

## APPENDIX 1 - GLASS

### 1.1 Glass

*By Hilary Cool*

#### *Introduction*

- 1.1.1 This assessment deals with the 17 fragments of glass and one frit bead from ARC PHL 97 and two frit beads and 153 glass fragments from ARC NBR98. Of these, 43 items (approximately 25%) came from sieved samples.
- 1.1.2 The Fieldwork Event Aims that the material can be expected to contribute to are as follows:
- Fieldwork Event Aim 1: To establish the origins and decline of the Roman settlement.
  - Fieldwork Event Aim 3: To recover artefact assemblages (especially pottery) to elucidate the sequence of site development; provide information on trade and exchange within the local, regional and international economy, and the status and economy of the settlement.
  - Fieldwork Event Aim 4: To determine the origins and decline of urban functions within the settlement.
  - Fieldwork Event Aim 7: To establish the chronology of the cemetery.
  - Fieldwork Event Aim 8: To establish the spatial development of the cemetery as far as possible within the area of investigation.
  - Fieldwork Event Aim 9: To establish if spatial variations exist within the cemetery in relation to burial practice.
  - Fieldwork Event Aim 11: To establish the nature and distribution of structural features located within the cemetery.
  - Fieldwork Event Aim 12: To identify ancillary features associated with a specific burial practice.
  - Fieldwork Event Aim 13: To establish the nature and date of occupation pre-dating the cemetery.
  - Fieldwork Event Aim 14: To determine the nature of activity and land utilisation, other than that directly forming part of the cemetery, associated with the Roman town of Springhead.

#### *Methodology*

- 1.1.3 As the assemblage was small all the material was inspected. A basic archive catalogue following the guidelines set out by the Roman Finds Group and Finds Research Group (RFG and FRG 1993) was entered into an Excel spreadsheet. This records context, small find number (if assigned), independent date of the fragment, number of fragments, simple name and brief description of the fragments. This catalogue will provide sufficient information about the less diagnostic fragments for the full catalogue at the analysis stage, and the fragments themselves will not require further inspection.

### *Quantification*

- 1.1.4 The glass is summarised according to broad category and site in Table 3.1. Table 3.3 provides the details of each fragment.
- 1.1.5 The vessel glass includes substantial portions of two conical unguent bottles (ARC NBR98 sf 814 and 1920) of 1st-2nd century date. It may be possible to refine the date of sf 1920 when it is reconstructed. There is also a fragment of a 1st-early 3rd-century square bottle as well as undiagnostic body fragments from colourless, yellow/green, blue/green and opaque turquoise vessels. The last mentioned is a most unusual piece (sf 949). The less diagnostic fragments are most likely to be of 1st-2nd-century date, and there is no 4th-century material present.
- 1.1.6 The beads are summarised in Table 3.2. Beads can have long lives as they are often re-used. In general, however, this is an early to mid Roman assemblage. The large annular glass beads and the frit melon bead are 1st to mid 2nd century forms, while the gold-in-glass beads, the polychrome biconical beads, the pentagonal green and yellow beads, and the short biconical blue beads all start to appear in the mid 2nd century. It is in the mid 2nd century too that the globular forms start to appear with some degree of regularity.
- 1.1.7 It should be noted that although many of the beads are common forms, some are most unusual. These include the conical blue bead and the opaque red biconical beads. The yellow-lined green pentagonal beads are also an uncommon find.
- 1.1.8 The chips of glass recovered from sieving could come from either beads or vessel glass. The more strongly coloured ones are most likely to come from beads. They cannot be usefully dated.

### *Provenance*

- 1.1.9 The two conical unguent bottles were both recovered from grave fills and their contents could well have been associated with the burial ritual. The other vessel glass fragments could be accidental incorporations into grave fills.
- 1.1.10 All of the beads were found in burials. In three cases (sub-groups 10512, 10824, 11673) only a single bead was found and these could be accidental inclusions. In one cremation (sub-group 10851) and two inhumations (sub-groups 945 and 10522) groups of beads that had formed necklaces and bracelets were found, and these were clearly deliberate deposits forming part of the grave goods of the individual.

### *Conservation*

- 1.1.11 The glass is chemically stable and needs no conservation input. The current packaging is adequate for long term storage. It is not normal practice to discard Roman glass.

### *Comparative material*

- 1.1.12 The typology of Roman vessel glass is increasingly well understood and works of reference such as Cool and Price (1995) and Price and Cottam (1998) can be used to provide the appropriate national background for the vessels.

- 1.1.13 The standard work of reference on Romano-British beads (Guido 1978) will be of value in setting the bead assemblage in its national context. As this work tends to be heavily biased towards dating beads to the 4th century, the most useful *comparanda* for the Waterloo Connection will be in the few closely dated large assemblages of the 2nd and early 3rd century such those from the Fortress baths drain deposits at Caerleon (Brewer 1986) and the *vicus* at Castleford (Cool and Price 1998).
- 1.1.14 The most useful *comparanda* for both the vessels and the beads as grave goods are summarised in Philpott 1991. Amongst more recent work the eastern cemetery of London (Barber and Bowsher 2000) will be a valuable source of information, especially as it lies within the same area of Britain and was excavated and processed under similar conditions. This is especially important for small items such as beads which can be missed if sieving is not carried out.

*Potential for further work*

- 1.1.15 The potential of this assemblage can be considered from two aspects, those connected with the original Fieldwork Event Aims (see above) and new research aims suggested by the material itself.
- 1.1.16 It may be possible to refine the dating of the fragmentary conical unguent once it has been reconstructed. This will be of especial interest as it comes from a grave that is not dated by the pottery. This vessel may thus be of some value in helping to establish the chronology of the cemetery.
- 1.1.17 The difficulty of using beads as a dating tool has already been noted. However, in two graves where there is no pottery date, the groups of beads may be the best dating evidence there is. They would suggest a later 1st to mid 2nd century date for sub-group 945 and a later 2nd to earlier 3rd century date for sub-group 10851. Again therefore the beads may thus be of some value in helping to establish the chronology of the cemetery
- 1.1.18 The unguent bottles and the deliberately deposited bead necklace and bracelets will contribute, alongside the other grave goods, to the analysis of spatial variation within the cemetery.
- 1.1.19 None of the glass appears to have come from ancillary features and so it has no potential for helping to elucidate their role.
- 1.1.20 Prior to the late Roman period, it is unusual to find groups of beads which were definitely strung together to form a single ornament. The discovery of three such groups at this cemetery will therefore be of particular value to bead studies in general. Of especial interest is the necklace from sub-group 10522, a grave usefully pottery dated to the late 2nd to early 3rd century. This necklace has 109 beads of six different types. This necklace will undoubtedly be much cited as a well dated source of *comparanda* once it is published, especially as it contains rare forms not present in the only other large group of beads of that date from Caerleon.
- 1.1.21 The two groups of beads from inhumations (sub-groups 10522, 10851) both have gold-in-glass beads. When initially studied, it was suggested that the introduction of gold-in-glass beads could be associated with the dispatch of 5,500 Sarmatian

cavalry to Britain under Marcus Aurelius (Boon 1977, 200). Further discoveries since suggest that this is unlikely but gold-in-glass beads continue to be used as evidence for the presence of the Sarmatians at Antonine military establishments (eg. Britnell *et al* 1999, 84). The publication of the gold-in-glass beads from this cemetery will, it is to be hoped, expose the Sarmatian connection for the fallacy it is. Those on the necklace from sub-group 10522 will be especially useful for this as the burial is independently dated by the pottery to very early in the lifespan of the bead type.

- 1.1.22 The two conical unguent bottles and the beads will be catalogued. The other vessel fragments will be tabulated as appropriate. The material should be catalogued according to grave group in association with items of other materials where appropriate (the glass beads and the metal necklace fastener from sub-group 10522 for example) This work will be carried out after the conical unguent bottle has been reconstructed by the author.
- 1.1.23 A brief typological discussion placing the material in a chronological and regional/national context will be written. This will be done grave by grave so that the groups of beads that formed single necklaces or bracelets will be considered as single entities.
- 1.1.24 Material will be selected for illustration. It is suggested that both unguent bottles be drawn and a selection of the beads showing the different types present and the range within each type (*c.* 25-30 line drawings). It is strongly recommended that the bead groups be illustrated by colour plates in the final publication.

### *Bibliography*

#### Abbreviations

RFG & FRG 1993 Roman Find Group and Finds Research Group AD 700-1700, 1993. The guidelines for the preparation of site archives and assessments for all finds other than fired clay vessels.

#### References

Barber, B and Bowsher, D, 2000 *The Eastern Cemetery of Roman London, Excavations 1983-1990* MOLAS Monograph 4, London

Boon, G C, 1977 Gold-in-Glass beads from the Ancient World, *Britannia* 8, 193-207

Brewer, R J, 1986 The beads and glass counters, in *The legionary fortress baths at Caerleon. Volume II the finds* (Zienkiewicz, J D), Cardiff, 146-56

Britnell, J E, Cool, H E M, Davies, J L, Manning, W H and Walters, M J, 1999. Recent discoveries in the vicinity of Castell Collen Roman fort, Radnorshire, *Studia Celtica* 33, 33-90

Cool, H E M and Price, J, 1995 *Roman vessel glass from excavations in Colchester 1971-85*, Colchester Archaeol Rep 8, Colchester

Cool, H E M and Price, J, 1998 The vessels and objects of glass, in *Roman Castleford Excavations 1974-85. Volume I: the small finds* (Cool, H E M and Philo, C eds), Yorkshire Archaeology 4, Wakefield, 141-94

Guido, M, 1978 *The glass beads of the prehistoric and Roman Periods in Britain and Ireland*, Rep Res Comm Soc Antiq London **35**, London

Philpott, R 1991 *Burial Practices in Roman Britain. A survey of grave treatment and furnishing AD 43-410*, BAR Brit Ser **219**, Oxford

Price, J and Cottam, S 1998 *Romano-British glass vessels: a handbook*, CBA Practical Handbook in Archaeology **14**, York

*Table3.1: Glass recovered from the Waterloo connection*

<b>Type</b>	<b>ARC PHL97</b>	<b>ARC NBR98</b>	<b>Total</b>
Vessel fragments	6	25	31
Beads	7	123	130
	5	7	12
<b>Total</b>	18	155	173

Table 3.2: *Beads types present at ARC PHL97 and ARC NBR98*

<b>Type</b>	<b>Number</b>
Globular Green	60
Gold in glass	22
Globular Blue	20
Large annular	7
Polychrome biconical	5
Biconical red	4
Frit melon	3
Pentagonal green and yellow	3
Biconical blue	3
Conical blue	1
Cylindrical green	1
Miniscule turquoise	1
<b>Total</b>	<b>130</b>

Table 3.3: Glass by context

Context	Special number	Material	Count	Period	Date	Type	Description
<b>ARC PHL97</b>							
449	Sample 95	Glass	1			Chip	light blue
452	Sample 184	Glass	1	RO	2ndC-3rdC	Body fragment	colourless
452	Sample 184	Glass	2			Chip	colourless
452	Sample 184	Glass	1			Chip	B/G
452	Sample 184	Glass	1	RO	1stC-2ndC	Body fragment	Y/G
777	Sample 209	Glass	1			Chip	colourless
945	831	Frit	1	RO	Mid 1stC- Mid 2ndC	Bead	Melon
945	832	Glass	1	RO	Mid 1stC+	Bead	B/G annular
945	833	Glass	1	RO	Mid 1stC+	Bead	Dark Y/B annular
945	835	Glass	1	RO	Mid 1stC+	Bead	B/G annular
945	835	Glass	1	RO	Mid 1stC+	Bead	Y/G annular
945	836	Glass	1	RO	Mid 1stC+	Bead	B/G annular
945	837	Glass	1	RO	Mid 1stC+	Bead	Dark Y/B annular
1138	1652	Glass	4	RO	1stC-3rdC	Body fragment	B/G
<b>ARC NBR98</b>							
10004	88	Glass	1	RO	Mid 1stC - Early 3rdC	square bottle	shoulder fragment
10502	sample 63	Glass	1			chip	Y/G
10511	640	Frit	1	RO	Mid 1stC - Mid 2ndC	bead	melon
10521	564	Glass	3	RO		bead	op red, long biconical
10521	564	Glass	1	RO	Late 2ndC+	bead	short biconical, tr blue
10521	564	Glass	1	RO	Late 2ndC+	bead	long biconical, blue with chevron
10521	580	Glass	1	RO		bead	globular, blue
10521	581	Glass	1	RO		bead	globular, mid green
10521	582	Glass	1	RO		bead	globular, mid green
10521	583	Glass	1	RO		bead	globular, mid green
10521	584	Glass	1	RO		bead	globular, mid green
10521	585	Glass	1	RO		bead	globular, blue
10521	586	Glass	1	RO		bead	globular, blue
10521	587	Glass	1	RO		bead	globular, blue
10521	588	Glass	1	RO	Late 2ndC+	bead	gold-in-glass, fragmented
10521	589	Glass	1	RO	Late 2ndC+	bead	double gold-in-glass
10521	590	Glass	1	RO		bead	globular, blue
10521	591	Glass	1	RO		bead	globular, mid green
10521	592	Glass	1	RO	Late 2ndC+	bead	long biconical, blue with chevron
10521	593	Glass	1	RO		bead	globular, mid green
10521	594	Glass	1	RO		bead	globular, blue
10521	595	Glass	1	RO		bead	globular, mid green
10521	596	Glass	1	RO		bead	globular, mid green
10521	597	Glass	1	RO		bead	globular, blue
10521	598	Glass	1	RO		bead	globular, mid green



Context	Special number	Material	Count	Period	Date	Type	Description
10521	599	Glass	1	RO		bead	globular, mid green
10521	600	Glass	1	RO	Late 2ndC+	bead	double gold-in-glass
10521	601	Glass	1	RO		bead	globular, mid green
10521	602	Glass	1	RO		bead	globular, mid green
10521	603	Glass	1	RO		bead	globular, mid green
10521	604	Glass	1	RO	Late 2ndC+	bead	double gold-in-glass
10521	605	Glass	1	RO		bead	globular, mid green
10521	606	Glass	1	RO	Late 2ndC+	bead	single gold-in-glass
10521	607	Glass	1	RO		bead	globular, mid green
10521	608	Glass	1	RO		bead	globular, mid green
10521	609	Glass	1	RO		bead	globular, mid green; frag
10521	610	Glass	1	RO	Late 2ndC+	bead	single gold-in-glass
10521	611	Glass	1	RO		bead	globular, mid green
10521	612	Glass	1	RO		bead	globular, mid green
10521	613	Glass	1	RO		bead	globular, mid green
10521	614	Glass	1	RO		bead	globular, mid green
10521	615	Glass	1	RO		bead	globular, mid green
10521	616	Glass	1	RO		bead	globular, mid green
10521	617	Glass	1	RO	Late 2ndC+	bead	long biconical, blue with chevron
10521	618	Glass	1	RO		bead	globular, blue
10521	619	Glass	1	RO		bead	globular, mid green
10521	620	Glass	1	RO		bead	globular, mid green
10521	621	Glass	1	RO	Late 2ndC+	bead	single gold-in-glass
10521	622	Glass	1	RO		bead	globular, mid green
10521	623	Glass	1	RO		bead	globular, mid green
10521	624	Glass	1	RO	Late 2ndC+	bead	double gold-in-glass
10521	625	Glass	1	RO	Late 2ndC+	bead	long biconical, blue with chevron
10521	626	Glass	1	RO		bead	globular, mid green
10521	627	Glass	1	RO		bead	globular, mid green
10521	628	Glass	1	RO		bead	globular, mid green
10521	629	Glass	1	RO		bead	globular, mid green
10521	630	Glass	1	RO		bead	globular, mid green
10521	631	Glass	1	RO		bead	globular, mid green
10521	632	Glass	1	RO		bead	globular, mid green
10521	633	Glass	1	RO		bead	globular, mid green
10521	634	Glass	1	RO		bead	globular, mid green
10521	635	Glass	1	RO	Late 2ndC+	bead	single gold-in-glass
10521	636	Glass	1	RO		bead	globular, mid green
10521	637	Glass	1	RO		bead	globular, mid green
10521	638	Glass	1	RO		bead	globular, mid green
10521	639	Glass	1	RO	Mid 2ndC+	bead	long conical, tr blue
10521	644	Glass	1	RO	Late 2ndC+	bead	double gold-in-glass
10521	645	Glass	1	RO		bead	op red, long biconical
10521	646	Glass	1	RO		bead	globular, mid green
10521	647	Glass	1	RO		bead	globular, mid green
10521	648	Glass	1	RO		bead	globular, mid green
10521	649	Glass	1	RO	Late 2ndC+	bead	long biconical, blue with

Context	Special number	Material	Count	Period	Date	Type	Description
							chevron
10521	650	Glass	1	RO		bead	globular, mid green, fragmented
10521	651	Glass	1	RO		bead	globular, mid green
10521	652	Glass	1	RO		bead	globular, mid green
10521	653	Glass	1	RO		bead	globular, mid green
10521	654	Glass	1	RO	Late 2ndC+	bead	double gold-in-glass
10521	655	Glass	1	RO	Late 2ndC+	bead	gold-in-glass, fragmented
10521	656	Glass	1	RO		bead	globular, mid green
10521	657	Glass	1	RO		bead	globular, mid green
10521	658	Glass	1	RO	Late 2ndC+	bead	single gold-in-glass
10521	659	Glass	1	RO		bead	globular, mid green
10521	660	Glass	1	RO		bead	globular, mid green
10521	846	Glass	1	RO	Late 2ndC+	bead	single gold-in-glass
10521	sample 349	Glass	2	RO	Late 2ndC+	bead	short biconical, tr blue
10521	sample 54	Glass	9	RO		bead	globular, mid green
10521	sample 54	Glass	1	RO		bead	cylindrical wound, mid green
10521	sample 54	Glass	2	RO	Late 2ndC+	bead	double gold-in-glass
10521	sample 54	Glass	12	RO		bead	globular, trans blue
10564	sample 69	Glass	1			chip	light Y/B
10642	814	Glass	1	RO	Mid 1stC - Mid 2ndC	conical unguent bottle	B/G, lower body & base
10659	sample 117	Glass	1	RO		bead	globular, mid green
10679	sample 133	Glass	1			chip	colourless
10811	949	Glass	1	RO	1stC-3rdC	body fragment	opaque turquoise
10830	965	Glass	1	RO		bead	miniscule, turquoise
10853	994	Glass	1	RO	Late 2ndC+	bead	hexagonal, G/B ? Lined
10853	995	Glass	1	RO	Late 2ndC+	bead	hexagonal, G/B ? Lined
10853	996	Glass	1	RO	Late 2ndC+	bead	hexagonal, G/B Lined; frag
10853	997	Glass	1	RO	Late 2ndC+	bead	gold-in-glass; frag
10853	998	Glass	1	RO	Late 2ndC+	bead	gold-in-glass
10853	999	Glass	1	RO	Late 2ndC+	bead	gold-in-glass
10853	1000	Glass	1	RO	Late 2ndC+	bead	gold-in-glass
10853	1001	Glass	1	RO	Late 2ndC+	bead	gold-in-glass
10853	1002	Glass	1	RO	Late 2ndC+	bead	gold-in-glass; frag
10990	sample 184	Glass	1			chip	Colourless
11181	sample 253	Glass	1			body fragment	Colourless
11234	sample 265	Glass	1			body fragment	Colourless
11364	sample 317	Glass	1			chip	Colourless
11523	sample 349	Glass	1			chip	Colourless
11675	1488	Frit	1	RO	Mid 1stC- 2ndC	bead	Melon
11738	sample 393	Glass	1			chip	deep translucent blue
12039	1920	Glass	20	RO	Mid 1stC- 2ndC	conical unguent bottle	body & base
u/s	1428	Glass	1	RO	1stC-2ndC?	bead	annular, opaque blue

