7 ARTEFACTUAL EVIDENCE

7.1 Introduction

The site produced a large quantity of artefactual and ecofactual evidence. Finds predominantly came from midden-rich Context 003 and the ditches immediately underlying the midden deposits, but were also recovered from ditches associated with the field system, from some pits and from the burials (see Sections 3 and 4).

The strategy for dealing with such a large quantity of material was determined at assessment (Anderson 2011). It was clear that the best preserved and most intact finds of all types were recovered from the large, but essentially unstratified, deposits which made up the midden. It was considered that the large assemblage from this layer was likely to represent rubbish discarded from the fort, and the study of this material in detail was of greatest value in providing information on the inhabitants and their material culture. The specialist analyses have been carried out with this aim in mind, and less emphasis has been placed on the scattered finds from other features (with the main exceptions of finds from the burials).

Context 003 was divided into 11 zones, each measuring 10m east to west by the full width of the investigated midden deposits (up to 18m) north

Table 7.1 Pottery from contexts other than C003. Key: NRFRC = National Roman Fabric Reference Collection (Tomber & Dore 1998); * = probably includes Rossington Bridge BB1

Fabric	NRFRC	Weight (kg)	Sherds
Samian		2.361	109
Mortaria		3.034	76
Amphorae		2.649	21
Fine wares			
Cologne colour-coated	KOL CC	0.035	9
Colchester colour-coated?	COL CC 2	0.005	1
Argonne colour-coated	ARG CC	0.009	3
Unsourced fine ware		0.001	1
Coarse wares			
Fine white ware		0.005	1
White ware		0.012	2
Severn Valley	SVW OX 2	0.031	2
Unsourced oxidised		0.095	11
Inveresk oxidised		2.114	78
Inveresk reduced		1.977	107
Inveresk cream		0.102	4
Grey ware with white core		0.151	9
Grey ware with pink core		0.084	4
BB1*	DOR BB 1	1.261	61
BB2	BB 2	2.044	153
East Anglian?		0.026	4
Shell-tempered		0.128	3
Unsourced reduced		0.410	34
Totals		16.534	693

Table 7.2 Pottery from C003. Key: NRFRC = National Roman Fabric Reference Collection (Tomber & Dore 1998)

Fabric	NRFRC	Weight (kg)	Sherds	EVE(%)
Samian		14.985	469	2193
Mortaria				
Newstead?		7.227	50	316
Scotland		2.204	18	102
Scotland or N England		2.026	31	167
Colchester		2.599	29	147
Verulamium	VER WH	0.162	1	8
Mancetter-Hartshill	MAH WH	0.069	1	14
Unsourced		0.166	2	12
Amphorae				
Dressel20	BAT AM1	17.442	93	133
Gaulish amphorae 1	GAL AM1	1.890	36	72
North African amphora??	NAF AM	0.075	1	–
Normandy amphorae	NOM AM	0.159	1	27
Unsourced amphorae		0.408	7	–
Unsourced amphora lid		0.064	1	100
Fine wares				
Cologne colour-coated	KOL CC	0.086	11	34
Cologne colour-coated?		0.024	1	5
Argonne colour-coated	ARG CC	0.003	1	0
Colchester colour-coated?	COL CC2	0.010	2	0
Colchester red colour-coated		0.001	1	0
Upchurch reduced	UPC FR	0.093	5	20
Unsourced fine wares (local?)		0.062	2	14
Coarse wares				
Fine white ware		0.022	2	0
White ware		0.050	1	17
Severn Valley	SVW OX2	0.209	2	0
Cream-slipped oxidised		0.014	1	0
Unsourced oxidised		0.439	25	140
Inveresk oxidised		7.600	229	561
Inveresk reduced		5.412	152	599
Inveresk cream		0.240	7	68
Grey ware with white core		0.280	8	13
Grey ware with pink core		0.192	8	16

Fabric	NRFRC	Weight (kg)	Sherds	EVE(%)
BB1	DOR BB1	2.160	86	483
BB1 Rossington Bridge	ROS BB1	0.329	7	33
BB2	BB2	5.965	265	861
East Anglian?		0.219	5	65
Shell-tempered		0.125	6	0
Unsourced reduced		1.275	52	64
Totals		74.286	1619	6284

to south. This was done in order to investigate the horizontal stratigraphy of the deposit. Due to a combination of the homogeneous nature of the deposit and the limited resources available, it was not investigated vertically. The context information referring to C003 zones is included in the following section in the form '003/x' where 'x' is the zone number.

7.2 Roman pottery

Alex Croom and Paul Bidwell, with contributions by Felicity C Wild, Kay Hartley and Eniko Hudak

The site produced 2,312 sherds of pottery, weighing 90.820kg. Nearly 60% came from Context 003, which was studied in detail. Catalogue entries include, in brackets, context and zone details and (where relevant) finds number (prefixed M, G or P).

Pottery from contexts other than the midden-rich Context 003 was quantified but not studied in detail. Table 7.1 presents the quantification by fabric.

7.2.1 Pottery from Context 003

This context produced 74.286kg of pottery, and was studied in detail (Table 7.2). The pottery was in very good condition, with many large-sized sherds.

The coarseware fabrics

Descriptions for the fabrics with National Reference Collection codes in Tables 7.1 and 7.2 can be found in Tomber & Dore 1998. Other fabrics are described below, or within the pottery catalogue.

▸ **Inveresk ware:**

The oxidised version of this ware was identified by V Swan, and has been described in some detail (Swan 1988). The most characteristic vessels in this ware are quite chunky in appearance, being thick-walled and having heavy, thick bases. There is a preference for the bases of bowls and beakers to have a simple foot ring, often created by a wide groove (ibid: illus 20, nos 1.224, 1.233, 1.234; illus 21). The burnishing is often just in bands rather than continuous, and there is often an unburnished zone 10–20mm wide below the rim, either on the exterior or interior. It is noticeable that many bowls are not burnished at all on the interior, with some not even being smoothed but having the throwing lines left visible on the surface. On some vessels the lattice is almost incised rather than burnished, and others are poorly finished. There is the appearance that at least some of the vessels were made in a hurry, without much attention, or by competent but not very skilful potters.

The vessels are found in both oxidised and grey wares. There are at least two different fabrics, although there are many sherds that fall between the two extremes identified. There is a fine fabric, characterised by some common black inclusions, voids within the fabric and rare rounded quartz inclusions. The other fabric has plentiful, sometimes abundant, rounded quartz inclusions as well as the black inclusions, voids and often red inclusions. The fabric is micaceous, sometimes very micaceous, with silver mica plates visible on the surface.

There seems to have been little quality control over vessel colour. The colour range for both the grey and orange vessels is very varied, with light and dark grey finishes, and orange, buff and cream versions. There is one vessel which appears (from its fabric and a large dimple in its surface) to be a second, that has a thin cream wash, but this is generally very rare.

▸ **Inveresk ware (cream):**
Fabric as above, but cream or buff in colour, with a brown, black or grey exterior. This only makes up a very small proportion of the Inveresk ware on site. All the surviving vessels came from cooking pots.

▸ **Grey ware with white core:**
Fine, white fabric with very fine black inclusions and some voids, with dark grey surfaces, although some sherds have more quartz inclusions. A local product, with the same burnishing in bands and chunky vessels. Mainly cooking pots, although also some examples of flat-rimmed bowls.

▸ **Grey ware with pink core:**
Fine grey fabric, light or mid-grey, with wide pink or pink-buff core with indistinct edges. Some fine quartz inclusions; likely to be a local product. A range of vessels are found in this ware, including cooking pot, storage jar and lid.

▸ **BB1 Rossington Bridge:**
There was a small quantity of BB1 from Rossington Bridge, including a cooking pot (Illus 7.2, no. 26), a tankard, a flat-rimmed bowl, a second bowl with close-set lattice decoration, and the base of a third bowl or dish with scribbled decoration on the lower surface. This ware was distinguished from other forms of BB1 by its dark grey colouring and sometimes by the vessel type represented (Bidwell & Croom 2016).

▸ **East Anglian?:**
Fine, sandy grey ware, with abundant silver mica.

▸ **Shell-tempered:**
Grey fabric, sometimes with oxidised surface. Although sherds were found in a number of different contexts, they might all represent a single vessel (cat no. 43).

▸ **Fine white ware:**
Fine white fabric, with silver mica plates, scattered very fine black inclusions and numerous voids, some up to 2mm across. This is possibly an imported ware from Northern Gaul.

▸ **White ware:**
Slightly granular white fabric, with pink core. Probably an import.

▸ **Severn Valley ware:**
There were only a small number of sherds in this ware, all from storage jars. None illustrated.

▸ **Colchester red colour-coated ware:**
There is a single sherd from a very small rough-cast beaker (cf Symonds & Wade 1999: fig 5.31, nos 37–42). Not illustrated.

▸ **Cream-slipped oxidised ware:**
Hard orange fabric with a grey core and thick cream wash. A single body sherd from an *unguentarium*. Not illustrated.

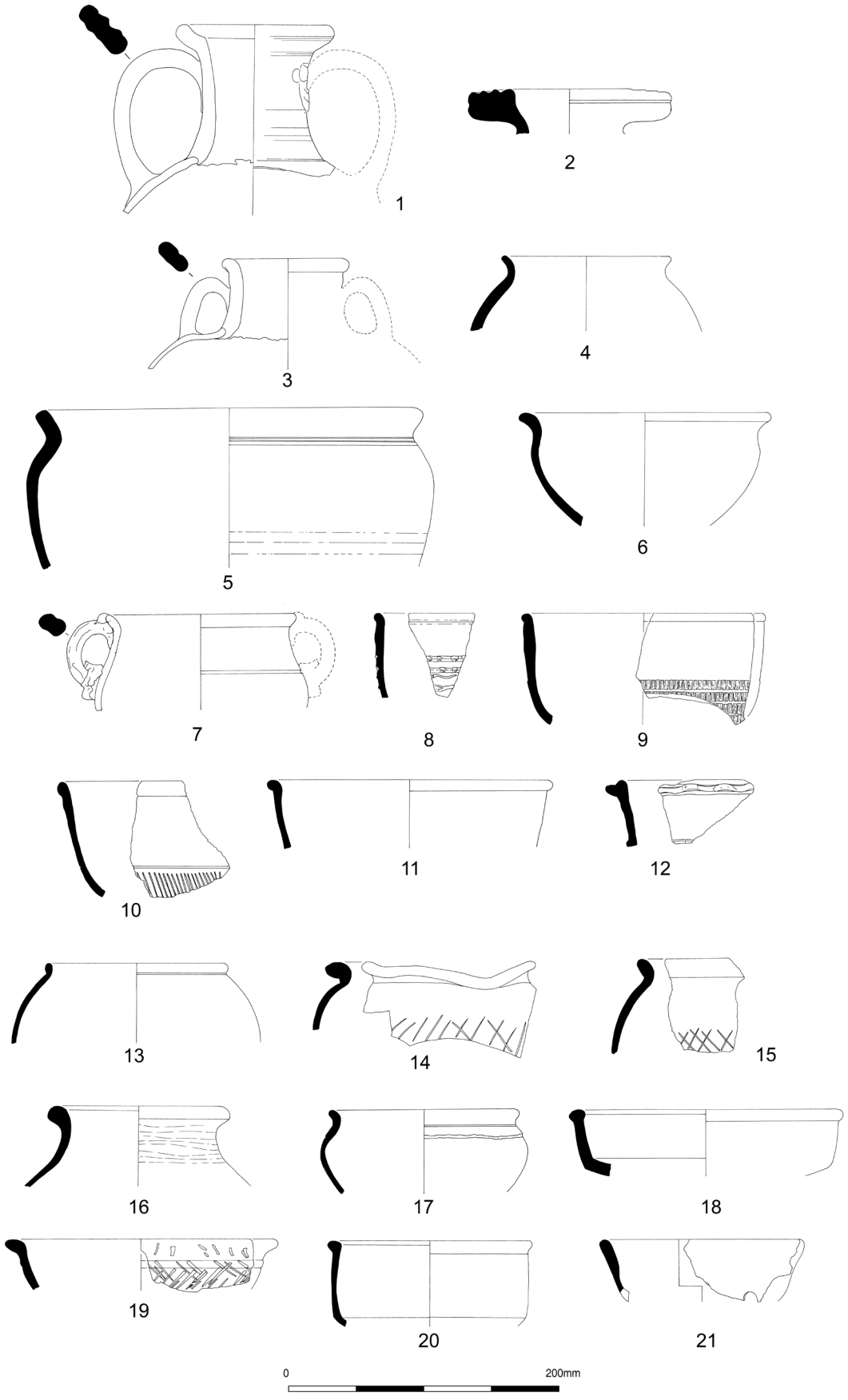
Catalogue (Illus 7.1–7.3)
The entries include description, fabric and context number. C003 includes the relevant zone as the second part of the number.

Amphorae

1. Fine, hard, micaceous orange fabric with few inclusions. (003/5)
2. Fine, hard orange fabric, with plentiful fine white inclusions. Peacock & Williams 1991 Type 55 (Gauloise 12). NOM AM. (003/5)

Inveresk ware

3. Flagon. Discoloured through firing on the rim and handle. Fine. (003/11A)
4. Cooking pot, burnished on exterior. Orange fabric with thin brown wash. Sooting on exterior under the rim and onto the interior of the rim. (003/5A)
5. S-shaped bowl in a pale orange fabric. Burnished on exterior until just under the rim. There are a few burnished lines on the interior of the rim, but the rest of the interior is unburnished (003/5A). The S-shaped bowl is very characteristic of the ware (cf Swan 1988: illus 20, nos 1.83, 1.230; Dore 2004: fig 79, no. BO9, BO15)
6. S-shaped bowl in an orange fabric. Smoothed halfway up exterior with a red slip, interior not burnished. (003/2A)
7. Cauldron, with poorly formed attached pendant loop handle, and the only



Illus 7.1 Pottery: amphorae (1–2), Inveresk ware (3–12) and Inveresk grey ware (13–21) (copyright CFA Archaeology Ltd)

burnishing present on the top of the rim. The vessel is very roughly finished, particularly round the handle, while on the interior accidental incised marks have not been removed before firing. A small lump of clay has been added to the top of the handle to help attach it: cf no. 38. Fine. (003/11A)

8. Dr (Dragendorff) 37 imitation, two grooves with dot barbotine decoration over them, and tendril barbotine decoration on the body (cf Thomas 1988: 1:E9, illus 39, no. 1.235). This is the fifth barbotine-decorated bowl known from the site, while examples are also known from four sites on the Antonine Wall (Bidwell & Croom 2016). Well burnished on exterior; interior less well burnished in bands. Fine. (003/6A)
9. Dr 37 imitation. Burnished in bands above the rouletting and on the interior. Gritty. (003/10)
10. Dr 37 imitation. Burnished in bands above the rouletting, unburnished on interior. Cf Dore 2004: fig 79, no. BO14. Fine. (003/9)
11. Dr 37 imitation. Smoothed in bands on body, but with unburnished zone below rim. Unburnished interior. Buff-coloured fabric, darker brown where it has been smoothed and on the top of the rim. Fine. (003/5)
12. Tazza. Slight burning on rim. Cf Dore 2004: fig 85, no. BO55. Gritty. (003/10)

Inveresk grey ware

13. Cooking pot. Burnt on exterior, with surface spalling. Fine. (003/4)
14. 14. Cooking pot, with badly warped rim. Kiln second, if not waster. Gritty. (003/6A)
15. Cooking pot. Patchy burnishing on the shoulder until just under the rim; burnished in bands on the rim. Patches of sooting on the exterior. Fine. (003/5)
16. Narrow-mouthed jar. Burnished on shoulder, with patchy lines of burnishing on the neck. Patchily burnished on interior of rim. Fine. (003/5)
17. Bowl. Burnished on exterior and rim. Gritty. (003/9)
18. Flat-rimmed dish. Burnished halfway up exterior, but not at all on the interior. Gritty. (003/5)
19. Flat-rimmed dish, in pale grey fabric. Burnished halfway up exterior, with rough burnished lattice that is almost incised, which continues up carelessly onto the underside of the rim. Interior burnished in bands. One patch of burning on the exterior. Fine. (003/5)
20. Flat-rimmed bowl. Burnished on exterior but not interior, which has visible throw lines. Fine. (003/5)
21. Cheese press with one damaged hole cut pre-firing near base of wall. There are sherds from at least three cheese presses on the site, in both oxidised and reduced wares. Fine. (003/5)

Inveresk cream ware

22. Jar. Cream fabric, burnished dark brown exterior and rim. Very gritty. (003/5)
23. Cooking pot. Highly micaceous pink fabric, brown interior surface. Brown exterior, burnished in bands, heavily sooted all over, including the interior of the rim. Gritty. (003/6)

Grey ware with white core

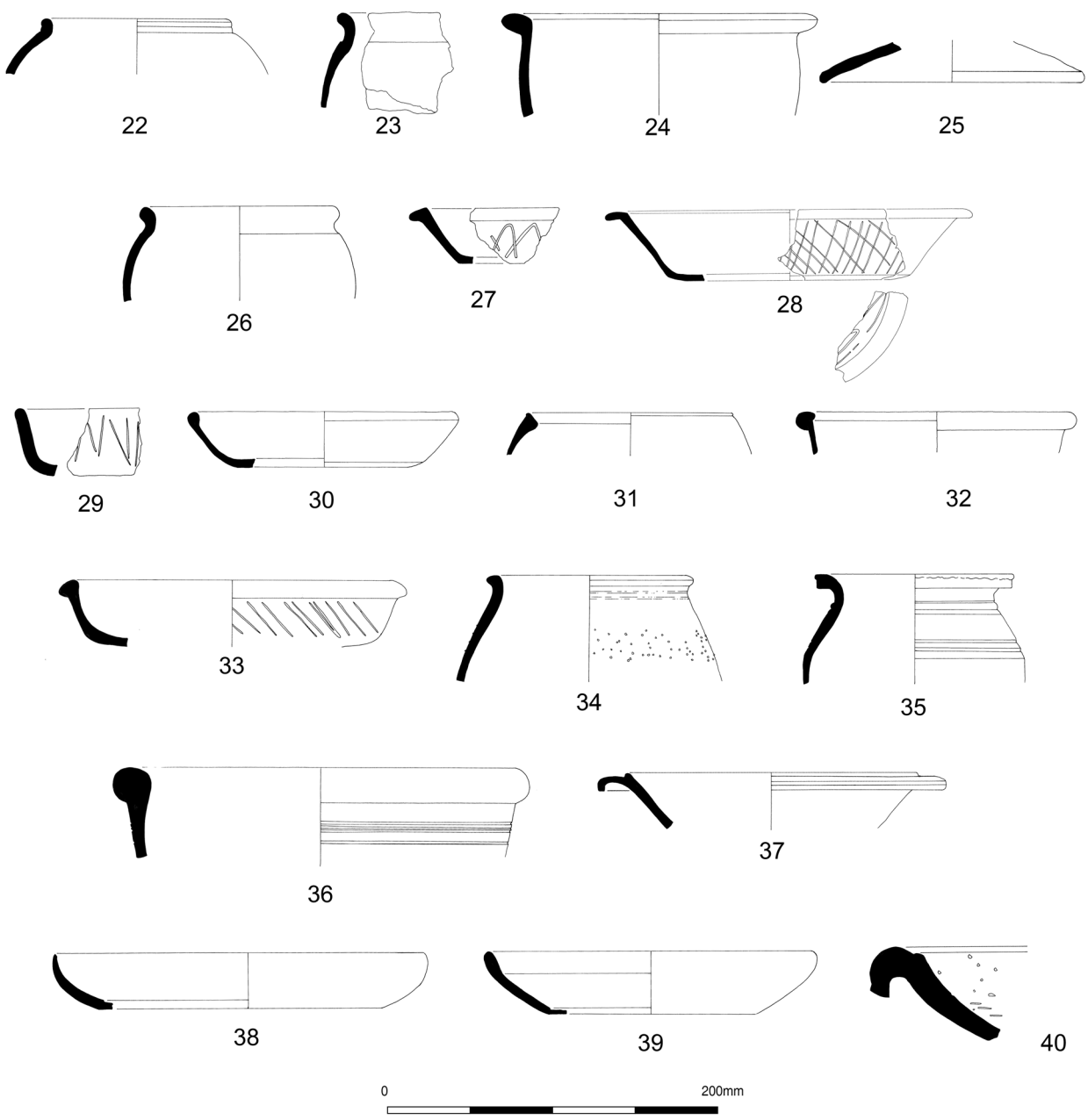
24. Flat-rimmed bowl. Patchily burnished on exterior and rim, and burnished in bands on the interior. (003/5)

Grey ware with pink core

25. Lid. (003/4A)

BB1

26. Cooking pot. Rossington Bridge fabric (003/5)
27. Flat-rimmed dish. (003/5)
28. Flat-rimmed bowl. (003/6)
29. Plain-rimmed bowl. (003/4)



Illus 7.2 Pottery: Inveresk creamware (22–3), grey ware (24–5), BB1 (26–9), BB2 (30–3) and other wares (34–40) (copyright CFA Archaeology Ltd)

BB2

30. Plain-rimmed dish, with high-quality burnish. (003/6)
31. Bead-rimmed cooking pot. Cf Dore 2004: fig 86, nos JA36–7. (003/5)
32. Triangular-rimmed dish. (003/5)
33. Rounded rim bowl/dish with lattice decoration. The rim forms slight bead on the interior. This is an extreme example of a feature found on some BB2 bowls (cf Dore 2004: fig 84, no. BO29). (003/2–3)

Other wares

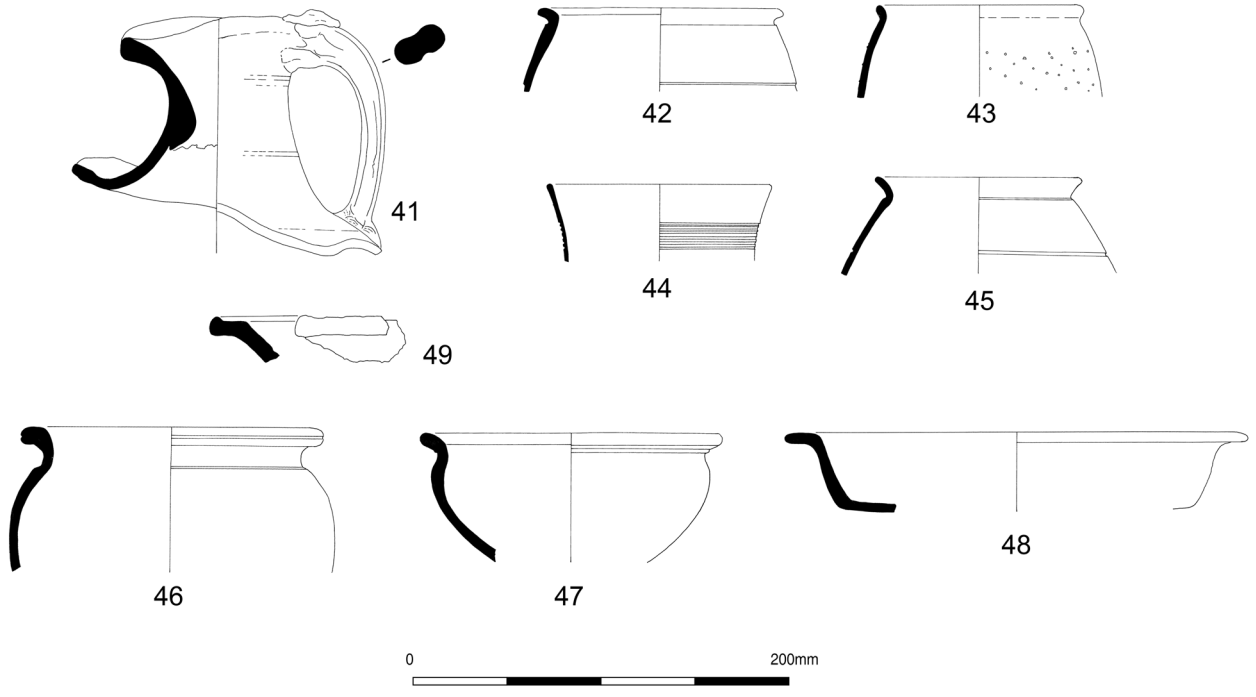
34. Thick-walled beaker in a fine cream fabric, with very fine red inclusions and rare larger soft red inclusions up to 1mm across. Clay rough-cast. Tan colour-coat on exterior and orange on the interior; there are patches of burning

on the exterior and a clearly defined band of burning on the interior of the rim. The rim has fine ridges caused by slight grooves on its underside, but is not a true cornice rim; the thick walls and the untidy finishing, including blobs of clay, under the rim suggest this might be a local product. (003/2)

35. Jar. Pink granular fabric with a cream core and buff surfaces. Burnt in patches on the exterior and the rim, with some heavy sooting. (003/6)
36. Wide-mouthed bowl with bulbous rim. Sandy mid-grey fabric with thin pale grey margins and darker surfaces. Occasional large rounded white quartz and rounded black inclusions. (003/3)
37. Flanged bowl, with wide dark grey core, orange surfaces and the remains of a thick cream slip. Slightly micaceous, with fine red inclusions. (003/5)
38. A platter, with internal groove between base and wall. It has a mid-brown colour-coat on both interior and exterior, turning to dark brown on the upper half of the exterior, which also has horizontal faceting from smoothing. The fine cream fabric has rare, very fine red inclusions and the very occasional piece of fine rounded quartz. The fabric and colour-coat look like Cologne colour-coated ware, and although only beakers in this ware have been found in Britain so far, this may be an example of a Cologne ware Pompeian red ware imitation. (003/4A)
39. Platter, with line of burning on exterior and just under the rim on the interior. (003/5)
40. Verulamium mortarium, AD 100–150. (003/4)

From contexts other than the midden

41. A kiln waster single-handled flagon. Distorted, burnt rim, and very distorted body. Not burnished. An extra strip of clay has been added to the rim where the handle joins it, and another piece has been added underneath the handle at the same point. This seems to be a characteristic method of reinforcing



Illus 7.3 Pottery: from contexts other than the midden (copyright CFA Archaeology Ltd)

the handle attachment (cf no. 7 above). Inveresk (gritty oxidised). (515)

42. Cup with grooved decoration. Burnished on exterior, but not interior. Fine white ware. (547)
43. Rough-cast beaker. Two burnished bands on shoulder. Inveresk (gritty oxidised), brownish in colour. (515)
44. Poppy-head beaker in a sandy buff fabric, with wide grey core and dark grey exterior. Form as Dore 2004: fig 79, no. BK9. (1010, 1061)
45. Poppy-head beaker in fine light grey fabric, with highly burnished exterior and rim. East Anglian? (TP5)
46. Well-made cooking pot, with fine groove on outer edge of rim and groove on the body. Sooting on the exterior and rim, with thick limescale deposits on the oxidised interior surface. There is some pitting on the exterior surface, a feature noted on shell-tempered ware from Cramond (Holmes 2003: 86). Shell-tempered ware. (551)
47. Bowl, roughly smoothed on lower half of body, leaving slight ridges on the surface, burnished on bands on the upper part. Interior not burnished. The whole of the interior is heavily sooted up to the rim, and there is a patch of sooting on the exterior. Inveresk (fine oxidised). (1176)
48. Dish. Burnished on exterior and base; interior burnished in bands. Burnt along outer edge of the rim. Inveresk (gritty oxidised). (583)
49. Dish in a highly micaceous, fine orange fabric with occasional soft brown inclusions up to 1mm across. There are the remains of a red slip on both exterior and interior. (2/2 cleaning)

7.2.2 The samian

Bowls and dishes are the most common type of vessel in C003, making up 80% of the samian assemblage by EVEs, while cups only make up 15% (Table 7.3). This is in strong contrast with the assemblage from the Inveresk Gate excavations, where bowls and dishes make up only 55% and cups 44% (Table 7.3). Although a range of different bowl types are present, almost 60% of the samian vessels are examples of the Form 18/31 or 31 range of shallow dishes. The assemblage is not typical of that expected at a military or extramural site in that the number of decorated bowls is unusually low (12% compared to 27% for military sites and 38% for extramural sites: Willis 2005: table 45) while the number of dishes is approximately double what would be expected.

The decorated samian ware from Context 003
Felicity C Wild

The deposit produced 133 sherds of decorated ware from about 87 bowls, in a good state of preservation and mainly in fairly large pieces. The bulk of the material lay towards the centre of the deposit (003/4–6, 003/11). No decorated samian came from the outermost zones (003/1, 003/7–8). There were several instances where sherds apparently from the same bowls came from different zones, but in no case did they join. This, together with the size of the sherds, suggests that, once the material had been deposited, little or no further disturbance took place.

As might be expected, the assemblage was composed of the wares and potters typical of Antonine sites in Scotland. Central Gaulish ware made up about 75% of the assemblage (sherds from about 65 bowls); there was just over 3% (three bowls) from East Gaul, and a remarkable 22% (sherds from about 19 bowls) from South Gaul, most if not all likely to have been manufactured at Montans. In combination with the bowls from Inveresk already published (Dickinson 1988: 165 and fiche 1), this must certainly comprise the largest known group of 2nd-century South Gaulish ware from Scotland.

In the following report, arranged by source of manufacture, all the significant pieces have been described and illustrated. Some selection has been necessary. Ovolos without further decoration have been omitted unless they suggest the work of a potter not otherwise represented (eg 23 below), as have most of the smaller sherds by potters already

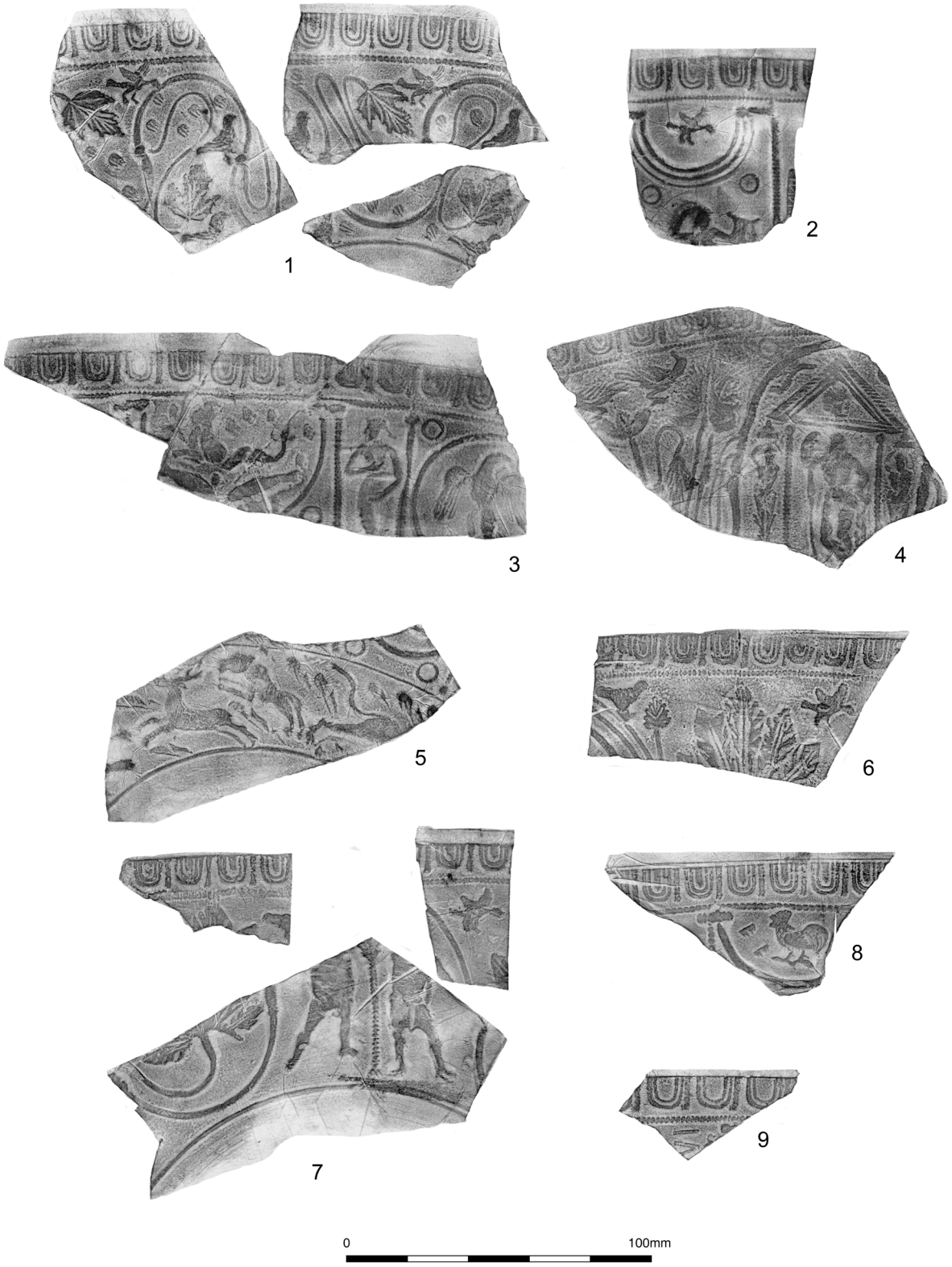
Table 7.3 Samian vessels from C003 and the Inveresk Gate site by EVEs, also shown as a percentage

	Context 003		Inveresk Gate	
Vessel type	EVE	%	EVE	%
Cup				
27	97	3.6	453	20.1
33	215	9.8	379	16.8
46	23	1.0	120	5.3
O&P LV, 13	9	0.4		
Ludowici Tf			10	0.4
Cup			20	0.9
Beaker				
Dech 72			10	0.4
Dish				
18/31	1191	54.1	441	19.6
18/31R	no rims		156	6.9
18/31 or 31	58	2.6		
31	61	2.8	89	4.0
31R			31	1.4
35			123	5.5
36	44	2.0	9	0.4
Curle 15	113	5.1	8	0.4
Decorated bowl				
30	30	2.4		
30 or 37	38	1.7		
37	177	8.0	295	13.1
Bowl				
38	13	0.6	17	0.8
38 or 44			9	0.4
44	20	0.9	7	0.3
Curle 11			50	2.2
Unknown	108	4.9	23	1.0
Totals	2197		2250	

included. Figure types are quoted from Oswald 1936–7 (O.) and Rogers 1999 (R.); Central Gaulish decorative motifs are from Rogers 1974 (Rogers) and parallels from Stanfield & Simpson 1958 (S&S). Die numbers and potter numbers in lower case Roman numerals are from Hartley & Dickinson 2008–12; potter numbers in upper case Roman numerals are those used by Rogers (1999). The dates given for the manufacture of the bowls are, where possible, based on the dates given in Hartley & Dickinson (2008–12) for the working lives of the various potters. All the bowls, throughout, are of Form 37.

Central Gaulish (Illus 7.4–7.5)

With the exception of four bowls by Cettus (nos 11–14), who worked at Les Martres-de-Veyre, the

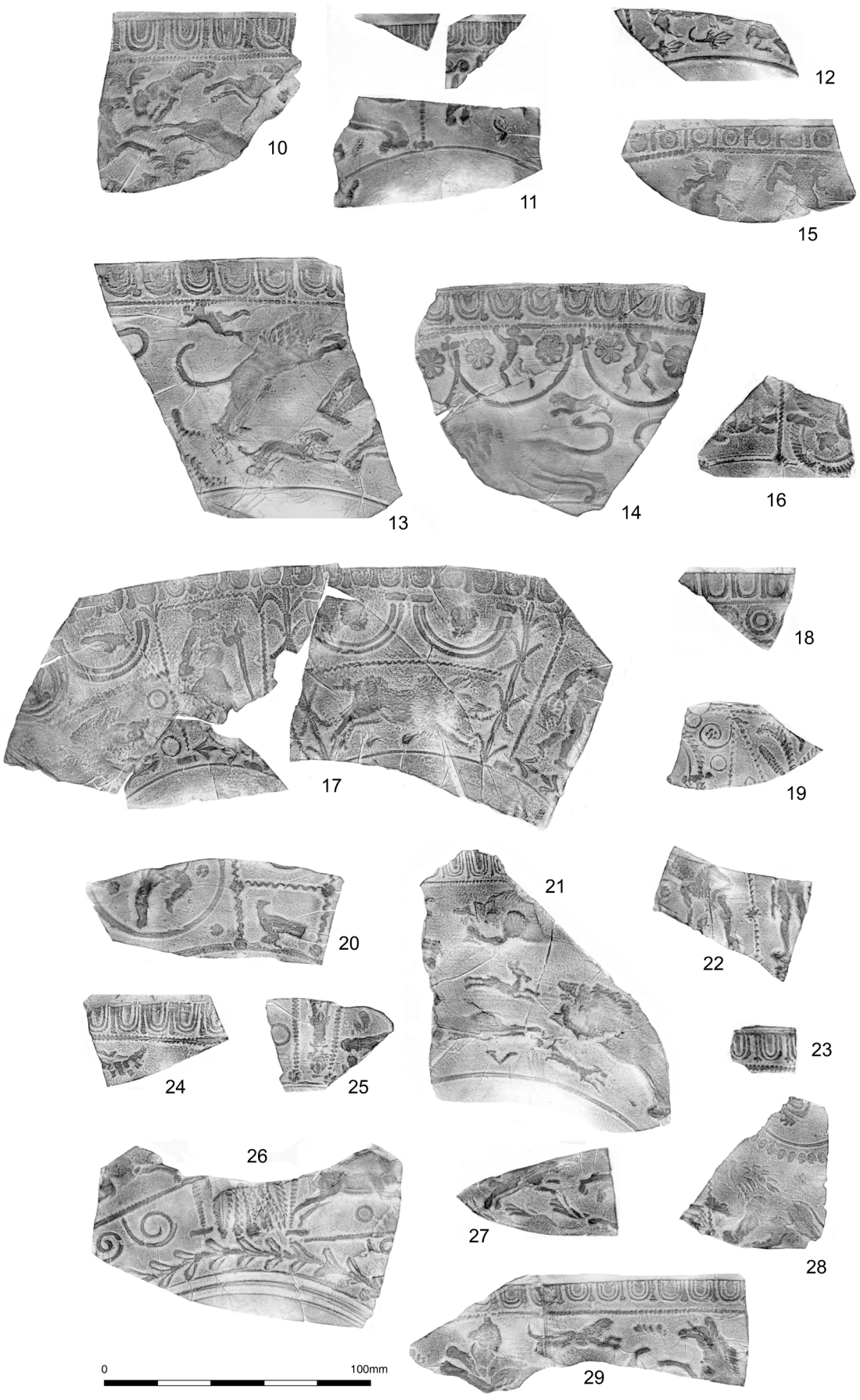


Illus 7.4 Pottery: Central Gaulish samian (copyright CFA Archaeology Ltd)

Central Gaulish ware was all likely to have come from Lezoux. As elsewhere in Scotland (Hartley 1972: 33), the work of Cinnamus ii and his associates predominated. Twenty-seven bowls in all (42% of the Central Gaulish ware) fell into this category. Of these, nine could be attributed with certainty to the Cerialis ii–Cinnamus ii style, with their ovolo Rogers B144, seven to Cinnamus' mature style, including ovolos B223 (four examples), B231 (one example) and B145 (two examples). A further 11 showed no ovolo, insufficient detail to distinguish between ovolos Rogers B144 and B143 (though B144 was in most cases the more likely), or simply showed leaf scroll or freestyle decoration with types and motifs typical of Cinnamus and related potters. Hartley & Dickinson (2008–12) date the Cerialis–Cinnamus style to *c* AD 135–160, Cinnamus' mature style to *c* AD 150–180. It may be worth noting that the ovolos B223, B231, B145 and the medium-sized mould stamp, die 5b (9 below), are all classed by Rogers (1999: 99) as belonging to Cinnamus' middle style, which he dates to *c* AD 142–160+. There seems no reason to think that any of this material necessarily arrived later than the mid-AD 150s.

Of the other Central Gaulish bowls, almost all are by potters whose work has previously been recorded in Scotland (Hartley 1972; Dickinson 1988 for Inveresk): Cettus (four bowls), Ianuaris ii/Paternus iii (at least three bowls), Criciro v or Divixtus i (small sherds, possibly from three), Albucius ii, Birrantus i, Illixo, Tetturo (two bowls), Paternus iv, X5 and X6. Rogers potter P16 (26 below) appears to have been related to Illixo. However, the sherd in the style of Libertus ii (15 below), a potter normally considered Trajanic–Hadrianic, appears to be a first for Scotland, and may suggest that his work continued later than previously thought. On the other hand, the bowl, which lacks crispness and detail, may have been made in an old and worn mould, or brought to the site as an heirloom or treasured possession.

1. Form 37. Four sherds of a bowl in classic Cerialis ii–Cinnamus ii style, with their ovolo (Rogers B144) and scroll with leaf (Rogers H99), birds (O.2315, O.2239B) and characteristic bud filling ornament (from Rogers J178). *c* AD 135–160. (003/6, 003/9)
2. Form 37. Two joining sherds of a bowl showing Cinnamus ii's tab stamp CINN[AMI] (ret.) in the decoration. The die (die 5d) is found exclusively, as here, with the ovolo Rogers B144, and belongs to the early period when Cinnamus worked with Cerialis ii. Decoration shows a panel with bird (O.2315) in triple medallion over Apollo (O.83). *c* AD 135–160. (003/3, 003/3A)
3. Form 37. Three joining sherds in Cerialis ii–Cinnamus ii style, with ovolo (Rogers B144) and panels showing festoon with sea bull (O.42) and fish (O.2412, O.2419), Venus (O.286), and medallion with eagle (O.2167). *c* AD 135–160. (003/4)
4. Form 37 in Cerialis ii–Cinnamus ii style, with their ovolo (Rogers B144) and scroll with leaves (Rogers H72, H101), birds (O.2295A, O.2250A) and acanthus (Rogers K12) in the upper concavity, and, in the lower, the pediment (Rogers U266) with mask, over Bacchus (O.580), with caryatids (O.1199) to each side. *c* AD 135–160. (003/9)
5. Form 37, showing a zone of panels containing festoons above freestyle decoration with the stag (O.1781), bear (O.1627) and panther (Rogers 1999: pl 32, 45). The types were all used by Cinnamus, as was the leaf-tip space filler (from Rogers H22), though the zonal decoration seems slightly unusual for him. *c* AD 135–160. (003/6)
6. Form 37. Two joining sherds of scroll bowl in Cerialis ii–Cinnamus ii style, with their ovolo (Rogers B144), birds (O.2239B, O.2315), small and large leaf (Rogers J99, H21). The fabric differs slightly from that of no. 7 below. *c* AD 135–160. (003/4A)
7. Form 37. Two sherds, including base with worn foot ring, of a bowl with scroll decoration, with the same leaf (Rogers H21) as 6 above, and the



Illus 7.5 Pottery: Central Gaulish samian (copyright CFA Archaeology Ltd)

gladiators (O.1001, O.1002) in the lower concavity. Two small sherds from the same zone show the same leaf with the Cerialis–Cinnamus ovolo (Rogers B144) and birds (O.2239B, O.2315) and may come from the same bowl. The gladiators appear on a bowl from Castleford in the style of the Large S Potter (Dickinson & Hartley 2000: fig 35, 1015) and also on a bowl in Pugnus style together with a bead row ending in a trifid bud possibly similar to that used here (S&S: pl 154, 19). Whether or not the ovolo belongs to the same bowl, the date is likely to be Hadrianic–early Antonine. *c* AD 135–160. (003/2, 003/4)

8. Form 37, showing the Cerialis–Cinnamus ovolo (Rogers B144) and a panel containing single festoon with cock (O.2350), which occurs on a bowl in Cinnamus' style from Castleford (Dickinson & Hartley 2000: fig 32, 1005). *c* AD 135–160. (003/4)
9. Form 37, with Cinnamus ii's ovolo (Rogers B223) and part of his medium-sized mould stamp [CINNA]MI (die 5b). *c* AD 150–180. (003/6)
10. Form 37. Three joining sherds in the mature style of Cinnamus ii, with his ovolo (Rogers B145) and freestyle decoration with horseman (O.245), bear (O.1627), part of the panther (O.1512), stag (O.1720) and acanthus space filler (Rogers K26). *c* AD 150–180. (003/4A)
11. Form 37. Three sherds, probably all from the same bowl, in the style of Cettus, with two of the sherds showing his characteristic small S motif (Rogers S72). The ovolo (Rogers B80) was used by him, as were the large and small lions (O.1450, O.1404), parts of which occur on the largest sherd. The squarish astragalus at the end of the bead row is characteristic of his style (S&S: pl 142, 27) and motifs occasionally occur, as here, beneath the decoration (S&S, pl 141, 4, 7). *c* AD 135–160. (003/3A)
12. Form 37, showing panel with Cettus' distinctive leaf (Rogers J144) and hare (O.2061). *c* AD 135–160. (003/4)
13. Form 37, in the style of Cettus, with his ovolo (Rogers B263) and freestyle decoration with chevron (Rogers G392) as a filling ornament (S&S: pl 141, 16). The decoration, well spaced, shows his cupid (O.419), a lion to right (not in O.?), the tail of one to left (O.1450), small lion (O.1404) and the legs of a bear (O.1595) and ?boar (O.1641). *c* AD 135–160. (003/5)
14. Form 37. Two joining sherds of bowl in the style of Cettus, with the same ovolo as 13 above and festoons with cupid (O.419) between two rosettes (Rogers C37) over the lion to left (O.1450), the tail of one to right (as on 13) and small panther (O.1570). *c* AD 135–160. (003/5)
15. Form 37, showing the ovolo motif (Rogers B214) characteristic of Libertus ii and the cupids (O.339, O.497) assigned by Rogers to Libertus' style B. Hartley & Dickinson (2008–12) comment that there is virtually no independent dating evidence for the work of Libertus and suggest, in view of the presence of his style at Corbridge, the furthest north that they note, that he may still have been active in the AD 120s or later, dating him to *c* AD 105–130. The presence of work in his style in a group from Antonine Scotland suggests that he could indeed have been working this late, though, as suggested above, this piece could have been an heirloom. (003/6)
16. Form 37. The style is probably that of X5/Silvio II, who used the Victory (O.826) and festoon (Rogers F70) containing a small, indistinct mask (S&S: pl 67, 1). If this shows his characteristic 'pine-cone' border junction, it has been badly misapplied. *c* AD 120–145. (003/4)

17. Form 37. Six joining sherds amounting to almost half the bowl, which had been fastened together with lead rivets, of which three remain, in a line across the base. There is part of a hole for a fourth rivet on a subsidiary break of a rim sherd. The style is that of the group of potters known as X6, with their ovolo (Rogers B35). Panel decoration shows, from left: two conjoined festoons containing a trifid bud and a goose (as on Rogers 1999: pl 135, 16) over the boar (R.4050); satyr with fruit (O.595); vertical rows of the trifid bud (Rogers G32) to either side of festoons containing masks (as on S&S: pl 75, 18) over the same boar. Most of the types and details are attributed by Rogers to his X.6B, apart from the ovolo, attributed to X.6C. A bowl from the Castleford Pottery Shop (Dickinson & Hartley 2000: fig 24, 474) shows the same vertical row of G32, and also the smaller bud (Rogers G97), which appears here beneath the satyr and on top of the borders. *c* AD 125–150. (003/10)
18. Form 37. The style is that of Birrantus i (Rogers' Birrantus II), who used the ovolo (Rogers B108) with finely-beaded borders and the beaded ring (Rogers C295, cf Rogers 1999: fig 12, 3). The only other Antonine site in Scotland to have produced work in this style appears to be Newstead (Hartley 1972: 30, note 93). *c* AD 130–150. (003/3A)
19. Form 37, in light-coloured, micaceous fabric with brown slip. Neat panel decoration shows part of an arcade and saltire with chevron ornament (probably Rogers G344). Of the potters who used this motif, the decoration is closest to a sherd attributed by Rogers to Secundinus III (Rogers 1999: pl 107, 16) which shows similar borders and a saltire with G344 in the upper compartment, though the dot rosette is different. That used here has five dots (Rogers C179) and was used by X6. No close parallels are forthcoming but a Hadrianic or possibly early Antonine date seems probable. (003/4)
20. Form 37, with panel decoration showing a pair of legs (possibly the cupid O.378?) in a medallion, and a bird (O.2297). The single medallion and wavy-line borders with rosettes (Rogers C120) placed at the junctions and as a filling ornament are characteristic of the work of Tetturo (S&S: pl 131, 2, 3), but neither of the types are attested for him in Rogers 1999 or S&S. However, comparatively little of his work is known. *c* AD 130–160. (003/6)
21. Form 37. Four joining sherds of a bowl with freestyle decoration in Ianuaris ii/Paternus iii style (Rogers' Ianuaris II/Paternus I). The ovolo (Rogers B228) was used by them, as were the bear (O.1617), stag (O.1732) and hound (O.1915A). The other animal is probably a hind (O.1816). The ovolo and chevron space filler appear on a stamped bowl, with different animals (Rogers 1999: pl 51, 14). *c* AD 135–160. (003/4)
22. Form 37, showing panel decoration with Vulcan (O.68) and figure standing on a mask (O.91). The style is that of Ianuaris ii/Paternus iii, who used the Vulcan, the leaf (Rogers J146) and the rosette (Rogers C194) across the bead row. O91 is not attested for them, but was used by Censorinus, a member of the later Paternus v group, of which Paternus iii may have been a predecessor (Wild 2005: 203). *c* AD 135–160. (003/3A)
23. Form 37. Small sherd showing Rogers' ovolo B17, used by Paternus iv. *c* AD 130–150. (003/2)
24. Form 37, showing the snake-on-rock motif (O.2155) used as a space filler by Criciro v and Attianus ii. The ovolo (Rogers B204) was also used by

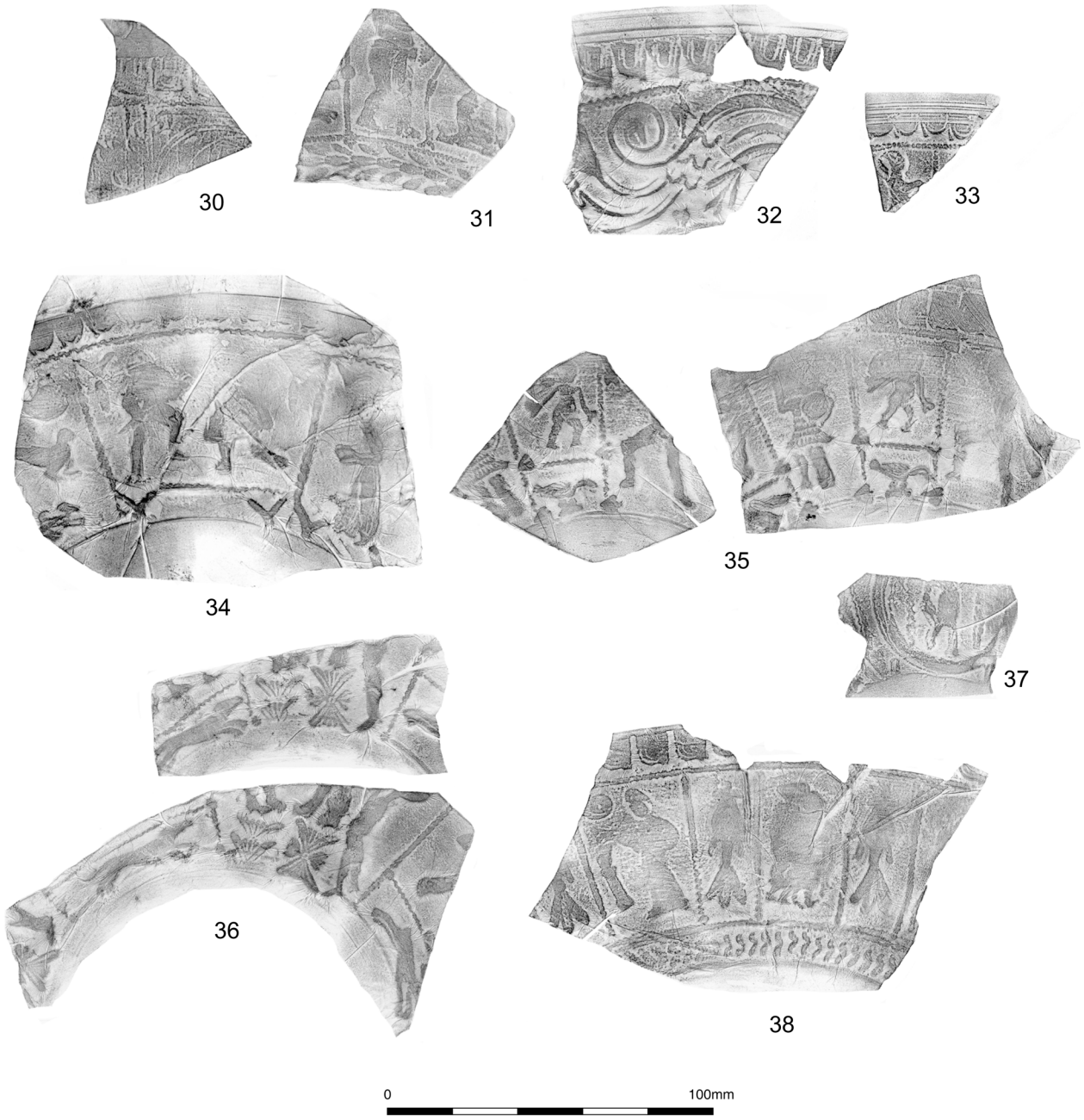
both potters. A date of *c* AD 125–155 probably covers the working life of both. (003/5)

25. Form 37, showing panels with caryatid (O.1199) used by Criciro v and Divixtus i. The motif at the end of the bead row and leaf-tip space filler are typical of Criciro (S&S: pl 117, 10). *c* AD 135–155. (003/5)
26. Form 37. Three sherds showing panel decoration with an animal, probably a stag to left, over two spirals (Rogers S8, S3), a leaf-cross (Rogers L4) and a stag (?) to right (possibly O.1720) over the spiral S8. A bowl in the style of Rogers' potter P16 shows the leaf-cross, spirals and the same basal wreath of trifid buds (Rogers G154) over similar basal grooves (Rogers 1999: fig 84, 5). Although he notes no sherds from datable contexts, Rogers suggests a date of *c* AD 140–160, a suggestion borne out by the context of the present piece. (003/5)
27. Form 37, showing freestyle decoration with the leaf-tip space filler used by Illixo (Rogers 1999: pl 48, 16). The only fairly complete type (a panther?) is not one attributed to him. *c* AD 145–165. (003/3A)
28. Form 37, showing a festoon of large dots (Rogers F33) over the lion (O.1425). Both the lion and festoon were used by Illixo (cf Rogers 1999: pl 50, 24 for the festoon with inner line, there used as an arcade). Illixo used wavy-line borders, but there is no evidence that he used a rosette junction. *c* AD 145–165. (003/9)
29. Form 37. Two joining sherds with freestyle decoration, with panther (O.1537), horse (O.1904) and small hound (O.1940). The style is that of Albucius ii, who used the ovolo (Rogers B107), types and leaf-tip space filler. *c* AD 145–175. (003/2)

South Gaulish (Illus 7.6–7.7)

The group of late South Gaulish ware is of particular interest and importance. A group of this size, which could not have reached the site before the early AD 140s, is perhaps still more important for the study and dating of late South Gaulish ware than for what it can say about consumption of samian ware at the site. With regard to Scotland, it may suggest that Inveresk was the point of import, from which the wares were distributed to the garrisons along the Antonine Wall and to other sites on the eastern side of Scotland. On 2nd-century South Gaulish ware, little systematic work has yet been done. This was recognised by Hartley (1972: 42), when he listed the sherds from Scotland, but without illustration, intending to publish them more fully elsewhere. Grace Simpson (1976) published a small but useful group from Montans itself, followed by a small collection from Wilderspool (Simpson 1987), but no synthetic work has appeared since then. References to the British examples are scattered. Much remains unpublished or without adequate illustration. We do not know for sure the sources of supply. Hartley (1972: 42, note 123) suggests the possibility of another late source in addition to Montans. To do full justice to the collection here would require a search for comparative pieces at Montans itself, as well as more detailed research on the British finds. In the meantime, one can but record and illustrate as fully as possible the range of wares present, as a basis for future research. In this task, I must express my gratitude to Geoffrey Dannell and Brenda Dickinson for allowing me to search the late Brian Hartley's archive of rubbings for parallels. Bowls without published reference are quoted from this source.

The bowls, all of Form 37, show various features which suggest manufacture at Montans. These include a double groove on the interior, below the rim, a characteristic elsewhere of Form 30, sometimes accompanied by fine grooving on the interior of the bowl as a whole. Some of the present bowls (nos 32, 33, 39, 42) also show shallow grooving on the outside of the rim, above the ovolo, possibly caused by careless finishing of the rim. There is sometimes a slight chamfer below the decoration, presumably caused during the finishing of the footring. The footring itself sometimes appears more similar to that of Form 29, with a groove beneath it and



Illus 7.6 Pottery: South Gaulish samian (copyright CFA Archaeology Ltd)

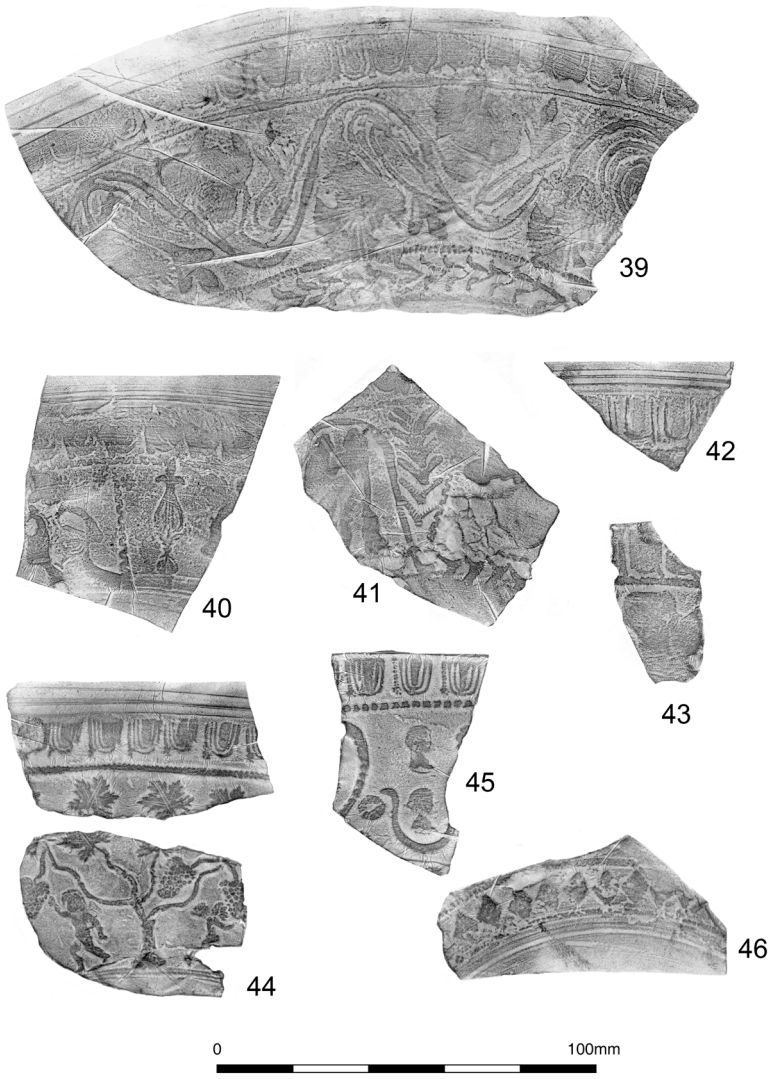
an internal potter's stamp. The present group has produced a base of this sort, stamped by Chresimus (stamp no. 6), though it appears to have been deliberately trimmed and therefore does not join any of the decorated sherds.

The decoration of late Montans bowls tends to be badly produced and poorly moulded. Types are copied from those of La Graufesenque by *surmoulage*, leading to lack of detail and a reduction in size. On some of the bowls (nos 34, 35), the clay has been well pressed into the bottom of the mould, producing a firm impression of the lower part of the decoration, while on the upper part, the decoration, including the ovolo, is so faint as to be barely visible, making identification difficult, particularly of the ovolo. The bowls are not aesthetically pleasing. It is hard to see that they would have gained a market in competition with the contemporary products of Lezoux.

Few of the mould-makers signed their work. Hartley noted the occurrence in Scotland of the

stamped work of Chresimus and Felicio iv, along with Q.V.C., who did not make decorated ware. Potters with close associations with these potters and presumably of the same general date include Attillus iv, Malcio i, Florus iv and L.S. Cre-, though their stamps have not been found on Scottish sites. The present group of bowls falls within this general group. On the basis of their occurrence in Scotland, their manufacture has tended to be dated to *c* AD 110–145. Hartley & Dickinson (2008–12) put the dates slightly later for those potters whose stamps occur in Scotland, suggesting *c* AD 110–150 for Felicio iv and *c* AD 120–150 for Chresimus. Dates of manufacture are not suggested for the bowls here, as they will have arrived at the site not earlier than the AD 140s.

30. Form 37. Sherd of a very poorly impressed bowl with grooving inside. The squarish ovolo with single border was used by Felicio iv of Montans on a bowl from London (RGZM website, serial no. 2003196). The double borders are also a characteristic of Montans (Simpson 1987: fig 1, 2; fig 2, 6). The decoration is too poor to be identifiable. The circular marks appear to be scratches beneath the surface slip rather than part of the decoration. *c* AD 110–150. (003/2–3)
31. Form 37. Sherd of a very thick bowl in a fabric consistent with manufacture at Montans, showing panels containing an



Illus 7.7 Pottery: South and East Gaulish samian (copyright CFA Archaeology Ltd)

animal type, and the satyr (O.609) and Bacchus with panther (O.565), with a vine with grapes between them. The types, common at La Graufesenque, are not significantly reduced in size. The basal wreath of buds, also common at La Graufesenque, was used on bowls by Florus iv (Mees 1995: taf 246, 1, 4), who appears to have migrated from La Graufesenque to Montans. Hartley & Dickinson (2008–12) date the working life of Florus iv to *c* AD 85–125. Simpson (1976: 269) dates his work at Montans to *c* AD 100–130. The potter and, indeed, the source of this piece are uncertain, but that work of this type appears here, in a purely Antonine group from Scotland, may suggest that it was still being produced at least into the AD 130s, unless perhaps it arrived as the treasured possession of one of the incoming inhabitants. (003/5)

32. Form 37. Four joining sherds of a small bowl with shallow grooves above the ovolo on the outside as well as two internal grooves below the rim. Decoration shows an untidy scroll with tendrils ending in a bud (Hermet 1934: pl 14, 50). The ovolo appears to be that used by Attillus iv on a bowl from Richborough (RGZM website, serial number 2003201). A similar untidy scroll, though with different motifs, occurs on a waster stamped by Attillus from Montans (Toulouse Museum). Another similar bowl, also from Montans, is stamped by a related potter LCRE (Simpson 1976: fig 4, 13). A bowl (ibid: fig 5, 15), with a stamp probably reading LSCRE and possibly the same ovolo, shows a tendril ending in a 'degenerate arrowhead' like the one here. Hartley & Dickinson (2008–12) doubt that this is the same potter as Chresimus, whose work is so well represented at Inveresk. (003/5)
33. Form 37. Rim sherd from a small bowl with grooves above the ovolo and on the interior of the rim. The ovolo is the same size and may be the same as that on a bowl from Kenchester (RGZM website, serial no. 2003200), though the detail is far clearer on the present sherd. The type, uncertain and lacking in detail, was presumably obtained by surmoulage. (003/5A)
34. Four joining sherds of a poorly made bowl with interior grooves and a slight chamfer below the decoration. Although little detail survives, particularly at the top of the bowl, the ovolo is probably the same as that on 33 above. Panels show a spiral, bird and small hound (O.1967), a pair of gladiators (versions of O.1043, 1044?) and a reduced version of the Victory (O.814). The Victory occurs on a bowl from Strageath with the split-tongued ovolo used by Chresimus and Malcio i, which also has chevrons in the field. The spiral is the same size as that appearing on another bowl, also from Strageath (Hartley 1989: fig 106, 34). (003/6)
35. Form 37. Two sherds showing panels with triangular junction motifs, a characteristic of Montans. Panels show reduced versions of La Graufesenque types: uncertain type over bird to left (O.2267 reduced), warrior (O.164A without spear), small figure with shield(?) over bird to right (O.2231 reduced) and reduced version of the warrior (O.992). A bowl from York with interior stamp of Chresimus shows the same ovolo with split tongue, O.992, birds and borders (RGZM website, serial no. 2003195). *c* AD 120–150. (003/6A, 003/11A)
36. Complete base of Form 37, of standard form and unstamped, with medium wear on the footring. The fabric is light-coloured, not inconsistent with Montans, and with a very matt orange-brown slip. The lower part of the decoration shows panels with types in use at La Graufesenque and Banassac,

not significantly reduced: the hound (O.1927) and probably a gladiator over a hare (O.2072, also in use at Montans), interspersed with panels containing the legs and feet of uncertain types over a bud (Hermet 1934: pl 14, 84) by itself and arranged in a cross motif. No parallels are as yet forthcoming for this rather distinctive motif. The origin of the bowl must remain uncertain. (003/6A)

37. Form 37. Sherd from a small bowl with heavily worn footring. There is a slight groove beneath the base, as on Form 29. Poorly moulded decoration shows a vertical border ending in a heart-shaped leaf (?) and a medallion containing the satyr with grapes (O.597). Medallions with multiple lines, as here, were used at Montans (Simpson 1976: fig 4, 14, stamped by Attillus iv; fig 7, 32, with similar leaves/arrowheads in the panel corners). *c* AD 110–145. (003/6A)
38. Form 37. Four joining sherds of bowl with panel decoration. The ovolo is the same as that on the bowl from Strageath (Hartley 1989: D34), also probably on 32 above, though here it is spaced more evenly in the mould. The types, in shallow relief and lacking in detail, have clearly been produced by surmoulage. Panels show a composite motif of a bottle bud and trefoil alternating with a reduced version of the Venus at altar (Hermet 1934: pl 18, 21), a pair of figures (?) and, in the right hand panel, one of a pair of gladiators, all over a basal wreath of small chevrons. The spiral in the corner of the Venus panel is similar to that on the Strageath bowl, though smaller and the other way up. Two other bowls are known which are likely to have been from the same mould: one from Newstead (National Museum of Scotland), the other from recent excavations at Drapers' Gardens, London (D71 in Mills in prep). (003/11A)
39. Form 37. Large sherd of scroll bowl showing many of the characteristics of manufacture at Montans: fine grooving in the interior slip, two internal grooves below the rim, exterior grooving above the ovolo and a slight chamfer beneath the decoration. The ovolo and scroll are very poorly moulded. The ovolo appears to fit that on 32, 38 and the Strageath bowl (Hartley 1989: D34) for size, but is much more closely spaced, in some instances overlapping, and some impressions may show a trident tongue(?). Although obscured by shallow relief and lack of detail, the scroll may show the astragalus binding noted by Dickinson on a bowl from Inveresk (1988: 2.47), also noted by her at Wilderspool and on a bowl stamped by Malcio i from Montans. The trifid bud occurs on a scroll bowl, probably from Montans, with the stamp of the otherwise unknown potter Privatus vii, in a style with similarities to that of Attillus iv (cf Simpson 1976: fig 4, 14). (003/11–10)
40. Form 37, with panel decoration in low relief and types lacking in detail and reduced in size through surmoulage. There are two interior grooves below the rim. The ovolo appears similar to, though may be slightly larger than, that on the bowl from Kenchester (RGZM website, 2003200) which has similar borders and small rosettes in the panel corners. Panels contain the gladiator (O.1008 reduced) and a bottle bud motif. The gladiator occurs on a bowl from Richborough signed by Florus iv (Simpson 1976: fig 2, 6; Mees 1995: taf 246, 4), the bottle bud on the bowl from Strageath with the split-tongued ovolo used by Chresimus and Malcio i (see 34 above), which also has similar borders and rosettes. (003/11–10)
41. Form 37, in a fabric more similar to that of La Graufesenque, with a glossy slip, but with reduced types lacking

in detail. The ovolo, with tongue to right, is too indistinct to be identified in detail. Decoration shows an arcade containing the satyr with hare (O.602 reduced), which also occurs on the Kenchester bowl, a vertical row of toothed chevrons, the legs of an animal type and a basal wreath of smaller chevrons. (003/11–10)

42. Form 37. Rim sherd of a fairly small, thin bowl, rim Diam *c* 18cm, showing the split-tongued ovolo and internal and external grooves characteristic of Montans. The ovolo was used by Malcio i and Chresimus and occurs on bowls with stamps of Chresimus from Manchester (RGZM website, serial no. 2003194) and York (ibid, serial no. 2003195). (003/9)
43. Form 37. Small, worn scrap showing a degraded version of the same ovolo as 42 above, with a reduced version of the warrior (O.992), which also occurs on 35 above and the Chresimus bowl from Manchester. (003/9)

East Gaulish (Illus 7.7)

44. Form 37. Two small joining sherds in the style of Satto and Saturninus of Chémery-Faulquemont, showing their vine and cupids (O.430A, O.405) (Fölzer 1913: taf V). A rim sherd from a similar, probably the same, bowl shows their ovolo (Fölzer 1913: taf XXVII, 276) and a row of the same vine leaves. Although the occasional sherd has been found in later contexts in Britain, these potters were the main suppliers to the Saalburg Erdkastell, and their main output clearly took place in the Hadrianic–early Antonine period, *c* AD 120–160. (003/2, 003/11A)
45. Form 37, from Blickweiler, in the distinctive style of the Potter of the Small Ovolo (Knorr & Sprater 1927: taf 50, 1–3), with beaded festoon and smaller plain festoon (ibid: taf 82, 10, 11), rosette and bust (ibid: taf 77, 16). Knorr & Sprater suggest a date for this style of *c* AD 130–145, a suggestion borne out by the location of the present sherd in Scotland. (003/5)
46. Form 37, probably East Gaulish. Base sherd of a thick bowl in orange fabric with very smooth orange slip, showing a worn and poorly impressed basal wreath of vertical trifid buds between rows of squarish beads. The buds appear similar to Ricken 1934 (taf XII, 16), associated with ovolo C at Lavoye, though slightly smaller. However, no examples are forthcoming of the bud used like this. The fabric suggests origin at a pottery such as Lavoye and an early Antonine date. (003/4)

Conclusion

On historical grounds, the arrival of the samian ware on site cannot have taken place before the early AD 140s. The work of fully Antonine potters, such as Albucius ii and Cinnamus ii, in his mature style, is present, but only in small quantities. One bowl (17 above), with worn footstand, had been broken in half and repaired, but this was the only case of repair noted. Comparatively few foot rings are present from which to gauge the degree of wear, but it is perhaps worth recording that of three found in the same zone (003/6A), two, both from South Gaul (36, 37 above) showed moderate and heavy wear respectively, while the third, in Cinnamus' style, was unworn. This may be merely coincidence, but could be added evidence to suggest that the deposit was laid down no later than *c* AD 155–160. This closely dated group of samian is important, not just for Antonine Scotland, but for the dating and contemporaneity of the various wares involved.

The samian stamps

Alex Croom and Eniko Hudak

All but one of the stamps came from C003. The identifications with die numbers are taken from Hartley & Dickinson 2008–12.

1. Form 33, stamped CARANIIN ← by Carantinus of Lezoux. Die 5b. AD 150–180. Previous examples of this stamp have been found at Inveresk (Dickinson 1988: 2.66–7). (003/6, P9)

2–8. Chresmius of Montans, AD 125–50.
Previous examples of vessels by this potter are known from Inveresk *vicus* (Dickinson 2004: 104, nos 1–2; 119, no. 2).

2. Form 18/31, stamped CRESIMI. Die 4a. Graffito no. 34. (003/8–9, P10)
3. Form 18/31, stamped]ESIMI, Die 4a. Graffito no. 13. (003/10, P11)
4. Form 18/31, stamped CRESIMI. Die 4b. (003/9, P18)
5. Form 18/31, stamped CRISIMI. Die 4d. (003/6, P8)
6. Form 18/31, stamped CR[ ]MI. Die 4d. (003/10–11, P20)
7. Form 18/31, stamped CR[. (003/8, P25)
8. Form 18/31, stamped]MI. Probably Die 4d. Graffito no. 25. (003/10–11, P12)

9–10. Cinnamus: see decorated ware nos 2 and 9.

11. Form 18/31, stamped CV[. (003/1 soil strip, P1)
12. Form 18/31, stamped ERICI·M, by Ericus of Lezoux. Die 1b. AD 135–60. Graffito no. 36. (003/9, P16)
13. Form 18/31, stamped GNATI·M, by Gnatius ii of Les Martres-de-Veyre and Lezoux. Die 1a. AD 125–55. Graffito no. 35. (003/11, P14)
14. Form 18/31, stamped GONGI·M, by Gongius of ?Lezoux. Die 2a. AD 145–75. Graffito no. 6. (003/3A, P13)
15. Bowl, stamped]CRINV, by Macrinus ii of Lezoux, Die 4a. AD 120–50. (003/10, P19)
16. Form 18/31, stamped M[ ]LIACI, by Malliacus of Lezoux. Possibly die 3h. AD 140–75. Graffito no. 3. (003/6A, P15)

17–19. Suobnus of Les Martres-de-Veyre. AD 130–55.
Previous examples of vessels by this potter are known from Inveresk *vicus* (Dickinson 2004: 104, no. 8).

17. Form 31, stamped SVOBNI·M. (003/6, P7)
18. Form 18/31, stamped S[ ]OBNI·M. (003/5, P27)
19. Form 18/31R, stamped SVOBNI·Λ. Graffito no. 16. (003/3A, P2)

20–21. Q. V-C- of Montans, AD 120–45.
Two previous vessels by this potter have been found at Inveresk *vicus* (Dickinson 2004: 104, no. 9).

20. Form 27, stamped Q·VC. (003/4, P3)
21. Cup, stamped Q. V. C. (003/6A, P17)
22. Form 27, stamped VIRONIM. Vironius (cf Camelon: Hartley 1972: 17). (003/11A, P23)
23. Form 18/31, stamped M[. (003/5A, P4)
24. Cup, stamped]ANI. (547, P24)
25. Form 18/31, stamped]M. (003/5A, P5)
26. Form 18/31, stamped]M. (003/5A, P6)
27. Form 18/31, illegible. (003/11, P21)
28. Form 27, illegible. (003/11, P22)

7.2.3 The mortaria

Table 7.4 shows the fabrics and quantities of all mortaria recovered from the site.

Fabrics

▸ **Newstead?:**
See stamps nos 1–8. The fabric is generally orange-brown, with ill-sorted moderate inclusions of fine quartz, some angular hard black inclusions and sometimes fairly frequent soft opaque white inclusions up to 2mm across. Cream streaks are often visible within the fabric. There can be a cream wash, sometimes thick, with noticeable mica plates within it. Trituration grits are medium-rounded grey, red and black pebbles and rounded and angular white quartz. There is a second, less common, cream fabric (see stamp no. 4).

▸ **Scotland:**
See stamp no. 9. This category also includes other fabrics probably from a number of different sources.

▸ **Scotland or northern England:**
See stamps nos 10–12 and 14. There are three

Table 7.4 Mortaria from the whole site

Fabric	Weight (kg)	Sherds	EVE (%)
Newstead?	8.076	55	392
Scotland	2.279	21	107
Scotland or N. England	3.192	39	196
Northern	0.007	1	
Colchester/Kent	3.506	87	196
Verulamium (VER WH)	0.162	1	8
Mancetter-Hartshill (MAH WH)	0.099	2	14
Unsourced	0.166	2	12
Totals	17.487	208	925

different fabrics for Docilis, two orange and one white. The first fabric is a fine orange fabric, with a slightly soapy feel. Moderate, fine inclusions such as quartz, with occasional angular red-brown fragments up to 3mm across, and sometimes cream streaks within the fabric. There is a thin cream slip with visible mica plates and ill-sorted trituration grits of red and brown pebbles and white quartz (stamps nos 10–11). The second fabric has a gritty feel, with plentiful small quartz inclusions with occasional larger opaque white or black fragments in the orange fabric. The trituration grits are mainly grey and black pebbles and white quartz (no. 12; see also no. 14). The third fabric is white, with fine quartz and red-brown inclusions, with trituration grits of white and pink quartz, with a few angular fragments of red pebbles (no stamped examples).

▸ **Northern England:**
See stamp no. 13.

▸ **Colchester/Kent:**
See stamps nos 16–18. There are two fabrics present: one buff or cream with a thick pink core, with flint and white and pink quartz inclusions; and the other a dark buff or cream colour with trituration grits of flint and opaque white quartz.

The stamped mortaria
Kay Hartley

The stamps on 1–6 are all retrograde and are on six different mortaria, all with stamps of the same potter, whose namestamps read EMI and whose counterstamps read FEC with a small vertical bar before the F. This potter often impressed his stamps twice to each side of the spout and sometimes used them indiscriminately. EMI is presumably an abbreviation for some such name as Emius (not recorded) or Emianus; while FEC is an abbreviated form of '*fecit*' (made it).

While the stamps above prove the presence of six of his mortaria it is clear that many of the unstamped fragments from these excavations are from other mortaria of his for which the stamps have not survived, including the spouts from four further vessels. Up to nine other stamped mortaria of his have previously been recorded from Inveresk, making a total of up to 15 mortaria (Hartley 1988: fiche 1:F2 no. 3 (1.30), Phase 2, Antonine 1; Hartley 2004: 106–14, nos 2, 11, 18, 19?, 35). Other mortaria of his are known from Ardoch (up to 3); Balmuildy (3); Bothwellhaugh (1–2); Camelon (up to 6); Carriden (Bailey 1997, 587, no. 9); Castledykes (2); Cramond (2); Newstead (up to 9); Old Kilpatrick (2–3); and Rough Castle. All stamps from these dies have been recorded only from Scotland and all are from sites north of Newstead. There is evidence from surface finds to indicate pottery production in the vicinity of Newstead and it is highly probable that Emi.. and other potters had a workshop there in the Antonine period. Emi.. had access to more than one type of clay, and the large numbers of his mortaria at Musselburgh make it worth considering the possibility of production there.

Stamps 7 and 8 are from two different mortaria. They are from the single die of a potter whose complete stamps read BRIGIA[..], which is probably an abbreviation for a longer name. Most of his stamps have been in poor condition, but those on nos 7 and 8 are unusually clear and no. 8 is the best-preserved example to date. It is worth noting that the end of the letter panel is fitted around the second leg of the A. This is a very unusual feature; Hartley 1976 (fig 1, no. 2) gives the best published representation of this stamp, but is inaccurate at this point.

His mortaria are now known from: Camelon (3); Lyne (Christison 1901: 184, misread as SR); Inveresk (2) and Newstead (2). Although he has far fewer stamps than Emi.., his work is similar in fabric, form and distribution (see Hartley 1976: fig 2) and it is likely that he was active in the same workshop in the Antonine period.

Stamp 9 is the die of the potter Invomandus, usually represented by stamps showing the long form of his name.

His mortaria are now known from Camelon; Inveresk (3); and Newstead. His fabric and distribution, limited as it is, is similar to that of Emi.. and Brigia.., but the unusual lettering in his stamp differs. The rim of no. 9 has a wide, shallow profile with a sharp vertical change of angle at the distal end of the flange; one other unpublished mortarium from Inveresk (FR 167) is closely similar, but from a different vessel, while the mortarium from Camelon (Hartley 1976: fig 2, no. 13) is generally similar. These types differ from those produced by Emi.. and Brigia.. It is certainly possible that Invomandus worked in the same workshop, but the difference in his work suggests that he did not learn his potting techniques with them. It is worth noting that although the spout does not survive, it is clear that much less clay was added to form the spout than was usual at this period; as a result there is little if any distortion of the rim profile. Antonine.

Nos 10–12 are three different mortaria stamped with the same die. At least four other stamps from the same die are also known from previous excavations at Inveresk (Hartley 2004: 108, no. 10 and fig 78, no. 10; 112, no. 40 and fig 78, no. 40: in both examples the illustrations are not accurate); Thomas 1988: microfiche 1:E1, no. 2 and illus 44, no. 1.257); and unpublished (Hartley archive no. 16NK). This makes up to a total of seven mortaria from Inveresk, all with stamps from the same die, which is the second of the two stamp-types represented in the waste pottery found at the kiln-site at Fisher Street, Carlisle (Hartley 2012: fig 10, nos 21–2).

Docilis 3 is used as an umbrella term for up to 13 dies used in workshops known to have existed at Wilderspool (Hartley & Webster 1973), Walton-le-Dale (Evans et al in prep) and Fisher Street, Carlisle (Hartley 2012), and it is possible that the 'Docilis 3 firm' was also active in Antonine Scotland. We do not know to what extent these workshops overlapped in date or were purely consecutive except that there is reason to suppose that most of the activity at Carlisle is likely to have post-dated most of the productions at Wilderspool and Walton (see stamp D·I·S/L·D·B from Southern Lanes, Carlisle: Hird & Brooks in prep). Docilis 1 and 2 refer to stamp-types used at Wroxeter by a potter who is considered to have initiated the Docilis activity in north-western England (ibid) referred to as Docilis 3. There is evidence from the workshop sites and from distribution to indicate which die-types were in use at the different workshops.

The distribution of mortaria stamped with the same die as the Inveresk mortaria is now as follows, in Scotland: Balmuildy; Camelon; Carzield (1–2); Inveresk (up to 7); Newstead; and in England from: Cardurnock (1–2); Carlisle (*c* 23); Chester; Chesters; Corbridge (2); Hardknott; Old Penrith; Stanwix; Watercrook.

The distribution of all of his work shows that Docilis 3 mortaria were made at Wilderspool, but there is every indication that their production there was minimal. There is much more evidence for their production at Walton, but the overwhelming evidence from fabric and distribution is for production at Carlisle. From the evidence available, we can reasonably assume that the die in question was never used at Wilderspool; no stamps from it are known from Walton-le-Dale though it could, of course, have been used without any having survived on the excavated site. Re-examination of the fabrics of the mortaria from south of Old Penrith could verify the sources of those stamps since the Walton and Carlisle fabrics and usually the Wilderspool fabric are distinctive. The outsider in the distribution of stamps from the die in question is the stamp at Chester, and re-examination and analysis should

reveal its source. At the moment, origin at Walton seems the more likely for that. Currently the most likely scenario seems to be that the die may have been used at Walton, but that it was used mainly at Carlisle. The extent of pottery production in Scotland in the Antonine period together with the relatively large number of his mortaria there (especially from this die), and the fact that he was so involved in production at multiple subsidiary workshops, make activity in Scotland a serious possibility (see Hartley 2012 for further discussion of this).

The Carlisle workshop which Docilis 3 was part of was set up within the period AD 110–20 and the production continued into the Antonine period; there is a distinct possibility that some of his Antonine production was in Scotland, perhaps in the vicinity of Newstead.

Minucius' stamps (no. 13) are always associated with small, neat vessels which resemble segmental bowls rather than the average mortarium made in northern England and Scotland. The neat little stamp with its beautifully made lettering is also highly unusual; there are few other potters who had dies which are in any way reminiscent of this; they include the northern potters Mascellio (Birley & Gillam 1948: no. 37) and Coertinus (ibid: no. 12). Nevertheless, the distribution of his stamps suggests that he was working in north-eastern England, Corbridge being a possible source. His fabric is normally a sandy, greyish- to buff-cream, as here. There is no reason to doubt that his work is primarily if not solely Antonine.

Stamps nos 16 and 17 are from mortaria which are superficially similar in form, but detailed examination tends to confirm that they are from two different vessels rather than being complementary stamps from the same mortarium. There are slight differences in the fabric, that of no. 17 appears to be the more compacted; there is also a distinctive demarcation on the outside of no. 17 at the junction between rim and body which does not appear on no. 16. Another stamp from the same die has also been recorded from Inveresk (Thomas 1988: microfiche 1:G1, illus 43, 1.41) and this appears to be on another mortarium indicating three mortaria from Inveresk with the same uncommon herringbone stamp.

Mortaria with the same stamp are now known in Scotland from Inveresk (2); and in England from: Canterbury (2, Williams 1947: 87, no. 1 in Pit 4 and fig 8, no. 14); Dover (Philp 1981: 203, no. 364); Greenhithe, Kent (Detsicas 1966: 180, no. 213); Ham Saltings, near Upchurch in Kent; and Richborough. This distribution is typical for mortaria with herringbone stamps, which were produced in Kent. Kilns have been found in Canterbury, where similar mortaria were being fired (Webster 1940; Jenkins 1960) and the whole production could well have been based there. In fabric, rim profiles, and the use of herringbone-type stamps, the Kentish production mirrors the much larger one in Colchester (Hull 1963), of which it was probably an offshoot. Antonine Scotland and to a lesser extent north-eastern England formed the major market for the Colchester mortaria (ibid: 114–16; Symonds & Wade 1999: 205/209), but those made in Kent did reach Scotland, probably transported along with BB2 ware, by the same coastal traffic. The production of the herringbone mortaria was within the period AD 130–70 and its floruit coincided largely with the Antonine occupation of Scotland.

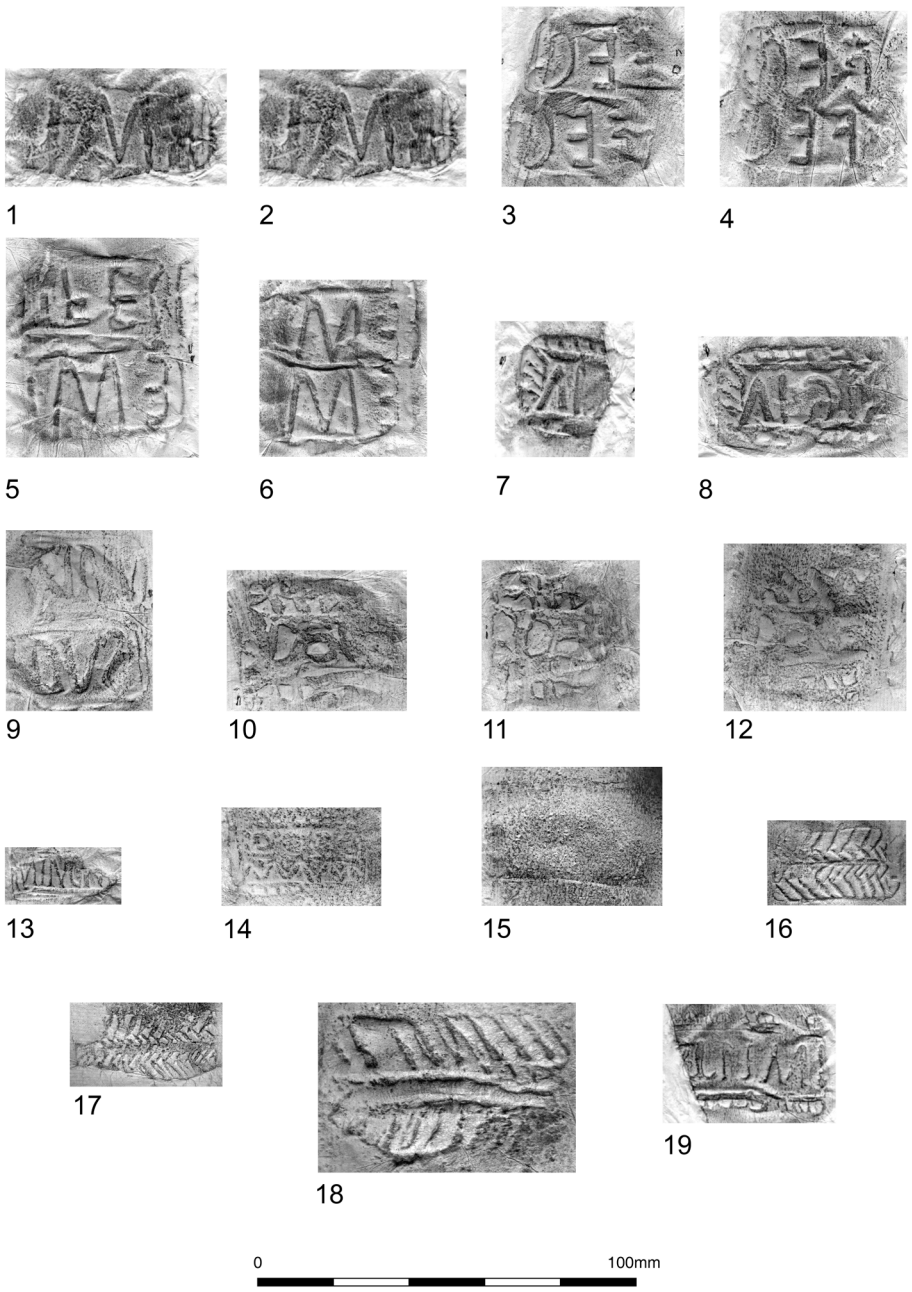
Mortaria of Similis 1 (no. 19) are now recorded in Scotland from: Balmuildy; Inveresk; Newstead; and Old Kilpatrick (2–3) and at least 35 stamps of his are known from sites in England, excluding his kiln-site. His mortaria from sites in Scotland show that he was active in the Antonine period, but his rim profiles and spouts suggest that his production began somewhat earlier, *c* AD 130/135. A date within the period AD 130–60 is indicated.

Similis 1 could be the same potter as Similis 2, who began working in these potteries but later moved to the Lower Nene valley (Upex forthcoming). The mortaria of Similis 2 are marginally later than those of Similis 1 and the stamps differ in type so they are treated separately for convenience.

Catalogue (Illus 7.8)

When the state of wear is not mentioned, the sherd is broken too high for it to be ascertained.

1. Small rim fragment with poorly impressed stamp reading [.]M[.]. Remains of cream wash. (003/4, M4)
2. Flange fragment with slight burning, with incomplete stamp reading [.]M[.]. Thick cream wash. (003/5, M8)
3. An almost complete section from a mortarium with the two left-facing



Illus 7.8 Pottery: mortaria stamps (copyright CFA Archaeology Ltd)

stamps impressed close together, both reading FEC. The fabric is very hard-fired, slightly darker than the norm and the slip a dull, dark red-brown. It is just short of being a second. The original surface of the clay is intact and one can be reasonably certain that it has never been used. The fine inclusions are more plentiful than usual, with prominent opaque white fragments up to 5mm across (003, 10–11, M11)

4. A mortarium in drab cream fabric with the two left-facing stamps impressed close together, both reading FEC. Well-worn. The fabric includes frequent fine red inclusions and the small, well-sorted trituration grits include a high proportion of red and pink pebbles and white quartz. (003/11, M13)
5. Almost half of the upper part of a mortarium with two nearly complete

left-facing stamps impressed close together, one reading EMI, the other FEC, with a short vertical bar before the F; the stamps are impressed inversely to each other. Some burning on the inside and on part of the flange, and well-worn. There are patches of red-brown paint, notably on parts of the spout and on the bottom of the flange, but they are too slight for useful interpretation. There is a small graffito, post-cocturam, near the bottom of the flange, which may read IXI; this is likely to be an owner's mark. Prominent cream streaks within the fabric; slightly soapy feel. (003/6A and 11A, M14)

6. A mortarium with two left-facing stamps reading EMI, impressed close to each other and parts of the letters of a right-facing stamp, which would have read FEC when complete. This was probably the first of a pair to match those on the left side. Some blackening on the end of the flange probably occurred during firing. Cream wash. (878, M19)
7. Incomplete rim-section with cracking underneath at junction of flange and body. The broken, right-facing stamp reads [….]IA retrograde; the A has a small diagonal dash instead of a bar, barely visible in this example. Thin cream wash. (003/6A, M9)
8. Two joining sherds giving more than a quarter of the upper half of a mortarium with a right-facing stamp reading [..] IGIA, retrograde; the A has a thin diagonal dash instead of a horizontal bar; the tail of an R is visible before the I. Worn. Thick cream wash. Fewer inclusions than usual, small in size. (003/10–11, M12)
9. This mortarium has cracking halfway down the internal surface, which probably developed at a weak point in the wall after sale, although it is, of course, the sort of cracking one might expect in a second or waster. The full section does not survive, but the inside surface of the sherd is intact, suggesting that any wear would have been in the centre base. This potter, Invomandus, always tried to stamp the whole of his long name by impressing each end of his die close together across the rim. On all known examples of his work where sufficient survives, he employed the same technique, but only one example is known where he succeeded in impressing the full name, from Newstead (Curle 1911: fig 35, no. 14) which reads INVOM in the upper impression and ANDVS in the lower impression (S reversed, while the O is triangular). On no. 9 the potter has made two attempts at stamping the beginning of the name with the result that the O overlaps the V on this rim; if that is ignored the impressions read from left to right, […] OM and [..]DVS. There are only four of his mortaria which are complete enough to have both parts of his name present, but it is, nevertheless, interesting that he never made the mistake of impressing the same part of his name twice. Hard orange fabric, with moderate angular red and black inclusions and some fine rounded quartz. Highly micaceous, thick cream wash. Few visible trituration grits, but included rounded, multi-coloured pebbles and quartz. (003/4, M5)
10. One sherd from a mortarium with right-facing stamp from a die of Docilis 3. Some wear. (003/5, M7)
11. One sherd from a mortarium with a stamp from the same die of Docilis 3. (643, M15)
12. One sherd from a mortarium with right-facing stamp from the same die of Docilis 3. The internal surface has been eroded. The fabric differs significantly from that of no. 10 and no. 11 and there is a raetian slip on the upper surface of the flange, extending to the bottom of the bead; there is also a slight concavity below the bead, of the type

normal in raetian mortaria. Docilis 3 did not make raetian mortaria, but he was active in workshops where they were made, eg Wilderspool, Walton-le-Dale and Carlisle, and there remains the possibility of further activity in Scotland (Hartley & Webster 1973; Hartley 2012; Evans et al in prep). This example was certainly not made at Wilderspool or Walton. It is a result of some 'cross-fertilisation', an occurrence which was surprisingly rare given the proximity of production. (003/8, M10)

13. A flange fragment with broken stamp reading MINC[, with fragments of the following IV. This is from a die which gives MINCIVSF when complete, but the second part of the N is slightly splayed and the potter's name may be Minucius rather than Mincius; the name is followed by F for '*fecit*'. His mortaria have now been found at the following sites: Corbridge (1–2, Birley & Gillam 1948: no. 42) and High Rochester in Northumberland, and, in Scotland, from: Camelon; Inveresk (1–2, the previous find is from St Michael's Kirk graveyard); and Newstead (1–2, Curle 1911: fig 35, no. 18). (780, M16)
14. A heavily worn mortarium perhaps in the same fabric as no. 12. The outer part of the surface of the flange is badly eroded and this has affected the two-line stamp. There is no other example recorded of the stamp and its exact reading or interpretation is unclear. It could well be an illegible or even illiterate stamp, but that cannot be assumed until further, clearer examples are found. If it were to be attributed to a potter it would probably be Docilis 3; it is possible to interpret it as DOCC retrograde on one line though the third letter could be an S; there is no way that one could treat this as a certain attribution and only the discovery of clearer stamps can clarify the reading. The mortarium profile is not one which Docilis favoured, but the similarity of fabric to no. 12 suggests that it was made in a workshop used by Docilis 3. The rim profile fits with a date in the Hadrianic-Antonine period. Pale orange fabric, very gritty fabric with fine quartz inclusions, few visible trituration grits but include some rounded red pebbles. (003/4, M6)
15. This worn mortarium has, like no. 14, suffered from some erosion on the upper surface of the flange, but the 'stamp' is clearly a mock stamp made by making incisions across the flange to mark the edges of the 'stamp'. Examples of this practice are not common but one is certainly known from Carlisle (English Street, 8.03; unpublished, Tullie House Museum). This mortarium has some concentric scoring on the inside which suggests that it is more likely to be Hadrianic than Antonine. Pinkish-orange fabric with moderate inclusions or rounded quartz and some angular black and red pieces. There are the remains of a thin cream wash. (003/3, M3)
16. A well-worn mortarium with left-facing herringbone stamp of unusual type. Buff fabric. (Cleaning, M18)
17. A well-worn mortarium with black staining on the inside surface. The broken stamp is from the same die as the stamp on no. 16. Buff fabric. (780, M17)
18. A sherd from a worn mortarium with right-facing, herringbone-type stamp. This stamp has been positively matched only once, in an unpublished stamp from Canterbury (16 WS 78; 1083; 107), and the mortarium may have been made there rather than at Colchester. Cream fabric with pink core (003/3, M2)
19. A flange fragment with a left-facing broken stamp, which when complete, reads SIMILIS retrograde, with *lambda* L; the first S has not been impressed and

the break comes through the final S. This is from one of at least 12 dies used by Similis 1; at least 13 of his stamps were recovered from a kiln apparently used by Sarrius, in the Warwickshire pottery-making site adjoining *Manduessedum* (unpublished) and several more were found elsewhere on the site. A fully impressed stamp from a different, but similar, die can be seen in Hartley 1997: fig 371, no. 3372). (003/2–3, M1)

Discussion of the mortaria

The assemblage is dominated by mortaria made in Scotland (Table 7.5), and especially the probable production site near Newstead, with at least 12 vessels of Emi.. and Brigia.. Scottish mortaria make up 59% of the assemblage, in contrast to previous excavations where they have made up only 15% or 21%. Previously it has been vessels from Colchester/Kent that were the most common type (56% and 38%), followed by Scotland and then northern England (Hartley 2004: 124). The assemblage is also noticeable for the complete absence of any Rhineland mortaria, which had previously made up 10% and 4% of the assemblages recovered.

7.2.4 The amphorae

As is usual on British sites, Dressel 20 from southern Spain is the most common type represented, making up 88% by weight and 71% by sherd count (Table 7.6). This is a lower figure than for the amphorae recovered during the Inveresk Gate excavations, where they made up 97% by weight (Dore 2004: 106), and is noticeably lower than some other sites. At Bearsden, Dressel 20 made up 99.5% by sherd count and 97.5% by weight, and even at Cramond, also situated on the east coast, it apparently made up 100% (Fitzpatrick 2016; Holmes 2003: 47; a single sherd of Gaulish amphora has been found in recent excavations in the barracks).

The second most common source is Gaul, making up 26% of the total by sherd count, representing a number of different vessels. This is the most common source for wine in the Antonine period (Fitzpatrick 2003: 63). There are two rims, one of which comes from a furrowed-rim Gauloise 12 from

Table 7.5 Mortaria from other excavations at Inveresk, shown as a percentage (2012 = current excavations, by weight; 1988 = Hartley 1988, by vessel count; 2004 = Hartley 2004, by vessel count)

Fabric	2012 (as a % of 17.487kg by weight)	1988 (as a % of the vessel count of 48)	2004 (as a % of the vessel count of 30)
Newstead?	46.2	–	–
Scotland	13.0	14.6	20.7
Scotland or N England	18.3	8.3	17.2
Northern	0.0	–	–
Carlisle area	–	4.2	–
Corbridge	–	2.1	–
Colchester/Kent	20.0	56.2	37.9
Verulamium (VER WH)	0.9	–	6.9
Mancetter-Hartshill	0.6	2.1	3.4
Lincoln	–	4.2	–
Wroxeter	–	4.2	–
Rhineland	–	4.2	10.3
Brampton	–	–	3.4
Unsourced	0.9	–	–

Table 7.6 Amphorae from the whole site

Fabric		Weight (kg)	Sherds	EVE (%)
Dressel 20	BAT AM 1	20.060	113	168
Gaulish amphorae 1	GAL AM 1	1.921	37	72
North African amphora??	NAF AM	0.075	1	–
Normandy amphorae	NOM AM	0.159	1	27
Unsourced amphorae		0.408	7	–
Amphora lid		0.064	1	100
Totals		22.687	160	367

Normandy. This is only the third site in Scotland known to have produced this type of amphora; so far a large part of a single vessel has been found at the native site at Carlungie I, Angus, and sherds from at least two vessels are known from Carpow (Fitzpatrick 2003: fig 5). This type of amphora has a limited distribution in Britain, being found only on a low number of sites in the south and east (Tyers 1996: fig 70), although sherds have now been recognised at a further six sites in north Britain (Bidwell & McBride 2010: 112–14). Many may have been distributed during the 3rd century, but the presence of this example in the midden deposit at Inveresk indicates some at least were reaching Britain in the middle of the 2nd century.

The range of other types of amphora is larger than that recovered from previous excavations, but other than the Gaulish amphorae, most are represented only by individual sherds, such as a fragment from a hollow spike in a lime-rich, pale orange fabric with slightly darker surfaces without visible quartz inclusions (003/8), and a body sherd in a granular red fabric with limestone inclusions and a patchy cream exterior (003/6A). Fabrics with limestone inclusions are typical of North African amphorae, and this sherd is similar in appearance to North African amphorae from later contexts in northern Britain. Given the small size of the piece, it is difficult to be certain whether the Inveresk sherd is from North Africa, although such amphorae are known in southern Britain from 2nd-century contexts (Tyers 1996: 104). There is also a complete amphora lid that has had an off-centre hole roughly cut through it, removing most of the knob (003/ cleaning).

The site has previously also produced a late Haltern 70 variant, probably carrying grape syrup or preserved olives from Spain (Thomas 1988: M1:E1, no. 1.19). It has the 'furrowed' rim form (Carreras Monfort 2003: fig 2), but has the off-white slip of the later Ver 1908 type that remained current until sometime in the period 125–50 (Sealey 2003: 94). The presence of this example at Inveresk suggests production of the later developments of the Haltern 70 continued until the early Antonine period.

7.2.5 Discussion

The assemblage from C003 is notable because of the large quantity of samian, which makes up 28% by weight and 31% by sherd count (37% by EVEs). In contrast, the samian from the rest of the site only makes up 17% by weight and 16% by sherd count, and only 5% from the 1998 Inveresk Gate excavations (Dore 2004: fig 71). The quantity of samian in C003 is approximately three times what would be expected from an assemblage on a military site (10.7%, or 9.9% for an extramural site: Willis 2005: table 32). The samian is also distinguished by the high proportion with graffiti, including not just letters or marks on the underside but also names written out in full on the outside of the vessel. There were 31 vessels with graffiti from C003, and only four from contexts other than C003. Almost all were on samian vessels; there was one on a mortarium, one on an amphora, and none at all on coarse wares (see Section 7.3 below). There are few sites where a detailed comparison can be made, but at Wallsend fort there is one graffito for every 266 sherds of samian, or 350% of EVEs, in comparison with

C003, where there is one graffito for every 16 sherds, or 73% of EVEs.

Inveresk ware makes up 25% of the assemblage; when looking just at the coarse wares, it makes up 53%, followed by BB2 at 24% and BB1 at 10%. Although there is a range of other fabrics present, none were important sources of pottery, with most making up less than 1% each of the coarse wares brought to the site. These proportions are similar in the contexts on the rest of the site.

Swan noted the very wide range of forms made in Inveresk ware (1988: 167), to which can be added jug, narrow-mouthed jar, cauldron, cheese press and tazza (Table 7.7). There is also a single mortarium that is remarkably like some of the bowls, having a similar chunky footring and patchy horizontal burnishing on the exterior (003/9, base only), although it should be noted that K Hartley has found no evidence of mortarium manufacture in the local area (Hartley 2004: 114). There are also further examples of wasters and seconds (eg nos 14, 38; Illus 7.1–7.2). Despite the varied range of forms being made there were no examples of vessels made in a North African tradition, either in Inveresk ware or any other ware. This is in contrast to local pottery production at sites on the Antonine Wall, where North African tradition vessels often formed a recognisable component, even if generally small, of the local repertoire (Swan 1999: 405).

The pottery from C003 is noticeable for the low numbers of cooking pots, approximately half what would be expected from a 2nd-century assemblage, where 35–45% is more typical (Bidwell & Croom 2016), although the figure from the assemblage from the 1998 excavations at Inveresk Gate was also relatively low at 26%. The quantity of storage jars is small when compared to the 1998 excavations, where they made up 11% of the group, but in this case it is the 1998 figure that is unusual, as a very low figure for storage jars is more typical.

Table 7.7 Vessel types from C003 only

Vessel type	EVE(%)	as %
Flagon	248	4.1
Drinking vessels	457	7.6
Small jar	12	0.2
Bowl/dish	3306	55.2
Cooking pot	969	16.2
Storage jar	132	2.2
Mortarium	766	12.8
Lid	41	0.7
Cheese press	19	0.3
Tazza	37	0.6
Total	5987	

7.3 Graffiti

Roger Tomlin

These graffiti were all made *after* firing, and thus relate to the ownership or use of the vessel. They are all on samian, except for one, which is on an amphora. Nineteen have been illustrated (Illus 7.9–7.10): the amphora, the samian Personal Names (i) complete or restorable, and three typical Marks of Identification, a 'star' (no. 34), a large 'cross' (P16) and a small 'cross' (P14).

7.3.1 Amphora (Illus 7.9)

1. Rim sherd of a south-Spanish oil amphora (Dressel 20), incised with two graffiti. (G28, site cleaning)

   (i) In the upper surface of the rim: […]MI

   Although notes of capacity are quite often found here, this would be much too small (see below), so it is presumably the end of the owner's name in the genitive case: '(property) of […]mus *or* […]mius'.

   (ii) Just below the rim where it curves into the neck, and inverted in respect of the vessel: VII S V[…], *(modii) VII s(emis) (sextarii) V[…]*. 'Seven (and) a half *modii*, five [*or* six, *or* seven] *sextarii*.'

   A note of capacity, expressed as usual in *modii* [each of 8.754 litres] and *sextarii*, of which there were 16 to the *modius*. Most notes of capacity for Dressel 20 range from seven to eight *modii*, with or without a fraction: see *RIB* II.6, 2494, and the note on p 33.

7.3.2 Samian

The other graffiti are all on samian vessels, most of them Form 18/31. They have been ordered into Personal Names (i) complete or restorable (in alphabetic sequence); Personal Names (ii) uninterpreted; and Marks of Identification, intersecting lines forming a 'star' or 'cross'.

Some of the names are commonplace Roman cognomina (*Candidus*, *Primus, Publius*, etc.), like *Crescens* and *Victor*, which have already been found at Inveresk (Tomlin 2008: 372, no. 5 and *RIB* II.7, 2501.610 respectively), but four are of special interest: *Deciba(l)us*, which is Thracian and may be specifically Dacian; *Drigissa*, which is Thracian; *Fradegus* (or *Fradegius*), which is unknown; and *[I] ulius La[…]*, which identified a Roman citizen.

The question of whether anything can be deduced from these names about the garrison of Inveresk is discussed below, in connection with *Deciba(l)us* (Graffito no. 5).

Personal Names (i), complete or restorable (Illus 7.9)

2. *Candidus*. Base sherd of a bowl. Scratched in bold capitals on the outer wall just above the foot ring: CCANDIDI, C{c}andidi. '(Property) of Candidus'. (003/11, G22)

   The first two letters are incomplete, but their remains are almost identical, consisting of a diagonal foot curving at the end; this suggests a rather angular C. Since there is just enough space to the left to see them as the beginning of the graffito, it seems that the initial letter was written twice. The third letter has also lost its top, but can be read as a rather narrow A. This reading CCA is confirmed by the sequence which follows: *Candidus* is a common cognomen. Only the bottom survives of the final letter, which is either A or I. Although *Candidi* (genitive) is the most likely reading, *Candida* (feminine) and even *Candidi[anus]* are possible.

3. *Ce[…]*. Base sherd of Form 18/31. Scratched underneath in elongated capitals: CE. (003/6A, P15)

   The owner's name, abbreviated to its first two letters. There are many possibilities, the most likely being *Celer*, *Celsus*, *Censorinus*, *Cerialis* and *Certus*. Graffito no. 4 may be another version of this abbreviation.

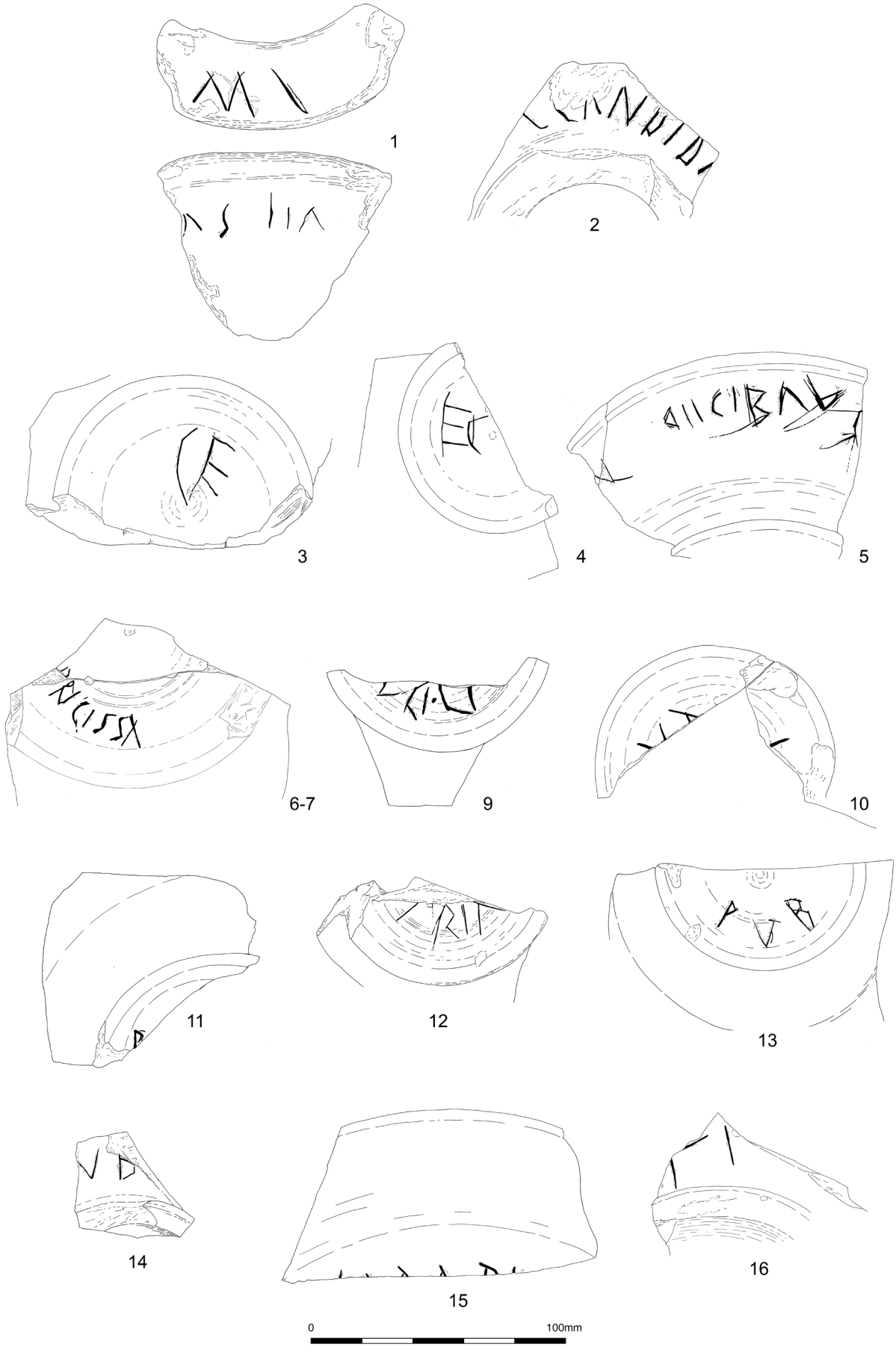
4. *Ce[…]* again(?). Three conjoining sherds preserving the base and profile of Curle 15. Scratched underneath, within the foot ring: E. To its right is a second, smaller letter, apparently C overlying a vertical stroke. It is hardly a reversed D. So read: EC. (003/5, G12)

   Almost no names begin with *Ec–*, and those that do are very rare, so EC is unlikely to be an abbreviated name. But since E with its exaggeratedly long vertical resembles that in the previous item (P15), and may be by the same hand, the graffito is perhaps a garbled version of the same 'signature', CE.

5. *Decibalus*. Sherd preserving the profile of Form 18/31, with a small rim sherd conjoining. Scratched on the outside wall below the rim, in irregular capitals: DIICIBLVS. (003/11A, G18)

   D is scratched as a small triangle, its left angle overlaid by a curving stroke, as if D has been reversed; this may be under the influence of the cursive form (a diagonal stroke with a loop to the left), but is more likely to be sub-literate. II is for E, as often in capital-letter graffiti. A is 'open' (without a cross-stroke). S is now broken, but enough remains of its down-stroke and tail to be certain of the reading. It was presumably the last letter, but this cannot be determined visually.

   The name is evidently *Deciba(l)us*. The omission of L cannot be explained phonetically, and is presumably an error of writing, perhaps due to confusing L with V, both letters being made with a down-stroke and a second (up)stroke at an angle.



Illus 7.9 Graffiti: personal names (copyright CFA Archaeology Ltd)

The name *Decibalus* (also written *Decebalus*) is noted by Detschew (1957) as Thracian; further examples from Thrace and the lower Danube frontier have been discovered since, notably Flavius Decebalus, veteran of Legion I Italica in 222/35 (Kolendo & Bozilova 1997, no. 82). As the editors note, although it was famously the name of the last king of Dacia, by the 3rd century it had become part of the Thracian name-stock. Even in the Antonine period, therefore, a man named *Decibalus* is not necessarily Dacian, although it is suggestive that the first British instance comes from Birdoswald (*RIB* 1920), the station of *cohors I Aelia Dacorum*. The other British instance occurs on a samian vessel from Hadrian's Wall, but probably not from Birdoswald itself (*RIB* II.7, 2501.156 with note).

The assemblage includes another Thracian name, *Drigissa* (see below). We can only guess at how he and Decibalus came to Britain. It is tempting to see them as Dacians, founder-members of *cohors I Aelia Dacorum*, assuming it to have been raised by Hadrian, as its title *Aelia* would suggest, but this may well be a battle honour granted to a unit actually raised by Trajan (the alternative preferred by Jarrett in *Britannia* 25 (1994: 46)). In any case, the military diploma of 127 (*RMD* IV: 240), since it was issued to a Dacian who served in *cohors II Lingonum* in Britain, shows that we cannot deduce the presence of a Dacian cohort from the Thracian names *Decibalus* and *Drigissa*, even if they were actually borne by Dacians, which is far from certain.

The other epigraphic evidence from Inveresk is inconclusive. The tombstone of the trooper Crescens (Tomlin 2008: 372, no. 5) names the *ala Sebosiana*, but since he was an *eques singularis*, he may have been there on detached service (a question discussed ibid, no. 12). A centurion of the Twentieth Legion is also attested in a position of authority (Tomlin 2011: 441–4, nos 5 and 6), but it is uncertain whether he was commanding legionaries (as suggested by the graffito G21, *[I]ulius La[…]*), or was the acting-commander (*praepositus*) of an auxiliary unit.

To the left of the graffito, and entirely detached from it, is part of another graffito probably by another hand, consisting of two and probably three strokes. It is probably part of the name of another owner, but too little remains to be sure of the letter(s) or even which way up it should be read.

6–7. *Drigissa*. Two conjoining base sherds of Form 18/31R. Scratched underneath within the foot ring: DRIGISSA. (003/3A, G2/P13)

Part of the D has been lost in the break between the sherds, where the surface broke away, and there is not enough space to the left to confirm visually that it is the first letter; but this name is already attested (see below), so the graffito must be complete. The third letter is identified as G, not C, by a diagonal stroke across its foot. The letters are of capital form, but A is 'open' (without cross-stroke).

The name is Thracian: Detschew (1957) cites *CIL* iii 14507, a33 (Viminacium), in which it is borne by a legionary veteran from Ratiaria who enlisted in 169 and was discharged in 195: T(itus) Aur(elius) Drigissa Rat(iariis); and (in a variant spelling) *AE* 1903, 249, a tombstone from the Danube frontier: Aurel(ius) Drigisa Aur(eli) f(ilius). In the garbled form *Drilgisa* it also occurs at Rome (*CIL* vi 1801).

8. *Fradegus*. Base sherd, probably of Form 18/31. Scratched on the outer wall, just above the foot ring: FRADEGI. (003/10, G17)

The graffito is complete, except that all but the first two letters have lost their very tops in the break; but there is no reason to doubt the reading. F is made in cursive fashion with a hooked second stroke, set too high for it to be read as K. A is also of cursive form.

Evidently a personal name in the genitive case, '(property) of Fradegus' (*or* Fradegius), but unattested and of unknown etymology. It is tempting to see it as Thracian like *Decibalus* and *Drigissa*, but it resembles nothing in Detschew (1957). It does not appear to be Celtic or German either, since it resembles nothing in Holder (1896) or Schönfeld (1911) and (1987); initial *fraw-* is indeed a Germanic name-element (Reichert 1987: II, 507), but it would be followed by a vowel.

9. *[I]ulius La[…]*. Small bowl base sherd. Underneath, within the foot ring, is part of a graffito scratched anti-clockwise around the circumference: […]VLI LA[…], probably *[I]uli La[…]*, '(property) of Julius La[…]'. (003/8, G21)

   The medial point makes it clear that the owner had two names (in the genitive case here), if not also an abbreviated praenomen now lost. There are other nomina ending in *ulius*, but the imperial nomen *Iulius* is so common that its restoration is probable. Only the (incomplete) first stroke of A survives, but its angle in relation to L and especially to the foot ring excludes the reading of I. The most likely cognomina are *Laetus* and *Latinus*, but there are many other possibilities.

   The owner was a Roman citizen, and (if indeed *Iulius*) his family had been citizens for more than a century; so he is much more likely to have been a legionary soldier than an auxiliary, especially since a legionary centurion is attested at Inveresk (Tomlin 2011: 441–4, nos 5 and 6).

10. *Karus*(?). Two conjoining sherds preserving the profile of Form 18/31. Underneath, within the foot ring, scratched clockwise around the circumference: the upper parts of three letters which are consistent with the reading KA[R]I or KA[T]I, '(property) of Karus *or* Katus'. Both names are quite often written with initial K for C: see *RIB* II.7, 2501.281, 282 and 283. *Carus* is the more common. (003/10, G16)

11. *P[…]*. Base sherd of Form 18/31. Scratched underneath: P[…]. (003/5, G14)

    P is broken towards the foot by the edge of the sherd, which makes it uncertain whether it originally stood alone (for a name abbreviated to its initial letter), but since it was placed close against the foot ring and aligned with the diameter of the foot ring, it was probably the first letter of a name *P[…]* written across the width. The broken edge runs diagonally, so the letter A, for example, might have been written quite close to P.

12. *Primus*. Base sherd of Form 18/31. Underneath, within the foot ring, is part of a graffito scratched anti-clockwise around the circumference: PRIM[…], probably *Primus*. (003/7, G23)

    P is made with an incomplete loop, and only the first apex of M survives before the break, but the name *Primus* (and its derivatives such as *Primitivus*) are so common that the reading is certain enough. There is no knowing whether it was written in the nominative or genitive case.

13. *Publius*. Base sherd of Form 18/31. Half the foot ring survives, and within it, a complete graffito in angular capitals: PVB. (003/10, P11)

    This might be the initials of a Roman's tria nomina, but is much more likely

(especially in view of the reduced V) to be an abbreviated name. The most likely is the praenomen *Publius*, often used as a cognomen, but also possible is a name derived from it, for example *Publianus*, *Publilius* and *Publicius*. Compare the next item (no. 14).

14. *Publius* again(?). Small base sherd, probably Form 18/31. On the outer wall, just above the foot ring: […] VB[…]. (003/cleaning, G19)

    Various names are possible, but the likeliest is *[P]ub[lius]* and its derivatives; compare the previous item (P11).

15. ?*Simplex*. Rim sherd of Form 31. The broken edge is nicked by the tops of five or six letters scratched on the outer wall, below the carination. The traces are slight, but the two apices of M followed by the loop of P can be recognised: […]..MP.[…]. (003/5, G11)

    The other traces are consistent with *Simpl[ex]*, which is quite a common name; in Britain it occurs at York (*RIB* 690), Maryport (860), Carrawburgh (1546) and Kirkby Thore (II, 2501.518).

16. ?*Titus*. Base sherd of Form 18/31R. Scratched on the outside wall just above the foot ring, two incomplete lines intersecting at right-angles, and a vertical line to the right. This might be an elaborated 'cross' for identification, somewhat like G5 below, but is more likely to be literate: […]TI[…], perhaps *Ti[ti]*, '(property) of Titus'. For this graffito on samian, see *RIB* II.7, 2501.542, 543 and 544. (003/3A, P2)

Personal Names (ii), uninterpreted

17. Base sherd, probably Form 18/31. Underneath, within the foot ring, are the ends of five strokes from a graffito scratched round the circumference, probably anti-clockwise. It was thus probably a name, but there is too little to justify a reading. (003/3, G1)

18. Small base sherd, probably Form 18/31. Underneath, part of two lines meeting at right-angles. Apparently a letter, for example E or L, rather than a mark of identification. (003/5A, G6)

19. Two conjoining sherds preserving the profile of Form 18/31. There are two graffiti; and since (i) has been erased, only too successfully, it is likely to be that of the first owner. (003/6, G7)

    (i) On the outer wall above the foot ring, the surface gloss or slip has been scraped off by means of an edged tool or a flat stone. Four parallel lines were then scored across this abrasion, cut more or less at right-angles by five other lines. Difficult to disentangle from this 'grid' are two or three angular strokes, probably part of the erasure, but just possibly V or M. It can only be said that the first owner's name was incised shallowly in the surface gloss, and was then erased entirely.

    (ii) Underneath, within the foot ring, are the ends of two lines once scratched across the whole width and intersecting at right-angles to form a large 'cross'.

20. Sherd preserving the profile of Form 18/31. Underneath, within the foot ring, was a graffito scratched around the circumference; but only the lower part of three strokes survives. There are too many possibilities to hazard a reading. (003/6, G8)

    On the outer wall, just above the foot ring, there is part of a stroke made *before* firing. Too little survives to determine whether it is actually part of a letter, or only casual damage before the slip was added.

21. Rim sherd of Form 31. On the outer wall, just above the carination, the edge of the sherd cuts two broad scores due to casual abrasion and then a much narrower scratch which may be deliberate. But too little survives of it to be sure. (003/5, G10)

22. Small base sherd, probably 18/31. There are the slight remains of two graffiti. (003/5, G13)

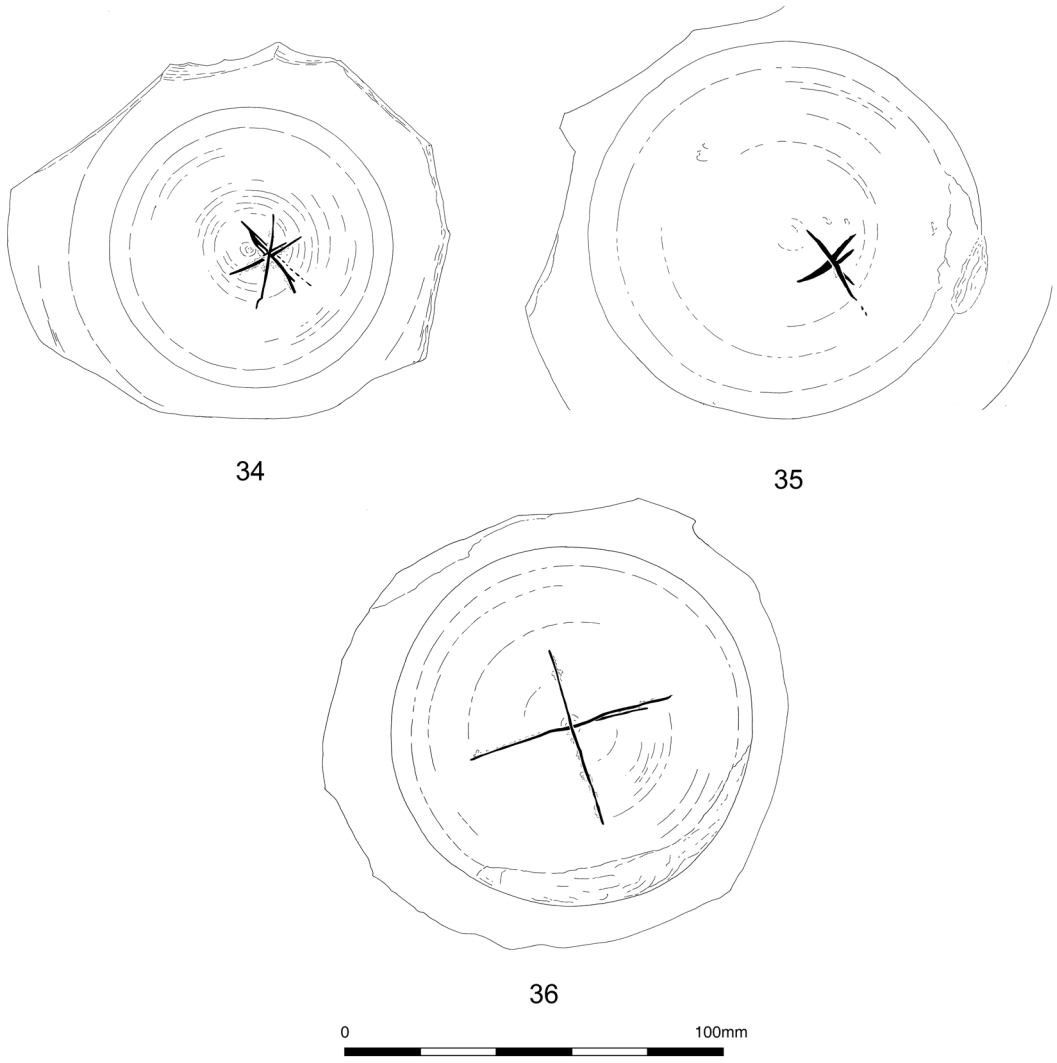
    (i) Underneath, within the foot ring, the end of a line meeting the circumference. Probably part of a large 'cross'.

    (ii) On the outer wall, two lines (the first incised twice) which meet at an acute angle at the carination. Too slight for identification, but possibly IM[…], the beginning of a personal name.

23. Sherd preserving the profile of Curle 15. A graffito was scratched underneath within the foot ring, but only the lower half of two letters survives. The first is probably S, the second might be K, L or R. None of the resulting combinations are suggestive. (003/8, G20)

24. Small base sherd, probably Form 18/31. Underneath, within the foot ring, are the ends of four strokes from a graffito scratched round the circumference, probably anti-clockwise. It was thus probably a name, but there is too little to justify a reading. (001 soil strip, G25)

25. Base sherd, probably Form 18/31, with part of an unidentified stamp (probably ending in –MI but not the same as P10 and P11 (*Publius*)). Half the foot ring survives, and within it, the remains of three intersecting lines scratched across



Illus 7.10 Graffiti: marks of identification (copyright CFA Archaeology Ltd)

the whole width to form a large 'star'. (003/10–11, P12)

Overlaid by this 'star', apparently two letters: […]CI. The name of a previous owner in the genitive case, his name ending in *-cus* or *-cius*.

Marks of identification (see also above: 4, 16(?), 19, 20, 22 and 25) (Illus 7.10)

26. Small base sherd, probably Form 18/31. Scratched underneath within the foot ring, two short lines intersecting at right-angles to form a 'cross', now incomplete. (003/3A, G3)
27. Rim sherd of Form 31, Scratched on the outer wall below the rim, two lines intersecting at right-angles to form a 'cross'. (003/3A, G4)
28. Base sherd of Form 18/31. Underneath, within the foot ring, the ends of two parallel lines once crossed at right-angles by a third, all of them spanning the width; they would have formed an 'H', not a letter but a large 'double cross'. (003/3A, G5)
29. Base sherd of Form 18/31, with too little remaining to tell whether it was stamped, or whether there was a graffito within the foot ring. Scratched on the outside wall above the foot ring, two short intersecting lines to form a 'cross'. (003/5, G9)
30. Base sherd, probably Form 18/31, with remains of two graffiti. (i) Incised underneath, within the foot ring, the end of a line across the width; it presumably intersected with another at right-angles to form a large 'cross'. (003/5, G15)

    (ii) In the outer wall above the foot ring, the end of a down-stroke. Since there is space either side, it was probably not a letter, but part of a 'cross'.

    (iii) A notch has been cut across the foot ring. If it was not casual, it may have been cut (perhaps with others now lost) as a mark of identification.
31. Rim sherd of Form 18/31 (EG). Scratched on the outer wall below the carination, two lines intersecting at right-angles to form a 'cross', now incomplete. (551, G24)
32. Small base sherd, probably 18/31. Underneath, within the foot ring, the ends of two lines meeting the circumference. They would have intersected at right-angles, and probably formed a large 'cross'. (Site cleaning, G26)
33. Two conjoining sherds of Form 18/31, amounting to nearly half of the base. Scratched underneath, on the inner face of the foot ring, a graffito now incomplete; two short lines intersecting at right-angles to form a small 'cross'. (Site cleaning, G27)
34. Complete base sherd of Form 18/31. Scratched underneath within the foot ring, three short intersecting lines to form a 'star'. (003/8–9, P10)
35. Two conjoining sherds of Form 18/31 preserving the base and profile. Scratched underneath, within the foot ring, two short lines intersecting at right-angles to form a small 'cross'. (003/11, P14)
36. Complete base sherd of Form 18/31. Scratched underneath within the foot ring, two lines across the width intersecting at right-angles to form a large 'cross'. (003/9, P16)

7.4 Roman glass

Hilary Cool

The glass from this site, excluding the obvious modern pieces, is summarised in Table 7.8 according to weight as some pieces show strain cracking, which makes a fragment count unreliable.

With the exception of the two chips recovered from Burial Pit 880 all the material is blue/green. This is the commonest colour of the 1st to 3rd centuries. The assemblage is dominated by bottle glass. Where the fragments can be assigned to form they belong to the square variant which

Table 7.8 Roman vessel glass by weight (g) (+ indicates presence but not at a measurable scale)

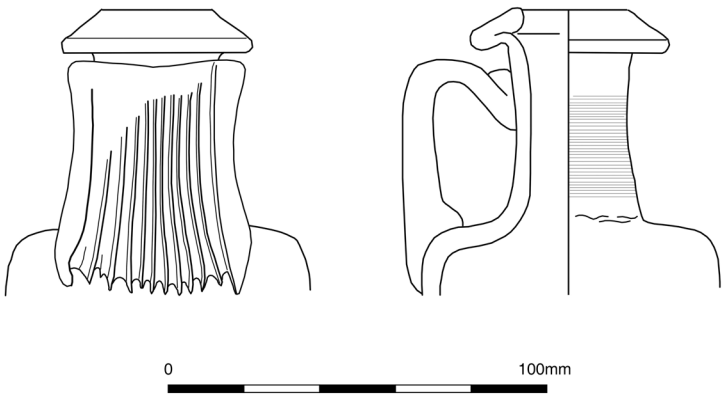
Context	Bottle	Other vessels	Chip	Window glass	Total
Burial context	–	–	0.20	–	0.20
Ditch and pit contexts	26.15	2.44		1.97	30.56
Midden – C003	260.15	7.93	+	4.63	272.71
Total	286.3	10.37	0.20	6.60	303.47

becomes very common in the late 1st century and continues in use into the 3rd century (Price & Cottam 1998: 194–8). None of the fragments retain any features that allow them to be more precisely dated within that period. Most are relatively undiagnostic body fragments though one from Context 003/6 is the substantially complete upper part of a square bottle (Illus 7.11). It is unusual to get such a large piece of bottle glass in a domestic rubbish deposit as bottle glass, being so thick, was especially useful for recycling as cullet or being chipped to form sharp-edged tools. This bottle presumably came from the same source that provided the large fragments of pottery vessels in the C003 soil deposits.

Other vessel forms were indicated by thinner walled and/or convex-curved body fragments. That from the midden, from 003/5, was relatively thick-walled and could have come from a utilitarian container. The fragments from the ditch fills 274 and 520 were thinner walled and could have come from tablewares. In none of these cases, however, can a vessel form be suggested.

The overall impression from the vessel glass from the midden and the field system is that it is curiously limited. In a 2nd-century site associated with the military and with the amount of samian pottery seen here, one could expect a wider range of forms, including colourless tablewares. This was certainly the case when the civil settlement to the east of the fort was excavated (Thomas 1988: microfiche 2.B7, nos 3.58–62). This assemblage is admittedly small and there may be depositional reasons why it is generally only the substantial bottle fragments that survive. Equally though, it may be hinting that this assemblage came from rubbish deposits that derived from the more utilitarian end of the food preparation and consumption range of activities.

The two small chips from the burial pit stand apart from the rest of the glass with regard to their colour. Chips derived from samples, as these are, always provide problems because it can be difficult to ascertain the true colour. Here one seems to be a chip retaining no original surfaces in properly decolourised glass; the other is a very small body fragment retaining original surfaces in a slightly green-tinged colourless glass. With such tiny fragments (weighing together only 0.2g) the possibility of intrusion by worm action and the like can often not be excluded and it should be noted



Illus 7.11 Glass bottle (copyright CFA Archaeology Ltd)

that chips of modern glass and Roman glass are difficult to distinguish from each other, making certainty of identification impossible. The top of this pit had been disturbed by a later field system ditch, increasing the possibility of intrusive items being present within earlier features.

Window glass of the typical blue/green matt/glossy variety was found in both the midden (a piece of 5.5cm^2) and in the unphased Pit 958 (3cm^2). Such glass would have been the type used in glazing in the 2nd-century fort and civil settlement and was presumably what was identified as window glass in the excavations to the east of the fort (Thomas 1988: 172).

7.4.1 Catalogue (Illus 7.11)

1. Square bottle. Complete rim, neck and handle with majority of shoulder and upper parts of sides. Blue/green. Rim bent out, up and in; cylindrical neck with tooling marks at base; reeded angular handle attached to shoulder, applied to neck and folded back onto upper part of handle; horizontal shoulder. Horizontal scratch marks on the neck. Rim diameter 56mm, width of bottle 83mm, weight 203g. (003/6)

7.5 Ceramic building material (CBM), fired clay and mortar

Sue Anderson

Seventy-nine fragments of ceramic building material (CBM) weighing 8,188g were collected from 23 contexts. A full catalogue is included in the archive. Table 7.9 shows the quantification by fabric and form. Post-medieval and unidentified CBM and mortar were recovered from the upper disturbed levels of C003; a report is available in the archive.

7.5.1 The Roman CBM

The Roman assemblage was quantified (count and weight) by fabric and form. Fabrics were identified on the basis of macroscopic appearance and main inclusions. Forms were identified with the aid of Brodribb (1987). The presence of burning, combing, finger marks and other surface treatments was recorded. Tile thicknesses were measured and for flanged tegulae, the form of flange was noted and its width and external height were measured.

Fabrics were identified on the basis of macroscopic appearance and main inclusions. Nine fabric groups were identified as follows:

Table 7.9 CBM by fabric and form

Type	Form	Code	No.	Weight (g)
Roman	Flanged tegula	FLT	4	1735
	Imbrex	IMB	4	534
	Imbrex?	IMB?	1	63
	Roman tile	RBT	17	3339
	Roman tile?	RBT?	14	185
Total Roman			40	5856
Roofing	Pantile	PAN	23	1262
	Pantile?	PAN?	1	19
	Ridge tile?	RID?	1	105
Walling	Late brick?	LB?	1	39
	Brick	B	5	383
	Drainpipe	DP	6	442
	Drainpipe?	DP?	1	67
Total post-medieval			38	2317
Uncertain	Unidentified	UN	1	15

Table 7.10 Roman tile quantities by fabric and form (fragment count)

Fabric	FLT	IMB	IMB?	RBT	RBT?	Total
fs	1				6	7
fsv	1	1		9		11
fsm	2	2		3	6	13
fsc					1	1
fscq		1				1
fsfe				2		2
fsx				3		3
ms					1	1
msx			1			1

fs/ms	Fine/medium sandy with few other inclusions
fsv	Fine sandy with large voids
fsm	Fine sand and mica, some voids, soft, pale buff
fscq	Fine sandy with sparse to moderate coarse quartz fragments
fsc	Fine sandy with calcareous inclusions
fsfe	Fine sandy with ferrous inclusions
fsx/msx	Fine/medium sandy poorly mixed clays with white streaks

In general, most fabrics contained a background scatter of the inclusions which occur commonly in local Roman and later ceramics, notably small ferrous particles, mica, small quartz pebbles, occasional burnt-out organic materials, grog and clay pellets.

Forty fragments comprised material of Roman date, much of which was recovered from C003. Table 7.10 shows the quantities by fabric and form. The wide variety of fabrics present suggests that the CBM used at the site was from more than one source. Fine sandy (fs, fsv) and micaceous (fsm) were the most frequent fabrics.

Four fragments of flanged tegulae were collected. Flange widths and heights were recorded where possible, and tile thicknesses measured. Three flange widths were in the range 30–33mm, one flange height measured 52mm, and four tile thicknesses 21–36mm. Flange shape was recorded for one tile, which was slightly concave with a rounded top. Two were from C003 (zones 6 and 9) and two were recovered during site cleaning.

Five fragments were identified as imbrices or possible imbrices. They measured between 16mm and 24mm thick. All were from C003 (zones 2, 4, 5, 6 and 6a).

Most pieces were unidentifiable to specific form (RBT). Thickness measurements were recorded for 15 of these (range 12–54mm), and this may provide a clue to the original function. Table 7.11 shows the numbers of measurable tiles in ranges of thicknesses and suggestions of types. However, the quantities form a normal distribution, and those in the mid-range in particular could belong to several types.

Surface markings made before firing were noted on only two tiles, one of which had an incised wavy line and the other was partly knife-trimmed on one edge. The latter was the thickest tile in the group.

The RBT fragments were largely from C003 (003/1–5, 6a, 7, 8 and 11), but also came from Ditch Fills 406 and 521, Pit Fill 1028 and modern Fill 551.

This is a very small assemblage for a Roman site. Likewise, the Inveresk Gate excavations only produced 14 fragments of Roman tile (Crowley 2004: 172). However, 64kg of CBM were recovered from excavations within the fort itself (Crowley 2005: 150), including large tiles such as *bipedalis*, box flue-tiles and roofing tiles. This suggests that several buildings might have used tile in their construction and indicates that the material is more likely to have been left in situ than dumped on the midden.

Table 7.11 Thicknesses of RBT and possible types

Thickness	No.	Possible type
10–14mm	1	Imbrex
15–19mm	2	Imbrex or flanged tegula
20–24mm	2	Flanged tegula
25–29mm	3	Flanged tegula
30–34mm	3	Flanged tegula/floor or wall brick
35–39mm	3	Floor or wall brick
>40mm	1	Floor or wall brick

7.5.2 Fired clay

Twelve fragments of fired clay (623g) were collected from seven contexts. They are listed by context in the archive. The majority were in fine sandy fabrics and comprised abraded lumps with no diagnostic features. Fragments from C504 were in a medium sandy fabric which was friable and not heavily fired. One fragment from 003/4a was a large piece with common voids and two wattle impressions, perhaps suggesting that it was a fragment of daub. A small fragment from 003/8 was flat with a smoothed surface and again may be a piece of the outer layer of daub. Like the CBM, a considerably larger assemblage of daub came from within the fort itself, amounting to 58kg (Crowley 2005: 152).

7.6 Iron

Dawn McLaren and Fraser Hunter, with a contribution by Gemma Cruickshanks

The broad range of ironwork includes some individually striking items. Nails and hobnails dominate (119 nails and tacks, 681 hobnails). The 74 other objects comprise a varied range, with a notably high component of weaponry, while other categories (such as vessel fittings) are rare. Table 7.12 summarises the assemblage (including items from burials, discussed in Section 3).

It is best to discuss the material by functional category. The bulk is associated with timber constructions (eg structural nails, brackets, door hinges and wall clamps). Some buildings or chests were secured with locks, attested by a padlock fitting and lift-key. Other domestic material is rare, however, with only one drop handle and a handle fitting from a leather vessel. In contrast, there is a broad range of military equipment. Weaponry is represented by two possible sword fragments (tip SF19 and tang SF262) and three ballista bolt heads, the latter attesting to artillery at the site; one has a tip damaged from use. There are no spearheads (in marked contrast to the finds from Inveresk Gate and the fort itself; Bishop 2004: fig 92; Hunter forthcoming), but one or two ferrules may come from spears (SF197, 256). Armour is represented most frequently by shield rib fragments and by ring mail, both single finds, and a small cluster of patches which may have been collected for repair. These examples were made by alternate rows of solid and butted rings, in contrast to the alternating solid and riveted examples from the fort excavations (Hunter forthcoming).

The most striking find of armour is a fragmentary helmet cheek-piece, which has proved very hard to parallel. Top and bottom are lost, but it has two rivet holes for attachment straps, and the rear edge flares out to deflect blows. Alternating bands of scalloped decoration were intended to mimic hair; even everyday helmets, especially of cavalry soldiers, were often decorated. The unusual feature is its almost parallel-sided form as it survives, lacking the cut-outs common on the front edge to improve visibility in use.

Tools attest to a range of crafts. Woodworking is seen in the heavy-duty mortise chisel and a draw knife, while two punches may be a stonemason's tools (a craft not attested elsewhere on the site), although the specific function of such punches is hard to demonstrate. A fine file is probably for metalworking, although it could have been used for fine woodworking. No other metalworking tools were recovered, although small quantities of ironworking slag (McLaren, this paper) show that blacksmithing was taking place. A large needle is most likely for heavy-duty textiles such as packing material.

Another most unusual find is the arch of a collar for animal traction (SF287). These are rarely recognised from British sites, though they are found along the Continental frontier zone and depicted on sculpture (Alföldy-Thomas 1993: 331–6). Bridle bit fragments (SF283 (quite a heavy one), 284, ?242) may relate to cavalry use, but chain fragments and a

Table 7.12 Categories of ironwork (excluding nails and hobnails)

Category	Object type	No. intact
Weapons/armour (16)	Ballista bolts (3)	3
	Sword (2?)	
	Ring mail (3)	
	Helmet cheek-piece (1)	
	?Armour buckle (1)	
	Shield rib (6)	
Tools (13)	Stylus (1)	
	Rake? (1)	
	Knife (3)	
	?Stone-mason's punch (2)	2?
	Draw knife (1)	
	File (1)	
	Mortise chisel (1)	1
	Needle (1)	
	Tool tang (2)	
Ornaments (6)	Penannular brooch (3)	3
	Bow brooch (1)	
	Buckle pin (1)	
Transport (7)	Chains (2)	
	Junction plate (1)	
	Bridle bit (3)	
	Yoke fitting (1)	
Fittings and fastenings (22)	Lift key (1)	
	Lock fragment (1)	
	Handle (1)	
	Clamp (3)	
	Hook (1)	
	Hinge (2)	1
	Sheath (4)	
	Socket (3)	
	Ring (4)	2
	Other (2)	1
Other (11)	Other / ? (11)	
Total	74	13

junction plate are more likely to come from wagons or carts. A single stylus augments one of the same type from Inveresk Gate (Bishop 2004: 153, fig 104, no. 23).

The few personal ornaments are all clothes fasteners: a pin from a buckle, a bow brooch and three penannular brooches. Corrosion of the bow brooch makes its identification difficult; it is a small example with a humped profile, and seems to be a one-piece construction with a spring.

7.6.1 Distribution and condition

The iron is distributed widely across the site, with most of it from field ditches and midden-rich C003, and occasional finds (particularly fittings and fastenings) from pits; there are no clear spatial patterns (Table 7.13). The finds from ditches and the midden are closely similar in nature, predominantly tools, fixtures/fittings and weaponry/armour, and it seems likely that the upper ditch fills have a similar formation process to the overlying midden-rich deposit.

Its condition is overwhelmingly fragmentary, both within each category and throughout the main contextual groups (midden, ditches, pits/post holes; graves are an exception). Some of the fittings may have broken during removal (eg brackets, wall-hinges) or been discarded as a result of breakage during use. Much of the material shows use-damage: for instance, the chain links are broken at the weld, both snaffle bits are damaged at one end, and many tools broken at the tang, the weakest point (eg file SF249, draw knife SF260, tangs SF233 and 227). Some items look substantially intact but show some damage (eg yoke collar SF287, possible wagon fitting SF264).

The weaponry and armour show something of the variety in survival. Swords are represented only by possible broken fragments, and the helmet cheek-piece is fragmentary; shield ribs are all broken, the bending of some suggesting deliberate removal from shield. The ring mail includes some small discarded fragments, while the strips and patches of SF290 may have been gathered to be recycled. A similar concern with repair is seen more clearly in the ?armour buckle SF150, where the fixing of the buckle loop has been replaced. The ballista bolt heads are intact, with only one (SF278) showing signs of use; it is possible that these were used for pot-shots from the ramparts, but equally likely that the head was intact but the shaft broken.

Intact objects are very much the exception, with only 13 examples, including a door hinge (perhaps discarded with the timber) and two tools, a stonemason's punch and a mortise chisel. Intact objects are only the norm in burials, such as the three penannular brooches.

7.6.2 Comparison with other Inveresk assemblages

An attempt was made to compare assemblages between fort and *vicus* (civilian settlement) in the study of the material from the GUARD fort excavations (Hunter forthcoming). The main differences were the greater quantity of weaponry from the fort and the wider range of transport-related items in the *vicus*, but there was considerable overlap in the bulk of the assemblages. The current assemblage matches the fort one in its prevalence of weaponry. There is variation with the fort assemblage, such as the absence of spearheads and rarity of vessel fittings in the present site, but it is unwise to put too much weight on specific absences when the assemblages are relatively small: the similarity in broad categories of material is more reliable.

7.6.3 Catalogue

Abbreviations: Length, Width, Height, Thickness, Diameter, external, internal. All dimensions are in millimetres. Typology follows Manning (1985) unless otherwise stated.

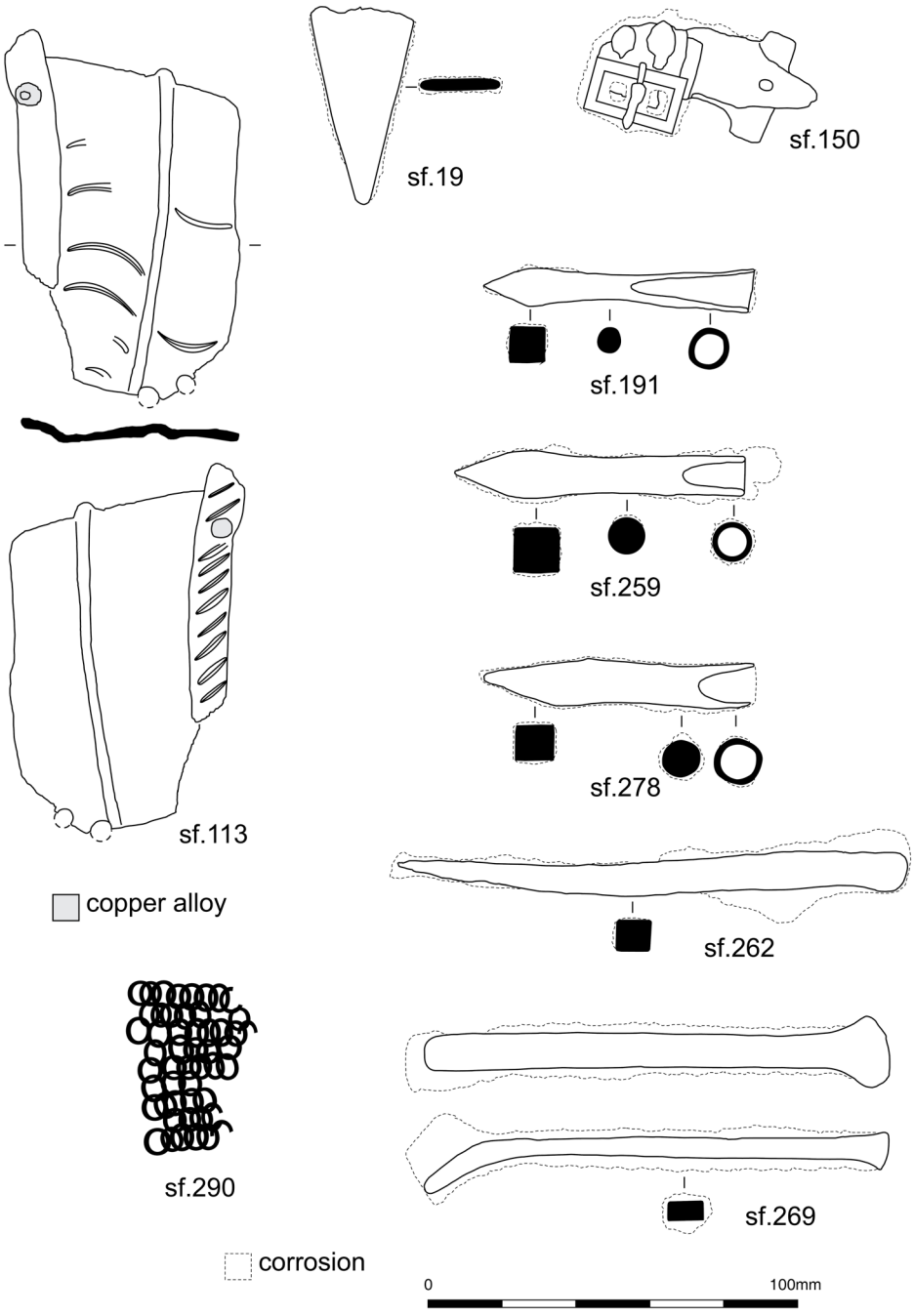
Weapons and armour (Illus 7.12)
(Some of the sockets classed under fittings may be from spears.)

Ballista bolt heads (Manning 1985: 171, type 1)
▸ **SF191**
Stout pyramidal head (W 10.5) with conical split socket (ext Diam 12, int Diam 8). L 75.5. (003/11)

▸ **SF259**
Short pyramidal head (W 13.5) with slender conical, almost cylindrical socket (ext Diam 12, int Diam 9). L 80.5. (003/6)

Table 7.13 Distribution of ironwork (excluding nails and hobnails)

Category	Ditch	Grave	Pit	Post hole	Midden	Unstrat
Contexts	270, 285, 449, 552, 764	058, 190, 437, 799	192, 564, 648, 772, 747, 781, 1080	100	C003 (Zones 1–11)	
Weapons/ armour	Ballista bolt (SF278); ring mail (SF290); shield rib (SF269); ?sword tip (SF19)		Ring mail link (SF132)	Shield rib (SF279)	Ballista bolts (SF191 and SF259); cheek piece (SF113); hinged buckle (SF150); ring mail (SF178); shield ribs (SF154, SF192, SF281, SF282); sword tang (SF262)	
Tools	Masonry punch (SF268); needle (SF294); rake tine (SF199)		?Tool tang (SF227)		Draw knife (SF260); file (SF249); knife fragments (SF248 and SF280); lift key (SF237); mortise chisel (SF265); punch (SF153); stylus (SF261)	Knife blade (SF224); ?tool tang (SF233)
Ornaments		Penannular brooches (SF8, SF40, SF141); buckle pin (SF162)			Bow brooch (SF285)	
Transport					?Bridle-bit ring (SF242); possible wagon fitting (SF193); snaffle-bits (SF283 and SF284); animal traction collar (SF287)	Chain loops(SF263a and b)
Fittings and fastenings	Drop handle (SF148); L-clamp (SF198)	Washer (SF106)	Hook fragment (SF274); joiner's dog (SF210); rings (SF145 and SF218); U-shaped binding (SF158)		Barb-spring padlock bolt (SF193); bolt (SF142); bracket (SF238); collar (SF146); door hinge (SF253); ferrule (SF256); handle mount (SF155); hinge (SF258); perforated sheet mount (SF255); perforated bar (SF157); pole sheathing (SF149); ring (SF236)	Ring (SF223)
Other	Unidentified (SF161)				Elongated rod (SF315); sheet fragment (SF196 and SF301); strip (SF190); unidentified (SF156, SF195, SF197 and SF295)	Tapering bar (SF221)



Illus 7.12 Ironwork: weapons and armour (copyright CFA Archaeology Ltd)

▸ **SF278**
Stout pyramidal head (W 13) with cylindrical split socket (ext Diam 10, int Diam 9). Tip flattened and slightly bent from use. L 73. (Fill 551 of Ditch 552)

Swords
▸ **SF19**
Triangular blade tip fragment, probably from a sword, although the flat section is a little unusual; majority of one face lost to severe corrosion. Remaining L 54.5, W 27, T 3mm. (Fill 520 of Ditch 285)

▸ **SF262**
Possible sword tang. Elongated, square-sectioned tapering tang, broken at blade junction (W 10.5). The opposite narrow squared end is slightly burred (W 4–5) to retain an organic handle, no traces of

which survive. Length and burring consistent with identification as a sword tang. L 140. (003/6)

Armour

▸ **SF113**

Left cheek-piece fragment from a helmet. Parallel-sided; broken at top (where two perforations, Diam *c* 7mm survive) and base. Curved in section and split vertically into three zones, with a marked step between the first two and the rear one flared. The first two have scalloped decoration in opposed directions (chased in from the front), the lines *c* 10mm apart; the flared narrower rear zone has chased diagonal lines *c* 4mm apart. It swells slightly towards the surviving end, where a copper alloy cast attachment rivet has the head on the inside, the outer tip hammered flat (Diam 6, shank Diam 2.5). Presumably this held a fastening strap. Surviving L 120, W 59, T 3. (003/6A)

The identification seems secure but the form is an odd one. The surviving length preserves about two-thirds of the original. The curve would allow the cheek-piece to fit the face, while a flange on the rear or, more often, lower edge is paralleled on other helmets (Robinson 1975: fig 120, pl 258–9, 286; Chapman 2005: 98, Qb01; Bishop & Coulston 2006: 174, fig 113; James 2010: fig 49 no. 372). Well-dated examples of flanges are 3rd-century, but Robinson argues some belong to the later 2nd century (Robinson 1975: 96–7; Bishop & Coulston 2006: 174). Most cheek-pieces were hinged, but two straps were commonly used as well, with double rivets on the bowl for the strap fixing (eg Robinson 1975: fig 94–5, 107–9, 111–12, 155) and sometimes on the cheek-piece (eg Junkelmann 2000: taf XII). The odd feature is the form, as Roman cheek-pieces were typically curved at the rear and cut out at the front to improve visibility and breathing. The straight form of this one is unusual, even allowing for possible curves at the lost top and bottom. Straighter forms can be seen on some depictions of cavalry helmets (eg Robinson 1975: fig 122); if the two rivet holes are aligned horizontally the cheek-piece angles forward, much as on depictions. A connection to cavalry is likely given the decoration; the scalloping probably reflects the waves of hair which were commonly depicted on or applied to cavalry parade helmets (eg Garbsch 1978: taf 23.4; Meijers & Willer 2007: 80–100). The decoration is closely paralleled on a neck-guard fragment from Caerleon (Scott 2000: 391, fig 95 no. 11) and a helmet from Straubing (Walke 1965: 53, taf 103,2).

Ring mail

▸ **SF178**

Small fractured corroded lumps of articulated and fragmentary rings (Diam 7, T 0.7) comprising rows of alternating solid and clenched rings. Two nails (SF177) also recovered. (003/3) Not illustrated.

▸ **SF290**

Twenty-one corroded lumps of articulated ring mail comprising rows of solid and clenched rings (ext Diam 6.5–7, wire Diam 0.7) forming rectangular strips or squared patches; perhaps scraps for reuse. Together the fragments represent an area of *c* 100 × 100mm. The external diameter is similar to others from Inveresk and from Cramond and Newstead (Curle 1911: 161; Holmes 2003: 104, illus 84, nos 10–12; Hunter forthcoming). (Fill 520 of Ditch 285)

Shield rib fragments (not illustrated)

Six fragments of shield ribs derive mostly from the midden at C003. One preserves an original terminal (SF192) and three have nail holes, one of which is clearly countersunk (SF281). Their bent, distorted and broken condition suggests that most, if not all, had been removed from the shields prior to deposition.

▸ **SF154**

Bar, plano-convex in section; broken at both ends. L 31, W 11, T 9. (003/5)

▸ **SF192**

Plano-convex bar, broken across a circular nail hole (Diam 6.5). Opposite end also broken, with nail (W 6) and washer (Diam 20) in situ. L 90.5, W 11–13.5, T 8. (003/11)

▸ **SF269**

Plano-convex strip, one end flattened into an expanded oval disc (L 21, W 30, T 4) with central square nail hole (Diam 5); opposite end bent (from removal?) and broken. L 132, W 9.5, T 5. (Fill 512 of Ditch 449)

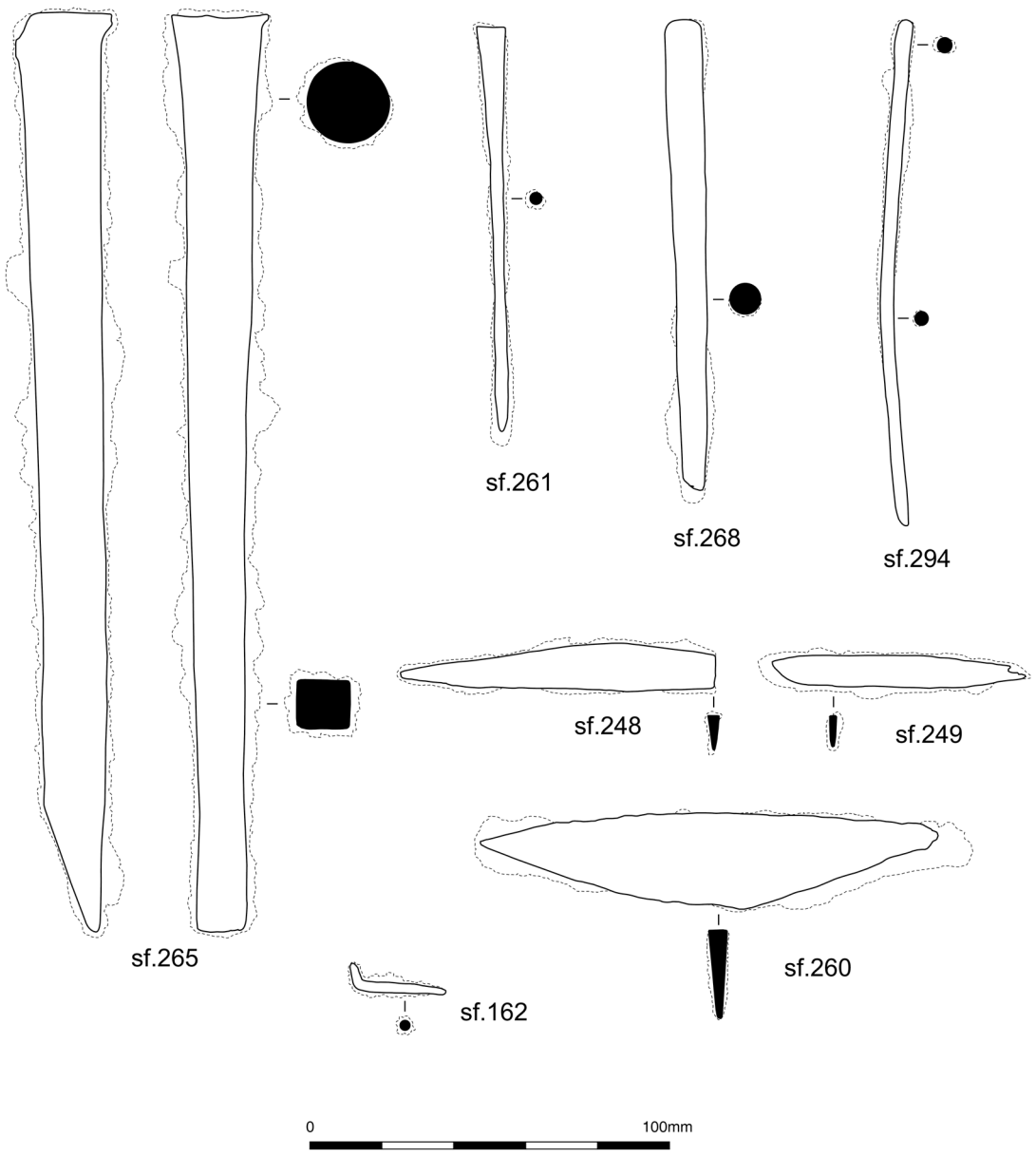
▸ **SF279**
Plano-convex strip with slightly expanded flat rounded head (W 18, T 6), other end broken; bent mid-length. L 154.5, W 16.5–14.5, T 6.5–7. (Fill 101 of Post Hole 100)

▸ **SF281**
Long narrow plano-convex strip with countersunk square nail hole (W 4) mid-length; broken at both ends. Remaining L 284, W 10.5, T 7. (003/4)

▸ **SF282**
Slightly tapering plano-convex strip, broken across square nail hole (W 4) at widest end; opposite end also broken. Remaining L 97, W 9.5–13, T 7.5. (003/4)

Other

▸ **SF150**
Buckle. The construction is complex, and it has been repaired. The buckle is riveted to the T-shaped tongue (W 30) of an iron plate, broken where it expands into the main body of the plate. A strap (T 3) and an iron plate are riveted to this tongue by a single rivet (Diam 3.5) near the plate's broad end. This plate is parallel-sided with a triangular broad end, the other end apparently tapering to a squared tip (35 ×



Illus 7.13 Ironwork: tools and ornament (copyright CFA Archaeology Ltd)

15mm). Over this lies a U-shaped loop (18 × 13mm, Diam 3.5mm), tapering to the ends. It is likely that this was an impromptu repair after the fixing to the buckle loop broke. The buckle loop is rectangular (30 × 19mm) with a single tongue. It has proved hard to identify the fragment. The attachment of a buckle to an iron plate might suggest use in armour, such as *lorica segmentata*, but it is anomalous. The use of iron rather than copper alloy for a *lorica* buckle is unusual but not unknown (cf Chapman 2005: 68, Lc25). More problematic is the form. The T-shaped tongue of the plate implies it was intended for insertion into something which would then be buckled closed, but this form of fastening does not appear in the standard reconstructions of *lorica segmentata* (Bishop 2002c). It may derive from an arm guard, which also used iron plates, though such tongues are not known on the few recognised examples (Bishop 2002c: 68–71). Mike Bishop (pers comm) does not consider it is likely to be an armour fragment, so it presumably had a more domestic role. (003/6)

Tools (Illus 7.13)

Knives

▸ **SF224**

Possible fine blade tip. Thin strip with wide squared broken end tapering to a blunt rounded tip, slightly curving along length. Heavily corroded edges preclude certain identification. L 32, W 4–16, T 3. (Unstratified) Not illustrated.

▸ **SF248**

Knife blade and tang; tip missing. Round-tipped, rectangular-sectioned expanding tang, set more or less on blade midline with distinct shoulder between tang and blade edge; less distinct damaged shoulder at back. Blade edge straight; back slightly arched, tapering towards lost tip. Remaining L 89.5; blade remaining L 44.5, W at shoulder 14.5, T 3.5; tang L 45, W 10, T 3–4. (003/5)

▸ **SF280**

Possible knife blade fragment. Thin rectangular strip, slightly tapering along length and in thickness; broken at both ends and severely damaged along possible straight blade edge. L 46.5, W 15–17, T 3.5–1. (003/4) Not illustrated.

?Stonemason's tools

▸ **SF153**

Punch or chisel. Short robust circular-sectioned tool, expanding towards a rectangular-sectioned blade; slightly distorted along length from use. L 77; head Diam 15.5, blade W 17.5, T unknown due to corrosion. (003/5) Not illustrated.

▸ **SF268**

Masonry punch? Circular-sectioned robust tool with flattened circular-sectioned head (Diam 13 × 11), burred by hammering; tapers to thick blunt rectangular-sectioned tip (5 × 4), slightly angled by use. L 137. (Fill 430 of Ditch 448)

Woodworker's tools

▸ **SF260**

Draw knife. Curving lentoid-shaped blade with gently curving thick back; blade severely distorted along length but tapers at both ends (W 16.5), forming robust rectangular broken tangs bent at 90° to the vertical face of the blade. Substantial draw knives such as this example are likely to have been coopers' tools (Jackson 1985: 139). A less distorted example comes from Vindolanda (ibid 139: no. 43, fig 49). L 140; blade L 115, W 31, T 6.5–5; tangs W 12.5, T 11. (003/6)

▸ **SF265**

Mortise chisel; complete. Robust square-sectioned shank (W 17) with angled blade (W 19, T 8). Flattened circular-sectioned conical socket (Diam ext 33, int 23) with a clear split or join visible on X-ray. These chisels were primarily intended for heavy work and struck with a mallet (Manning 1985: 23, fig 4: 5–6). L 260, W 17–13.5, T 17–13.5. (003/6)

Other

▸ **SF199**

Possible rake tine. Damaged, thick rectangular-sectioned bar tapering towards blunt square-sectioned tip, distorted along length. Diagnostic attachment end missing, and function thus not certain (cf Manning 1985: 59; Jackson 1985: 141, no. 59, fig 51). L 133.5, W 5–13.5, T 7.5–10. (Fill 530 of Ditch 449) Not illustrated.

▸ **SF249**

File, based on its form (cf Duvauchelle 2005: pl 7, no. 50); no teeth are visible in its corroded state.

Short sub-rectangular bar, plano-convex section, one end squared, the other tapering into a narrow, rectangular-sectioned broken tang (W 5.5). Such files are usually classed as metalworking tools, though they could also be used for fine woodworking. L 81.5, W 8.5–11, T 4–7.5. (003/5)

▸ **SF261**
Stylus. Slender, circular-sectioned stem (Diam 4), flattened at one end to a fine, rectangular-sectioned eraser (W 8.5, T 3); opposite end broken and tip lost but appears to swell and then contract (Diam 5). Manning type 2/3 (1985: 85, fig 24). L 122. (003/6)

▸ **SF294**
Large needle. Circular-sectioned elongated rod, one end flattened and expanded into rectangular-sectioned rounded end with central countersunk circular perforation (Diam 2.5), other tapering to broken tip. Size suggests role as a packing needle rather than any domestic function. L 146; head W 11.5, T 4.5; Diam 5. (Fill 432 of Ditch 270)

▸ **SF227**
Possible tool tang. Flat rectangular-sectioned bar broken at 'blade' end, expanding to a rounded, rectangular-sectioned damaged terminal. L 41.5, W 7–14. (Fill 782 of Pit 781) Not illustrated.

▸ **SF233**
Possible tool tang. Tapering square-sectioned bar, broken at both ends and damaged severely on one face. Remaining L 46.5, W 6.5–12, T 9–13. (Unstratified) Not illustrated.

Ornaments (Illus 7.13)

▸ **SF162**
Possible pin from a small buckle. Short circular-sectioned tapering pin, one end a fine rounded tip, the other flattened into a rectangular-sectioned strip (W 8.5, T 3mm), bent at 90° and broken. L 28, Diam 4. (Grave 437 with Sk 451) Presumably intrusive/residual as this grave is in the midden area.

Transport (Illus 7.14)

▸ **SF263**
Two large figure-of-eight loops from robust chain separated at weld; one squared circular-sectioned terminal, the other broken. Possibly from a wagon (Manning 1985: 139). a: L 125; b: L 156. (003/cleaning)

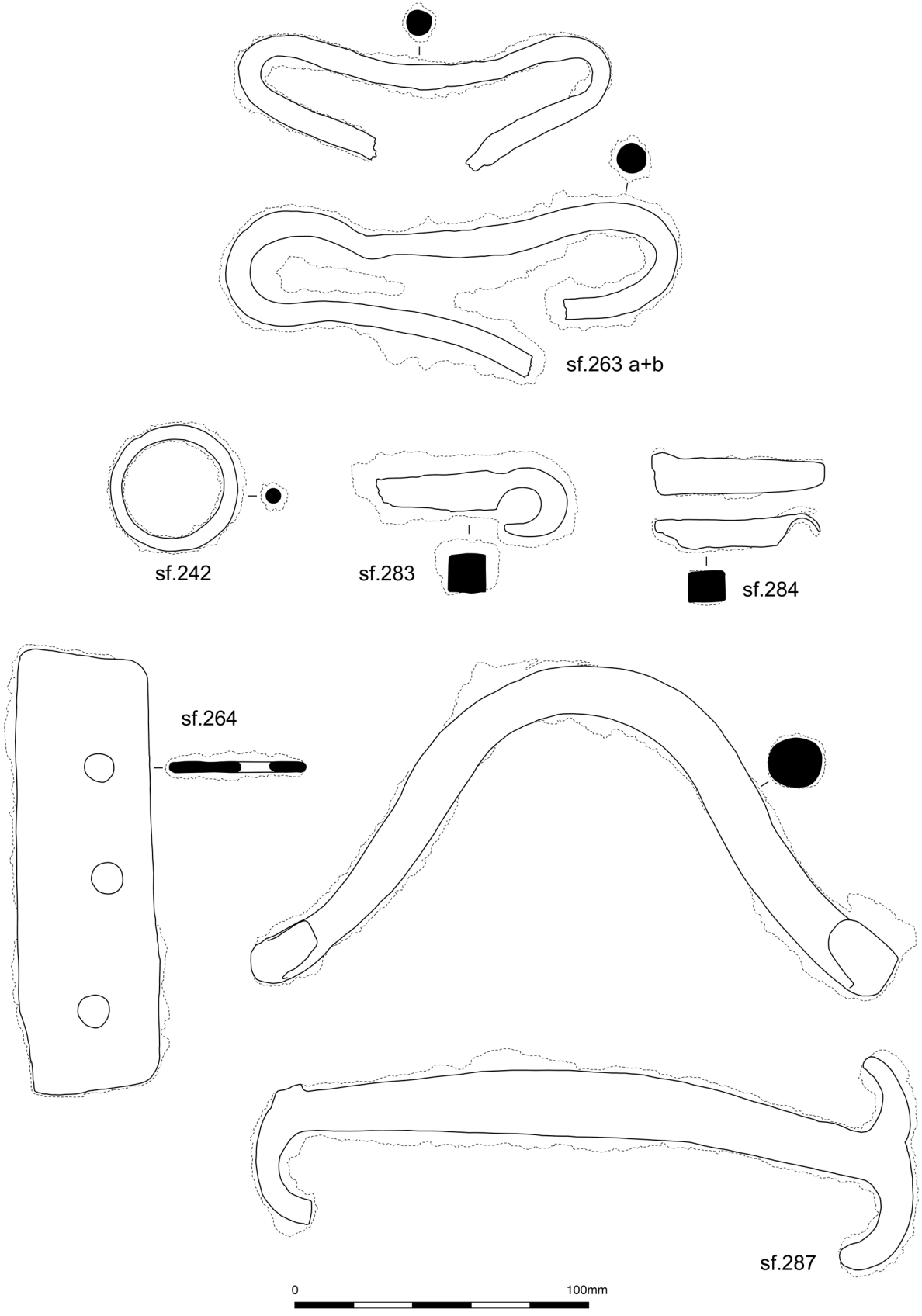
▸ **SF264**
Perforated plate. Sub-rectangular flat strap, perforated by three irregularly set circular holes (Diam 10.5–11.5) to hold circular-sectioned bolts rather than nails. Two original corners remains; the other corners are damaged. Possibly designed as a mobile junction in a wagon, with the outer holes fixing one piece of wood and the middle one allowing another to turn; for the concept, though not morphologically identical, cf Künzl (1993: taf 430). L 152.5, W 43, T 7. (003/11)

▸ **SF283**
Robust snaffle-bit bar. Square-sectioned bar (16 × 20), flattened and tapering at both ends (W 12, T 4–7); one is broken, the other curves over on itself to form a rounded hook (Diam 22.5). The taper at the broken end suggests the bar was symmetrical, with a similar rounded hook now lost. Remaining L 73. (003/4)

▸ **SF284**
Fragment of a two-link snaffle-bit. Square-sectioned bar, flattened and tapering at both ends (W 9–12, T 4). The ends appear to curve round to form oval hooks; damage to one resulted in loss of the tip, the opposite hook has been lost. L 57, W 10mm. (003/4)

▸ **SF242**
Circular-sectioned ring (Diam 4); complete. Large diameter is consistent with a bridle bit ring, but there is no wear to confirm identification. Diam 44mm. (003/5)

▸ **SF287**
U-shaped top of a horse or oxen collar, formed from a robust, circular-sectioned bar, the terminals split and curved back (Diam 6–8; one side badly corroded). Such fittings were used in harnessing draught animals, with the ends fixed to wooden pads and a leather strap running round the animal's chest. They are attested on sculpture on both oxen and horses (Alföldy-Thomas 1993: 331–6, taf 526–30). The published distribution (ibid: Abb 5) focuses on the Upper Rhine and Danube, but there are British examples; Newstead has produced a pair where the



Illus 7.14 Ironwork: transport (copyright CFA Archaeology Ltd)

attachments on the terminals are rings; the open attachments of the Inveresk one fall into Alföldy-Thomas' group NG1a (1993, 335; Teil 2, Typentafel 35). L 216mm, bar Diam 18. (003/4–5A)

Fittings and fixtures (Illus 7.15)

Locks and keys

▸ **SF193**

Double-spine barb-spring padlock bolt (Manning 1985: 95–6, fig 25:11). Sub-rectangular head (Diam 19, H 9, T 10). Rectangular-sectioned central bar splits into two slightly splayed, tapering rectangular prongs (W 6) with barbs on both sides. Tips damaged. There is a parallel from Mumrills (Macdonald & Curle 1929: 560, fig 123:7). L 75. (003/11)

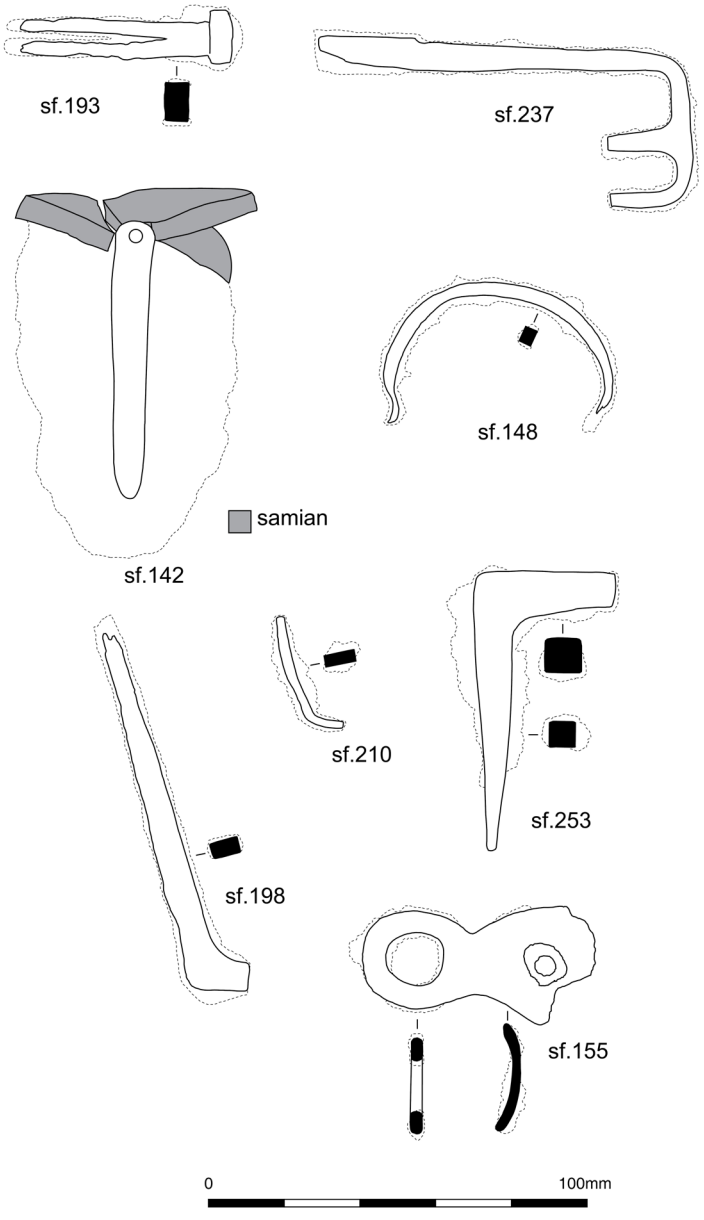
▸ **SF237**

L-shaped lift-key, broken at the handle end, with two widely-spaced teeth (L 20, 5); the commonest type of key found in Roman Britain (Manning 1985: 90, fig 25: 2–3). L 120, W 50, rod W 11. (003/5)

Clamps

▸ **SF198**

L-clamp or wall hook. Rectangular-sectioned bar, bent at 90° at one end; broken. Opposite end tapers



Illus 7.15 Ironwork: fittings and fixtures, and miscellaneous (copyright CFA Archaeology Ltd)

gently towards broken end; tip lost. Remaining L 127, W 6–9.5, T 7.5. (Fill 469 of Ditch 270)

▸ **SF210**
Joiner's dog/clamp fragment. Flat rectangular strip, squared end gently expanding, bent at 45° towards fractured end. Remaining L 45, W 11–15.5, T 4. (Pit 1080)

▸ **SF238**
U-shaped clamp or strapping, distorted and damaged. Rectangular section, slightly tapering to rounded narrow tip, broken at one end. L 140, W 9.5, T 3–4. (003/5) Not illustrated.

Hinges
▸ **SF253**
Door hinge; intact. Robust L-shaped square-sectioned bar, bent at right-angles mid-shank, tapering to a narrow blunt square-sectioned point. L 135, W 14–5.5, T 13–16. (003/9)

▸ **SF258**
Possible hinge fragment. Rectangular-sectioned strip with straight, slightly tapering edges, one severely damaged. Broken at narrowest end. Opposite end curved into a robust cylinder (W 9, T 12), likely to be hollow but too corroded to determine. L 67, W 12–19.5, T 6.5. (003/6) Not illustrated.

Sheathing, binding and mounts (not illustrated)
▸ **SF149**
Pole or handle sheath fragment. Rounded corner fragment from a wide curving open flanged socket or sheath. Square nail hole (W 4.5) central to remaining fragment with nail shank in situ. Remaining L 64.5, W 31.5–37, T 3. (003/6)

▸ **SF157**
Perforated rectangular-sectioned bar, broken at one end across a square nail hole (W 6), with two further nail holes spaced equally along the bar. Other end broken; original length and form unknown. L 62.5, W 19, T unknown due to corrosion. (003/5)

▸ **SF158**
U-shaped binding strip or bracket. Flat rectangular strip with expanded circular flat perforated head (Diam 21.5; square nail hole W 4); bent at two points at 90° to form a U-shaped bracket; nail in situ mid-length. One arm is distorted, suggesting deliberate removal. L 246, W 13.5, T 6; distance between arms 61.5mm. (Fill 773 of Pit 772)

▸ **SF255**
Sheet mount with perforation. Thin, slightly curving sheet, only one original straight edge remaining, other edges lost; broken across a large circular perforation (Diam 12). Organic traces on both faces. L 50.5, W 42.5, T 3.5. (003/6)

Sockets (not illustrated)
▸ **SF146**
Squat cylindrical collar formed by curving a thick rectangular strip. Diam ext 41, int 33.5, T 7.5, H 35. (003/5)

▸ **SF197**
Rounded tip fragment from a conical tapering split ferrule. L 21.5, Diam 12.5. (003/4–5A)

▸ **SF256**
Ferrule fragment. Narrow, slightly angled fragment of a conical ferrule with wood traces in the interior; possibly from a spear. Surviving Diam 23.5, approximate int Diam 16.5, remaining H 23.5. (003/6)

Rings (not illustrated)
▸ **SF145**
Intact, slightly oval, circular-sectioned (Diam 5mm). Ext Diam 34–40. (Fill 193 of large Pit 192)

▸ **SF218**
Distorted, circular-sectioned (Diam 4), oval, broken at weld. Diam 32. (Fill 807 of Pit 772)

▸ **SF223**
Circular-sectioned (Diam 4.5); complete. Diam 32. (Unstratified)

▸ **SF236**
Circular-sectioned ring fragment, broken at one end, other end squared. L 28, Diam 4. (003/5)

Other
▸ **SF142**
Perforated spike or tapering bolt driven through the base of a stamped samian vessel. Perforation Diam 4; L 88, W 6–12, T unknown. (003/5a)

▸ SF148
Drop handle, terminals broken. Omega-curved square-sectioned bar. L 74, W 3.5, T 4; inner distance between arms 58. (Fill 520 of Ditch 285)

▸ SF274
Hook fragment, broken at both ends. Circular section, tapering towards one broken end. L 41, Diam 6.5. (Pit 747) Not illustrated.

Nails and hobnails
Gemma Cruickshanks

Nails
Nails, tacks and hobnails dominate the iron assemblage. Nineteen modern nails and screws from the southern edge of the site are likely to have been associated with the wireworks factory. A further 119 nails and tacks were recovered from 46 contexts. Where intact, the nails could be broadly classified using Manning's typology (1985: 134, fig 32). Three unusual examples (SF219, 241 and 326) are catalogued in detail; the others are summarised and can be found in the archive catalogue. Of the 59 examples where head and shank shape were discernible, 46 fit within Manning's type 1B, with flat sub-rectangular or round heads and square-sectioned shanks. Their length varies from 17.5mm to 46mm with 65% between 30–70mm. Most have straight shanks while 13 are curved, indicating they were removed before deposition, and five are clenched at 90°, suggesting they were in situ. Around half of the type 1B nails were recovered from the midden-rich C003. The others came from a variety of secondary deposits (eg pit and ditch fills) across the site and there are no patterns in distribution indicating their specific use.

Four relatively small dome-headed nails correspond with Manning's type 8, and along with the unusual nail types catalogued separately were likely to have had a specialist function compared to the more common type 1B.

Unusual nails
▸ SF42
Disc-headed bolt or large nail; shank broken. Remaining L 80mm; head Diam 53 × 43, T 4.5; shank Diam 13.5mm. (Fill 921 of Pit 920)

▸ SF219
Disc-headed nail with off-centre broken square-sectioned shank. Remaining L 23; head Diam 26.5, T 4; shank Diam 4. (Fill 807 of Pit 772)

▸ SF326
Robust round-headed nail with rectangular shank; bent at 90° towards tip, suggesting it was deposited still clenched in timber. L 161; head Diam 18.5, T 11; shank Diam 8 × 5. (003/4)

Hobnails
Hobnails were used to secure and strengthen the leather soles of footwear and are commonly found on Roman sites. A total of 681 hobnails were recovered, all with characteristically square-sectioned shanks and domed heads. Of these, 611 are part of 18 clusters of 12–76 hobnails, corroded together and retaining the shape of the sole. One cluster of 69 hobnails is an almost complete sole (SF278) with the X-ray revealing five regularly spaced lines of hobnails converging at the rounded toe. This was recovered from the fill of large Pit 192.

Fifteen of the hobnail clusters have preserved leather in the corrosion from the sole. Such clusters are likely to represent deposition of a whole or partial shoe, either as rubbish disposal or from the burial of individuals with footwear. These hobnail clusters are associated with ditch fills (feature numbers 340, 349, 429, 438, 516, 517, 530, 797) and pits (feature numbers 192, 935, 1052). In contrast, single hobnail finds scattered widely across the site are likely to be the result of casual loss.

The largest concentration of hobnails (188), many with mineralised leather traces representing whole or partial soles, were recovered from C515 in association with a human skull within the midden deposit (C003). Six further contexts containing human bone were associated with hobnails, including deposits of cremated bone, pyre material and inhumation burials (Contexts 061, 068, 321, 544, 545, 881). Most of the hobnails (66%) were from the fill of various pits, post holes and ditches.

Miscellaneous (Illus 7.15)
▸ SF155
Possible handle mount for leather vessel or loop-strap terminal fragment. Slightly bow-waisted strip with an oval loop (L 34, W 34, T 4.5) at the top to

receive the end of a handle or leather strap; broken mid-length. Wear has elongated the eye of the loop (L 18.5, W 17). Below the loop a dome-headed rivet (Diam 17) secures the mount to a thin inner iron plate, only a small portion of which survives (L 35, W 30, T 2). Leather traces sandwiched between the two suggest use as a handle mount for a leather vessel. A very similar complete double-waisted mount for a copper alloy vessel comes from Vindolanda (Jackson 1985: 145, no. 91, fig 53). Remaining L 74. (003/5) Phase 7.

▸ **SF190**
Flat rectangular-sectioned strip fragment; broken at one end, squared at other. Remaining L 28.5, W 26, T 4.5. (003/11) Not illustrated.

▸ **SF221**
Tapering rectangular-sectioned bar, broken at both ends, curving upwards towards wide broken end. Original length unknown. (Unstratified) Not illustrated.

Unidentified (not illustrated)
▸ **SF161**
Unidentified object fragment. Amorphous ovoid nodule, heavily corroded. (Fill 780 of Ditch 764)

▸ **SF195**
Fragment of a robust curving sub-circular object, expanding towards one end, encased in mineralised organic material (?wood); broken at both ends. Remaining L 36.5, W 8.5–15.5, T 13.5. (003/4–5A)

▸ **SF196**
Flat edge fragment from a thin iron sheet; other edges lost. L 28.5, W 23.5, T 3.5. (003/4–5a)

▸ **SF254**
Unidentified, heavily corroded fragmentary object. Curving corner of a rounded sheet fragment with irregular thickened area around one original edge; the opposite edge and end area broken. L 52.5, W 35, T 5. (003/6)

▸ **SF285**
Blacksmith's offcut? Rod, broken at one end, bent in three places; flattening of the narrow tip suggests it was intended to be gripped by tongs. L 35, surviving W 19, H 22. C003, midden (Zone 4) Phase 7.

▸ **SF295**
Oval amorphous corroded iron object; unidentified. L 71.5, W 51, T 44. (003/3)

▸ **SF301**
Flat angular sheet fragment, only one original straight edge remains. L 48, W 26, T 4. (003/2–3)

▸ **SF303**
Flat sheet fragment, only one original edge remaining. L 39, W 24.5, T 4. (003)

▸ **SF315**
Circular-sectioned tapering rod; one squared end remaining, the other has been lost. L 118, Diam 6–10. (003/8)

7.7 Copper alloy and lead

Fraser Hunter

The assemblage of non-ferrous objects comprises 34 copper alloys and two lead items. As the site was metal-detected extensively during excavation, it is likely that this is a representative sample of the material present. Table 7.14 summarises it by broad type and phase. Fixings and fastenings dominate; most of the military items also fall into this category, as strap junctions or mounts. There is only a small assemblage of ornaments, two of them from burials, and only a few vessels. A significant proportion of the material is unidentifiable due to its fragmentary condition, and it is clear that the bulk of the finds were discarded after breakage. Many items are broken while others, although complete in themselves, lack other components (such as the likely bridle bit ring). In the case of strap fittings, it is plausible that they were discarded when the strap broke. The only certainly complete item was brooch SF1 (from a burial); ring SF363, also from a burial, was probably also buried intact, but was heavily corroded.

A significant proportion of the finds are certainly or probably related to military equipment, mostly strap fittings. Many of these are most likely connected with horse harness, but this is only certain with the two junction loops, a well-known cavalry type (SF21, SF41). The two phallic strap mounts are also well known in military contexts, with good parallels from the northern frontier and further afield (eg South Shields, Corbridge, Vindolanda;

Table 7.14 Distribution of the non-ferrous metalwork by type and feature group

Category	No.	Burials	Field system	Midden	Other
Military	8		2 junction loops, Phallic strap mount	Phallic strap mount Button-and-loop fastener Enamelled stud	Fine strap pendant and terminal (post-built building) Strap terminal (cobbles)
Ornaments	5	Knee brooch Finger ring frag		Knee brooch Fine ring-mounts	?post-Roman strap end (cobble spread)
Vessels	2		Jug lid	Dipper/strainer handle	
Fixings and fastenings	11		Bridle bit ring? Mount	Washer Stud × 2 Mount × 4 Cylindrical fitting Stud fastener	
?	8		2	5	Pit 811
Lead	2				Casting waste (Pit 192) Rod (TP6)

Allason-Jones & Miket 1984: nos 3.588–9; Bidwell 1985: fig 40 no. 25; Allason-Jones 1988: 179, fig 85 nos 168–9; for German parallels, see Oldenstein 1976: taf 42, nos 410–12). Two examples adorned a headstall buried with a horse at Beuningen (NL; Zwart 1998: 79, fig 3.1–2), suggesting a link to cavalry harness is likely with the Inveresk examples. The phallus was widely used as an amuletic symbol to ward off the evil eye and as a symbol of fertility or virility. It occurs on a wide range of material on military and civilian sites (Crummy 1983: 139): for Scottish examples, note a phallic pendant from Birrens (Robertson 1975: fig 38 no. 5) and mounts with phallus and phallic fist from Newstead (Curle 1911: pl LXXVII nos 2–3).

Other strap fasteners and mounts could have come from horse harness or from other straps among a soldier's equipment. The button and loop fastener (SF356) is common on military sites. The strap terminal SF38 is a type used for soldiers' belts, but again saw wider use. The pendant and terminal group SF45 come from a notably fine strap. The ring SF13, included under fastenings, could also be seen as military, as its size is consistent with use in a bridle bit.

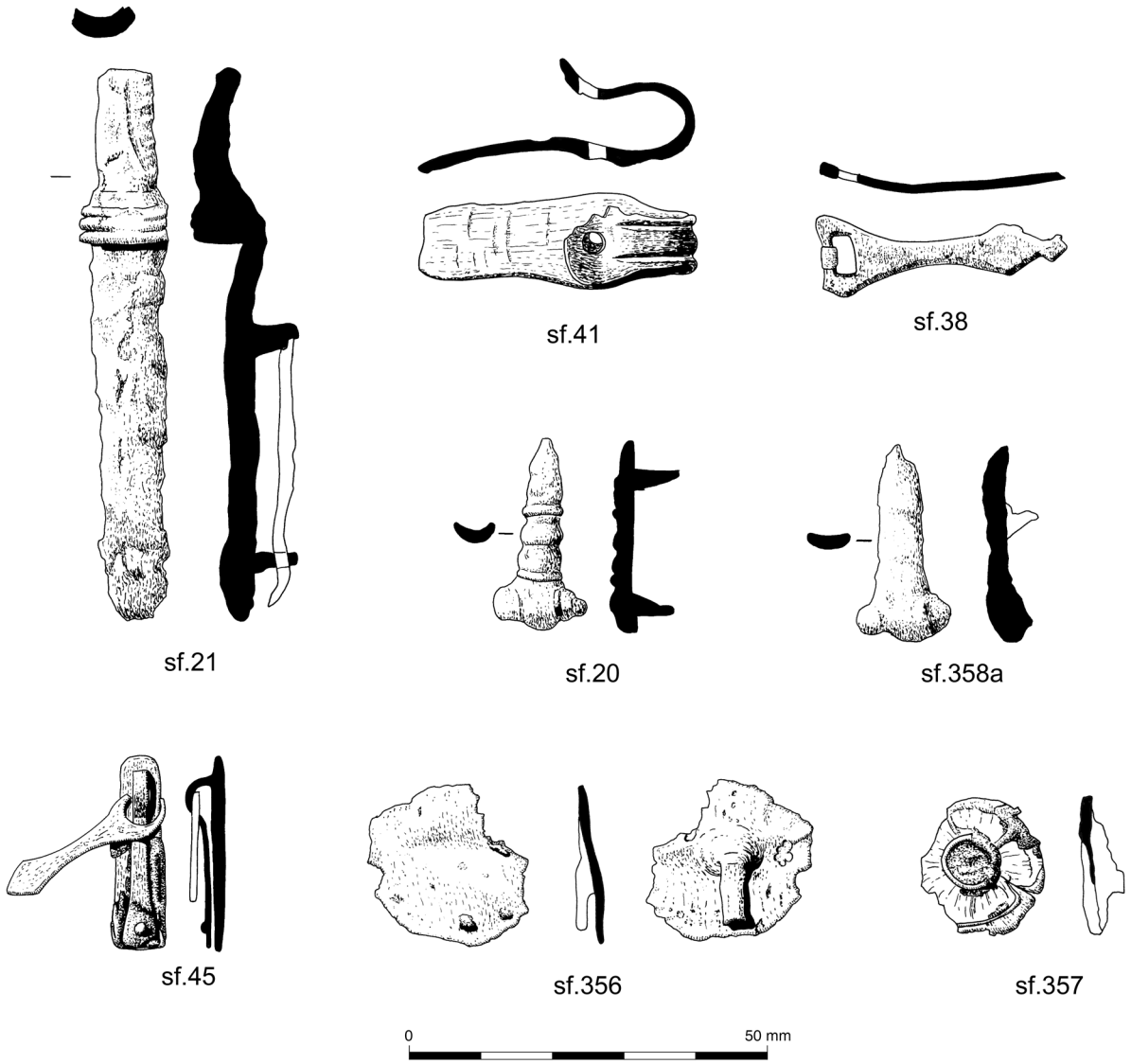
Ornaments are few, but include two knee brooches, typical of the Antonine period and already well represented at the site. Table 7.15 shows the spectrum of brooches currently known from Inveresk, dominated by knee and penannular types.

The two vessel fragments are types well known from Scottish fort sites. The range of fixings and fastenings is hard to link to specific roles, but includes a number of sheet mounts, either ornaments (perhaps on organic items) or patches, as well as a number of studs and rivets. Two unusual items which have proved hard to parallel are the conical stud fastener SF364, with preserved traces of two straps, and the hollow cylinder SF353a, its central band suggesting something was fastened to it.

There was little lead from the site, and the two fragments are not securely from Roman contexts. The other notable absence is coins; these are well represented at other Inveresk sites, including the equivalent midden phase at Inveresk Gate (Stabler 2004: table 45; three of the 17 coins are from the midden). It suggests that some care was taken in selecting what was deposited on the north side of the fort.

Table 7.15 The brooch assemblage from Inveresk. (Sources: this report; Thomas 1988: fiche 2: B3, B12 no. 3.25; NMS 1992: 50; Bishop 2004: 133, 151–2; Hunter forthcoming)

Type	No.	Details
Knee	7	All Snape type B = Hull type 173B
Alcester	2	
Penannular	7	A1 × 3; A2 × 2; A3 × 2
Plate	3	Hull type 262, 263, 269
Unidentified	2	Iron fragment; spring
Total	21	



Illus 7.16 Copper alloy: military equipment, strap fasteners and mounts (copyright CFA Archaeology Ltd)

7.7.1 Catalogue (all copper alloy unless stated)

Military equipment: strap fasteners and mounts (Illus 7.16)

▸ **SF21**

Cavalry harness strap junction loop, a variant of Bishop's type 8g (1988: fig 51), the curved portion broken and distorted from use. The thin rectangular washer, held by two shanks, is preserved on the underside, giving a strap thickness of 4mm. Plain body, plano-convex in section, curved down towards the end, then steps up into the loop at a triple-moulded collar. One side of the loop has a curved incised decorative line, lacking on the other. Its underside is hollowed. L 76, W 13, H 15mm. (Fill 520 of Ditch 285)

▸ **SF41**

Cavalry harness strap junction loop, lacking one end of the plain waisted body. Two grooves on the loop define a raised centre; the perforation has been repaired, giving a figure-of-eight form on one side (Diam 5 × 2mm; 3.5mm on underside). The rounded end on the underside is sprung from removal of the strap. There is a close parallel from Binchester (Bevan 2010: 355 no. 120; fig 96 CA 67). 39 × 12.5 × 14mm. (Fill 896 of Ditch 851)

▸ **SF20**

Stylised phallic strap mount with small testes and ribbed shaft; collars define the base and tip. Two shanks (L 6mm) on the slightly hollowed underside. Close parallels from South Shields and Zugmantel show similar ribbing (Oldenstein 1976: taf 42, no. 412; Allason-Jones & Miket 1984: 187–8, 3.588). L 27, W 13.5, H 10mm. (Fill 583 of Ditch 449)

▸ **SF358a**

Phallic stud strap mount. Cast, with rather stylised anatomical detailing in low relief. The sunken underside has two shanks (L 4.5mm) for attachment to leather, traces of which survive at the rear. 27.5 × 14 × 7.5mm. (515 = 003)

▸ **SF38**

Lanceolate pendant strap terminal. Squared end with D-perforation (5.5 × 3mm) containing remains of a copper alloy loop which would have attached to a strap. Body is waisted before biconical tip ending in a dot terminal. Edges faceted on upper surface. Slightly bent. Such pendants are often thought to come from military aprons but could have belonged to straps with a range of uses (Chapman 2005: 147; James 2010: 85 no. 152); there are plentiful close parallels (eg Caerleon; Chapman 2005, Wa09, Wa10; Newstead; unpublished, NMS FRA 1025). 35 × 11 × 1.5mm. (Cleaning top layer of Cobbles 717)

▸ **SF45**

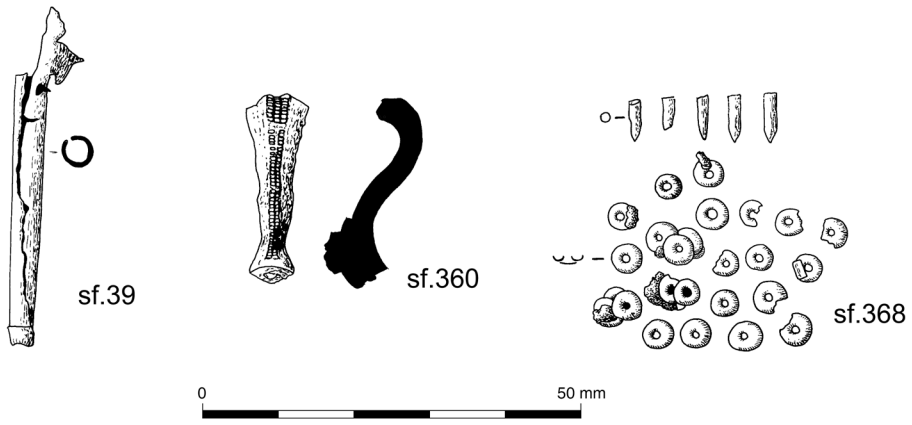
Fine pendant hanger and strap terminal. The hanger is a tapered rectangular strap end with integrally cast waisted loop on rear to hold a strap (T 2mm) by a single rivet. The strap survives and stops short of the end of the fitting where the loop expands, leaving a space through which another fine strap (max H 3, L 4mm) could fit. 26 × 8.5 × 5.5mm. Compare an example from Caerleon (Chapman 2005: 157, Wn06). The fine pendant has a rounded terminal with broken circular perforation (Diam 4.5mm), thinned and expanded from use wear. Waisted body, tip expands and then tapers. Slightly rounded edges on one face (cf Saalburg; Oldenstein 1976: taf 36 nos 303–4). 25 × 6 × 1mm. (Fill 1115 of Post Hole 1114)

▸ **SF356**

Disc-headed button and loop fastener (Wild 1970: class V c), the loop mostly lost and the disc margins damaged and distorted. The shank lies close to the disc, implying it was used in material no more than 2mm thick. Fine feathered filemarks on the surface from finishing. Wild's listing (1970: 151–2), while now very dated, gives plentiful parallels from British fort sites but the type is rare in an indigenous context, in contrast to other such fasteners; he records only two from Traprain. Such items were commonly, but not exclusively, used as strap fasteners for horse harness. There is an enamelled variant of class VI a from the Inveresk *vicus* (Rogers 2002: 39). Diam 25, T 5, disc T 0.6mm. (003/3A)

▸ **SF357**

Enamelled disc-headed stud with integrally cast slightly bent shank (L 5, Diam 2.5mm) in centre of slightly dished underside. Two enamelled fields separated by reserved metal circle; central dot, any surviving enamel hidden by corrosion, and peripheral ring. Most of the enamel here is lost, but it can be reconstructed as five curved millefiori blocks, each separated by three narrow stripes (alternating green, light blue and green).



Illus 7.17 Copper alloy: ornaments (copyright CFA Archaeology Ltd)

The main blocks are too damaged to reconstruct, but include white and translucent ?turquoise enamel, the design featuring both diagonals and a chequerboard element. Such enamelled studs were strap ornaments, and can be paralleled at Inveresk and on other Scottish fort sites such as Newstead, Mumrills, Camelon and Birrens; not all are closely dated but there are clear second-century parallels (Christison et al 1901: 405, plate A3; Curle 1911: 332, pl LXXXIX nos 17, 21, 24; Macdonald & Curle 1929: 555, fig 115 nos 9–11; Robertson 1975: fig 31 nos 1 & 3, fig 37 no. 6; Bishop 2004: fig 89 no. 18). Diam 19.5, H 7.5mm. (003/4–5A)

Ornaments (Illus 7.17)

▸ **SF360**

Knee brooch, the head lost recently. Rounded profile with upturned foot, solid plano-convex section, central relief dot on upturned foot. Applied longitudinal decorative strip with three fine rows of bosses; perhaps set in a slight groove on the head, elsewhere laid on surface and soldered. Analysis of similar examples shows that the strip would have been in a contrasting white metal, often silver (Bailey 1997: 589; Bayley & Butcher 2004: 180). Probably of Hull type 173 (Bayley & Butcher 2004: 180); Snape (1993: 18–19) type B or D; Mackreth (2011: 190) type KNEE1.b; dating as for SF1. L 26, W 8.5, H 8mm. (003)

▸ **SF368**

Series of fine decorative mounts and four small tacks or rivets. The rivets are solid, headless, slightly tapered and faceted, L 6 × W 2mm (one broken). The mounts are shaped like half-doughnuts (Diam 3.5, H 1mm), with a rounded profile and central perforation (Diam *c* 0.5mm). They are made from sheet, hollowed underneath, and probably punched in a die. Their fineness suggests they were once fastened (probably stitched) to leather or textile, but three small clusters include some which are clearly stacked. This and the lack of surviving organics implies they were not attached when deposited. There are 17 intact examples, with fragments representing a minimum of six more. (003/9, T5)

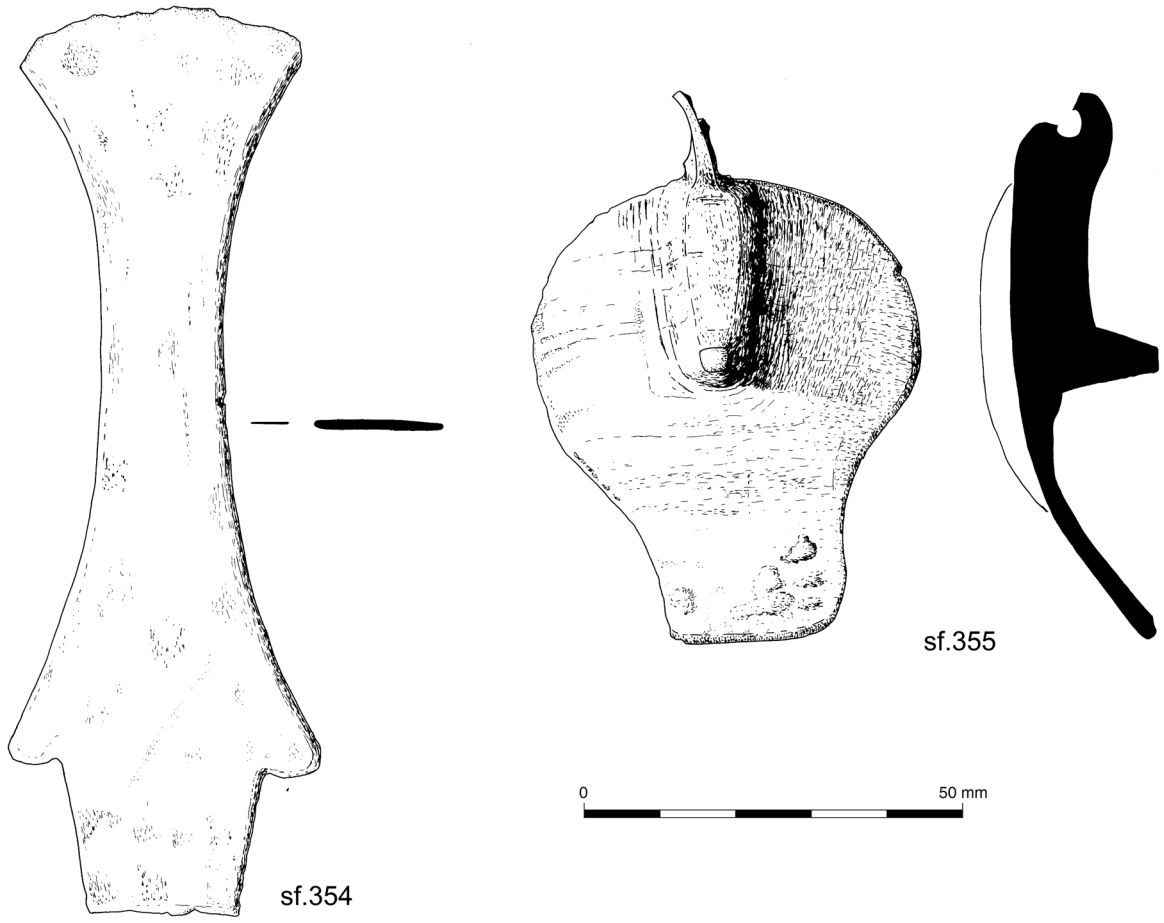
▸ **SF39**

Strap end made from tapered sheet cylinder, one end open (and distorted), the other closed over. Would take a strap or thong of Diam 3.5mm. L 45, Diam 4.5mm. Perhaps post-Roman. (N Cobble Spread 717)

Vessels (Illus 7.18)

▸ **SF354**

Handle of a dipper or strainer of Eggers (1951) type 160 or 161, snapped cleanly just below mid-shaft, preserving the flared terminal (its end rounded) and the slightly flared and lobed central portion. Very well finished; slightly rounded edges on the upper surface. Petrovszky (1993: 98–102) dates the type's production from *c* AD 35–160; there are other examples from Scottish forts (eg Castledykes and Cramond; Robertson 1964: 161, pl 7 no. 16; Holmes 2003: 109, illus 99). L 119, max W 41, T 1.5mm. (003/5)



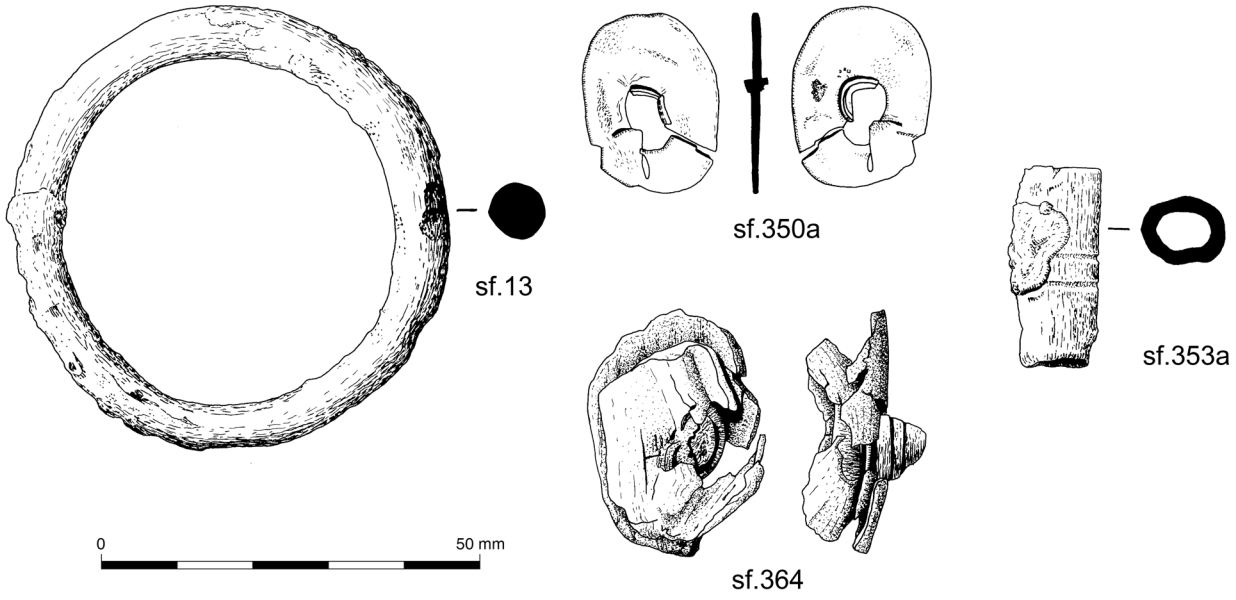
Illus 7.18 Copper alloy: vessels (copyright CFA Archaeology Ltd)

▸ **SF355**
Hinged jug lid; the pear-shaped body, slightly curved in profile, tapers and rises to a squared tip. An integrally cast ridge on the rear of the lid has a vertical spike at its front end, used to open it, and a thinner perforated plate to the rear to take the hinge. This plate is slightly bent and the perforation (Diam 3.5mm) is broken. Extensive filemarks from post-casting finishing. A similar lid comes from Inveresk *vicus*, with other Scottish examples from Birrens, probably Balmuildy, and Newstead, the latter also producing a jug handle with a fitting for such a lid (Curle 1911: pl LIV.6; NMS FRA 3289 (lid, unpublished); Miller 1922: pl LIII no. 11; Robertson 1975: fig 36.1; Bishop 2004: fig 89 no. 23). They come from sheet bronze spouted jugs of Eggers type 128, probably for heating water (Eggers 1951: taf 11 no. 128; Koster 1997: 30–31; Tassinari 1993: type E5000). L 73, W 50.5, H 21mm. (Fill 428 of linear feature 368)

Fixings and fasteners (Illus 7.19)

▸ **SF13**
Solid ring cast in two-piece mould (traces of join survive). Size consistent with use in a bridle bit, though this cannot be proven; it is thinner on one side from wear or irregular casting. Diam 59, H 7.5, W 5.5–8.5mm. (Surface of Fill 547 of Linear Feature 566)

▸ **SF350a**
Unusual cast oval washer with a low integral collar on both faces around the central perforation (Diam 4.5mm). Some filemarks around collar from post-casting finishing. Slight dishing from use around the perforation on one face. Cracked from use-strain. The form is unusual for a washer (which normally lies flush), and suggests it was made to slot or engage precisely into something on both sides. 24 × 18.5 × 2.5mm. (003/5)



Illus 7.19 Copper alloy: fixings and fasteners (copyright CFA Archaeology Ltd)

▸ SF350b
Small cast disc-headed stud, slightly irregular. Size suggests it was for decorating leather. Diam 7, H 4, shank L 2.5 × Diam 2mm. (003/5) Not illustrated.

▸ SF350c
Fragments of large cast stud with flat head of uncertain form and integral broken shank. Max L 15, H 6.5, shank Diam 3mm. (003/5) Not illustrated.

▸ SF351
Flat disc, probably a mount, rear obscured by corrosion. Diam 27, T 1mm. (003/5) Not illustrated.

▸ SF352
Very fragmentary mount(s). One fragment preserves an angular corner, rounded in profile; another fragment is also slightly rounded. These differ notably in profile from a third which is a flat sheet, preserving an original straight edge with a cast rectangular-sectioned rivet through it (L 10.5, shank 2–2.5, head W 6mm), very similar to SF370. The variety in profile suggests more than one sheet object is represented. One is probably a simple flat sheet mount or patch; the other was more three-dimensional, with angled corners, but its form is unclear. Max L 15.5, T 0.5mm. (003) Not illustrated.

▸ SF353a
Cylinder with central slightly sunken encircling band defined by two marginal grooves. Its recessed ends are obscured by corrosion, but by calculation its mass (6.1g) implies it must be hollow. Perhaps some kind of junction or fixing, with something running through it and something else (a thong?) held in the central band. L 27, Diam 10mm. (003/cleaning)

▸ SF353b
Buckled rectangular sheet, one corner lost; perhaps ripped around an off-centre perforation, although corroded edges obscure the evidence. Perhaps an impromptu washer. 28 × 19 × 1.5mm. (003/cleaning) Not illustrated.

▸ SF364
Conical stud fastener, set into a surviving fragment of leather strap; this obscures the attachment mechanism, but no shank pierces it so it must be embedded. Stud has moulded profile, with flat base and rounded collar below a conical peak. A second strap fragment is held between the collar and base, suggesting this acted as a fastener and was not purely decorative. Diam 13.5, H 14mm. (003/5)

▸ SF369
Sheet mount fragment (13 × 9 × 1mm), edges lost, with remains of perforation, and two fragments of

fine rivets or tacks, solid-cast with circular section (Diam 1.5, L 16 and 7.5mm). (003 S.86) Not illustrated.

▸ SF370
Small sheet fragments, some slightly bowed in section, original form unclear, and a solid-cast rivet with tapered square-sectioned shank and slightly distorted square head (L 7.5, head W 3, shank W 1mm). (Fill 530 of Ditch 449, S.118) Not illustrated.

Unidentified (not illustrated)
Undiagnostic fragments and flakes were also recovered from Fill 276 of Ditch 238 (SF359); C003 (SF366); Fill 653 of Ditch 285 (SF367); and sheet fragments from C003 (SF353.3, 358.2).

▸ SF361
Tapered bent strip, cut square at narrower end, other end lost. Function uncertain. 37.5 × 12 × 0.2mm. (Fill 812 of Pit 811)

▸ SF362
Curved, tapered cast rod fragment; unidentified. 18.5 × 6.5 × 6mm. (003/4)

▸ SF365
Long thin rod ending in blunt tip, other end broken recently. Oval section, its irregularity suggesting it is not a pin; function uncertain. 99.5 × 4 × 2.5mm. (003/11)

▸ SF371
Irregular flat melted lead fragment, slightly curved in section, edges lost in places. Heat-affected lead or casting waste. 52 × 25 × 7mm. (Fill 193 of large Pit 192)

▸ SF372
Lead rod, one end flat and slightly expanded, the other curving gently into a blunt tip. L 58.5, Diam 12mm. (TP6, 1.8–2m depth)

7.8 Miscellaneous small finds

Fraser Hunter

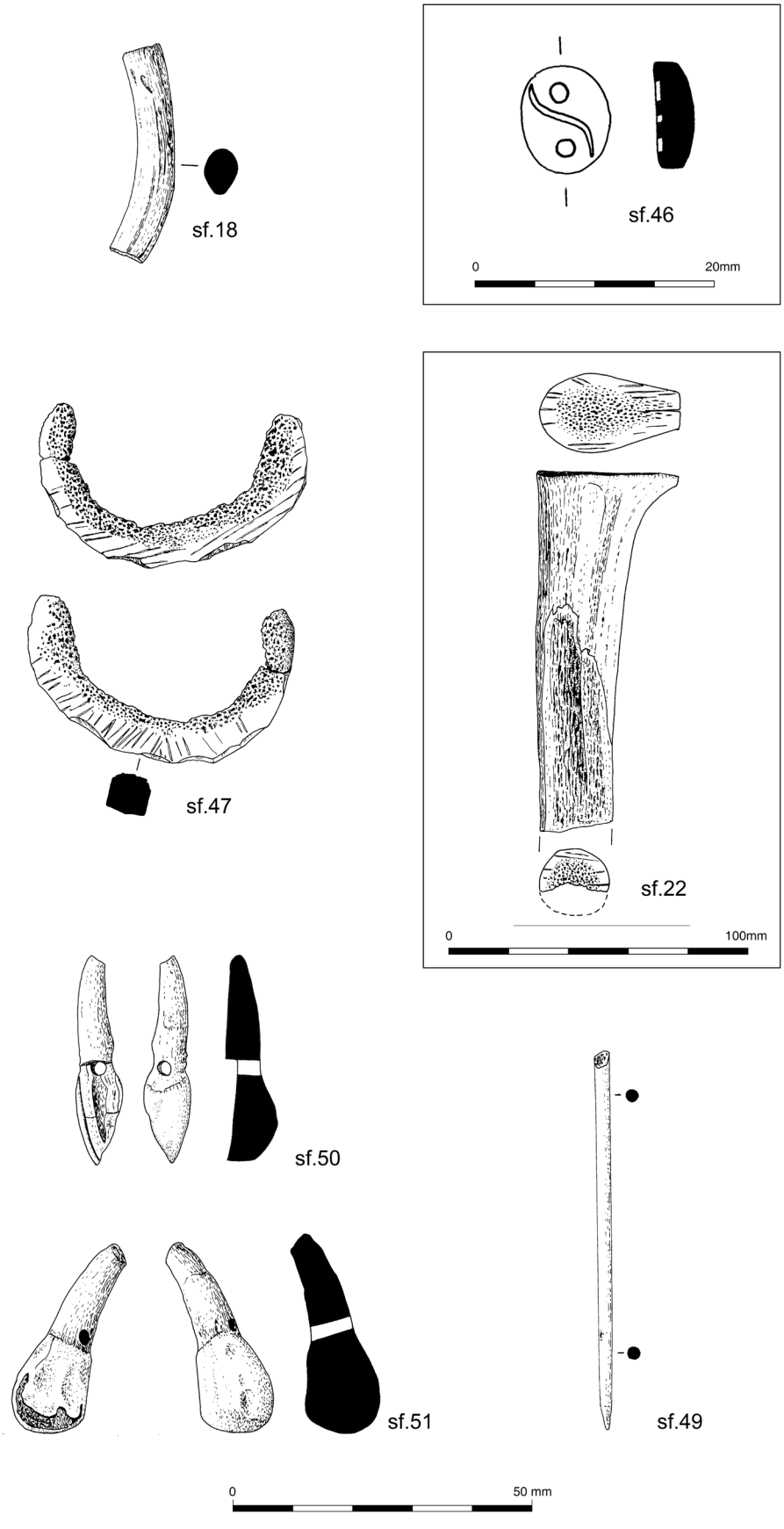
7.8.1 Shale

A single lathe-turned bangle fragment was discovered (SF18; Illus 7.20). Although it is unstratified, lathe-turning was not a local technology, and is only certainly found in Scotland during the Roman period. Bangles of black organic-rich stone are known from a number of Roman sites in Scotland (Hunter 2006: 85), including another, rather larger example from Inveresk (Bishop 2004: 149, fig 99.127). There are both imported examples (often lathe-turned) and local, hand-carved products. The current example is likely to be an import from the Kimmeridge area of Dorset, where there was an extensive industry of lathe-turned armlets (Calkin 1955; Lawson 1975). Allason-Jones (1996: 6–7) cautions that Kimmeridge shale does outcrop further north as well, but so far there is little evidence for a significant industry in other areas, and a Kimmeridge source is likely. This bangle might have come in on someone's arm, but could also have moved north as a trade good as part of the system which brought other Dorset products to the northern frontier, notably Black Burnished 1 pottery. Its large internal diameter is quite typical of the bangles known in Roman Scotland, and contrasts with the broader range represented in Iron Age contexts and in more southerly parts of Roman Britain (eg Lawson 1975: fig 3), suggesting on the frontier these were predominantly male ornaments.

▸ SF18
Shale bangle fragment; D-sectioned, with notably rounded and slightly asymmetrical interior. Well finished, and polished to a low lustre. Residual fine striations indicate that it was lathe-turned; a series of angled filemarks on the curve of the interior are probably from smoothing the detachment scar where the core was removed. Extensively used, the outer surface much worn. Its grey, laminar nature identifies it as shale, and it is most likely Kimmeridge shale – the main Roman source for lathe-turned bangles (Calkin 1955). L 37, W 7, T 8, int Diam 80–85mm (14% survives). (Unstratified)

7.8.2 Amber

An amber intaglio (SF46) from the midden dump in C003 is an enigmatic item (Illus 7.20). Amber was used for Roman finger rings, although more often as complete rings with designs in relief rather than intaglio (eg McCarthy et al 1982: 88, pl IVA, from Carlisle; Carina Calvi 2005: tav 1–33). Amber



Illus 7.20 Bone, antler, shale and amber: miscellaneous small finds (copyright CFA Archaeology Ltd)

intaglios are much rarer, although not unknown, in the Roman world (there is one from Traprain Law, for instance, with a chequerboard design; Burley 1956: 174 no. 156). The yin-yang motif on this one is hard to parallel on Roman intaglios but more typical of modern jewellery, and there is other intrusive material in this context. However, it would be harsh to condemn it outright without stronger evidence, and its identification remains in the balance pending further parallels.

▸ SF46
Amber oval intaglio with an abstract design of a curved S-like groove across the field, forming a yin-yang motif straddled by two dots on the longitudinal axis. It has a flat face, perpendicular sides (apart from one small sloped facet) and a convex rear. A small dark fragment on one side is probably corroded traces of a ring or the adhesive to fix it. The front is in good condition, with use-scratching; the back is more corroded, perhaps from its fixing. L 9.8, W 8.1, T 3.3mm. (003 S.86)

7.8.3 Bone and antler (Illus 7.20)

Inveresk is rare among Scottish Roman sites in preserving bone, and previous excavations have produced an interesting range of bone and antler objects (Thomas 1988: 172; Bishop 2004: 147–9, 155–8, fig 98–9, 106). A small cluster of finds came from midden-rich C515 within C003. All are ornaments: a broken pin shaft, and two tooth pendants. Such pendants, here made from incisors, are a well-known Roman type (eg Greep 1995: 1130, no. 913 with discussion). The broken pin and needle tips are readily paralleled in the existing finds from Inveresk, while an unfinished ring and handle (SF47, SF22) confirm that antler working took place at the site (cf Bishop 2004: 155 no. 53).

▸ SF50
Tooth pendant; incisor, worn in use with the dentine exposed. A cylindrical suspension hole (3mm D) was drilled at the top of the root, parallel to the tooth's plane. There is a little polish around the perforation from use. L 35, W 12.5, T 8.8mm. (515=003)

▸ SF51
Identical tooth pendant, with part of the tooth lost in a recent break. Polish from use around the hole is slightly more pronounced. L 35, W 7.5, T 8.5mm. (515=003)

▸ SF49
Broken pin shaft, well finished; the extreme tip tapers sharply and shows some rounding from use. Its carefully polished circular section suggests it is a pin rather than a needle; broken in use. L 64.5, Diam 2.5mm. (515=003)

▸ SF48
Tip of a bone needle or pin, slightly faceted, with use polish. The faceting suggests appearance was not critical, and thus it is perhaps more likely to be a needle. L 15.5, Diam 1.5mm. (003 <86>) Not illustrated.

▸ SF47
Half of an unfinished antler ring, in two joining fragments. A segment of beam was sawn into a thin disc, the surfaces filed and the interior (cancellous) tissue hollowed out. A series of shallow knife-cut facets have trimmed the outer surface into a near-circular form. Its intended function is uncertain, but compare examples from South Shields (Allason-Jones & Miket 1984: 2.120–22). Ext Diam 45, H 8, W 8.5mm. (Fills 430 and 432 of Ditches 429 and 431)

▸ SF22
Antler handle roughout. Beam segment, sawn square at ends, with single facets trimmed horizontally along the sides. The broad end cuts through the point where a tine had been detached (also by sawing), creating an expanded end very suitable for a handle, and this was probably its intended function; abandoned owing to fracture of the other end. L 120, H 47.5, W 26.5mm. (Fill 616 of Ditch 449)

7.9 Coarse stone artefacts

Ann Clarke

A small number of coarse stone artefacts were found, most of which date to the late prehistoric and Roman occupation of the site (Table 7.16). Two cobble tools, both of which are rounded hammerstones, were associated with the Late Mesolithic activity, one from the lithic scatter at the southern edge of the site and the other from the Mesolithic Pit 625. Both of these tools were most likely used as

Table 7.16 Types of coarse stone artefacts

Type	No.
Cobble tools	4
Whetstones	4
Anvils	3
Shale	2
Counter-sunk pebble	1
Structural stone?	3
Slab fragments	7

knapping hammerstones and they are discussed together with the flaked lithic assemblage (Clarke & Kirby forthcoming).

The two other cobble tools comprise a small smoother/rubber (SF10) and a pounder/grinder (SF24), both of which are classic Iron Age tool types. Short multi-directional striations were left on the face of the smoother/rubber from its use, suggesting it was worked against a material coarser than the fine-grained sandstone of the cobble. The pounder/grinder is a nice example of its type with two ridged facets ground on one end and a single face which has been worn flat and smooth. These types of cobble tools are thought to have been involved in processing foodstuffs such as grain (Clarke 2006). There is a strong possibility that this tool was then reused as a heavier pounder as demonstrated by the traces of coarse, random pecking on the opposite end, which are at odds with the original ground facets and face. Later reuse of these grinding tools as heavier hammerstones is a feature of pounder/grinders from the Iron Age site at Mine Howe, Orkney (Clarke 2008) and suggests that the Musselburgh tool was originally used earlier than its final use (and deposition) suggests, perhaps as far back as the Late Bronze Age/Early Iron Age.

None of the whetstones is heavily worn but the fragment of medium-grained sandstone (CS4) from 003/6 has a rectangular cross-section indicative of a more formal tool type. Unfortunately, because of weathering not much survives of the original worn face to illustrate the extent of wear. Another whetstone fragment (CS2) from Pit 232 is of fine-grained sandstone with an ellipsoid cross-section. Narrow facets have been worn down the parallel sides and on both faces of the tool.

The remaining two whetstones are larger and appear to be less heavily worn than the above tools and they could be under-used hones or else used for some purpose other than the maintenance of a metal blade. The larger tool is a fine-grained metamorphic stone (CS7) from Pit 287 and the flat lower face may have been used as a smoother but a long, narrow facet has been worn along one edge, suggesting its use as a whetstone. The fragment (CS3) from 003/8 has an oval cross-section and its flatter face may have been worn through use as a smoother or whetstone, though no striations are visible.

The presence of anvil stones perhaps indicates that some craft activities were carried out in the vicinity. They are made variously on a thick slab or flat cobbles. Burning has affected CS6 from Ditch 368 and CS13 from 003/5 causing cracking and breakage post use. The use wear on all three of the anvils is randomly placed comprising patches of sporadic heavy pecking with occasional striations over the surface and indeed the wear traces on the slab (CS11) from the midden, C003, are so indistinct as to suggest incidental damage rather than deliberate use wear. There is no indication that any of the anvils were used for specific or detailed workings which would have left more localised and distinctive wear patterns.

A countersunk pebble (CS9) from 003/7 is an interesting artefact. This flat oval pebble of medium-grained sandstone has a single, almost circular, round-based hollow worked onto each face. The hollows are placed off-centre and directly opposite each other. The pecked surface of the interior of the hollows and the symmetry of the cross-sections indicate that the hollows were carefully shaped. Some slight damage around the perimeter of the pebble is most likely incidental rather than as the product of deliberate hammering. There is also a residue over one face as if from the deposit it has been lying in. Both the function and dating of this object is difficult to assess as they were not commonly used in prehistoric Scotland. Recently excavated examples include two fragments of countersunk pebbles from an Iron Age Roundhouse at Bornais, South Uist (Clarke 2012) and a less symmetrical piece from Late Iron Age deposits at Pool (Clarke 2007). They are sometimes interpreted in the literature

as unfinished perforated weights or maceheads but the regularity of the working suggests that they are finished objects in their own right. They occasionally crop up in the Mesolithic literature, for example countersunk pebbles are mentioned from excavations at Culverwell, Dorset (Palmer 1989) but these are more irregular in form than the Musselburgh example and were clearly shaped through their use as anvils, while closer to home there is an unstratified example from the Borders mentioned as being of a possible Mesolithic date (Saville 2004: 192). It is likely that these Mesolithic 'countersunk' pebbles are in fact more highly developed forms of the dished cobbles recorded from recent excavations at Sand, Applecross (Clarke 2009) and as such are not 'finished' shaped objects such as the one from Musselburgh. An Iron Age date would therefore seem to be the most likely for this artefact.

Two pieces of shale were recovered; one an unworked friable lump (CS1) from Pit 920 and the other (CS10) from 003/11A, a very friable, probably burnt fragment with traces of working. The shaping on this fragment of shale comprised a defined ridge on the surviving surface with a modified, slightly concave surface to one side of it. Groups of unidirectional striations are visible running perpendicular to the ridge, indicating the main direction of working, and there are also some more randomly placed striations over the rest of the surface. This would appear to be an unfinished item, perhaps discarded because of breakage, and there is no sense from the blank of what the intended object was to be.

Three possible structural fragments and seven slab fragments were also recovered. The sandstone slab fragments range between 19mm and 28mm thick and are too broken to determine original shape and size. Two pieces, S3 and S4 from Pit 618 and 003/6, are sooted and may have been associated with some activity about a hearth or fire.

A possible architectural fragment, CS12 from 003/5, may be from a simple moulding from around a window or door. A flat 'rim' on CS15 (003/6A) may also have been shaped for an architectural or structural function, though it was made of coarser sandstone than the possible moulding CS12. The third piece, CS14, is unstratified and is a simple fragment of thick pink sandstone with no sign of deliberate shaping.

It is highly probable that all of the stone tools were used and deposited during occupation dating to the Iron Age. The cobble tools and whetstones in particular are quite specific to assemblages of this date across Scotland and the countersunk pebble can be compared with a few others from Iron Age contexts. The artefacts are scattered across the site, being found in a range of unphased contexts as well as the Roman soils in the southern part of the site, and there is no indication from the distribution of tools of any specific craft or processing areas.

7.9.1 Catalogue of illustrated coarse stone (Illus 7.21)

▸ **SF10**

Smoother/rubber. Fragment of a flat pebble of very fine-grained sedimentary rock. Multi-directional groups of striations on both faces indicate that this stone was used to smooth or even polish some other material. (Fill 173 of Ditch 170)

▸ **SF24**

Pounder/grinder. Sub-oval cobble of medium-grained sandstone. On one end two pecked and ground facets form a ridge. A large part of this end is detached, most likely from heat damage. Opposite end has broad patch of heavy pecking which does not form facet. One face is ground flat, with a light patch of pecking towards one end. Could this be a pounder/grinder which was then reused later, as demonstrated by the heavily pecked end? (Geological section)

▸ **CS4**

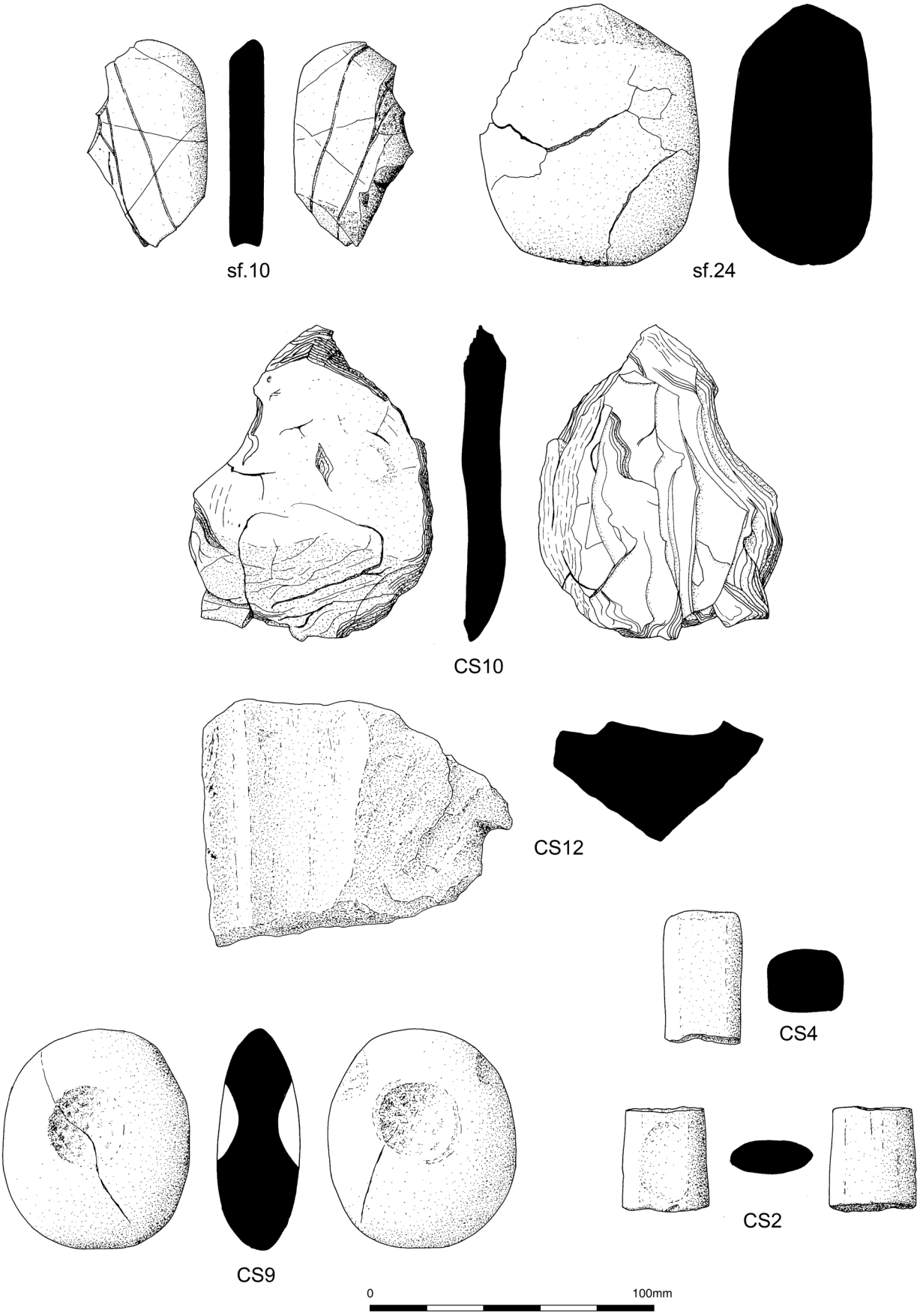
Whetstone. Fragment of a rectangular pebble of medium-grained sandstone. Very abraded from weathering and this has affected the original worn surface of the tool. The rectangular cross-section and surviving smoothed edge indicate it was originally used as a whetstone. (003/6)

▸ **CS2**

Whetstone. Segment from a pebble of fine-grained micaceous sandstone. The pebble is parallel-sided and with an ellipsoid cross-section. Facets have been worn down both sides and on both faces through use as a whetstone. (Fill 232 of Pit 231)

▸ **CS9**

Countersunk pebble. Flat oval pebble of medium-grained sandstone. Single, almost circular, round-



Illus 7.21 Coarse stone (copyright CFA Archaeology Ltd)

based hollows have been worked just off-centre on opposite faces. The interiors of the hollows retain pecking scars. There is some slight damage around the perimeter of the pebble though this appears incidental and not as a result of hammering. The artefact also bears a residue over one face as if from the deposit it had been lying in. (003/7)

▸ CS10
Worked shale. Fragment of finely laminated mudstone/shale. Pale orange in colour, probably burnt. Very friable. The surviving face has been ground to create a sharp ridge with a modified, slightly concave surface to one side of it. Groups of unidirectional striations are visible running perpendicular to the ridge indicating the main direction of working and there are also some more randomly placed striations over the rest of the surface. (003/11A)

▸ CS12
Architectural fragment? Fragment of medium-grained sandstone. Part of the surviving face appears to be a shaped fragment as if from an architectural moulding for a ?window. (003/5)

7.10 Vitrified material

Dawn McLaren

A small, restricted quantity (263.3g) of vitrified material was recovered from 22 contexts across the excavated area (Table 7.17). With the exception of three hand-retrieved amorphous lumps of unclassified iron slag, the assemblage comprises small, fractured residues identified during soil sample processing, the majority less than 5mm in diameter and less than 1g in weight. Two broad categories of vitrified material were identified during macroscopic examination: a small amount suggestive of ironworking, and those that could be created during a range of pyrotechnic processes, not necessarily metalworking. A full catalogue is included in the archive report.

7.10.1 Ironworking debris

Although no diagnostic bulk ironworking slags (eg plano-convex cakes, tapped slag) were recovered, 259g of vitrified material is suggestive of ironworking. Three dense, magnetic, fractured slag fragments

Table 7.17 Summary of the vitrified material assemblage (weight in g). For abbreviations see text

Feature/context	UIS	HS & SS	MVR & Prill	NMVR	Fuel ash slag/ cramp	ABPM	Iron spall	Total mass (g)
Cremation Deposits (066, 191, 544, 545, 703, 723, 725)		0.08	0.47	0.17	0.11			0.83
Ditch Fills (288, 432, 530)		1.1	0.18	0.74				2.02
Midden (003)	257			0.34				257.34
Pit Fills (284, 298, 881, 921, 959, 968, 991, 1000, 1001)			0.43	1.46		1.28	0.11	3.28
Post Hole (191)		0.01						0.01
Total	257	1.19	1.08	2.71	0.11	1.28	0.11	263.48

came from 003/6. These fragments are likely to be rake-out material from a hearth or furnace and are best described as unclassified ironworking slags (UIS) as they cannot be confidently assigned to either iron smelting or smithing. Also present were small quantities (1.2g) of magnetic spheres (SS), averaging 2mm in diameter, and angular flakes (HS), ranging between 2mm and 7mm in length, probably hammerscale produced during bloom or blacksmithing. Magnetic vitrified residues (MVR), including spalls from larger fragments of iron slag and prills, were present in very small numbers (1.1g).

7.10.2 Other

The remainder of the assemblage is composed of a variety of non-magnetic, non-diagnostic vitrified residues (NMVR), including small fragments of fuel ash slag or cramp (0.1g) and amorphous burnt plant material (ABPM; 1.3g). Cramp is recurrently associated with prehistoric cremation burials (Callander 1936; Photos-Jones et al 2007: 1). Typically, cramp is similar in appearance to fuel ash slag in that it is a low-density, glassy, vesicular and sometimes porous vitrified material, ranging in colour from white or light grey through to green. It is formed when fragments of bone, ash from the pyre, silica in the soil and fuel fuse together during a high-temperature pyrotechnic process, such as that of a funeral pyre (Stapleton & Bowman 2005: 381).

7.10.3 Contextual analysis

As Table 7.17 demonstrates, the vitrified material was found as a scatter throughout the excavated area, being found in cremation deposits, pyres, midden material as well as ditch, pit and post hole fills. Material identified during examination as fuel ash slag or cramp derives exclusively from cremation deposits and pyre debris. The ironworking debris is clearly residual, as it was found in a range of secondary contexts. No concentrations of material could be determined that may indicate the presence of a specific metalworking area or structure. The presence of hammerscale, indicative of iron smithing, suggests that ironworking was taking place in the vicinity of the excavated area in the Roman period, but its location and detailed chronology is unknown.

7.11 Prehistoric pottery

Melanie Johnson

Three sherds of prehistoric pottery were recovered from the Roman midden-rich Context 003/2–3, weighing 66g in total. Two of these are plain body sherds and one is a rim sherd. The rim sherd has little of the body present but is a thick rounded rim which turns inwards slightly. The diameter was not measurable. The rim has two perforations on the exterior, one which goes all the way through the thickness of the sherd and which is at the broken edge of the sherd, and another which is conical in profile and which does not quite entirely perforate the wall thickness. It is possible that this is a sherd of Grooved Ware pottery. The rim sherd and one of the body sherds have thick charred residue adhering to the interior. All of the sherds are abraded, with smoothed surfaces, dark grey to brown or black in colour. The fabric is coarse and hard with 1–2% of rock inclusions up to 6mm in size and with mica present. It seems likely that the two plain body sherds belong to the same period as the rim sherd, given the similarities in fabric.