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## **Roman Glass from the fort of Old Penrith**

**Silvia Pillon**

The aim of this paper is to publish and comment upon the glass found during an excavation, and possibly also a watching brief, in an area to the south of the Roman fort at Old Penrith undertaken in 1977-78. All the glass is unstratified and mostly unpublished. The investigated area encompassed pre-Hadrianic levels, but the main area of excavation lay within the civil settlement (*vicus*) outside the fort. The glass can therefore date to any time from the late first century to the late fourth century. The report takes the form of an account of the recovery of the glass, a catalogue of the diagnostic items with the aim of gaining a comprehensive understanding of their original form, colour and use.

**Keywords:** Old Penrith, *Voreda*, Roman fort, glass vessels, glass catalogue.

### **Introduction**

The subject of this study are 117 identifiable diagnostic pieces out of the 391 fragments of Roman glass found at Old Penrith during the excavation conducted by the Central Excavation Unit on behalf of the Department of the Environment from December 1977 to September 1978. The excavation was subsequently published by Paul S. Austen. The glass is now part of the collection of Tullie House Museum and Art Gallery in Carlisle (Site 131 *Voreda*/Old Penrith). This article is based on my dissertation in 2020 as part of my master's degree in Classical Archaeology at Sapienza University in Rome undertaken under the supervision of Professor Emanuela Borgia. The aim of the present research is to catalogue the items in order to identify and chronologically contextualize them, so far as is possible, within the history of the Old Penrith Roman fort.

### **Old Penrith Roman fort**

The fort has been the subject of previous research. The most important and comprehensive publications on its history are by Eric Birley (1947; 1962), Andrew Poulter (1982) and Paul S. Austen (1991). The Roman fort is known today by the name Old Penrith due to its proximity to the homonymous town, actually located 6 miles/9.6km away. In Roman times, according to the Antonine Itinerary, Iter II, it was known as *Voreda* (Austen 1991, 53). The fort held a strategic position, dominating the crossing point of the nearby river Petteril and its walls followed a rectangular perimeter, with openings on each of the four sides serving as access points (Poulter 1982, 53-56). Based on the analysis of available data, including reports from

excavations, aerial photographs and plans, it can be concluded that the *Voreda* served an important military function in the hinterland of Hadrian's Wall defending the road connecting Carlisle to York.

Although the discovery of the site can be dated to between 1811 and 1813 (Birley 1962, 317), the first real excavation campaign was only undertaken in 1977 (7 to 20 July). This was inspired by aerial photographs previously taken by J. K. St. Joseph, which indicated the unmistakable presence of a Roman fort (Poulter 1982, 53). Subsequently, Poulter undertook two more excavations, in 1978 and in 1979 (Poulter 1982, 53).

Based on the findings of stone artefacts including inscriptions as well as pottery, Eric Birley (1947, 175-180) had attempted to date the site, initially identifying the various phases of the fort's development in a preliminary and generic manner. Austen (1991, 230) has provided a more plausible, although speculative, reconstruction, of the fort's life, identifying four main periods, and this is the timeline which has been adopted in this study.

Period I from the creation of the fort in the pre-Hadrianic era until around 130, when the fort was abandoned and remained so until about 142;

Period IIA starts with the reoccupation of the site around 163 and the construction of a new fort north of the original one;

Period IIB extends from 163 and involves the creation of buildings in the civil settlement (*vicus*);

Period III witnesses a refurbishment of the fort, including its defenses and buildings in the *vicus*. The Second Cohort of Gauls (*cohors II Gallorum equitate*), attested in the initial phase, was withdrawn and relocated elsewhere by about 250, leading to a decline in the level of occupation of the fort;

Period IV sees an expansion of the fort between 270 and 320 with its final abandonment between 350 and 410.

### **The Central Excavation Unit**

The excavation by the Central Excavation Unit took place from December 1977 to September 1978 and followed a watching brief undertaken during the erection of new barns. I am grateful to Paul Austen for the following information which provides context for the archaeological investigations:

The excavation was undertaken in reaction to the creation of new agricultural barns and some damage had occurred to the archaeological remains before the excavation started. The director of the excavation had no previous experience of working in the area or of this type of site and subsequently left archaeology. The site recording was unsatisfactory and it was not possible to link individual contexts to the main stratigraphy. Other material was recovered from a watching brief on the site and is not stratified. In short, all the glass is in effect unstratified and can only be analysed and reported upon as such.

A short glass catalogue was compiled by Dorothy Charlesworth in 1979 shortly before her death (1991, 177–178). It includes 10 fragments of glass vessels, four bangle fragments, and four glass beads, but it is not exhaustive, and does not cite any parallels. The illustrations do not include all the listed artefacts either, possibly because she only reported on the material from the excavation and not from the watching brief which preceded it; it is possible that most of the glass was recovered from the spoil heap created by the bulldozer. That is why the material here presented has never been the subject of systematic discussion before.

Apart from glass vessels, beads and bangles already mentioned, the excavations also revealed a rich artefact assemblage, including ceramic vessels, objects reflecting military dress and weapons, as well as toilet equipment, writing equipment, agricultural and other craft related tools; these are not considered here.

## **Roman glass**

### **Material and methods**

As previously noted, the collection consists of 391 fragments of Roman glass of which 117 items will be discussed here. The finds under consideration include both open and closed vessel forms. Many of them have turned out to match shapes that were common in the Roman Empire and had already been classified by Clasina Isings (1957). A few fragments were less common and had a limited distribution.

After selecting the pieces I proceeded with the inventory, I drew each item and photographed them in order to reproduce the most accurate and understandable shape of the original object. Identification of the glass fragments was made using Price and Cottam, *Romano-British Glass Vessels: a handbook* (1998) and other key texts (Cool and Price 1995; Cool *et al.* 1995; Harden 1962). References to parallels at other sites are made in the catalogue below. The main parallels cited are in well published collections, such as those at Colchester and York, followed by Castleford, Corbridge and Wallsend.

## **Catalogue**

Fragments of open forms (cups, bowls, plates, beakers and plates) are individually described and include two categories – pieces made using the free-blowing technique as well as material made with mould-blowing. Similarly, the descriptions of fragments coming from closed forms, such as pots, flasks, jugs, bottles and toilet bottles, include free-blown as well as mould-blown glass fragments. Some pieces have proven to be more numerically frequent and belong to the same typology, while others are more sporadic, as in the case of the only one *alabastron* (*ungentarium* = small glass bottle) and three *aryballoi* (bath-flasks = flask with two handles). Each item has been attempted to be dated, the reference date being that of the identified form or the paralleled examples, but where no date is offered this is because the fragment is undatable.

- 1/2. Fragments from bowl rims. Horizontally out-turned rim, fire-rounded edge and straight sides sloping slightly outwards. Translucent light-blue glass. Isings Form 42 (?), but of a later period (late 3<sup>rd</sup> century?). They are similar to the shape of the rims of one glass vessel from the late 3<sup>rd</sup> century found inside a grave at Colchester (Cool and Price 1995, fig. 6.4, no. 693, 99-100).
3. Fragment from bowl rim. Out-turned rim, fire-rounded edge. Diameter 280mm. Transparent light-blue shade. Isings Form 43 (bowl with a convex-curved body); see the 3<sup>rd</sup> century find from Colchester (Cool and Price 1995, fig. 5.17, no. 618, 93).
4. Fragment from a bowl with vertical tubular rim with an edge bent in and down. Translucent light-blue/green colour. Isings Form 45 (?). Its straight side can be paralleled by 1<sup>st</sup>/2<sup>nd</sup> century artefacts from Colchester (Cool and Price 1995, fig. 6.3, nos. 660-666, 98).
- 5-16. Isings Form 85 (cylindrical cup). As a general rule, such glass drinking vessels were mainly common from the end of the 2<sup>nd</sup> to the early 3<sup>rd</sup> century as suggested by the large number of cylindrical cups found at Roman British sites (Cool and Price 1995, 83–85).
- 6/8/10/12/15/16. Colourless fragments, with rounded rims and vertical sides, which are typical features of Isings Form 85a. A large number of finds from Corbridge (Bishop and Dore 1988, fig. 132, 43), Exeter (Allen 1991, fig. 95, no. 49, 225), York (Harden 1962, fig. 88, no. H.G.202.6, 138; Cool *et al.* 1995, fig. 740, 1572), including York Minster (Price 1995, fig. 144, 51-52) and Blake Street (Cool *et al.* 1995, fig. 740, 1572), Wallsend (Allen and Tomlin 2016, fig. 23.01, 89), Chichester (Charlesworth 1978, fig. 10.22, no. 20, 268), Colchester (Price and Cottam 1998, fig. 37, 99-101; Cool and Price 1998, fig. 54, 109) and Castleford (Cool and Price 1995, fig. 5.12, no. 487, 84; Cool and Price 1998, 148) can be compared to this variant.

- 7/9/14. Fragments from slightly out-turned rims, with fire-rounded edges and vertical sides. Cf. Isings Form 85b. No decoration, except for the horizontal trail on the upper body of vessel 7 which is colourless. 9 and 14 are translucent light blue glass.
- 5/11/13. Fragments from tubular-base rings. Due to their size, none of these fragments is sufficiently diagnostic to enable identification with Isings Form 85a or Isings Form 85b, but they still have some of the features of Isings Form 85. They can be paralleled by similar finds from Corbridge (Bishop and Dore 1988, fig. 132, 42-45) and Castleford (Cool and Price 1995, fig. 5.12, nos. 466-518-520, 84) as well as southern England sites, such as Colchester (Cool and Price 1998, fig. 58, 167) and Chichester (Price and Cottam 1998, fig. 38a, 102). 5 is light green; 11 and 13 are colourless.
17. Fragment from a vertical rim. Fire-rounded edges, with a straight side slightly enlarged under the rim. Colourless glass. Most likely to be from Isings Form 85 (cylindrical cup), but it is impossible to identify its exact form due to its small size. A cylindrical cup found at Castleford (Cool and Price 1998, fig. 58, no. 207, 167) suggests similarity in structure. Probably earlier than the first half of the 3<sup>rd</sup> century when colourless cylindrical cups were supplanted by a hemispherical form with pinched-up blobs or lugs which became one of the most popular types of drinking glassware during the first half of the 3<sup>rd</sup> century (Cool and Price 1998, 148).
18. Fragment from beaker, cup or bowl rim. Fire-thickened edge, straight side sloping inward. Colourless glass. It can be paralleled by fragments of 4<sup>th</sup> century cups or beakers from Colchester (Cool and Price 1995, fig. 5.17, no. 622, 93) that have been found in late contexts. Various forms of beakers, cups or bowls without turned fire-rounded rims were in use throughout the Roman Empire during the 4<sup>th</sup> century (Cool and Price 1995, 92).
19. Fragment from a tubular rim. Horizontally bent out, fire-rounded and flattened edge. Transparent light-blue glass. As only the tubular rim has been preserved, it is not possible to identify the exact form of the vessel; it might belong either to bowl Isings Form 42 or Isings Form 44/45. Similar bowls at Exeter date to the late 1<sup>st</sup> to early 2<sup>nd</sup> century (Allen 1991, fig. 94.19, 223), Colchester (Cool and Price 1995, fig. 6.3, no. 682, 98) and York Minster (Price 1995, fig. 64, 362).
20. Fragment from the rims of deeper bowls or shallow plates. Fire-thickened edge, slightly convex-curved body that slopes shallowly inwards. Colourless glass. See shallow plates and bowls from Colchester (Cool and Price 1995, fig. 6.7, 104), but as stated by Cool and Price (1995, 103), fragmentary rims of this kind were predominantly in use from the 1<sup>st</sup> to the 3<sup>rd</sup> century, but they are not frequently found on Roman-British archaeological sites, making it challenging to pinpoint their specific vessel form.

21. Fragment from cup rim. Out-turned, fire-rounded edge and a slightly convex-curved side sloping in, with a base that is likely either slightly concave or thick and flat. Translucent light-blue glass. See Price and Cottam 1998, fig. 45b form, 112 (end of the 2<sup>nd</sup> century, but more popular in the 3<sup>rd</sup> century) and pieces of a bowl with no decorations, i.e. a funerary equipment in a tomb, from Colchester (Cool and Price 1995, fig. 5.14, 87). Other similar finds, though featuring decorated sides, are attested in the sites of Black Street in York (Cool *et al.* 1995, fig. 742, no. 6001, 6015-6, 1574; middle of the 3<sup>rd</sup> century) and York Minster (Price 1995, no. 60, fig. 144, 363; late 2<sup>nd</sup> century and into the 3<sup>rd</sup>).
22. Fragment from vertical rim. Fire-rounded, thickened edge. Colourless glass. See Price and Cottam 1998, fig. 39, 104, a convex cup or beaker with trails from the 2<sup>nd</sup> century. Cups or beakers forms of this kind were not so common in Roman Britain, but they were in use especially during the 2<sup>nd</sup> century.
23. Fragment from a small whitish colourless side with decoration remains, a pinched wart. Non-identifiable form, but similar to a fragment of a hemispherical cup from Colchester (Cool and Price 1995, fig. 5.14, no. 543, 87), which shows a very similar decoration on its lower body and probably dates to a later period. Hemispherical cups could be plain or with pinched-up decorations and were very common during the mid-3<sup>rd</sup> century, but in Britain pinched-up decorations were not used beyond the end of the 3<sup>rd</sup> century (Cool and Price 1995, 86-87).
24. Body fragment (side) in yellowish glass. Two wheel-cut lines on the surface below what seems to be the edge of a rim may suggest it comes from a convex cup or beaker with trails (see Price and Cottam 1998, fig. 39, 103-104). Containers of this kind were in use during the 2<sup>nd</sup> century.
25. Fragment from a colourless cup or beaker with facet-cut sides on which a half-oval bezel lies horizontally and two thin abraded bands run parallel to it. This is a Rhenish decoration that typically occurred during the 3<sup>rd</sup> century, being ‘descendants of the fine Mediterranean facet-work of the 1<sup>st</sup> and 2<sup>nd</sup> centuries’ (Harden, 1962, 137). The disposition of decorative elements of this fragment finds a perfect match with a hemispherical cup at York (Harden 1962, HG. 205.1, 138).
26. Fragment of a cup or beaker with a colourless decorated side, but on its surface there is only the end part of a wheel-cut line and two incisions left. Decorations of this kind were typical of cylindrical bowls or beakers found at Wallsend (Allen and Tomlin 2016, 89; late 2<sup>nd</sup> and 3<sup>rd</sup> centuries), Castleford (Cool and Price 1998, 158, 160, 163) and Colchester (Cool and Price 1995, fig. 5.8, 78; 2<sup>nd</sup> century).

27. It is reasonable to identify this as a part of a lower side of a small cylindrical bowl or cup with a

flat base, because it can be paralleled by a bowl from York Minster (Price 1995, fig. 143, no. 32, 358-9) in terms of thickness of the glass and the angle of its base ( $> 90$ ). It probably dates to the 2<sup>nd</sup> century (Price 1995, 349). Pale blue/green glass.

28/29. Owing to their small size, their base diameter is not measurable, but the profile and thinness suggests that they could be considered more cups or beakers than square bottles. Light blue in colour. Cf. cups from Wallsend (Allen and Tomlin 2016, fig. 23.01, no. 25-27, 89), York (Cool *et al.* 1995, fig. 740, no. 5953, 1572.) and Exeter (Allen 1991, fig. 94, no. 20, 223). Although these parallels fall into the category of bowls, beaker or cups forms that were typical of the 2<sup>nd</sup> and 3<sup>rd</sup> centuries, wheel-cut beakers became increasingly common in the middle third of the 2<sup>nd</sup> century, coinciding with a diverse range of body shapes and base forms (Cool *et al.* 1995, 1573).

30. Fragment from a translucent pale green flat base with a vertical side, not decorated, probably belonging to a cylindrical bowl or beaker from the 2<sup>nd</sup> century, but due to its condition the diameter is undetermined. Cf. finds from Wallsend (Allen and Tomlin 2016, fig. 23.01 no. 25, 89) and York (Cool *et al.* 1995, fig. 740, no. 5953, 1572).

31. Fragment from small-ribbed coils imitating handles. Light-blue glass, crossed horizontally by three black lines and a few black dots of different size. These two details suggest that the glass was reused, indicating the low quality of the material. They could have come from 3<sup>rd</sup> century bowls of Isings Form 43.

32. As 31 but showing twelve vertical ribs, dark brown-greenish glass.

33. Fragment from vertical rim with a fire-rounded edge with a diameter of 210mm. Translucent dark brown glass. As only a small fragment has been preserved complete reconstruction of its profile is impossible, though there are two possibilities. Its large diameter suggests that it could be a plate (Isings Form 47) or a bowl (Isings 3a or Isings 3c). Isings Form 47 was in use from the 1<sup>st</sup> to the 3<sup>rd</sup> centuries but was not common (Isings 1957, 62). Isings Form 3c had its origins during the Claudian period (41-54) but there is not enough evidence to date the fragment definitely within this timeline. However, some examples of this type (Isings Form 3c) recovered at Colchester were dated between the 2<sup>nd</sup> and the 4<sup>th</sup> centuries (Cool and Price 1995, 18). Considering such late dating, the fragment might fall into the same category as Isings Form 3c, and therefore possibly dating to late in the fort occupation.

34. Fragment from a dish with a hollow ring base in a translucent light-blue shade. Diameter of 220mm. Isings Form 48 (?), a cylindrical dish. Cf. Colchester, dated to the 1<sup>st</sup> century (Cool and Price 1995, fig. 6.6, 102).



35. Fragment from slightly turned outward rim with a fire-rounded edge, in a transparent light blue glass, too small to securely identify, but cf. rim fragment of a jar or beaker found at Colchester, in a context dated between 150–325 (Cool and Price 1995, fig. 7.7, no. 830, 114).
36. Fragment from a slightly out-bent rim with a fire-rounded edge, translucent light-blue colour, from a jar with a fire-rounded rim edge, funnel mouth and convex body (Price and Cottam 1998, fig. 62b form, 143-144; late 1<sup>st</sup> and 2<sup>nd</sup> centuries). [This is the base of a blown vessel. Ed.]
37. Fragment from a small concave core-formed base with a pontil scar, pale blue glass – possibly a *alabastron* (*ungentarium*), see Grose 1989, fig. III:4, 132 (mid-2<sup>nd</sup> to first decade of 1<sup>st</sup> century).
38. Fragment from a bath-bottle (Isings Form 61) with bent-out flattened rim and a short cylindrical neck. Light blue glass, also naturally clear. Probably late in date; cf. Colchester (Cool and Price 1995, fig. 9.9, no. 1192, 158, date: 230-300).
39. Fragments from a bath-bottle with a small flat base and globular body, translucent light-blue glass. Cf. Colchester (Price and Cottam 1998, fig. 58, 189-190; 1<sup>st</sup> century to mid-3<sup>rd</sup> century).
40. Only the bottle neck survives. Three features – the vertical, the cylindrical form of the bottle neck as well as the attachment point of the handle to the base, unusually different from those of other closed shapes of this kind, might suggest that this is a bath-flask (see dolphin-eyelet handle of an example from the 2<sup>nd</sup> or 3<sup>rd</sup> century found at Chichester: Down 1978, fig. 10.23, no. 38, 271).
41. The upper attachment of a handle joined to the neck of a jug or below its rim in translucent light blue glass. See stump of an upper attachment on the neck of a small late Roman globular jug found at Colchester (Cool and Price 1995, fig. 8.12, no. 1164, 147).
42. Fragment from a narrow angular ribbon handle with pronounced side ribs, colourless glass. Cf. similar fragments from Colchester that were typical 4<sup>th</sup> century forms (Cool and Price 1995, fig. 8.10, no. 1081-1085-1160-1161, 145-146).
43. Fragment from a brown greenish side, with prominent narrow spiral ribs, a jug, either Isings Form 52b or Isings Form 120/121. See two different globular jugs from Colchester: a globular or ovoid jug Isings Form 52b (Cool and Price 1995, fig. 8.5, no. 9.16, 127) and a globular or ovoid jug Isings Form 120/121 with a funnel mouth (Cool and Price 1995, 134; Price and Cottam 1998, 163-165). As Cool and Price (1995, 134) point out about jug Isings Forms 120 and 121, ‘... on the 4<sup>th</sup> century examples a thick trail below the rim edge is almost invariable (often combined with a thinner spiral)’. By contrast, jug Isings

Form 52 was a very popular vessel in Roman Britain during the later 1<sup>st</sup> century and earlier 2<sup>nd</sup> century (Cool and Price 1995, 121).

- 44/45. Fragments from bent-out flattened rims with fire-rounded edges, from a mercury bottle (possibly Isings Form 84). Similar mercury bottles first appeared in the 1<sup>st</sup> century but are attested during the 2<sup>nd</sup> and 3<sup>rd</sup> centuries too, as indicated by an artefact found at Chester (Isings 1957, 100).
- 46-48. Fragments from bent-out, up, in flattened bottle rims. 46 is translucent dark green glass, 60mm diameter. 47 is light blue, 37mm diameter. 48 is also light blue, 37mm diameter. Probably Isings Form 50/51. Cf. York (Cool *et al.* 1995, fig. 745, no. 6239, 1579; later 3<sup>rd</sup> and 4<sup>th</sup> centuries); Cool *et al.* 1995, fig. 746, nos. 6117-8, 1581; 1<sup>st</sup> to 3<sup>rd</sup> centuries) and Colchester (Cool and Price 1995, fig. 11.7, no. 1847, 192). They are all small bottles, which makes it possible to infer their intended use.
- 49-56. Fragments from bottle handles, probably Isings Form 50/51. All translucent light blue glass. Only 49 retains the vertical section of a reeded handle with simple lower attachment and upper attachment joined to its neck. 50/51/53/56 are parts of the lower attachment on what seems to be the horizontal or curving shoulder of a bottle. 52 is also part of a lower attachment, but no trace of any horizontal or curving shoulder. 54 is a fragment from a simple vertical handle with a simple lower attachment, a folded upper attachment joined to the neck. 55 is a fragment from a reeded handle that includes the upper attachment to the neck.
- 57-89. Fragments from bottle bases, showing concentric circular mouldings in low relief. They belong to different types of square bottles, ranging from Isings Form 50 to Isings Form 51, or rectangular-base bottle Isings Form 90.
- 64/68/69/70/71/73/75/78/79/80/81/82/84/85/86/87/88/89. 18 fragments from flat bases, with no decorations. Colours range from dark to light blue, with blue/green and green/blue shades.
- 57/58/59/60/61/62/65/66/67/72/74/76/77/83. 14 fragments from bases characterized by geometric embossed decorations in the shape of concentric circles.
63. Fragment of a base provided with a pattern on the external surface that was a functional feature to the stability of the bottle, as was the case with metallic containers (Roffia 1993, 149-151; Romagnolo 2013, 473). A more detailed analysis of this fragment is not possible due to its severe state of deterioration.
90. Fragment from a rim section that can be precisely attributed to Isings Form 51 thanks to the presence of two elements, its horizontal tubular rim with a flattened edge bent out, up, in and its wide cylindrical neck (cf. Cool and Price 1998, fig. 63, 176).

- 91-94. Fragments that might belong to Isings Form 51, but their identification is less secure due to their small size.
- 95-98. Fragments from simple flat side-base bottles with no decoration, possibly from square bottles (Isings Form 50); light blue in colour.
- 99-100. Fragments from bottle rims (eg. Isings Form 90); translucent blue/green.
101. Fragment from a bottle base, probably rectangular bottles (Isings Form 90); translucent blue/green. Cf. a similar find from Colchester (Cool and Price 1995, fig. 11.10, no. 2163, 196; in a 4<sup>th</sup> century context but 1<sup>st</sup> to 2<sup>nd</sup> century in date. Standing out decoration: two lines that outline a lozenge shape.
102. Small part of an out-turned, rolled-in rim with a bent out, up, in, flattened edge, in pale blue colour. Possibly related to candlestick *unguentaria* of Isings Form 82. Cf. finds from Colchester (Cool and Price 1995, fig 9.15, no. 1324, 166), where this rim type appeared on jugs and flasks of both early and late date.
103. Part of a bent-out rim, with a rolled-in edge and a cylindrical neck. This type of rim was popular on unguent bottles dating between 170 and 300 (Allen 1998, 41). Probably related to an *unguentarium* with a rounded base of Isings Form 83; cf. 1<sup>st</sup> to 3<sup>rd</sup> century container from Castleford (Cool and Price 1998, fig. 59, no. 230-231, 168) and a 4<sup>th</sup> century example from York (Harden 1962, fig. 89, no. HG 9, 140).
104. Part of a transparent *unguentarium* neck. Cf. plain unguent bottles of Isings Form 26a; for its shoulder angle see 3<sup>rd</sup> to 4<sup>th</sup> century oil flask found at York (Harden 1962, fig.88, no. H 103.1. H 139).
105. Fragment from a cylindrical neck, but difficult to identify precisely due to its reduced size; probably an unguent bottle.
106. Fragment from a flat base with a smooth thin globular side; pale blue. Cf. 1<sup>st</sup> to 2<sup>nd</sup> century unguent bottles from York (Harden 1962, 137).
107. Fragment from a slightly concave base of unknown diameter; pale blue. It could come from a closed shape such as a toilet bottle for oils, ointments and other liquids, like a similar fragment from the later 1st to 2nd centuries found at Corbridge (Bishop and Dore 1988, no. 23, 290). It could also belong to a conical beaker (Isings Form 96 or 106), which was common during the 4<sup>th</sup> century, as testified by finds from York Minster (Price 1995, fig. 143, no. 38, 359).
- 108-115. Fragments from necks that probably come from a closed shape. Although the cylindrical profile of the items can be reconstructed, it is still hard to identify the vessel form. 115 stands out thanks to four diagonal lines as decorations on its external surface. A constriction can be observed where the missing base of its neck should be.

116. Fragment from an unidentified form but with remarkable and unique decoration.

Part of a side in transparent light bluish glass with three ribs on it, likely to have come from a straight-sided conical or cylindrical beaker; cf. Castleford (Cool and Price 1998, fig. 56, no. 159, 163) and Colchester (Cool and Price 1995, fig. 5.6, no. 410, 74; Niblett 1985, fig. 82.84, 140). Vessels adorned with ground ribs were rather expensive everyday items, in use from the late 1<sup>st</sup> century until the early part of the second half of the 2<sup>nd</sup> century (Cool and Price 1995, 74; Cool and Price 1998, 146).

119/123. Fragments either from a globular jug (Isings Form 52) or a less common convex cup or beaker with trails in use in the 2<sup>nd</sup> century (Price and Cottam 1998, fig. 39 103-104). 123 is made of translucent yellowish glass and it can be paralleled by a fragment from Castleford (Cool and Price 1998, fig. 53, no. 57, 155-157) in terms of decoration and shade of colour in use during the late 1st to mid-2nd century (Cool and Price 1998, 144).

117-118/120-122/124-127. Body fragments with decoration. Due to their size and state of preservation they cannot be identified to an Isings type. Exact parallels are not possible either. 117/118 have wheel cut decorations, but they differ in the glass colour: 117 is in a green/light blue shade, 118 is colourless. 120,/121/122 are all colourless, but they have different types of decorations; 120 has one narrow rib, fragments 121/122 have wheel cut lines. 125/126/127 are colourless and characterised by horizontal wheel incised lines. 124 is in a light blue shade and has an optical horizontal ribbed trail.

128-134/136-153/155-161. These are all body fragments without decoration. They seem to be rims

(128/129/131/132/133/134/136/138/139/141/142/143/144/145/146/148/149/150/153/156, 158/161), bases (137/138/139/151/152/155/157), handles (140/147/160), necks (130/159). Due to their size and state of preservation they cannot be related to an Isings type, but they could be assigned to a broad vessel form. 128/150 might have come from bowls, 129 from a jug, 130/136/137/140/147/148/152/159/160 from toilet bottles, 131/133/138/139/141/143/153 from cups, 132/134/144/146/151/155/156/158/161 from bottles, 142/149 from beakers, 145 from a spout. 157 looks like a base from a cup or a toilet bottle. It is difficult to find any suitable parallels with other fragments from the main Romano-British archaeological sites.

135/154/162-391. These pieces are not diagnostic (154 looks like a bead; 162 production waste).

## **Conclusions**

### **Type of vessels**

During the excavations 391 glass fragments were found, and 117 of them were identified as body fragments such as rims, necks, handles, sides and bases of recognisable Roman glass tablewares and containers. Of these 37 can be traced back to open shapes of pottery and 80 to closed shapes. The open shapes include 28 cups, 7 beakers, and 2 bowls. The closed shapes prevail, especially bottles (56), toilet bottles and *balsamaria/ungentaria* (8), neck (8) followed by jugs (5), *aryballoi*/bath-flasks (3), jars (2), and a possible *alabastron* (1). A few vessel fragments are free-blown, others are mould-blown. The glass ranges from bluish to greenish in colour, including brownish, yellowish and colourless shades. The finds also involve 274 undiagnosable splinters and small fragments which are impossible to identify due to their size and state of preservation and so they have been inventoried but not included in this catalogue.

Some pieces have proven to be more numerically frequent and belong to the same typology, while others are more unusual, as in the case of the *alabastron* (flask) or three *aryballoi* (bath-flask). As we have seen, it is not possible to establish the find spots of any fragment. The only information shown on the identification tags concerns the Stratigraphic or Context Units, which are included in the chart below for completeness of information.

### **Parallels and date**

As far as the dating of the items is concerned, the paucity of systematic studies of the glassware from the Hadrian's Wall zone has made it necessary to take into account material from other sites, i.e. the area going from Carlisle to Wallsend including Corbridge and the forts in northern England, such as Catterick, York, Castleford and Chester, and towns in southern England, such as Gloucester, Caerleon, Exeter, Chichester, Colchester. The identification of glass fragment types has allowed the determination of the period during which these specific forms were in use, consequently shedding light on activities within and outside the fort (Isings 1957; Cool and Price 1995; Price and Cottam 1998). From the parallels it has been concluded that the finds date mainly to the first centuries of the Roman empire, that is, between the 1<sup>st</sup> century and the 3<sup>rd</sup> century. This indicates the time that the fort and, presumably, its civil settlement were active, though with a degree of later activity continuing into the 4<sup>th</sup> century.

Colour is also a factor to consider when attempting to determine the date of the vessels (Cool and Price 1995; Price and Cottam 1998). Most fragments found at Old Penrith are made of blue glass, but some exhibit a light green hue, some a yellow-brown tone, while others are colourless. Clear, colourless, light-tinted green or blue were the most popular glass colours in Roman Britain between the 1<sup>st</sup> and the 3<sup>rd</sup> century. Tableware, bottles and other containers for domestic use were commonly made of natural light blue-green glass (Foster and Jackson 2009, 189). Bright strong colours can be found only in certain types of vessels, such as mosaic glass bowls, which date mainly to the 1<sup>st</sup> and 2<sup>nd</sup> century but were not likely to be produced in Roman Britain.

### **Origins**

Although both free-blown glass and mould-blown glass were present in Roman Britain the results of this study showed that such glass was less frequently used in peripheral regions, especially in smaller and more remote forts, such as Old Penrith. The parallels have also helped to establish whether the finds were the result of local production or imported from the European continent. There is a lack of evidence – in terms, for example, of Roman glass kilns and the use of recycled material – to support the hypothesis that there were glass manufacturing activities in Old Penrith. However, it is certain that glass production centres were located for example in Camelon (Price 2016, 185), York (Paynter, Dungworth 2018, 25; Jackson *et al.* 2003, 435-437), Colchester (Price 1978, 70) and London (Shepherd 2015, 33-34; Paynter, Dungworth 2018, 27-28), where crucibles, frit pieces, glass waste, as well as several furnaces, have been brought to light (Price and Cool 1991, 29). From the parallels it emerges that Old Penrith vessels are examples of shapes that were common in Roman Britain, but they find correspondences with forms already known in the European Roman context as well.

### **Use of vessels**

Regarding the intended use of the items, open shapes such as cups, bowls, beakers and bowls were a varied range of tableware for domestic use and would have been suitable items for the conservation and transport of organic material delivered to the fort (Cool 2006). Closed shapes such as bottles likely served to mix liquids and pour wine, but they might have also been used as containers to store and carry food. Toilet bottles and *balsamaria* (small flasks) were used to preserve oil, ointments and perfumes but the lack of documentation does not allow to make any additional inferences. Based on the cataloguing, it can be stated that the number of closed shapes, specifically bottles (56), is higher than the open forms (37). This could indicate that items of glass had a purely functional and pragmatic purpose rather than an ornamental use.

Similar conclusions to the ones drawn by Jennifer Price (2016, 185) in her study about the glass vessels found at the fort of Bearsden on the Antonine Wall, may also apply in the case of Old Penrith. There is no evidence for the official provision of glass tableware to military units. Most of the material recovered from Old Penrith came from the civil settlement indicating that civilians, or soldiers living outside the fort, had access to glass vessels, possibly from shops in the settlement. Some fragments (no. 23, 25, 26, 43, 115-127) are characterized by external decorations, providing a fine example of high-quality workmanship and expertise in the glass-making process. However, the lack of documentation about the discovery location of the glass fragments makes it difficult to define the exact social background of people who might have used the glass vessels at Old Penrith.

In conclusion, glass was valuable material that, despite its preciousness and fragility, managed to reach the farthest British frontier including Old Penrith. The presence of glass fragments found at the site is an important testimony because, in the absence of the overall structure and buildings of the fort and its civil settlement, it helps us understand how the complex was an active and dynamic centre, even from an economic and social perspective. Moreover, it is interesting that such high quality material was found in the civil settlement attached to the fort, suggesting that civilians or soldiers stationed there had the chance to use this expensive material.

### Acknowledgements

I thank Professor David Breeze, who heard my lecture in Rome and then suggested that I publish it, for his help in preparing it for publication. Any errors are mine.

Table 1: a concordance of the catalogue number, vessel form, date and context

Inventory Number	Vessel Form	Dating of the fragments	Context Unit
1 - 2	Isings Form 42 (?)	late 3 <sup>rd</sup> (?)	US450, US320
3	Isings Form 43	3 <sup>rd</sup> century	US783
4	Isings Form 45 (?)	1 <sup>st</sup> - 2 <sup>nd</sup> centuries	US1038
5, 11, 13	Isings Form 85a/ 85b	end of the 2 <sup>nd</sup> - early 3 <sup>rd</sup> centuries	US494, US290, US130

<b>6, 8, 10, 12, 15, 16</b>	Isings Form 85a	end of the 2 <sup>nd</sup> - early 3 <sup>rd</sup> centuries	US1038, US 135, US290, US1552, US 551, US1506
<b>7, 9, 14, 11</b>	Isings Form 85b	end of the 2 <sup>nd</sup> - early 3 <sup>rd</sup> centuries	US2028, US1490, US1462, US290
<b>17</b>	Isings Form 85 (?)	earlier than the first half of the 3 <sup>rd</sup> century (?)	US2105
<b>18</b>	Cup or beaker (cf. Cool Price 1995, fig. 5.17, no. 622) (?)	4 <sup>th</sup> century	US 5
<b>19</b>	Isings Form 42/ 44/ 45	later 1 <sup>st</sup> - early 2 <sup>nd</sup> centuries	US1033
<b>20</b>	Deeper bowl or shallow plate (cf. Cool & Price 1995, fig. 6.7, 104)	1 <sup>st</sup> - 3 <sup>rd</sup> centuries	US1709
<b>21</b>	Convex cup with out-turned fire-rounded rim (cf. Price & Cottam 1998, fig.45b)	late 2 <sup>nd</sup> - 3 <sup>rd</sup> centuries	US1439
<b>22</b>	Convex cup or beaker with trails (cf. Price & Cottam 1998, fig.39)	2 <sup>nd</sup> century	US417
<b>23</b>	Hemispherical cup (cf. Cool & Price 1995, fig. 5.14, no. 543)	mid to late 3 <sup>rd</sup> century	US476
<b>24</b>	Convex cup or beaker with trails (Price and Cottam 1998, fig. 39, 103-104)	2 <sup>nd</sup> century	US2005
<b>25</b>	Cups or beakers with facet-cut sides (Harden 1962, HG. 205.1, 138)	3 <sup>rd</sup> century	US1436
<b>26</b>	Cup or beaker with a wheel-cut line and incisions (cf. Allen and Tomlin 2016, 89; Cool and Price 1998, 158, 160, 163; Cool and Price 1995, fig. 5.8, 78)	later 2 <sup>nd</sup> - 3 <sup>rd</sup> centuries	US1436
<b>27</b>	Cylindrical bowl or cup (cf. Price 1995, fig. 143.32)	2 <sup>nd</sup> century	US624



<b>28, 29</b>	Wheel-cut bowls, beakers or cups (see Allen and Tomlin 2016, fig. 23.01, no. 25-27, 89; Cool <i>et al.</i> 1995, fig. 740, no. 5953, 1572; Allen 1991, fig. 94, no. 20, 223)	2 <sup>nd</sup> - 3 <sup>rd</sup> centuries	US135, US135
<b>30</b>	Cylindrical bowl or beaker (cf. Allen and Tomlin 2016, fig. 23.01 no. 25, 89; Cool <i>et al.</i> 1995, fig. 740, no. 5953, 1572)	2 <sup>nd</sup> century	US2288
<b>31, 32</b>	Isings Form 43 (?)	3 <sup>rd</sup> century (?)	US1822, US415
<b>33</b>	Isings Form 47/ 3c	1 <sup>nd</sup> - 4 <sup>th</sup> centuries	US133
<b>34</b>	Isings Form 48 (cf. Cool and Price 1995, fig. 6.6, 102).	1 <sup>st</sup> century	US1238
<b>35</b>	Jar or beaker (cf. Cool and Price 1995, fig. 7.7, no. 830, 114)	mid-2 <sup>nd</sup> - early 4 <sup>th</sup> centuries (?)	US133
<b>36</b>	Convex jar with out-turned rim (Price & Cottam 1998, fig.62b)	later 1 <sup>st</sup> - 2 <sup>nd</sup> centuries	US133
<b>37</b>	Concave core-formed base (alabastron? – see Grose 1989, fig. III:4)	1 <sup>st</sup> decade of 1 <sup>st</sup> century (?)	US157
<b>38</b>	Isings Form 61 ( <i>aryballos</i> cf. Cool and Price 1995, fig. 9.9, no. 1192, 158)	3 <sup>rd</sup> -4 <sup>th</sup> centuries	US178
<b>39</b>	Bath bottle with globular body ( <i>aryballos</i> , cf. Price and Cottam 1998, fig. 58, 189-190)	1 <sup>st</sup> - mid 3 <sup>rd</sup> centuries	US788
<b>40</b>	Bottle neck ( <i>aryballos</i> , Down 1978, fig. 10.23, no. 38, 271)	2 <sup>nd</sup> - 3 <sup>rd</sup> centuries	US2105
<b>41, 42</b>	Jug handles	4 <sup>th</sup> century	US1705, US1705
<b>43</b>	Isings Form 52b/ 120/ 121	later 1 <sup>st</sup> - earlier 2 <sup>nd</sup> centuries or 4 <sup>th</sup> century	US659
<b>44, 45</b>	Isings Form 84 (?)	1 <sup>st</sup> - 3 <sup>rd</sup> centuries	US2005, US381
<b>46-56</b>	Isings Form 50/ 51	1 <sup>st</sup> - 4 <sup>th</sup> centuries	US532, US2105, US1305, US421, US1740, US1427, US1701, US1283, US1521, US423, US1413

<b>57-89</b>	Isings Form 50 / 51/ 90	1 <sup>st</sup> - 4 <sup>th</sup> centuries (?)	US4, US1701, US2299, US213, US130, US285, US2150, US2373, US1705, US1722, US1705, US2131, US1722, US1461, US2318, US132, US752, US1722, US132, US242, US753, US1405, US213, US135, US135, US1473, U/S, U/S, US204, US1065, US9, US242, US153, US1740, US135, US1216, US133
<b>90</b>	Isings Form 51	1 <sup>st</sup> - 4 <sup>th</sup> centuries	US1460
<b>91-94</b>	Isings Form 51 (?)	1 <sup>st</sup> - 4 <sup>th</sup> centuries (?)	US2110, US204, US1401, US471,
<b>95-98</b>	Isings Form 50 (?)	1 <sup>st</sup> - 4 <sup>th</sup> centuries (?)	US1740, US135, US1216, US133
<b>99-100</b>	Isings Form 90	4 <sup>th</sup> century	US1032, US2291
<b>101</b>	Isings Form 90 (cf. Cool & Price 1995, fig. 11.10, no. 2163)	4 <sup>th</sup> century	US493
<b>102</b>	Isings Form 82	1 <sup>st</sup> -3 <sup>rd</sup> centuries	US1033
<b>103</b>	Isings Form 83 (cf. Cool and Price 1998, fig. 59, no. 230-231, 168; Harden 1962, fig. 89, no. HG 9, 140)	1 <sup>st</sup> -3 <sup>rd</sup> centuries or 4 <sup>th</sup> -century	US1466
<b>104</b>	Isings Form 26a (see Harden 1962, fig.88, no. H 103.1. H, 139)	3 <sup>rd</sup> -4 <sup>th</sup> centuries (?)	US422
<b>105</b>	Neck	Undatable	US1705
<b>106</b>	Unguent bottle (cf. Harden 1962, 137)	1 <sup>st</sup> - 2 <sup>nd</sup> centuries	US2393
<b>107</b>	toilet bottle (cf. Bishop and Dore 1988, no. 23, 290) or conical beaker Isings Form 96/106 (cf. Price 1995, fig. 143, no. 38, 359)	later 1 <sup>st</sup> - 2 <sup>nd</sup> centuries or 4 <sup>th</sup> century	US135
<b>108-115</b>	Neck (from closed shape)?	Undatable	US1401, US217, US320, US1803, US307, US132, U/S, US1722
<b>116</b>	Body fragment with ribbed decorations (straight-sided conical or cylindrical beaker? – cf. Cool and Price 1998, fig. 56, no. 159, 163; Cool and Price 1995, fig. 5.6, no. 410, 74; Niblett 1985, fig. 82.84, 140)	late 1 <sup>st</sup> century - early part of the second half of the 2 <sup>nd</sup> century (?)	US2107

<b>119</b>	Isings 52 or Price and Cottam 1998, fig.39, 103-4 (convex cup or beaker with trails)	2 <sup>nd</sup> century	US2320
<b>123</b>	Isings Form 52 or Price and Cottam 1998, fig.39, 103-4 (convex cup or beaker with trails) or Cool and Price 1998, fig. 53, no. 57, 155-7	late 1 <sup>st</sup> - mid 2 <sup>nd</sup> centuries	US605
<b>117-118/120-122/124-127</b>	Body fragments with decoration	—	US1500, US1740, US1477, US9, US 1708, US2347, US1740, US 307, US 307
<b>128-134/136-153/155-161</b>	Body fragments without decoration	—	US582, US1705, US1705, US161, US1190, US1231, US2381, US135, US473, US130, US412, US1739, US1401, US136, US475, US2274, US162, US132, US141, US391, US835, US1032, US135, US1427, US130, US391, US2032, US130, US1032, US2274, US130, US1401

Source: own elaboration

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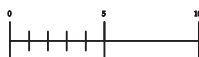
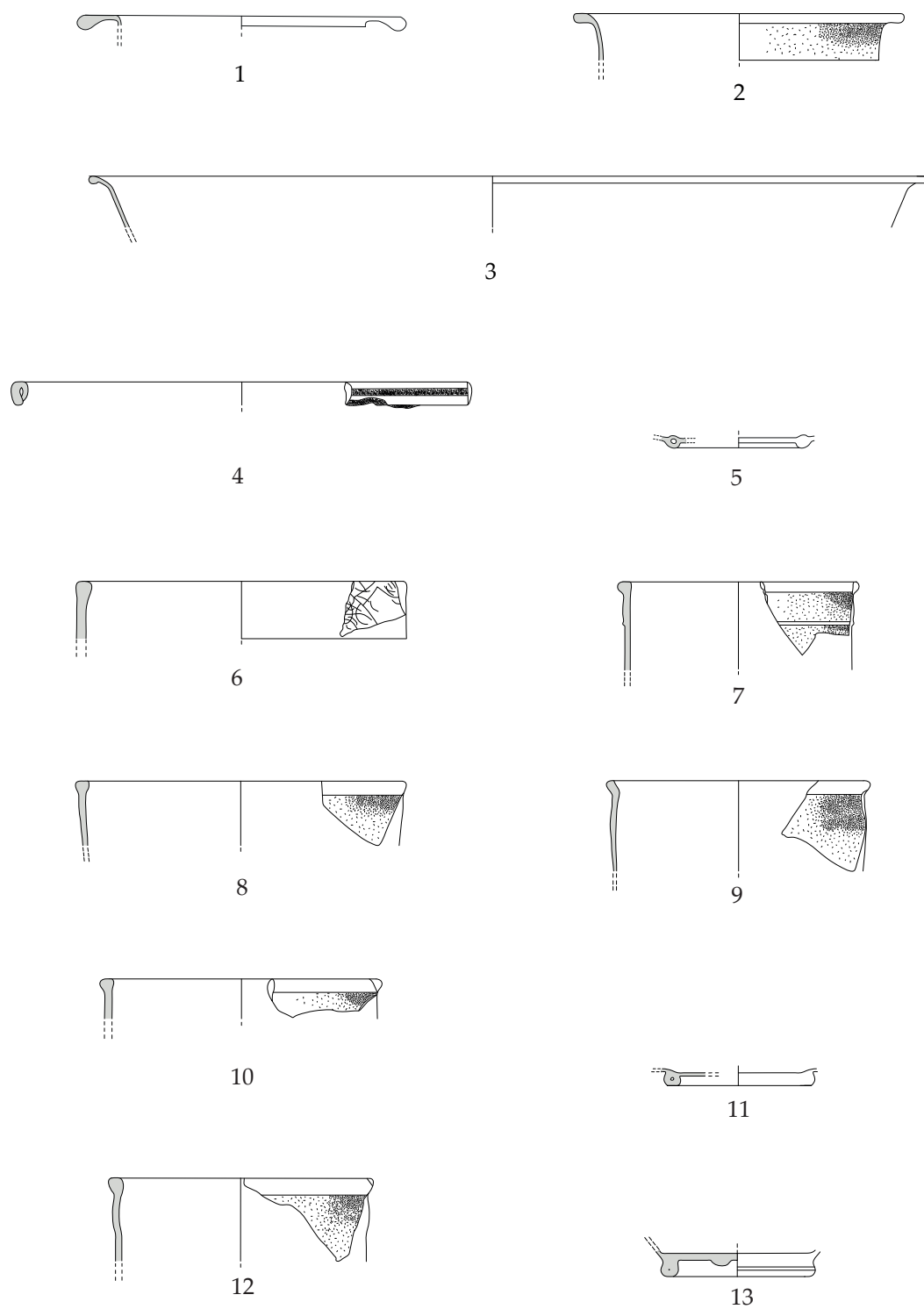
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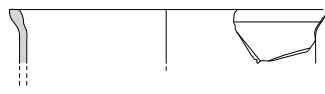
Silvia Pillon holds a Master degree in Archaeology and Civilisation of the Classical World from Sapienza University and a Bachelor's degree in Cultural Heritage (with a major in Archeology) from University of Verona. She has specialised in Conservation and Restoration of Works of Art at Venice Institute of Cultural Heritage (IVBC). Her interests focus mainly on archaeological restoration of Roman ceramics, glass and frescoes and Paleobotany.

# Tavola I

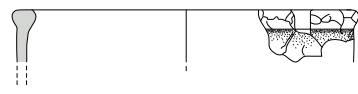


Drawings: Silvia Pillon, Courtesy of Tullie House Museum & Art Gallery

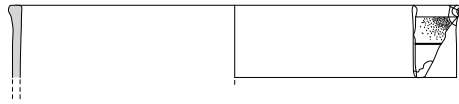
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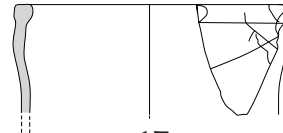
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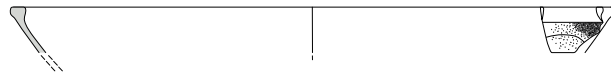
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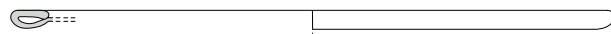
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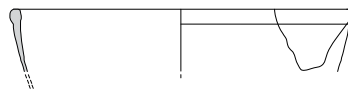
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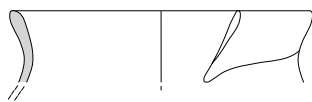
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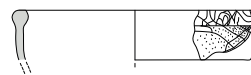
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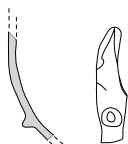
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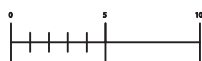
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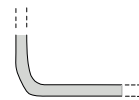
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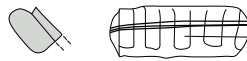
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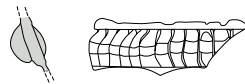
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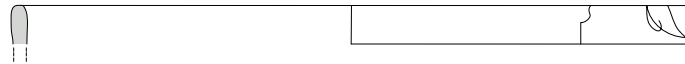
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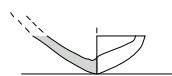


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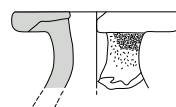




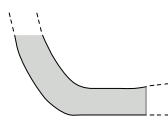
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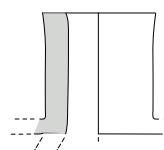
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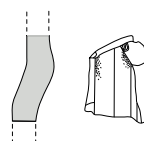
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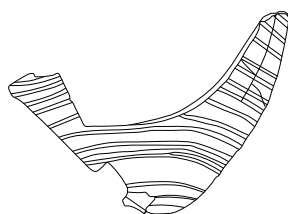
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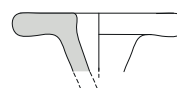
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42



43



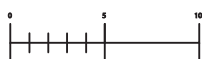
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45



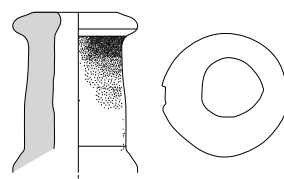
46



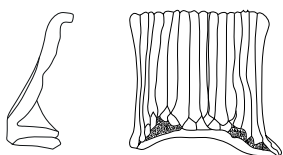
# Tavola V



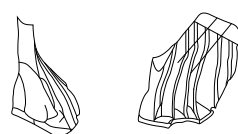
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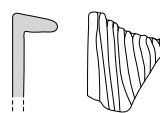
51



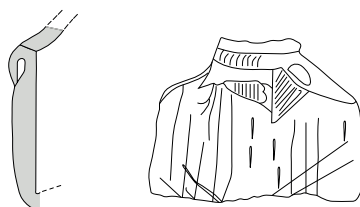
52



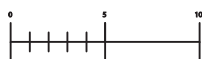
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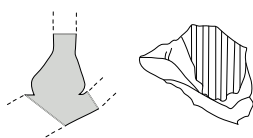
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54



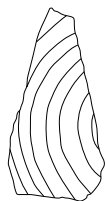
# Tavola VI



56



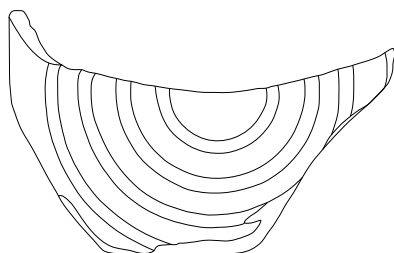
57



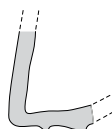
58



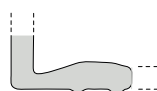
59



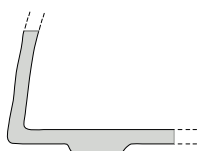
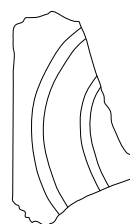
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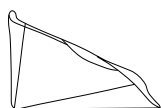
61



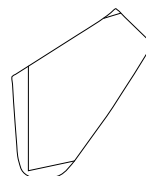
62



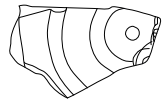
63



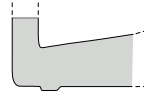
64



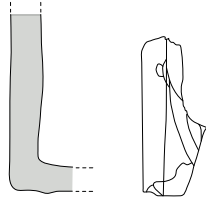
# Tavola VII



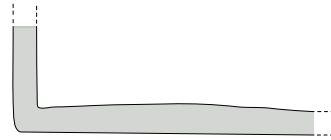
65



66



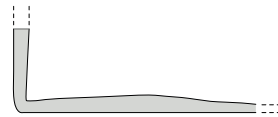
67



68



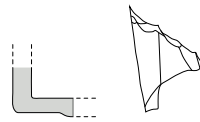
69



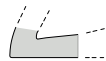
70



71



72



73



74



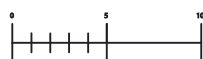
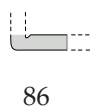
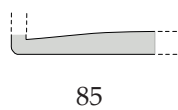
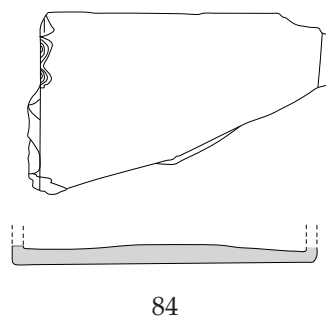
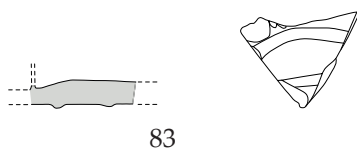
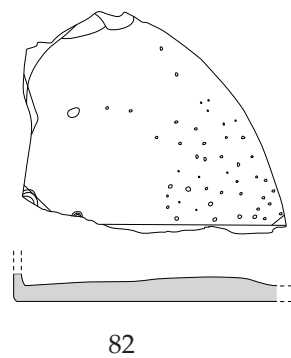
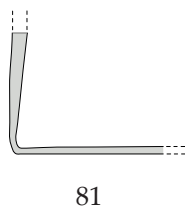
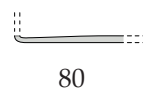
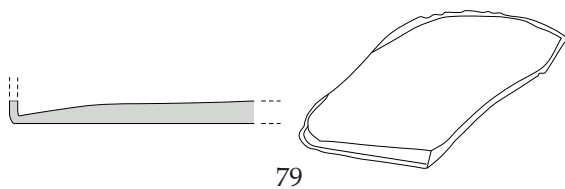
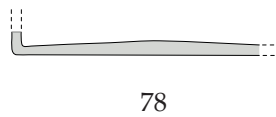
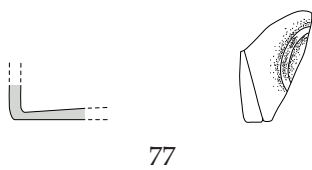
75



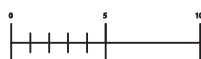
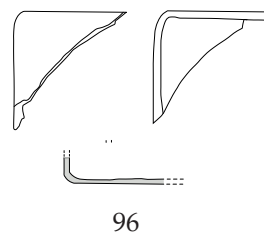
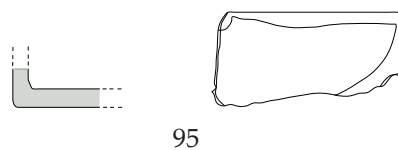
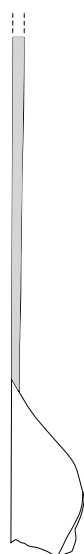
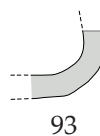
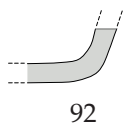
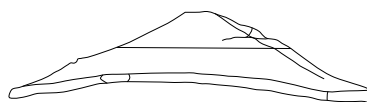
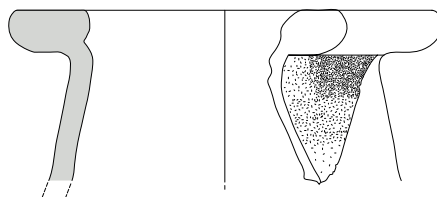
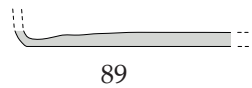
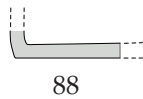
76



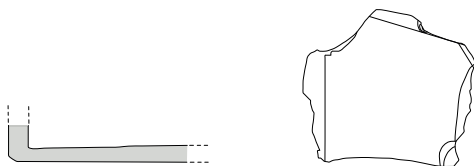
# Tavola VIII



# Tavola IX



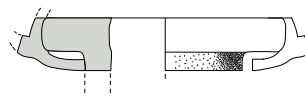
# Tavola X



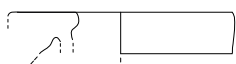
97



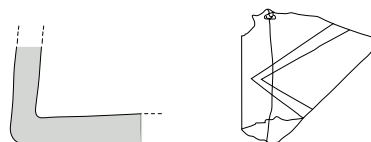
98



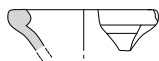
99



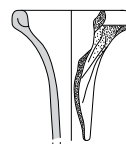
100



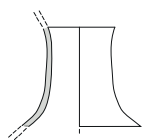
101



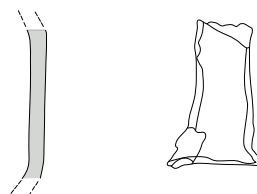
102



103



104



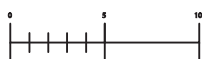
105



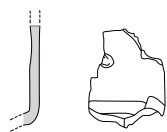
106



107



# Tavola XI



108



109



110



111



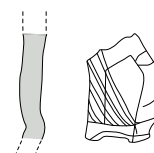
112



113



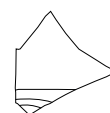
114



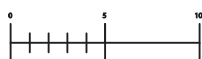
115



116



117





## Tavola XII



118



119



120



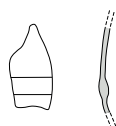
121



122



123



124



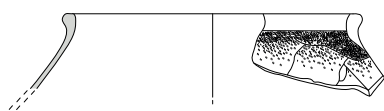
125



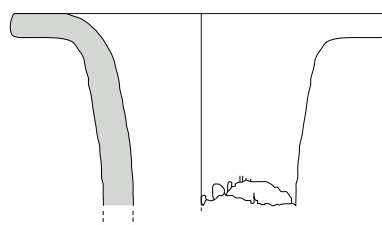
126



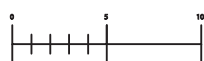
127



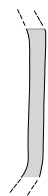
128



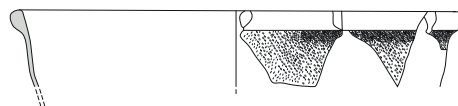
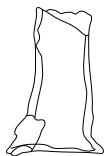
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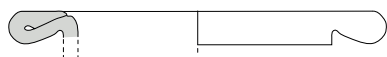
# Tavola XIII



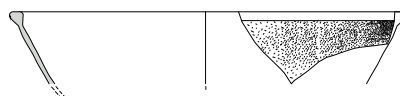
130



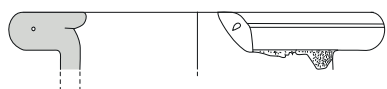
131



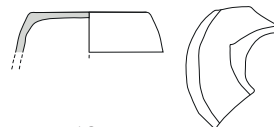
132



133



134



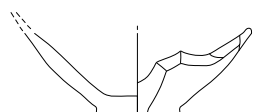
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136



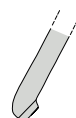
137



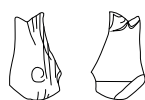
138



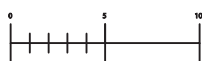
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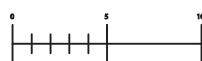
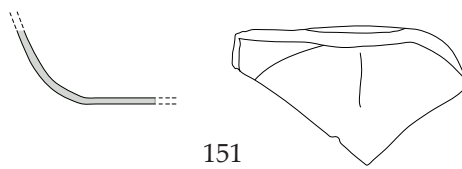
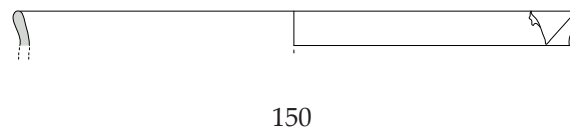
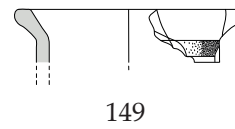
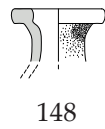
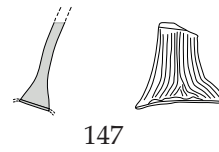
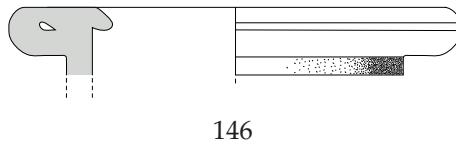
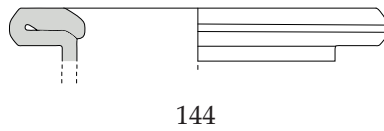
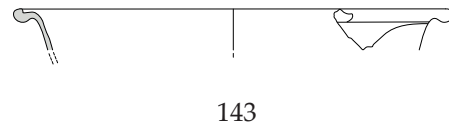
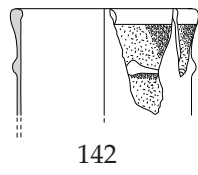
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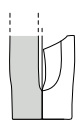
141



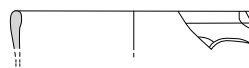
# Tavola XIV



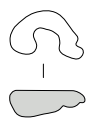
# Tavola XV



152



153



154



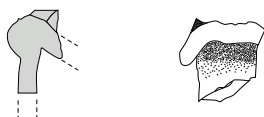
155



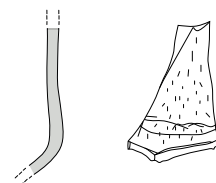
156



157



158



159



160



161



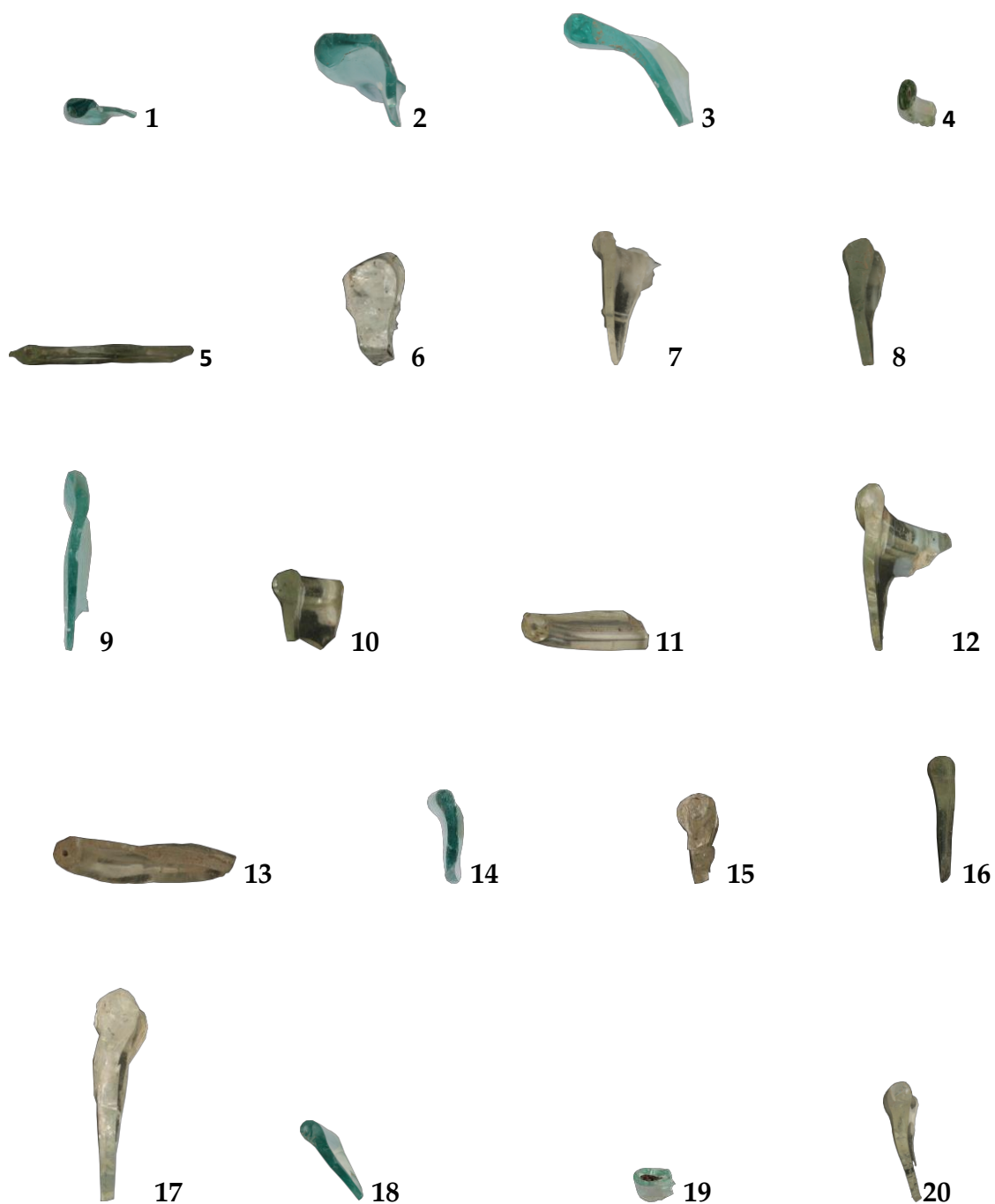
162

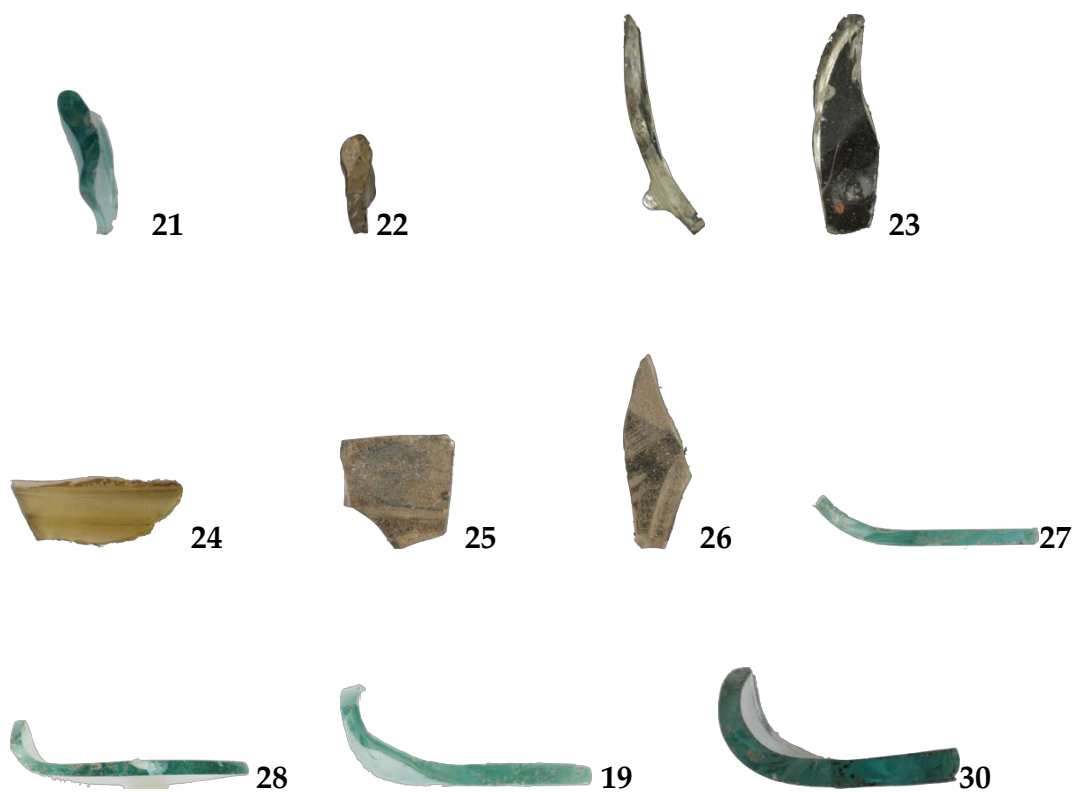


## **FOTOGRAFIE**

**Le fotografie sono state mantenute in scala 1:1**

## COPPE





## PIATTI



## OLLE



## ALABASTRON



37

## ARYBALLOI



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## BROCCE



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## BOTTIGLIE



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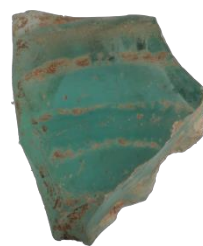
54



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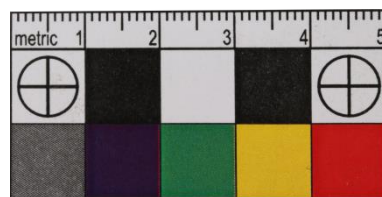


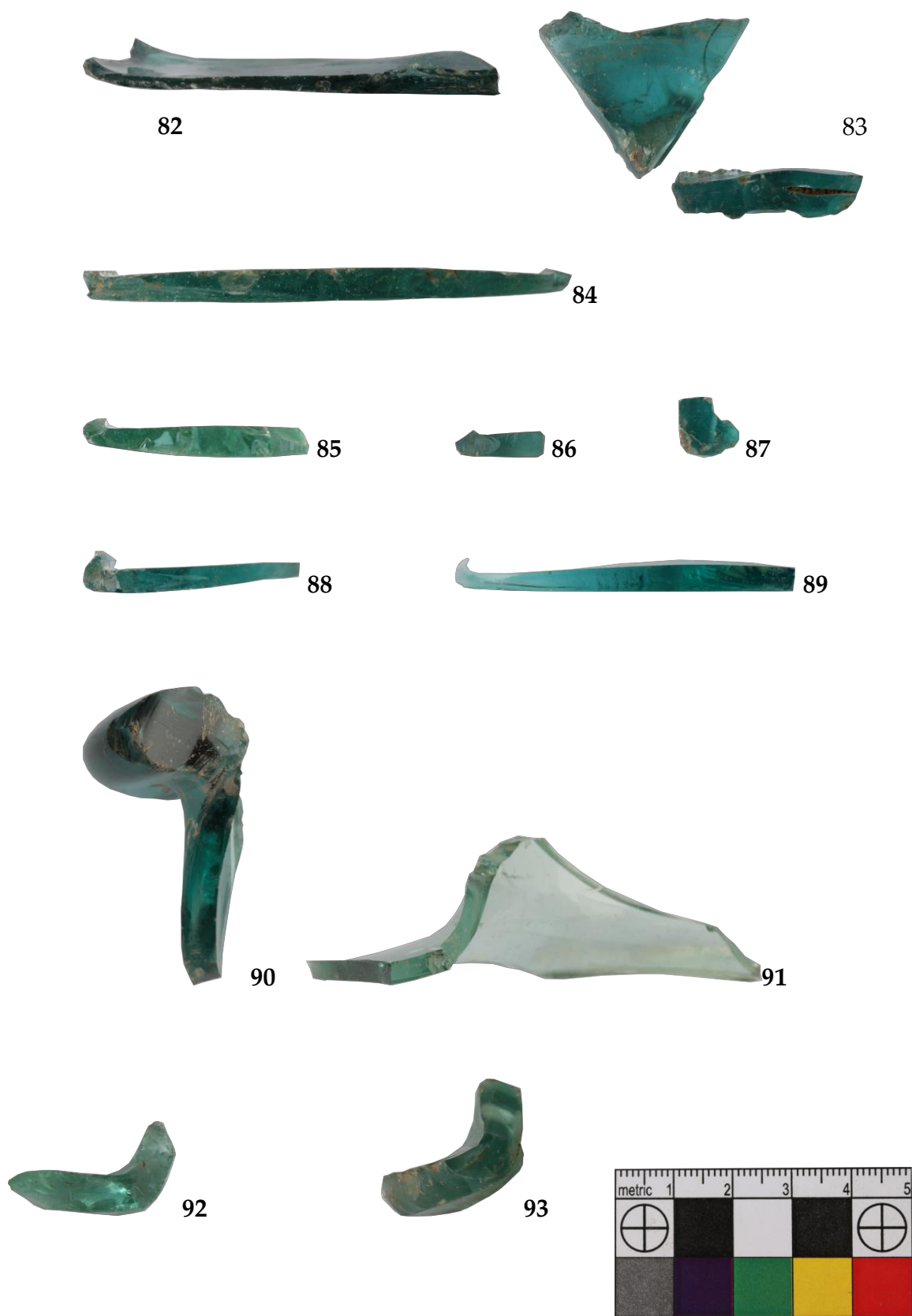
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Photographs: Silvia Pillon, Courtesy of Tullie House Museum & Art Gallery





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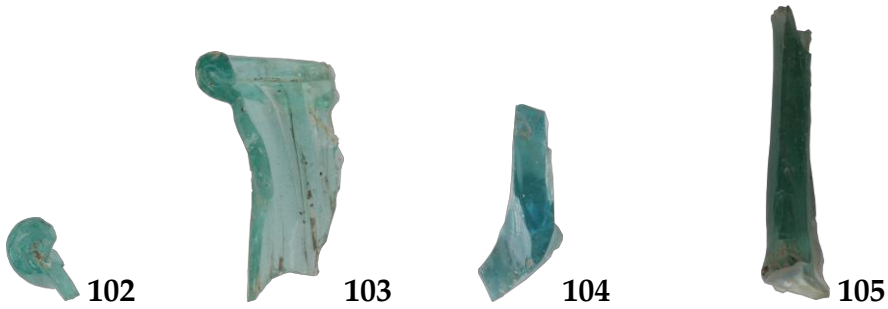






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**BALSAMARI**



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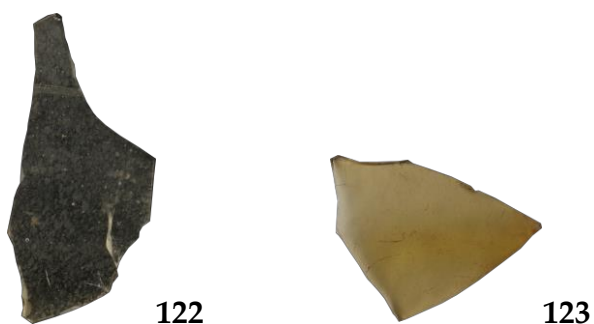
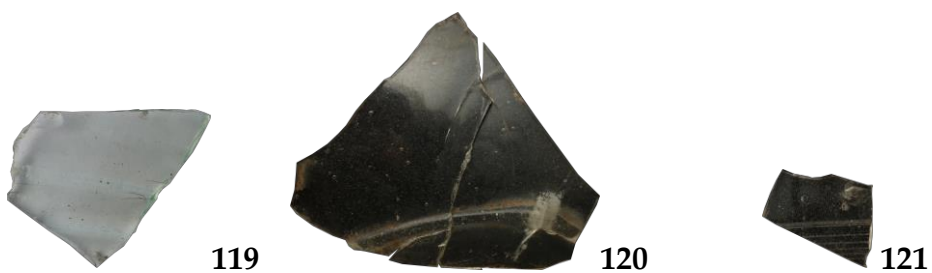


112





# PARETI CON DECORAZIONI DI FORME NON IDENTIFICATE





## Roman Glass from the fort of Old Penrith

Silvia Pillon

### Catalogue

Fragments of open forms (cups, bowls, plates, beakers and plates) are individually described and include two categories – pieces made using the free-blowing technique as well as material made with mould-blowing. Similarly, the descriptions of fragments coming from closed forms, such as pots, flasks, jugs, bottles and toilet bottles, include free-blown as well as mould-blown glass fragments. Some pieces have proven to be more numerically frequent and belong to the same typology, while others are more sporadic, as in the case of the only one *alabastron* (*ungentarium* = small glass bottle) and three *aryballoi* (bath-flasks = flask with two handles). Each item has been attempted to be dated, the reference date being that of the identified form or the paralleled examples, but where no date is offered this is because the fragment is undatable.

- 1/2. Fragments from bowl rims. Horizontally out-turned rim, fire-rounded edge and straight sides sloping slightly outwards. Translucent light-blue glass. Isings Form 42 (?), but of a later period (late 3<sup>rd</sup> century?). They are similar to the shape of the rims of one glass vessel from the late 3<sup>rd</sup> century found inside a grave at Colchester (Cool and Price 1995, fig. 6.4, no. 693, 99-100).
3. Fragment from bowl rim. Out-turned rim, fire-rounded edge. Diameter 280mm. Transparent light-blue shade. Isings Form 43 (bowl with a convex-curved body); see the 3<sup>rd</sup> century find from Colchester (Cool and Price 1995, fig.5.17, no. 618, 93).
4. Fragment from a bowl with vertical tubular rim with an edge bent in and down. Translucent light-blue/green colour. Isings Form 45 (?). Its straight side can be paralleled by 1<sup>st</sup>/2<sup>nd</sup> century artefacts from Colchester (Cool and Price 1995, fig. 6.3, nos. 660-666, 98).
- 5-16. Isings Form 85 (cylindrical cup). As a general rule, such glass drinking vessels were mainly common from the end of the 2<sup>nd</sup> to the early 3<sup>rd</sup> century as suggested by the large number of cylindrical cups found at Roman British sites (Cool and Price 1995, 83–85).
- 6/8/10/12/15/16. Colourless fragments, with rounded rims and vertical sides, which are typical features of Isings Form 85a. A large number of finds from Corbridge (Bishop and Dore 1988, fig. 132, 43), Exeter (Allen 1991, fig. 95, no. 49, 225), York (Harden 1962, fig. 88, no. H.G.202.6, 138; Cool *et al.* 1995, fig. 740, 1572), including York Minster (Price 1995, fig. 144, 51-52) and Blake Street (Cool *et al.* 1995, fig. 740, 1572), Wallsend (Allen and Tomlin 2016, fig. 23.01, 89), Chichester (Charlesworth 1978, fig. 10.22, no. 20, 268), Colchester (Price and Cottam 1998, fig. 37, 99-101; Cool and Price 1998, fig. 54, 109) and Castleford (Cool and Price 1995, fig. 5.12, no. 487, 84; Cool and Price 1998, 148) can be compared to this variant.

- 7/9/14. Fragments from slightly out-turned rims, with fire-rounded edges and vertical sides. Cf. Isings Form 85b. No decoration, except for the horizontal trail on the upper body of vessel 7 which is colourless. 9 and 14 are translucent light blue glass.
- 5/11/13. Fragments from tubular-base rings. Due to their size, none of these fragments is sufficiently diagnostic to enable identification with Isings Form 85a or Isings Form 85b, but they still have some of the features of Isings Form 85. They can be paralleled by similar finds from Corbridge (Bishop and Dore 1988, fig. 132, 42-45) and Castleford (Cool and Price 1995, fig. 5.12, nos. 466-518-520, 84) as well as southern England sites, such as Colchester (Cool and Price 1998, fig. 58, 167) and Chichester (Price and Cottam 1998, fig. 38a, 102). 5 is light green; 11 and 13 are colourless.
17. Fragment from a vertical rim. Fire-rounded edges, with a straight side slightly enlarged under the rim. Colourless glass. Most likely to be from Isings Form 85 (cylindrical cup), but it is impossible to identify its exact form due to its small size. A cylindrical cup found at Castleford (Cool and Price 1998, fig. 58, no. 207, 167) suggests similarity in structure. Probably earlier than the first half of the 3<sup>rd</sup> century when colourless cylindrical cups were supplanted by a hemispherical form with pinched-up blobs or lugs which became one of the most popular types of drinking glassware during the first half of the 3<sup>rd</sup> century (Cool and Price 1998, 148).
18. Fragment from beaker, cup or bowl rim. Fire-thickened edge, straight side sloping inward. Colourless glass. It can be paralleled by fragments of 4<sup>th</sup> century cups or beakers from Colchester (Cool and Price 1995, fig. 5.17, no. 622, 93) that have been found in late contexts. Various forms of beakers, cups or bowls without turned fire-rounded rims were in use throughout the Roman Empire during the 4<sup>th</sup> century (Cool and Price 1995, 92).
19. Fragment from a tubular rim. Horizontally bent out, fire-rounded and flattened edge. Transparent light-blue glass. As only the tubular rim has been preserved, it is not possible to identify the exact form of the vessel; it might belong either to bowl Isings Form 42 or Isings Form 44/45. Similar bowls at Exeter date to the late 1<sup>st</sup> to early 2<sup>nd</sup> century (Allen 1991, fig. 94.19, 223), Colchester (Cool and Price 1995, fig. 6.3, no. 682, 98) and York Minster (Price 1995, fig. 64, 362).
20. Fragment from the rims of deeper bowls or shallow plates. Fire-thickened edge, slightly convex-curved body that slopes shallowly inwards. Colourless glass. See shallow plates and bowls from Colchester (Cool and Price 1995, fig. 6.7, 104), but as stated by Cool and Price (1995, 103), fragmentary rims of this kind were predominantly in use from the 1<sup>st</sup> to the 3<sup>rd</sup> century, but they are not frequently found on Roman-British archaeological sites, making it challenging to pinpoint their specific vessel form.

21. Fragment from cup rim. Out-turned, fire-rounded edge and a slightly convex-curved side sloping in, with a base that is likely either slightly concave or thick and flat. Translucent light-blue glass. See Price and Cottam 1998, fig. 45b form, 112 (end of the 2<sup>nd</sup> century, but more popular in the 3<sup>rd</sup> century) and pieces of a bowl with no decorations, i.e. a funerary equipment in a tomb, from Colchester (Cool and Price 1995, fig. 5.14, 87). Other similar finds, though featuring decorated sides, are attested in the sites of Black Street in York (Cool *et al.* 1995, fig. 742, no. 6001, 6015-6, 1574; middle of the 3<sup>rd</sup> century) and York Minster (Price 1995, no. 60, fig. 144, 363; late 2<sup>nd</sup> century and into the 3<sup>rd</sup>).
22. Fragment from vertical rim. Fire-rounded, thickened edge. Colourless glass. See Price and Cottam 1998, fig. 39, 104, a convex cup or beaker with trails from the 2<sup>nd</sup> century. Cups or beakers forms of this kind were not so common in Roman Britain, but they were in use especially during the 2<sup>nd</sup> century.
23. Fragment from a small whitish colourless side with decoration remains, a pinched wart. Non-identifiable form, but similar to a fragment of a hemispherical cup from Colchester (Cool and Price 1995, fig. 5.14, no. 543, 87), which shows a very similar decoration on its lower body and probably dates to a later period. Hemispherical cups could be plain or with pinched-up decorations and were very common during the mid-3<sup>rd</sup> century, but in Britain pinched-up decorations were not used beyond the end of the 3<sup>rd</sup> century (Cool and Price 1995, 86-87).
24. Body fragment (side) in yellowish glass. Two wheel-cut lines on the surface below what seems to be the edge of a rim may suggest it comes from a convex cup or beaker with trails (see Price and Cottam 1998, fig. 39, 103-104). Containers of this kind were in use during the 2<sup>nd</sup> century.
25. Fragment from a colourless cup or beaker with facet-cut sides on which a half-oval bezel lies horizontally and two thin abraded bands run parallel to it. This is a Rhenish decoration that typically occurred during the 3<sup>rd</sup> century, being ‘descendants of the fine Mediterranean facet-work of the 1<sup>st</sup> and 2<sup>nd</sup> centuries’ (Harden, 1962, 137). The disposition of decorative elements of this fragment finds a perfect match with a hemispherical cup at York (Harden 1962, HG. 205.1, 138).
26. Fragment of a cup or beaker with a colourless decorated side, but on its surface there is only the end part of a wheel-cut line and two incisions left. Decorations of this kind were typical of cylindrical bowls or beakers found at Wallsend (Allen and Tomlin 2016, 89; late 2<sup>nd</sup> and 3<sup>rd</sup> centuries), Castleford (Cool and Price 1998, 158, 160, 163) and Colchester (Cool and Price 1995, fig. 5.8, 78; 2<sup>nd</sup> century).
27. It is reasonable to identify this as a part of a lower side of a small cylindrical bowl or cup with a

flat base, because it can be paralleled by a bowl from York Minster (Price 1995, fig. 143, no. 32, 358-9) in terms of thickness of the glass and the angle of its base ( $> 90$ ). It probably dates to the 2<sup>nd</sup> century (Price 1995, 349). Pale blue/green glass.

- 28/29. Owing to their small size, their base diameter is not measurable, but the profile and thinness suggests that they could be considered more cups or beakers than square bottles. Light blue in colour. Cf. cups from Wallsend (Allen and Tomlin 2016, fig. 23.01, no. 25-27, 89), York (Cool *et al.* 1995, fig. 740, no. 5953, 1572.) and Exeter (Allen 1991, fig. 94, no. 20, 223). Although these parallels fall into the category of bowls, beaker or cups forms that were typical of the 2<sup>nd</sup> and 3<sup>rd</sup> centuries, wheel-cut beakers became increasingly common in the middle third of the 2<sup>nd</sup> century, coinciding with a diverse range of body shapes and base forms (Cool *et al.* 1995, 1573).
30. Fragment from a translucent pale green flat base with a vertical side, not decorated, probably belonging to a cylindrical bowl or beaker from the 2<sup>nd</sup> century, but due to its condition the diameter is undetermined. Cf. finds from Wallsend (Allen and Tomlin 2016, fig. 23.01 no. 25, 89) and York (Cool *et al.* 1995, fig. 740, no. 5953, 1572).
31. Fragment from small-ribbed coils imitating handles. Light-blue glass, crossed horizontally by three black lines and a few black dots of different size. These two details suggest that the glass was reused, indicating the low quality of the material. They could have come from 3<sup>rd</sup> century bowls of Isings Form 43.
32. As 31 but showing twelve vertical ribs, dark brown-greenish glass.
33. Fragment from vertical rim with a fire-rounded edge with a diameter of 210mm. Translucent dark brown glass. As only a small fragment has been preserved complete reconstruction of its profile is impossible, though there are two possibilities. Its large diameter suggests that it could be a plate (Isings Form 47) or a bowl (Isings 3a or Isings 3c). Isings Form 47 was in use from the 1<sup>st</sup> to the 3<sup>rd</sup> centuries but was not common (Isings 1957, 62). Isings Form 3c had its origins during the Claudian period (41-54) but there is not enough evidence to date the fragment definitely within this timeline. However, some examples of this type (Isings Form 3c) recovered at Colchester were dated between the 2<sup>nd</sup> and the 4<sup>th</sup> centuries (Cool and Price 1995, 18). Considering such late dating, the fragment might fall into the same category as Isings Form 3c, and therefore possibly dating to late in the fort occupation.
34. Fragment from a dish with a hollow ring base in a translucent light-blue shade. Diameter of 220mm. Isings Form 48 (?), a cylindrical dish. Cf. Colchester, dated to the 1<sup>st</sup> century (Cool and Price 1995, fig. 6.6, 102).
35. Fragment from slightly turned outward rim with a fire-rounded edge, in a transparent light blue glass, too small to securely identify, but cf. rim fragment of a jar or beaker found at Colchester, in a context dated between 150–325 (Cool and Price 1995, fig. 7.7, no. 830, 114).

36. Fragment from a slightly out-bent rim with a fire-rounded edge, translucent light-blue colour, from a jar with a fire-rounded rim edge, funnel mouth and convex body (Price and Cottam 1998, fig. 62b form, 143-144; late 1<sup>st</sup> and 2<sup>nd</sup> centuries). [This is the base of a blown vessel. Ed.]
37. Fragment from a small concave core-formed base with a pontil scar, pale blue glass – possibly a *alabastron* (*ungentarium*), see Grose 1989, fig. III:4, 132 (mid-2<sup>nd</sup> to first decade of 1<sup>st</sup> century).
38. Fragment from a bath-bottle (Isings Form 61) with bent-out flattened rim and a short cylindrical neck. Light blue glass, also naturally clear. Probably late in date; cf. Colchester (Cool and Price 1995, fig. 9.9, no. 1192, 158, date: 230-300).
39. Fragments from a bath-bottle with a small flat base and globular body, translucent light-blue glass. Cf. Colchester (Price and Cottam 1998, fig. 58, 189-190; 1<sup>st</sup> century to mid-3<sup>rd</sup> century).
40. Only the bottle neck survives. Three features – the vertical, the cylindrical form of the bottle neck as well as the attachment point of the handle to the base, unusually different from those of other closed shapes of this kind, might suggest that this is a bath-flask (see dolphin-eyelet handle of an example from the 2<sup>nd</sup> or 3<sup>rd</sup> century found at Chichester: Down 1978, fig. 10.23, no. 38, 271).
41. The upper attachment of a handle joined to the neck of a jug or below its rim in translucent light blue glass. See stump of an upper attachment on the neck of a small late Roman globular jug found at Colchester (Cool and Price 1995, fig. 8.12, no. 1164, 147).
42. Fragment from a narrow angular ribbon handle with pronounced side ribs, colourless glass. Cf. similar fragments from Colchester that were typical 4<sup>th</sup> century forms (Cool and Price 1995, fig. 8.10, no. 1081-1085-1160-1161, 145-146).
43. Fragment from a brown greenish side, with prominent narrow spiral ribs, a jug, either Isings Form 52b or Isings Form 120/121. See two different globular jugs from Colchester: a globular or ovoid jug Isings Form 52b (Cool and Price 1995, fig. 8.5, no. 9.16, 127) and a globular or ovoid jug Isings Form 120/121 with a funnel mouth (Cool and Price 1995, 134; Price and Cottam 1998, 163-165). As Cool and Price (1995, 134) point out about jug Isings Forms 120 and 121, ‘... on the 4<sup>th</sup> century examples a thick trail below the rim edge is almost invariable (often combined with a thinner spiral)’. By contrast, jug Isings Form 52 was a very popular vessel in Roman Britain during the later 1<sup>st</sup> century and earlier 2<sup>nd</sup> century (Cool and Price 1995, 121).
- 44/45. Fragments from bent-out flattened rims with fire-rounded edges, from a mercury bottle (possibly Isings Form 84). Similar mercury bottles first appeared in the 1<sup>st</sup> century but are attested during the 2<sup>nd</sup> and 3<sup>rd</sup> centuries too, as indicated by an artefact found at Chester (Isings 1957, 100).
- 46-48. Fragments from bent-out, up, in flattened bottle rims. 46 is translucent dark green glass, 60mm diameter. 47 is light blue, 37mm diameter. 48 is also light blue, 37mm diameter. Probably Isings



Form 50/51. Cf. York (Cool *et al.* 1995, fig. 745, no. 6239, 1579; later 3<sup>rd</sup> and 4<sup>th</sup> centuries); Cool *et al.* 1995, fig. 746, nos. 6117-8, 1581; 1<sup>st</sup> to 3<sup>rd</sup> centuries) and Colchester (Cool and Price 1995, fig. 11.7, no. 1847, 192). They are all small bottles, which makes it possible to infer their intended use.

- 49-56. Fragments from bottle handles, probably Isings Form 50/51. All translucent light blue glass. Only 49 retains the vertical section of a reeded handle with simple lower attachment and upper attachment joined to its neck. 50/51/53/56 are parts of the lower attachment on what seems to be the horizontal or curving shoulder of a bottle. 52 is also part of a lower attachment, but no trace of any horizontal or curving shoulder. 54 is a fragment from a simple vertical handle with a simple lower attachment, a folded upper attachment joined to the neck. 55 is a fragment from a reeded handle that includes the upper attachment to the neck.
- 57-89. Fragments from bottle bases, showing concentric circular mouldings in low relief. They belong to different types of square bottles, ranging from Isings Form 50 to Isings Form 51, or rectangular-base bottle Isings Form 90.
- 64/68/69/70/71/73/75/78/79/80/81/82/84/85/86/87/88/89. 18 fragments from flat bases, with no decorations. Colours range from dark to light blue, with blue/green and green/blue shades.
- 57/58/59/60/61/62/65/66/67/72/74/76/77/83. 14 fragments from bases characterized by geometric embossed decorations in the shape of concentric circles.
63. Fragment of a base provided with a pattern on the external surface that was a functional feature to the stability of the bottle, as was the case with metallic containers (Roffia 1993, 149-151; Romagnolo 2013, 473). A more detailed analysis of this fragment is not possible due to its severe state of deterioration.
90. Fragment from a rim section that can be precisely attributed to Isings Form 51 thanks to the presence of two elements, its horizontal tubular rim with a flattened edge bent out, up, in and its wide cylindrical neck (cf. Cool and Price 1998, fig. 63, 176).
- 91-94. Fragments that might belong to Isings Form 51, but their identification is less secure due to their small size.
- 95-98. Fragments from simple flat side-base bottles with no decoration, possibly from square bottles (Isings Form 50); light blue in colour.
- 99-100. Fragments from bottle rims (eg. Isings Form 90); translucent blue/green.
101. Fragment from a bottle base, probably rectangular bottles (Isings Form 90); translucent blue/green. Cf. a similar find from Colchester (Cool and Price 1995, fig. 11.10, no. 2163, 196; in a 4<sup>th</sup> century context but 1<sup>st</sup> to 2<sup>nd</sup> century in date. Standing out decoration: two lines that outline a lozenge shape.

102. Small part of an out-turned, rolled-in rim with a bent out, up, in, flattened edge, in pale blue colour. Possibly related to candlestick *unguentaria* of Isings Form 82. Cf. finds from Colchester (Cool and Price 1995, fig 9.15, no. 1324, 166), where this rim type appeared on jugs and flasks of both early and late date.
103. Part of a bent-out rim, with a rolled-in edge and a cylindrical neck. This type of rim was popular on unguent bottles dating between 170 and 300 (Allen 1998, 41). Probably related to an *unguentarium* with a rounded base of Isings Form 83; cf. 1<sup>st</sup> to 3<sup>rd</sup> century container from Castleford (Cool and Price 1998, fig. 59, no. 230-231, 168) and a 4<sup>th</sup> century example from York (Harden 1962, fig. 89, no. HG 9, 140).
104. Part of a transparent *unguentarium* neck. Cf. plain unguent bottles of Isings Form 26a; for its shoulder angle see 3<sup>rd</sup> to 4<sup>th</sup> century oil flask found at York (Harden 1962, fig.88, no. H 103.1. H 139).
105. Fragment from a cylindrical neck, but difficult to identify precisely due to its reduced size; probably an unguent bottle.
106. Fragment from a flat base with a smooth thin globular side; pale blue. Cf. 1<sup>st</sup> to 2<sup>nd</sup> century unguent bottles from York (Harden 1962, 137).
107. Fragment from a slightly concave base of unknown diameter; pale blue. It could come from a closed shape such as a toilet bottle for oils, ointments and other liquids, like a similar fragment from the later 1st to 2nd centuries found at Corbridge (Bishop and Dore 1988, no. 23, 290). It could also belong to a conical beaker (Isings Form 96 or 106), which was common during the 4<sup>th</sup> century, as testified by finds from York Minster (Price 1995, fig. 143, no. 38, 359).
- 108-115. Fragments from necks that probably come from a closed shape. Although the cylindrical profile of the items can be reconstructed, it is still hard to identify the vessel form. 115 stands out thanks to four diagonal lines as decorations on its external surface. A constriction can be observed where the missing base of its neck should be.
116. Fragment from an unidentified form but with remarkable and unique decoration. Part of a side in transparent light bluish glass with three ribs on it, likely to have come from a straight-sided conical or cylindrical beaker; cf. Castleford (Cool and Price 1998, fig. 56, no. 159, 163) and Colchester (Cool and Price 1995, fig. 5.6, no. 410, 74; Niblett 1985, fig. 82.84, 140). Vessels adorned with ground ribs were rather expensive everyday items, in use from the late 1<sup>st</sup> century until the early part of the second half of the 2<sup>nd</sup> century (Cool and Price 1995, 74; Cool and Price 1998, 146).
- 119/123. Fragments either from a globular jug (Isings Form 52) or a less common convex cup or beaker with trails in use in the 2<sup>nd</sup> century (Price and Cottam 1998, fig.39 103-104). 123

is made of translucent yellowish glass and it can be paralleled by a fragment from Castleford (Cool and Price 1998, fig. 53, no. 57, 155-157) in terms of decoration and shade of colour in use during the late 1st to mid-2nd century (Cool and Price 1998, 144).

117-118/120-122/124-127. Body fragments with decoration. Due to their size and state of preservation they cannot be identified to an Isings type. Exact parallels are not possible either. 117/118 have wheel cut decorations, but they differ in the glass colour: 117 is in a green/light blue shade, 118 is colourless. 120,/121/122 are all colourless, but they have different types of decorations; 120 has one narrow rib, fragments 121/122 have wheel cut lines. 125/126/127 are colourless and characterised by horizontal wheel incised lines. 124 is in a light blue shade and has an optical horizontal ribbed trail.

128-134/136-153/155-161. These are all body fragments without decoration. They seem to be rims (128/129/131/132/133/134/136/138/139/141/142/143/144/145/146/148/149/150/153/156, 158/161), bases (137/138/139/151/152/155/157), handles (140/147/160), necks (130/159). Due to their size and state of preservation they cannot be related to an Isings type, but they could be assigned to a broad vessel form. 128/150 might have come from bowls, 129 from a jug, 130/136/137/140/147/148/152/159/160 from toilet bottles, 131/133/138/139/141/143/153 from cups, 132/134/144/146/151/155/156/158/161 from bottles, 142/149 from beakers, 145 from a spout. 157 looks like a base from a cup or a toilet bottle. It is difficult to find any suitable parallels with other fragments from the main Romano-British archaeological sites.

135/154/162-391. These pieces are not diagnostic (154 looks like a bead; 162 production waste).

Table 1: a concordance of the catalogue number, vessel form, date and context

Inventory Number	Vessel Form	Dating of the fragments	Context Unit
1 - 2	Isings Form 42 (?)	late 3 <sup>rd</sup> (?)	US450, US320
3	Isings Form 43	3 <sup>rd</sup> century	US783
4	Isings Form 45 (?)	1 <sup>st</sup> - 2 <sup>nd</sup> centuries	US1038
5, 11, 13	Isings Form 85a/ 85b	end of the 2 <sup>nd</sup> - early 3 <sup>rd</sup> centuries	US494, US290, US130

<b>6, 8, 10, 12, 15, 16</b>	Isings Form 85a	end of the 2 <sup>nd</sup> - early 3 <sup>rd</sup> centuries	US1038, US 135, US290, US1552, US 551, US1506
<b>7, 9, 14, 11</b>	Isings Form 85b	end of the 2 <sup>nd</sup> - early 3 <sup>rd</sup> centuries	US2028, US1490, US1462, US290
<b>17</b>	Isings Form 85 (?)	earlier than the first half of the 3 <sup>rd</sup> century (?)	US2105
<b>18</b>	Cup or beaker (cf. Cool Price 1995, fig. 5.17, no. 622) (?)	4 <sup>th</sup> century	US 5
<b>19</b>	Isings Form 42/ 44/ 45	later 1 <sup>st</sup> - early 2 <sup>nd</sup> centuries	US1033
<b>20</b>	Deeper bowl or shallow plate (cf. Cool & Price 1995, fig. 6.7, 104)	1 <sup>st</sup> - 3 <sup>rd</sup> centuries	US1709
<b>21</b>	Convex cup with out-turned fire-rounded rim (cf. Price & Cottam 1998, fig.45b)	late 2 <sup>nd</sup> - 3 <sup>rd</sup> centuries	US1439
<b>22</b>	Convex cup or beaker with trails (cf. Price & Cottam 1998, fig.39)	2 <sup>nd</sup> century	US417
<b>23</b>	Hemispherical cup (cf. Cool & Price 1995, fig. 5.14, no. 543)	mid to late 3 <sup>rd</sup> century	US476
<b>24</b>	Convex cup or beaker with trails (Price and Cottam 1998, fig. 39, 103-104)	2 <sup>nd</sup> century	US2005
<b>25</b>	Cups or beakers with facet-cut sides (Harden 1962, HG. 205.1, 138)	3 <sup>rd</sup> century	US1436
<b>26</b>	Cup or beaker with a wheel-cut line and incisions (cf. Allen and Tomlin 2016, 89; Cool and Price 1998, 158, 160, 163; Cool and Price 1995, fig. 5.8, 78)	later 2 <sup>nd</sup> - 3 <sup>rd</sup> centuries	US1436
<b>27</b>	Cylindrical bowl or cup (cf. Price 1995, fig. 143.32)	2 <sup>nd</sup> century	US624

<b>28, 29</b>	Wheel-cut bowls, beakers or cups (see Allen and Tomlin 2016, fig. 23.01, no. 25-27, 89; Cool <i>et al.</i> 1995, fig. 740, no. 5953, 1572; Allen 1991, fig. 94, no. 20, 223)	2 <sup>nd</sup> - 3 <sup>rd</sup> centuries	US135, US135
<b>30</b>	Cylindrical bowl or beaker (cf. Allen and Tomlin 2016, fig. 23.01 no. 25, 89; Cool <i>et al.</i> 1995, fig. 740, no. 5953, 1572)	2 <sup>nd</sup> century	US2288
<b>31, 32</b>	Isings Form 43 (?)	3 <sup>rd</sup> century (?)	US1822, US415
<b>33</b>	Isings Form 47/ 3c	1 <sup>nd</sup> - 4 <sup>th</sup> centuries	US133
<b>34</b>	Isings Form 48 (cf. Cool and Price 1995, fig. 6.6, 102).	1 <sup>st</sup> century	US1238
<b>35</b>	Jar or beaker (cf. Cool and Price 1995, fig. 7.7, no. 830, 114)	mid-2 <sup>nd</sup> - early 4 <sup>th</sup> centuries (?)	US133
<b>36</b>	Convex jar with out-turned rim (Price & Cottam 1998, fig.62b)	later 1 <sup>st</sup> - 2 <sup>nd</sup> centuries	US133
<b>37</b>	Concave core-formed base (alabastron? – see Grose 1989, fig. III:4)	1 <sup>st</sup> decade of 1 <sup>st</sup> century (?)	US157
<b>38</b>	Isings Form 61 ( <i>aryballos</i> cf. Cool and Price 1995, fig. 9.9, no. 1192, 158)	3 <sup>rd</sup> -4 <sup>th</sup> centuries	US178
<b>39</b>	Bath bottle with globular body ( <i>aryballos</i> , cf. Price and Cottam 1998, fig. 58, 189-190)	1 <sup>st</sup> - mid 3 <sup>rd</sup> centuries	US788
<b>40</b>	Bottle neck ( <i>aryballos</i> , Down 1978, fig. 10.23, no. 38, 271)	2 <sup>nd</sup> - 3 <sup>rd</sup> centuries	US2105
<b>41, 42</b>	Jug handles	4 <sup>th</sup> century	US1705, US1705
<b>43</b>	Isings Form 52b/ 120/ 121	later 1 <sup>st</sup> - earlier 2 <sup>nd</sup> centuries or 4 <sup>th</sup> century	US659
<b>44, 45</b>	Isings Form 84 (?)	1 <sup>st</sup> - 3 <sup>rd</sup> centuries	US2005, US381
<b>46-56</b>	Isings Form 50/ 51	1 <sup>st</sup> - 4 <sup>th</sup> centuries	US532, US2105, US1305, US421, US1740, US1427, US1701, US1283, US1521, US423, US1413

<b>57-89</b>	Isings Form 50 / 51/ 90	1 <sup>st</sup> - 4 <sup>th</sup> centuries (?)	US4, US1701, US2299, US213, US130, US285, US2150, US2373, US1705, US1722, US1705, US2131, US1722, US1461, US2318, US132, US752, US1722, US132, US242, US753, US1405, US213, US135, US135, US1473, U/S, U/S, US204, US1065, US9, US242, US153, US1740, US135, US1216, US133
<b>90</b>	Isings Form 51	1 <sup>st</sup> - 4 <sup>th</sup> centuries	US1460
<b>91-94</b>	Isings Form 51 (?)	1 <sup>st</sup> - 4 <sup>th</sup> centuries (?)	US2110, US204, US1401, US471,
<b>95-98</b>	Isings Form 50 (?)	1 <sup>st</sup> - 4 <sup>th</sup> centuries (?)	US1740, US135, US1216, US133
<b>99-100</b>	Isings Form 90	4 <sup>th</sup> century	US1032, US2291
<b>101</b>	Isings Form 90 (cf. Cool & Price 1995, fig. 11.10, no. 2163)	4 <sup>th</sup> century	US493
<b>102</b>	Isings Form 82	1 <sup>st</sup> -3 <sup>rd</sup> centuries	US1033
<b>103</b>	Isings Form 83 (cf. Cool and Price 1998, fig. 59, no. 230-231, 168; Harden 1962, fig. 89, no. HG 9, 140)	1 <sup>st</sup> -3 <sup>rd</sup> centuries or 4 <sup>th</sup> -century	US1466
<b>104</b>	Isings Form 26a (see Harden 1962, fig.88, no. H 103.1. H, 139)	3 <sup>rd</sup> -4 <sup>th</sup> centuries (?)	US422
<b>105</b>	Neck	Undatable	US1705
<b>106</b>	Unguent bottle (cf. Harden 1962, 137)	1 <sup>st</sup> - 2 <sup>nd</sup> centuries	US2393
<b>107</b>	toilet bottle (cf. Bishop and Dore 1988, no. 23, 290) or conical beaker Isings Form 96/106 (cf. Price 1995, fig. 143, no. 38, 359)	later 1 <sup>st</sup> - 2 <sup>nd</sup> centuries or 4 <sup>th</sup> century	US135
<b>108-115</b>	Neck (from closed shape)?	Undatable	US1401, US217, US320, US1803, US307, US132, U/S, US1722

<b>116</b>	Body fragment with ribbed decorations (straight-sided conical or cylindrical beaker? – cf. Cool and Price 1998, fig. 56, no. 159, 163; Cool and Price 1995, fig. 5.6, no. 410, 74; Niblett 1985, fig. 82.84, 140)	late 1 <sup>st</sup> century - early part of the second half of the 2 <sup>nd</sup> century (?)	US2107
<b>119</b>	Isings 52 or Price and Cottam 1998, fig.39, 103-4 (convex cup or beaker with trails)	2 <sup>nd</sup> century	US2320
<b>123</b>	Isings Form 52 or Price and Cottam 1998, fig.39, 103-4 (convex cup or beaker with trails) or Cool and Price 1998, fig. 53, no. 57, 155-7	late 1 <sup>st</sup> - mid 2 <sup>nd</sup> centuries	US605
<b>117-118/120-122/124-127</b>	Body fragments with decoration	–	US1500, US1740, US1477, US9, US 1708, US2347, US1740, US 307, US 307
<b>128-134/136-153/155-161</b>	Body fragments without decoration	–	US582, US1705, US1705, US161, US1190, US1231, US2381, US135, US473, US130, US412, US1739, US1401, US136, US475, US2274, US162, US132, US141, US391, US835, US1032, US135, US1427, US130, US391, US2032, US130, US1032, US2274, US130, US1401

Source: own elaboration

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