>Condition / Condition date</i> | 1 (Good) , 2 (Fair), 3 (Poor) or 4 (Unacceptable) |
| <i>Loan / Offsite / On / On snatch / New to HOMS</i> | English Heritage specific categories |
| <i>Note</i> | Notes on reference to Malcolm Lyne's catalogue |
| <i>Excavation</i> | When was it excavated |
| <i>Linked Publications / Page Ref</i> | Reference to publication in Richborough Reports and other publications |
| <i>Conservation treatment / Date</i> | What treatments has the object undergone and when |
| <i>Context / Context number / Context date</i> | New context details based on this thesis |
| <i>TPQ / TAQ</i> | Context <i>Terminus Anti Quem</i> and <i>Terminus Post Quem</i> where known |
| <i>Period</i> | Richborough site period based on this thesis |
| <i>ML Context</i> | Context recorded by Malcolm Lyne |
| <i>Original HOMS number</i> | Original accession number recorded by Ancient Monuments Lab or Malcolm Lyne |
| <i>Original small finds number</i> | Object number from the original small finds lists |

Original box number

Box number storage prior to repacking project

Created by

Name of recorder

Included in this thesis

Y/N

Most of the columns on this database are fixed as they are required by EH. I have added several new columns to the database such as Type and Sub-type, TPQ and TAQ, Object category and Activity category, to better document the collection and make it easier to use for research.

Photographic Collection

There are two photographic collections associated with Richborough. The first is the site and object photos from the time of the excavations and from several years after. Then there is new digital photographic collection of the small finds. The former is in the process of being scanned and catalogued. The latter is currently being photographed by myself and a volunteer. The photographs are arranged in two ways. Firstly, is the main Small Finds Photographs folder which has a copy of the .JPEG and .NEF files organised by the objects current storage box number. Secondly, each .JPEG file is included in the object category folder in each activity group. This makes finding images useful for the curators to know in which box to find an object but also for researchers to find images by object type.

Other Object Databases

There are also other object databases that have been compiled over the course of the project. Glass, ceramics, and coins are the main ones, and it will take more research to catalogue the other object types such as building material and bone. The Glass catalogue can be accessed by emailing the English Heritage South-East archaeological store. The ceramic and coin databases are under construction.

Other Catalogue Databases

There are also other databases relevant to this thesis and the project. One of the most important is the Context Numbers database. I have compiled this database to contain the new context numbers from

the descriptions given by Bushe-Fox's team and Malcolm Lyne to bring some consistency to the site and object interpretation. These context numbers and descriptions can then be cross referenced with the object catalogues.

Summary

The process of cataloguing the collection was not an easy one due to many errors, but it was an extremely rewarding one. It has made the entire small finds collection more accessible for research and the research already undertaken has brought the collection into the 21st century. I have no doubt that as a group we have made errors which will be rectified as the research continues. The addition of the digital catalogue is a huge contribution to the collection. Access to the collection has at times been difficult and publications that include the Richborough collection have often missed many objects as well as lacked salient data. The parts of the archive described above will be stored on the EH network drive as well as two SSD stored in the Stonehut at Dover Castle and one with the original copy of this thesis. It is now possible to use the Richborough collection as a significant object case study.

Appendix 3 – Historical Sources

There are various Roman written sources which refer to *Rutupiae*. The name is associated with Richborough, but while reading the sources below it must be considered that *Rutupiae* might also have been used to reference the whole of Britannia.

- 1) “prima quidem surgens operum structura fefellit Pompeium, ueluti mediae qui tutus in aruis
Sicaniae rabidum nescit latrare Pelorum, aut, uaga cum Tethys Rutupinaque litora feruent,
unda Caledonios fallit turbata Britannos.”

Lucan (Pharsalia vi, 1. 67)

Lucan here talks about the works used by Caesar against Pompey in Dyrrachium (Durrës, Albania). He says that Pompey did not notice these works, like the men of Sicily fail to notice the yelp of Scylla’s dogs, or, more importantly here, how the Britons of the north, do not hear the waves break on the *Rutupine* shore. In this case *Rutupiae* could just mean the southern shore of Britain, namely Kent, in opposition to the north, and be used as a general term rather than specific to Richborough. Pharsalia was begun in AD61 so the name *Rutupiae* was clearly used very soon after the AD43 invasion. As we now know the site was beginning to develop as a port town by this point, but it would be very strange to refer to the site as *Rutupiae*.

- 2) vicit digna viro sententia, noverat ille luxuriam inperii veterem noctesque Neronis
iam medias aliamque famem, cum pulmo Falerno arderet, nulli maior fuit usus edendi
tempestate mea; Circeis nata forent an Lucrinum ad saxum Rutupinove edita fundo
ostrea callebat primo deprendere morsu, et semel aspecti litus dicebat echini.

Juvenal (Satires iv, 1. 141)

Juvenal here speaks of Montanus, a man in Nero's court, who can distinguish the native shore of oysters and sea urchins. Included in this is *Rutupiae*, along with Circeii on the west coast of Italy and Lucrine Lake near Napoli. To mention *Rutupiae* here in the Imperial court suggests a fineness of the oysters and where being exported by the early 2nd century. Whether the reference to Nero's court means they were being exported 50 years or so prior is unclear as this could be Juvenal's knowledge of the oysters. Like Lucan it is most likely that *Rutupiae* refers to the southern shore of Britain rather than Richborough in particular.

3) Ptolemy (*Geographica* ii, 3, 12).

4) Antonine Itinerary

The Antonine Itinerary is a list of major stopping points along the roads of the Roman Empire. Richborough is included in the *Iter II* in Britain which runs from Hadrian's Wall and ends at Richborough. There is little need here to investigate the Itinerary as this has been covered by Rivet and Jackson (1970). The Itinerary lists Richborough as "*Ad Portum Ritupis*" or Port Rutupiae, signalling it as a specific location. The does not mean that it is considered the port to Britain as Dover is also described similarly.

5) "Moto igitur velitari auxilio, Aerulis scilicet et Batavis numerisque Moesiacorum duobus, adulta hieme dux ante dictus Bononiam venit quaesitisque navigiis et omni inposito milite, observato flatu secundo ventorum ad Rutupias sitas ex adverso defertur petitque Lundinium ut exinde suscepto pro rei qualitate consilio festinaret ocius ad procinctum."

Ammianus Marcellinus (*Lib*, xx, 1, 3)

Ammianus, writing in the AD380s, compiled his Roman History while living in Rome. He speaks of Lupicinus in AD363 taking Aeruli, Batavians and Moesians as auxiliaries to Britain. This date fits quite nicely with the change in organisation and culture at Richborough, however, this change might have happened in the years before with other auxiliaries. Here the text is interpreted that Rutupiae

means Richborough rather than Britain. The text says that Richborough lay opposite to Boulogne, which in reality is not correct, however, it might have looked this way on maps at the time.

- 6) “Ad haec prohibenda, si copiam dedisset fortuna prosperior, orbis extrema dux efficacissimus petens cum venisset ad Bononiae litus, quod a spatio controverso terrarum angustiiis reciproci distinguitur maris, attolli horrendis aestibus adsueti, rursusque sine ulla navigantium noxa in speciem conplanari camporum, exinde transmeato lentius freto, defertur Rutupias stationem ex adverso tranquilla unda.”

Ammianus Marcellinus (Lib, xxvii, 8, 6)

Ammianus again describes Rutupiae as a port across the sea from Boulogne, this time as a quiet haven on the coast at which Count Theodosius landed in AD368. Later he describes the Batavi, Heruli, Jovii and Victores. The Batavi being raised from the Gallic coast around the Rhine suggesting the presence of Germanic auxiliaries/mercenaries in Theodosius’ army.

7) The *Notitia Dignitatum*

The *Notitia* is a difficult document to unpack. In basic terms *Rutupiae* is listed as a fort under the command of the *comes littoris Saxonici*; translated as the Count of the Saxon Shore. It is unclear when this position originated but sometime in the 4th century is likely. It is clear that the Saxon part of the shore does not refer to Saxon’s inhabiting the sites listed under the command, although mercenary troops from the region are possible. The Saxon part might refer to the shore of the Saxon sea or the shore facing the Saxons. In any case, *Rutupiae* is listed as one of nine sites and interpreted to be Richborough. The *legio II Augsuta*, who were stationed at Caerleon and it is unclear if the whole legion or part was moved to Richborough sometime in the 4th century. The site is not big enough to hold a legion of this period (c.1000-1500 troops) as women, children and a Continental cavalry unit were also present. Each fort under the command is listed with only one unit but the clear presence discussed in this thesis of a cavalry unit not attached to the legion at Caerleon suggests other forts might have had other units. It is possible that the western lists in the *Notitia* were compiled from lists written when the legion was the only unit present or that a second unit was missed off the lists as it was only

important to note the main unit. We cannot really say when the legion arrived. Fulford (1996: 97-99) suggests the late 4th century for the legion at Richborough. However, CIB tiles referring to the *Cohors I Baetasiorum* discovered at Reculver, the unit listed in the *Notitia* for the fort, dates their unit's occupation to the late 2nd – early 3rd century and they might have built the fort (Philp 2005: 64, 224-5).

8) Ausonius (Clarae Urbes, Aquileia)

- 9) “ET patruos, elegea, meos reminiscere cantu, Contemtum, tellus quern Rutupina tegit ;
magna cui et variae quaesita pecunia sortis”

Ausonius (Parentalia, vii, 2)

Here, Ausonius speaks of an uncle he remembers being buried under the Rutupine soil. Writing after his consulship of AD379, it is possible by this point he is writing specifically of Richborough as Rutupiae is named as a site in the *Notitia*. However, it is likely that Britain is the reference here as many other references to Rutupine or variations upon.

- 10) “militiam nullo qui turbine sedulus egit, praeside laetatus quo Rutupinus ager,”

Ausonius (Parantalia, xviii, 8)

Ausonius also refers to Favius Sanctus, a governor of Britain in the mid-4th century AD. Little is known about him, apart from his Christianity (Petts 2003: 43). However, since he is named in 11) Ausonius' poem as governor of the Rutupine land, again the reference is to Britain. This lends more credence to the authors use of Rutupiae as Britain rather than Richborough in Poem VII above.

11) The Tabula Peutingeriana

The Tabula Peutingeriana (The Peutinger Map) is a 13th century map of possible Roman date. Only three of the, Richborough, Dover and Lympne, Shore Forts are mapped, which Bushe-Fox (1923: 5) argues might be because these are the ends of routes on the Antonine Itinerary.

- 12) “Britannia oceani insula per longum in boream extenditur; a meridie Gallias habet. cuius
proximum litus transmeantibus ciuitas aperit, quae dicitur Rutupi portus; unde haud procul

a Morinis in austro positos Menapos Batauosque prospectat. haec insula habet in longo milia passuum DCCC, in lato milia CC.”

Orosius (Hist. Contra. i. 2. 76)

Here Orosius, writing in about AD416-7, mentions Rutupiae as a port, which is the closest reference to the site as such other than the *Notitia*.

- 13) “To its nearest shore there is an easy passage from the city of Rutubi Portus, by the English now corrupted into Reptacaestir. The distance from here across the sea to Gessoriacum,²⁴ the nearest shore in the territory of the Morini, is fifty miles, or as some writers say, 450 furlongs.”

Bede (Hist. Eccl. i, I)

Completed in about AD731, Bede’s *Historia ecclesiastica gentis Anglorum* (*An Ecclesiastical History of the English People*) gives a bit more information about Rutupiae. He refers to it as a port which gives a clear indication that he is referring to the site, but he is clearly copying from Orosius. He also gives the newer name of Reptacaestir which will become Richborough. He places the port 50 miles, 450 furlongs, away from the nearest Continental shore at Gessoriacum (Boulogne). In fact, 450 furlongs is now 56 miles, but this is close enough for the time. Richborough is in fact 64 miles as the crow flies from the port at Boulogne, so the historical measurements are not bad. Boulogne was clearly an important historical port and although not the closest landfall it might have been the closet port to dock.

Appendix 4 - Interpreting Purpose and function

"There can be few major topics in Romano-British archaeology for which the factual base is so slight, but about which so much has been written, than the forts of the Saxon Shore."

Cunliffe (1977: 1).

This section outlines the development of the interpretation of the shore forts purpose and function. This is followed by a site-specific interpretation to evaluate the strength of these interpretations. In the late 16th century Camden (1772: 325) wrote that the *comitem maritimi tractus*, and later the *comes littoris Saxonici per Britanniam*,

"...office was with garrisons set upon the shore in places convenient, to repress the depredations, and robberies of Barbarians, but of Saxons especially, who grievously infected Britaine."

Repeated by historians for centuries, this line places the shore forts in the context of defending Britain against incursions by Saxons. There appears to be no reasoning to this interpretation (Pearson 2005: 73), but fast forward 500 years and this view remained pervasive throughout the interpretation of the shore forts.

This view is attached to Richborough, suggesting that the Saxon shore forts represented the defence of Britain by Carausius and Allectus after their breakaway from Rome (Cunliffe 1968), either against Saxon pirates, or from the threat of Maximian to the usurpation of Carausius and Allectus (Bird 1993). Should it have been Carausius who instigated the construction, one of the earliest hypotheses was as a defence against "both the Saxons and the forces of Imperial Rome" (Bushe-Fox 1949). However, any threat from Rome seems unlikely as the shore forts constructed along the coast of Northern Gaul suggest a wider scheme (Cunliffe 1968: 264). Additionally, the early group of shore forts were conceived at least 60 years prior to Carausius' usurpation.

Johnson (1979: 7-10) sticks firmly to the idea that the 'Saxon Shore' was one 'attacked by Saxons' rather than being one settled by them. It is suggested that it is possible that the area was

settled by Saxons in the late 4th century (Johnson 1979: 7-10) based upon ceramic and metalwork finds, however, with no direct evidence of Saxon settlement until the 5th century, it is 'natural' to think of the Saxon Shore as a region raided by Saxons (Johnson 1979).

Therefore, until the late 20th century, the main interpretation was that the east and south-east coast of Britain, as well as northern Gaul, suffered attacks from Franks and Saxons, with Carausius commissioned to clear them from the seas in the late 3rd century (Bird 1993) page. It was suspected at the time that the booty recaptured by Carausius from Saxons raids was kept by him to enrich himself and declare himself Emperor in Britannia (Bird 1993). Under this guise, it is supposed that Carausius continued work on the shore forts, particularly Portchester which was constructed during his reign (Johnson 1979: 62).

However, more recently evidence on which these claims are based has been called into question. If the shore forts were built as a response to Saxon raiding then this must have begun in the early 3rd century when Reculver, Caister and Brancaster were constructed. However, the earliest reference to Saxon raiding comes when Carausius was put in charge of a fleet to defend against piracy off the coast of Gaul (Aur. Vic. 39.20). Additionally, the idea that the Saxons settled the shore is no longer plausible based on metalwork and pottery. Myers (1956), followed by others (Rodwell 1970, Roberts 1982) apparently identified 3rd – 4th century 'Romano-Saxon' pottery which was designed for Anglo-Saxon settlers to replicate wares from their homelands. However, Gillam (1979: 115-6) concluded that there is no evidence to suggest specially made wares for Anglo-Saxon settlers. In fact, there is no evidence to suggest Anglo-Saxon settlement in Britain at the time. Gillam (1979: 115-6) determined that pottery which closely resembled Frisian vessels were likely made by Frisian numeri as part of the Roman military and was influenced by styles from their homeland. A similarity was also drawn between the supposed 'Romano-Saxon' pottery and Roman silver vessels from Leuna, and Peterborough (Gillam 1979: 116). The silver has decoration like 'Romano-Saxon' pottery and would seem to be a direct influence. Late buckles and strap-ends were once interpreted to be of Saxon origin and came from Saxon mercenaries hired by the Roman military (Hawkes, Dunning 1961: 9-10). This has now been refuted, mostly by the same author (Hawkes 1974: 390-3) demonstrating that they had a

much wider use than solely with the Roman military. Simpson (1976) demonstrates that late Roman belt buckles and strap ends, once associated with Germanic troops, were in fact widely used by the Roman military throughout the Empire.

Further arguments for Saxon raids into Britain relate to a reference to Carausius being put in charge of a fleet to rid the seas of Saxon raiders.

"During this period (AD284), Carausius, who, though of very mean birth, had gained extraordinary reputation by a course of active service in war, having received a commission in his post at Bononia, to clear the sea, which the Franks and Saxons infested, along the coast of Belgica and Armorica..."

(Eutropius 9.21)

Later,

"...by this nefarious act of brigandage, first of all the fleet which once guarded the Gauls was abducted by the pirate [Carausius] as he fled."

(Unknown Pan. Lat. VIII.12.1)

Arguments over whether this fleet was 'built' by Carausius (Elliott 2016: 174) or was a fleet in existence that he 'prepared' (Nixon, Rogers 1994: 127) are for another time. In any case, several shore forts were in existence before the AD280s. Although there is no direct evidence for Saxon raiding before the late 3rd century, Elliott (2016: 163-5) suggests that the early group were in response to Saxon raids beginning in the early 3rd century. Based upon Lyne's (Lyne 1996: 149) analysis of ship fittings at Richborough, those that are from late Germanic ships were technologically similar to those in the early 3rd century (Elliott 2016: 163-4). Elliott (2016: 164) also argues that these early raiders would have taken a direct route to Britain, rather than a coastal hugging route as suggested by Cotterill (1993: 227-8). However, Lyne also notes that these fittings are also found used on late Roman door partitions (Lyne 1996: 149). The evidence for the ability to sail to Britain prior to the late 4th – early 5th centuries is speculative, and without a direct historical reference to Saxon raiding before the late 3rd century, it is difficult to see the early group in the context of defence against seaborne raids. Looking back at the historical texts for Saxon raiding, it can be argued that Britain is not referred to in this context. Belgica,

and Armorica are referenced regarding Saxon raiding (Cotterill 1993: 299, Pearson 2005: 78), however, where Britain is concerned, the only reference seems to be a copyists' corruption of Batavia (Bartholomew 1984: 183-4). Archaeological evidence is scant for Saxon raiding in Britain. One example that is used is hoards of *antoniniani* thought to have been hidden before an attack (Johnson 1979: 5-6). An alternative explanation is that they were hidden during the Antonine currency reforms, due to their increased silver content (Pearson 2005: 78). However, the interpretation of hoards buried for monetary security has much to do with our value systems, which were likely different from the motives for their burial (Millet 1994) and therefore based on religious or regional practice than linked to historical events.

Lately, the shore forts have been linked to several different functions, including the collection of the *annona* in Britain (Cotterill 1993: 238), and the collection of taxation in kind (Pearson 2005: 84). Although the shore forts are each at the mouths of navigable waterways, which could suggest protection against Saxon incursions, they also could be used to 'facilitate access for both military and commercial shipping' (Pearson 2005: 82). One suggestion that lends itself to differing functions is the different character of the sites, not only are they all different shapes and sizes, but from what is known of the interiors shows quite different layouts (Pearson 2005: 85). Additionally, the apparent development of *vici* at some shore forts, but not others, might suggest a different character of occupation, and function (Pearson 2005: 85).

Cotterill (1993: 236-8) has suggested that the shore forts represent a logistical network of trans-shipment centres, with a direct comparison with military and civilian settlements at key river and land and sea routes on a western supply route to the northern frontier (Cotterill 1993: 236). This network included auxiliary forts, harbour facilities, as well as inland forts in Wales acting as supply stations for the *annonae*, and the exploitation of natural resources (Cotterill 1993: 236-7). The ceramic evidence suggests that this supply route was open until the late 4th century (Fulford 1989: 189). On the east coast of Britain, the northern frontier seems less dependent on the eastern supply route past the mid-3rd century (Fulford 1989: 192). However, the main supply activity on the east coast occurs in the early 3rd century. Along with the construction of Reculver (c.AD185-200) (Philp 2005: 194, 206-8),

Caister, (c.AD190-235) (Darling, Gurney 1993: 240-2) and a late 2nd century occupation outside the later shore fort walls at Brancaster and possible fort predating the shore fort (Hinchcliffe, Sparey Green 1985: 176-81), is a short-lived reoccupation of Dover by the *classis Britannica* (c.AD190-210) (Philp 1981: 98) and a reorganisation at South Shields (c.205-07) (Collins 2015: 18-20). It is tempting to link these sites to the Severan Campaigns of AD210-11. They may have planned for the event; however, similar changes were happening on the west coast of Britain (Pearson, 2005: 76). It is possible that this reorganisation of the northern supply routes is linked to earlier problems on the northern frontier under the governorship of Virius Lupus from AD197 and later facilitated the Severan campaigns. Seen in this way the early group of shore forts cannot be a reaction to Saxon raids in the early 3rd century. Returning to the western route, it has been suggested that the continuation of the supply route to the north from the mid-2nd century - AD370 is the result of a reduced garrison in the province, which was less reliant on supplies from the continent (Fulford, 1989: 192). While this route and system of fortified settlements was supplying the northern *annonae*, it is likely that the southern and eastern shore forts were supplying the *annonae* to the Gallic provinces. The fortified settlements of 3rd - 4th century Britain were therefore working as logistical network to exploit the province and keep the frontier garrisons supplied.

Military installations saw a resurgence in the mid-4th century due to incursions by the Picts and Scoti (Pearson 2005: 79) and an eventual reorganisation of the frontier supply (Middleton 1989: 93). However, it is in the mid-3rd century that the shore forts of the south and east were being abandoned. Reculver (c.AD360), Lympne (c.AD350), Burgh Castle (c.AD380), and Caistor (c.AD370-90) were all abandoned. If these shore forts were protecting against Saxon raids on the coast of Britannia, then their abandonment makes little sense. Their abandonment must be linked to the wider socio-political landscape in Britain. Given the mid-third century abandonment, they cannot be linked to the crossing of Constantine into Gaul with the remaining British legions in AD407 (Zosimus. *Historia Nova*: VI, 3.1). However, Portchester, Pevensey, all appear to show occupation in the 5th century. At Portchester, the late occupation from c.AD364 is disorganised occupation and a discontinuation into the 5th century, suggested by the lack of coinage and late pottery types (Cunliffe 1975: 425, Reece 1975: 197). At Pevensey, there is a similar story. Intensive occupation ends c.AD370

with the apparent lack of buildings (Lyne 2009: 40). This is explained by either destruction by later Saxon and Medieval occupation, or the disorganised nature of ephemeral structures (Lyne 2009: 40). The later chronological sequence at other shore forts is little known, including Richborough. However, the oft-cited late coin sequence might provide some clue as to its purpose in the late 4th and early 5th century.

Appendix 5 – Cunliffe's Richborough Plans

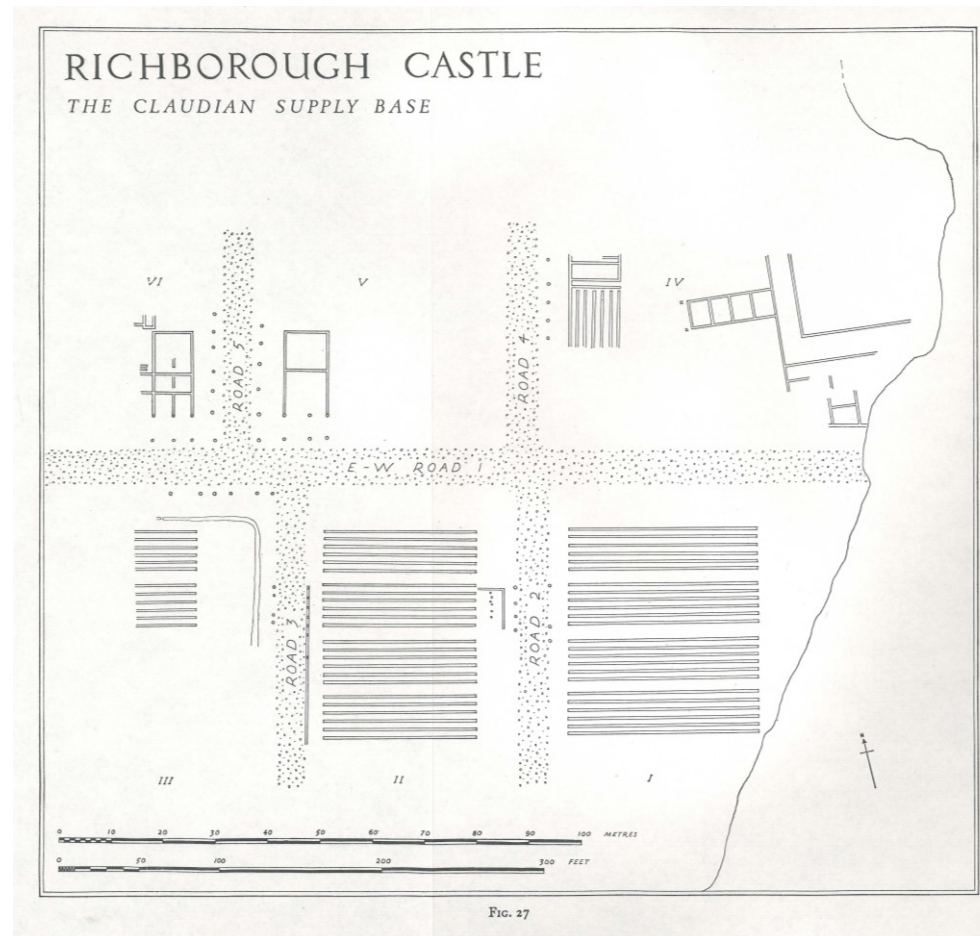


Figure A5-1. Cluadian Supply Base

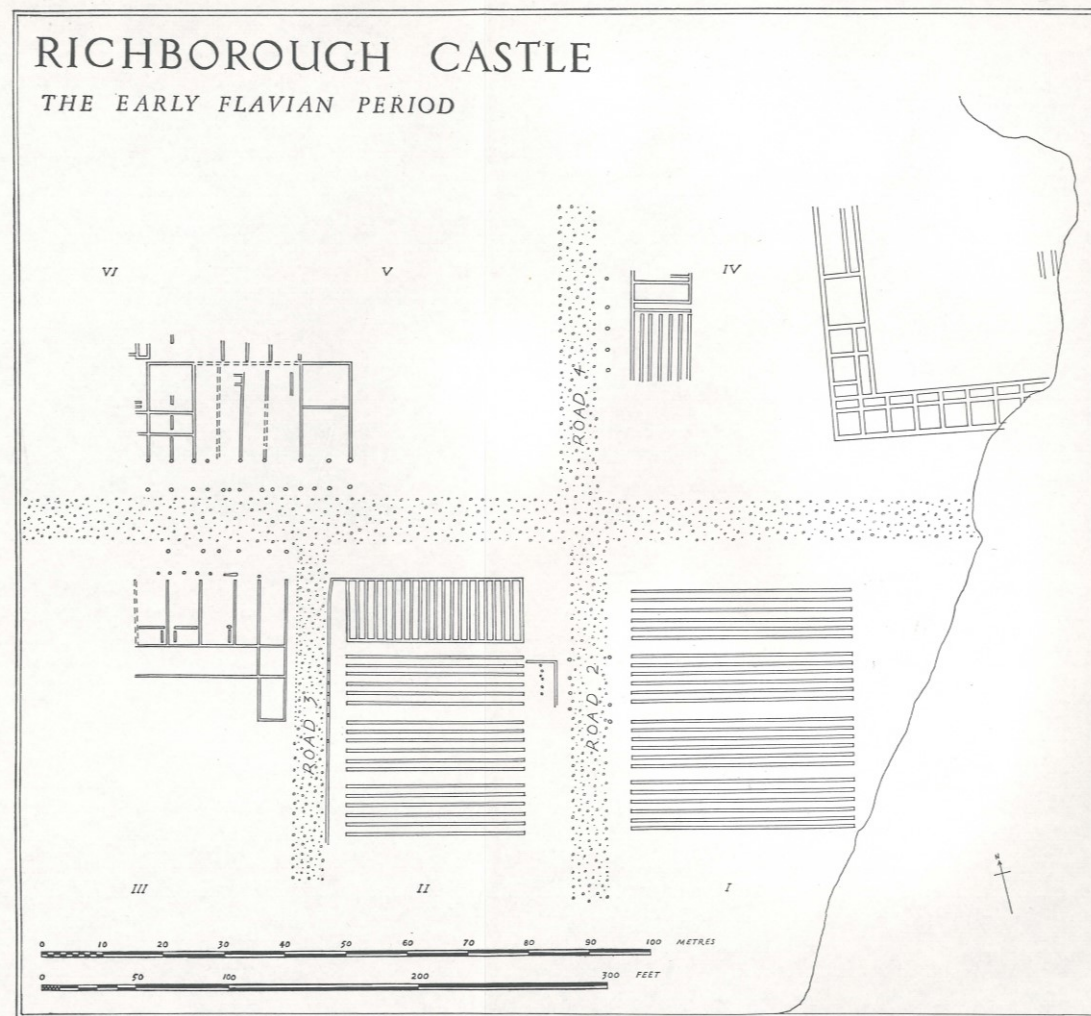


FIG. 28

Figure A5-5-2. Early Flavian Period

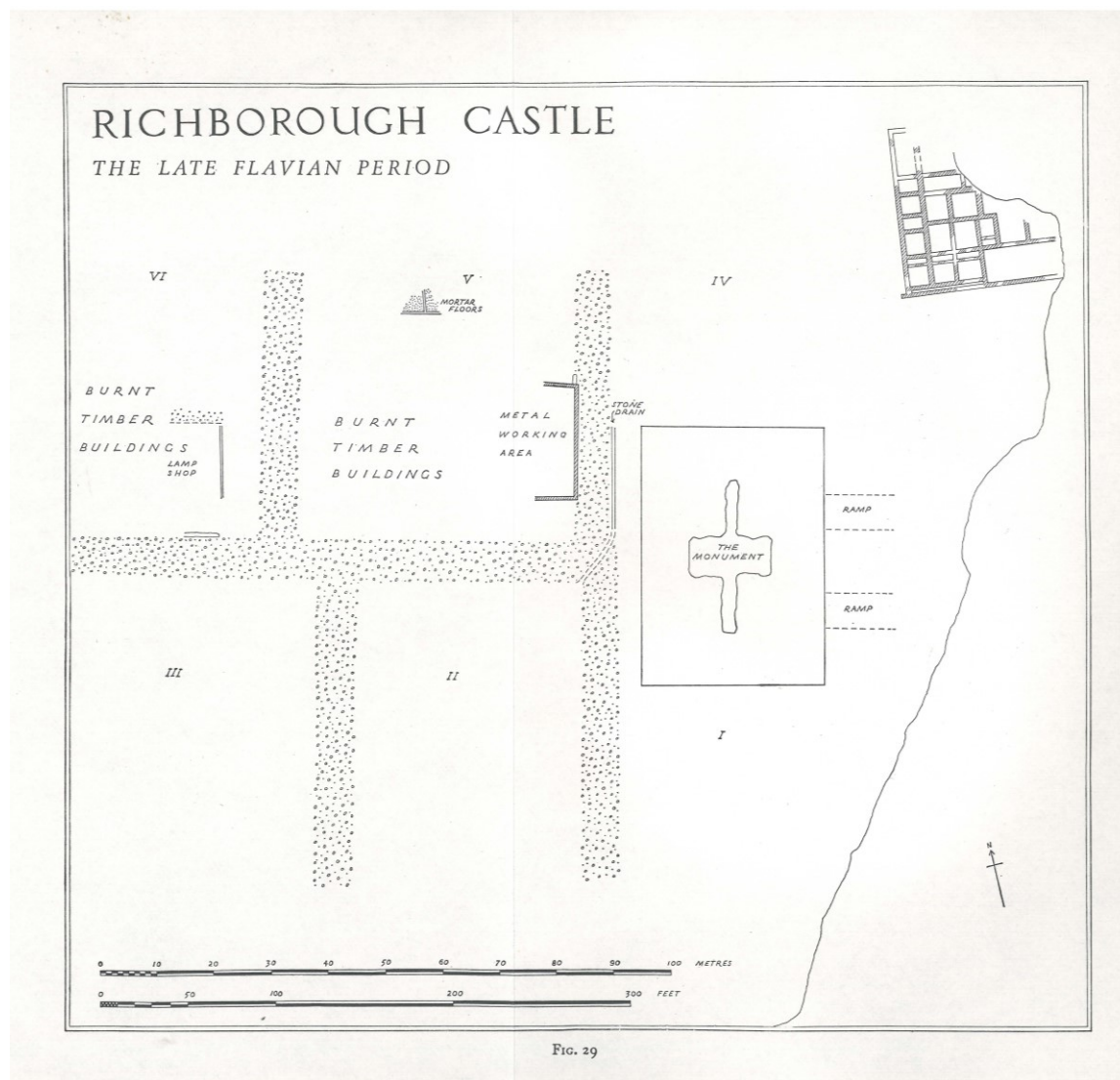


Figure A5-3. Late Flavian Period

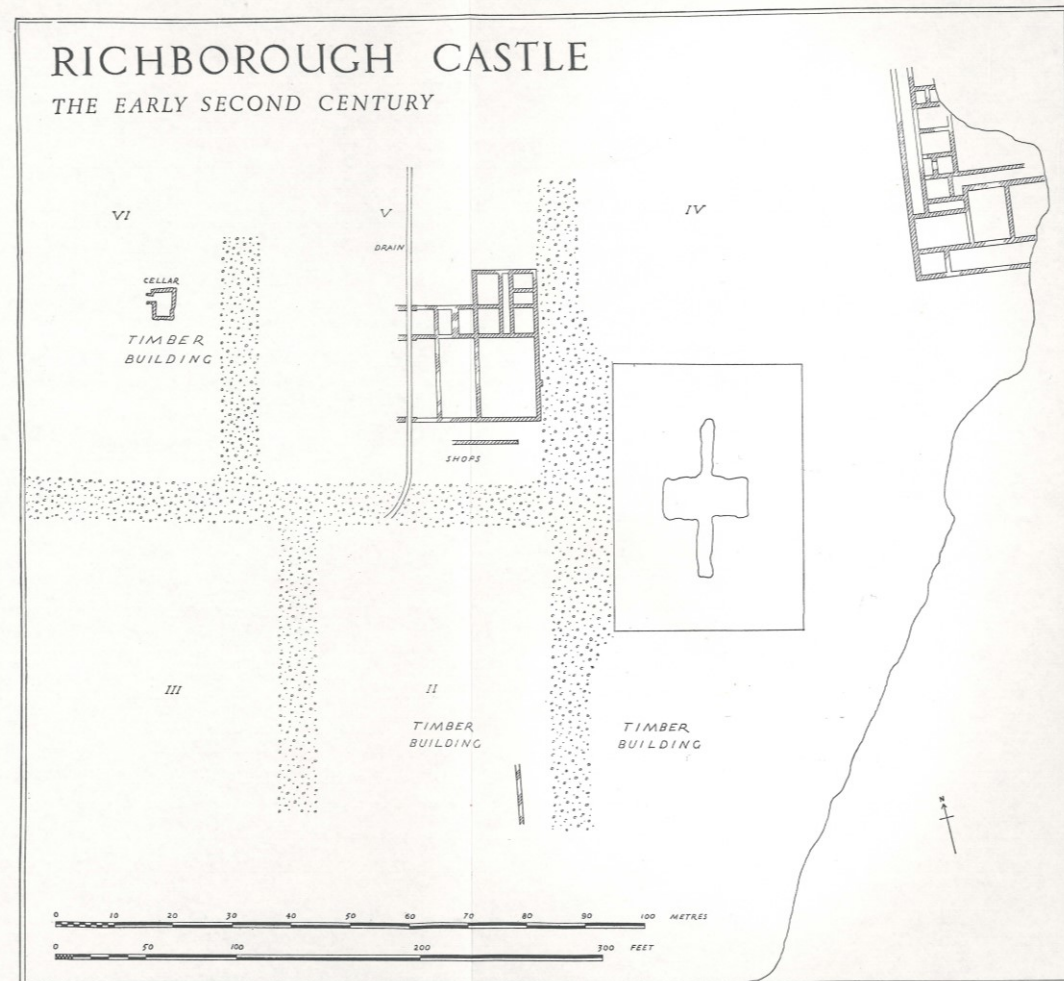


FIG. 30

Figure A5-4. Early Second Century