

THE EXCAVATION OF A LATE IRON AGE/ROMAN SETTLEMENT AND IRON PRODUCTION SITE AT WHITEHALL BRICK AND TILE WORKS, ARBORFIELD GARRISON, BERKSHIRE

JO PINE

with contributions by STEVE FORD, MATTHEW GLEAVE, SHEILA HAMILTON-DYER, JOHN LETTS, MALCOLM LYNE, CHRIS SALTER AND DAVID WILLIAMS

SUMMARY

An excavation at Sheerlands Road, Arborfield, revealed evidence to suggest continuous occupation from the late Iron Age through to the mid-third century AD. The evidence, mainly pottery, suggests a low status farmstead but the large quantity of iron slag found on the site suggests that iron-smelting was also taking place. There was also some evidence of pottery manufacture.

INTRODUCTION

This report documents the archaeological excavation carried out in advance of house building at Whitehall Brick and Tile Works, Sheerlands Road, Arborfield Garrison, Berkshire (Fig 1a and b). An earlier desk-based assessment (Hall 1996) had recommended that a field evaluation be carried out on the site prior to development. The evaluation took place in 1998 (Pine 1998) and provided evidence of Roman occupation in the north-east of the proposal area. The evidence took the form of ditches, gullies, postholes and a possible working hollow (Fig 1c). These preliminary findings illustrated the archaeological significance of the area and a proposal was therefore prepared for an excavation.

A small number of archaeological sites are included in the Sites and Monuments Record for the near vicinity. The closest is a probable late Iron Age to early Roman settlement, discovered in 1934, approximately 500m to the south-east. The full extent of this settlement is not known, although it did not appear to extend further to the south-east as an evaluation in that area did not reveal archaeological features, just a single sherd of Roman pottery and two flint flakes (Ford 1989). Two areas of crop marks are known to exist close to the Whitehall Brick and

Tile Works. Those closest are indistinct and have not been investigated or dated. Probably of relevance to the findings of this excavation are a number of mounds of iron slag in the general area of the site (Ford 1987, fig 38). These features are unexcavated and undated but indicate iron production in the area.

THE SITE

The site is located to the west of Sheerlands Road (SU 7645 6525) (Fig 1b and c). At the time of the excavation the area was open grassland; the remaining land of the old Brick and Tile Works was in the process of being redeveloped. The ground was relatively flat, at 59m above Ordnance Datum. The underlying geology is London Clay (BGS 1946).

DESCRIPTION OF THE EXCAVATION

A single excavation area was opened (Fig 2), totalling 1620sq m. The area was stripped using a 360 degree excavator, fitted with a toothless bucket, under direct and continuous archaeological supervision. Numerous ditches, gullies, and a smaller number of pits and postholes were recorded. All archaeological features observed were examined. A minimum of 10% of linear features (ditches and gullies)

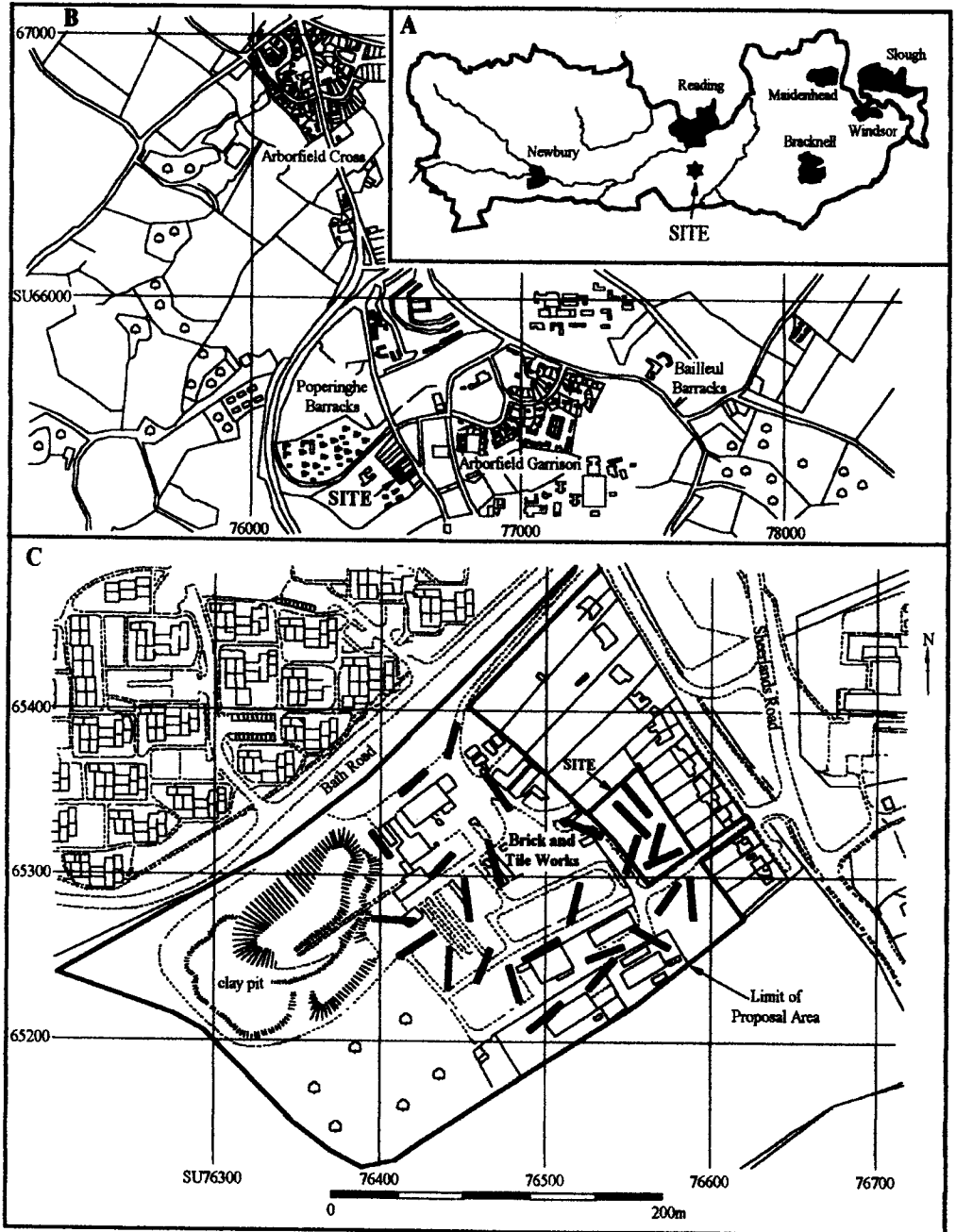


Figure 1. A: location of site within county, B: location of site in relation to Arborfield C: plan of site showing evaluation trenches and excavated area

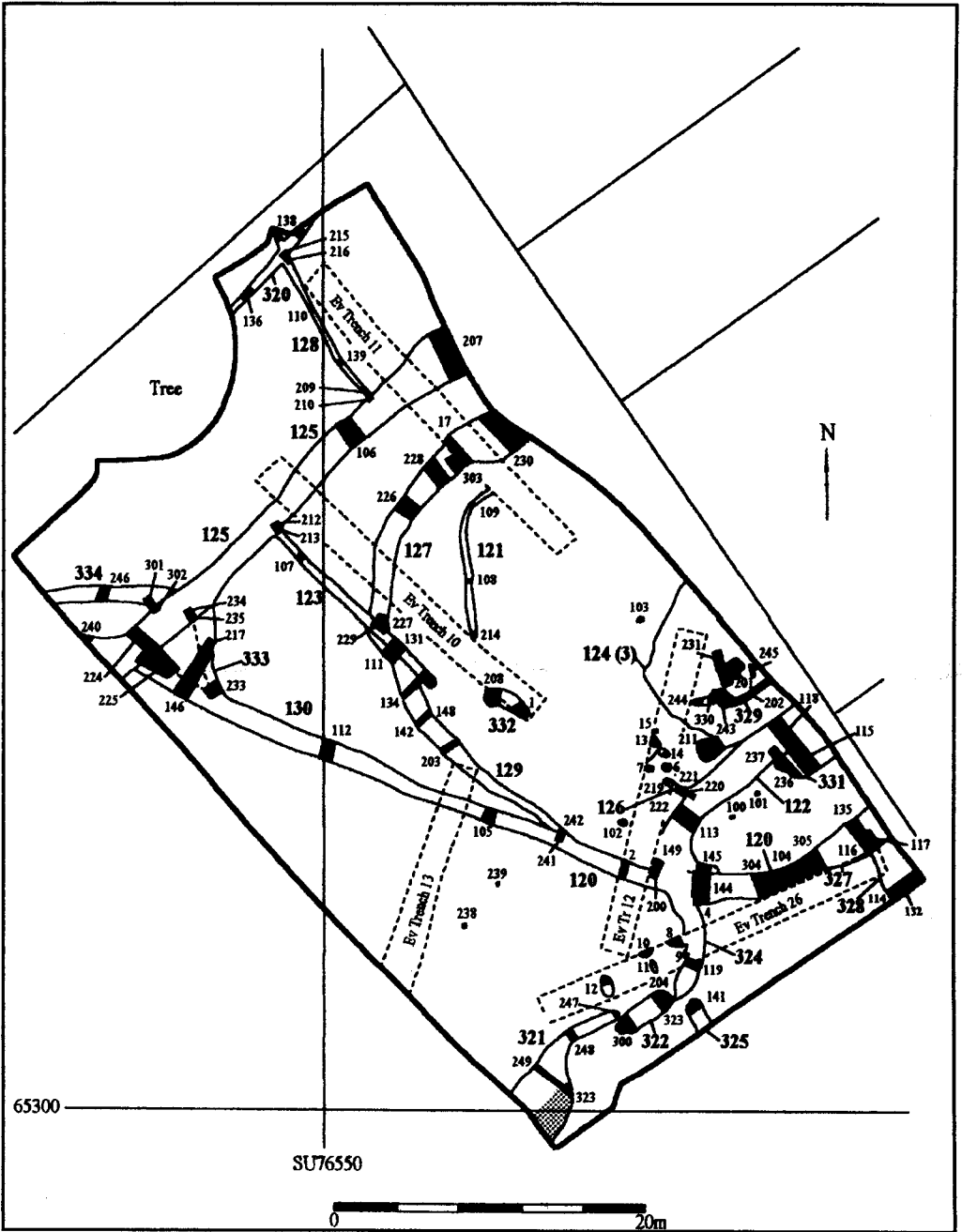


Figure 2. Plan of excavated features

were excavated and all termini and intersections were examined. All postholes and pits were planned and half-sectioned as a minimum, with the majority being fully dug. A number of sections were excavated through working hollow/spread 124 and this was then completely stripped using a JCB-type machine. The features revealed beneath the infill of this hollow were then excavated and recorded.

RESULTS

Phase 1: Mid/late Iron Age/pre-Flavian (Fig 3)

The earliest features on the site consist of ditch 127/129 and pits 10 and 12. Ditch 127/129 was up to 1.2m wide and 0.84m deep. It was truncated by pit 230 where it entered the site and then curved to the south before it was cut by ditch 120/130. The pottery assemblage from the ditch suggests that it was in use some time in the mid/?late Iron Age and remained in use until *c.* AD 50–55. The nature of the ditch suggests it may have been used to create an enclosure. No contemporary features were found within the enclosed area but two nearby shallow pits, 10 and 12 (discovered in trench 26 during the evaluation) contained pre-Flavian pottery. Pottery of this first phase was also found as residual material in later features and in feature 9, which is interpreted as a tree root hole.

Phase 2: Mid-late 1st century AD (Fig 2)

Ditch 120/130 was probably first dug around AD 60 and continued in use until the very late 1st century. It appears to have truncated and partly replaced ditch 127/129 (Fig 2). It crossed the site from the eastern edge, curving slightly to the north-west, and went beneath the western baulk (Fig 3).

Other features dated to the late 1st century include: postholes 6, 7, 14, 100 and 103; pit 8; gully 327 and ditch 328. Ditch 334 has also been assigned to this phase. However, as the pottery assemblage from this ditch was very small and only broadly dated it could be slightly later in date. It is probable that the large working

hollow, 124, was first utilised in the mid/late 1st century as pottery from its primary fill dates to this period. An elongated pit, 245, and two gullies, 329 and 330, were cut into the base of this feature shortly after.

Ditches 334 and 130 in the north-west corner of the site are approximately parallel to each other, about 9m apart. They may define an entrance to a trackway leading away from the enclosure.

Phase 3: Early 2nd century AD (Fig 3)

The large working hollow (124) was still in use during this phase, although by this time pit/ditch 201 cut its base (Fig 4). Pottery from the large pit 230 suggests it was dug in the early 2nd or possibly late 1st century and was not completely filled until the early 3rd century. Other features dating to the early 2nd century are the shallow elongated pit 332, posthole 220, and gullies 126 and 148. None of the ditches belonging to the previous phases appear to have remained in use.

Phase 4: Mid 2nd/late 2nd century AD (Fig 2)

The circular pit 145 truncated the fill of ditch 120/130. It contained, among other items, a complete poppyhead bag-beaker and a number of wasters or kiln seconds, and clearly belongs to this phase. Working hollow 124 was still in use at this time; pit 231 cut its base some time in the mid/late 2nd or very early 3rd century. Pit 231 was trough-shaped, 2.40m long, 0.80m wide and 0.66m deep. Its primary use is unknown but its secondary use was as a rubbish pit, with one layer (390) containing a dump of 1373 sherds of pottery.

The east-west aligned ditch (331) also belongs to this phase. This went beneath the eastern baulk of the excavation, was 2.95m wide, 1.39m deep and was cut by a 3rd century ditch (122) on its northern side.

Phase 5: 3rd century AD (Fig 3)

Working hollow 124 appears to have been abandoned sometime in the first half of the 3rd

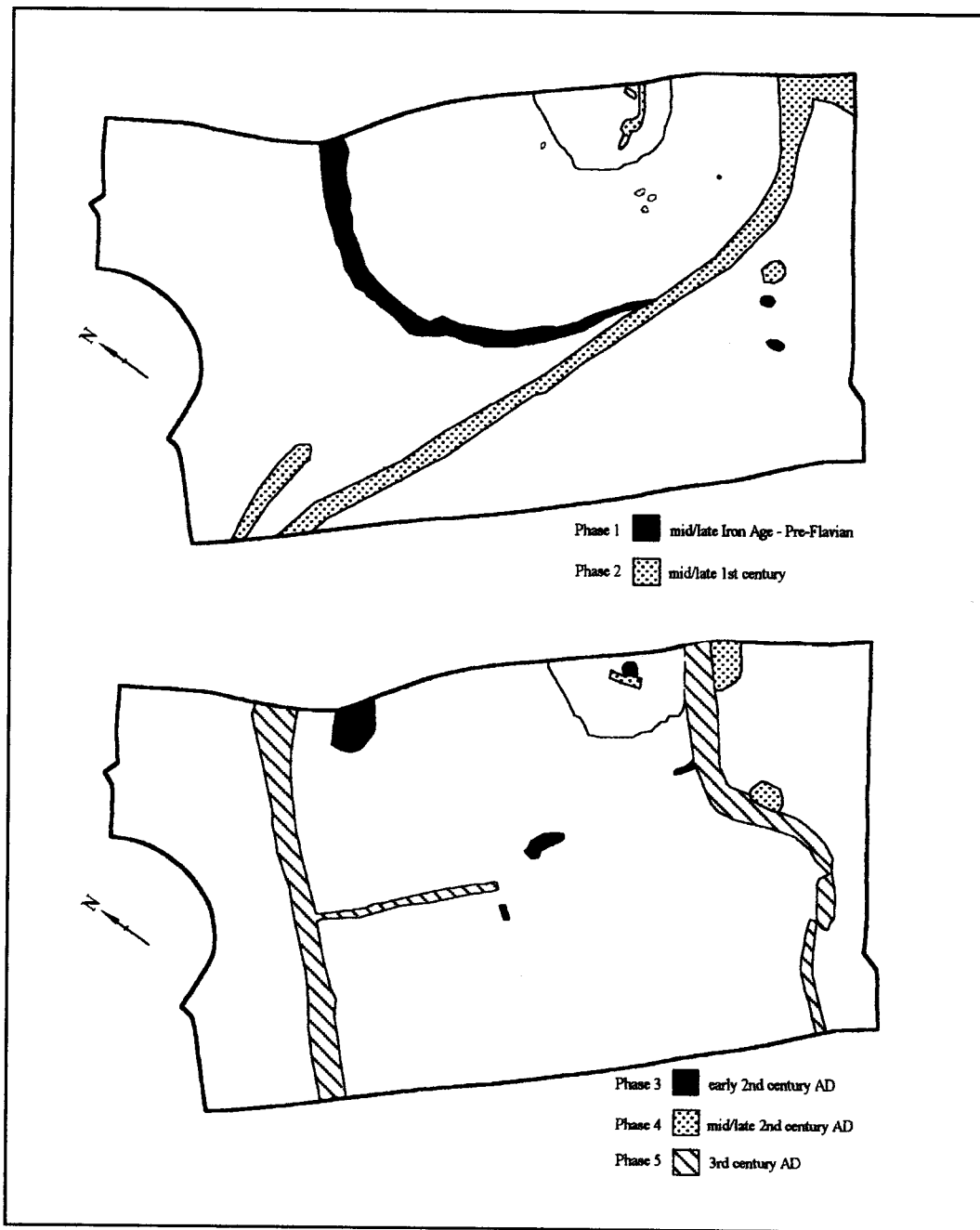


Figure 3. Phase plan

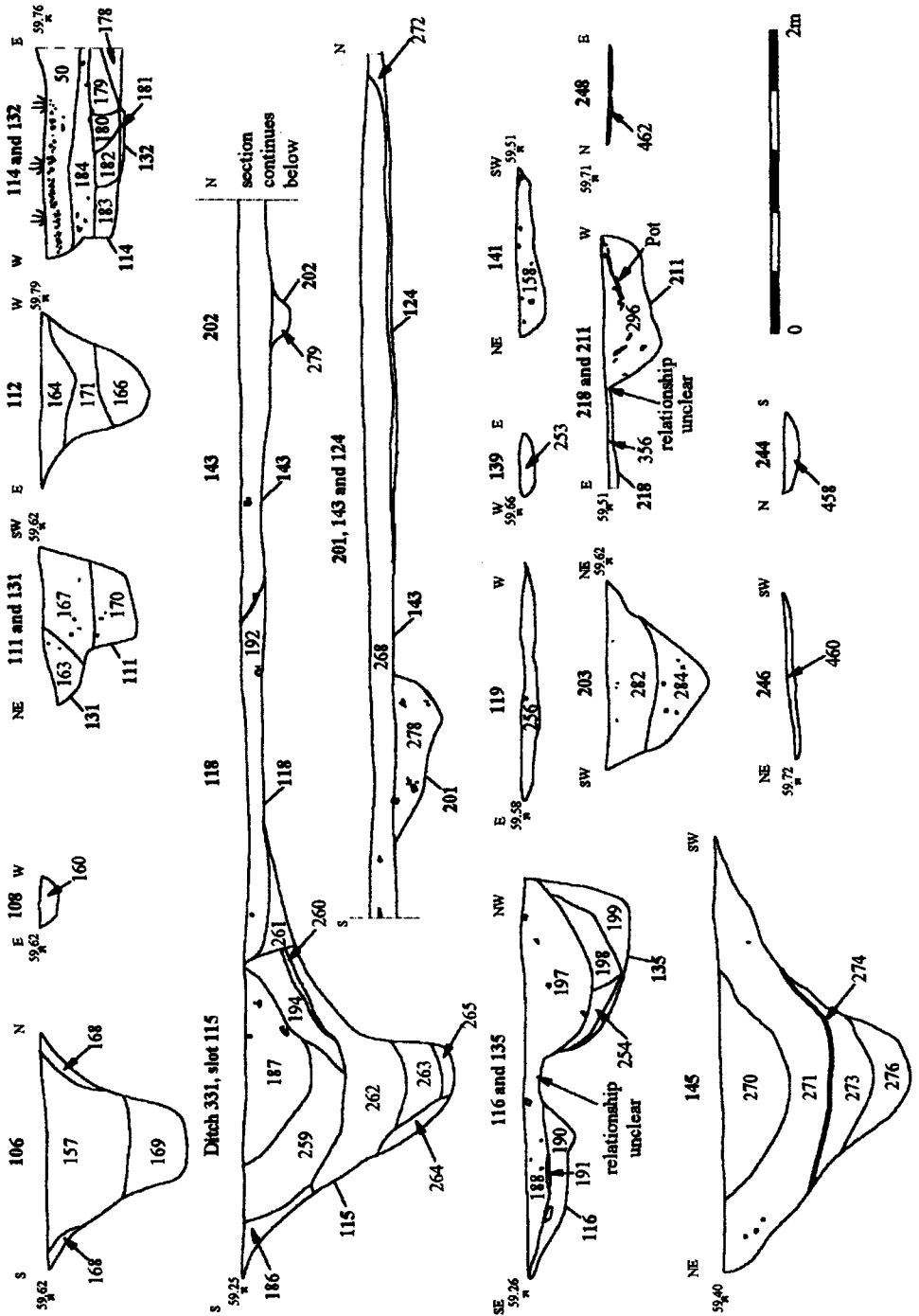


Figure 4: Selected sections

century. The other features belonging to this phase include ditches and gullies which partially enclose the site in a rectilinear pattern that does not relate to the layout of the Phase 1 and 2 enclosure. Ditch 122 forms a more or less continuous boundary with gullies 321, 322 and 324. The broad date range of the pottery from these features does not enable more precise dating. However, gully 123 is dated to the mid-3rd century. It crossed the site for 15m from a southern terminus and was cut by ditch 125. This ditch (125) contained a small assemblage of broadly 3rd century pot and this and the stratigraphic evidence suggests it is also of mid 3rd century or slightly later date.

Unphased

A number of features contained no dateable finds and could not be placed within the stratigraphic sequence for the site and therefore remain unphased. These include: gullies 121, 128, 320, 325 and 333; postholes 15, 101, 238, 239 and 132 (Fig 4); and pits 13 and 14.

THE FINDS POTTERY

Malcolm Lyne

INTRODUCTION

The site produced 8330 sherds (122.627kg) of middle/late Iron Age and Roman pottery, although it is possible that all or most of the so-called late Iron Age pottery dates to the twenty or so years after the Roman Conquest. The two very large pottery groups from ditch 120 (slot 304, 450) and pit 231 make up much of the material, at 1799 sherds (21.917kg) and 1560 sherds (37.049kg) respectively. These two pot groups also happen to be consecutive in date and supply us with a detailed picture of changing pottery supply to the site during the late-1st and 2nd centuries; a picture further enhanced by a number of other, smaller, pottery assemblages. There is very little 3rd-century material and nothing which need be later in date.

METHODOLOGY

Fabrics were identified and recorded with the

aid of a x8 lens with built-in metric scale to determine size, nature and frequency of inclusions. These fabrics were then organised into numbered coarse and fine wares with C and F prefixes respectively.

All assemblages were quantified by number of sherds and weight by fabric: some of the larger assemblages were of sufficient size to be additionally quantified by Estimated Vessel Equivalents (EVEs) per form and fabric based on rim sherds (Orton 1975)

THE FABRICS

Coarse pottery

- C1 Alice Holt/Farnham wares (Lyne and Jefferies 1979). This large pottery industry was situated 25km south of the site and supplied the bulk of the coarse pottery during the late 1st century, and lesser amounts during the 2nd century. Two fabric groupings can be distinguished:
- C1A Very-fine-sanded grey, or black-surfaced fabric with profuse up to 0.20mm sub-angular quartz filler (Lyne and Jefferies 1979), fabrics A and B).
- C1B Coarser sanded version with profuse up to 1.00mm filler (Lyne and Jefferies 1979), fabric C). A coarser version still with up to 2.00mm filler (Lyne and Jefferies 1979), fabric D) does not seem to have been supplied to Arborfield but was most widely used during the late 2nd century, when very few Alice Holt vessels were sent to the site.
- C2 Oxfordshire and Lower Colne Valley greywares (Young 1977; Cottrell 1937) The very coarse sand-tempered everted rim cooking pots and storage jars produced by these two industries during the 2nd to 4th centuries are very difficult to distinguish from each other. Both have the same type of inclusions and similar rim profiles. Indications are, however, that the bulk of such wares from Arborfield are Oxfordshire industry products and were first supplied in significant numbers during the early 2nd century. The following three coarse fabric variants have been noted:
- C2A White fabric with profuse up to 1.00mm subangular quartz filler and sparse up to 2.00mm crushed white grog and black ferrous inclusions, fired patchy grey/black.
- C2B Soot-soaked black version of the same fabric.
- C2C Grey version. This is the rarest of the three fabric variants and the most likely to be a Lower Colne Valley product.

The finer versions of Fabric C2 are easier to attribute:

- C2D Very fine version of white Fabric C2A with sparse to moderate up to 0.20mm quartz, white grog and

- ferrous inclusions and thin blue-grey surface wash. All recognisable forms seem to be 2nd century Oxfordshire ones.
- C2E Similar but fired grey.
- C3 Sand-free grey fabric with sparse soft black, brown and white inclusions. There are a few beakers and other forms from the site in what is probably a Lower Colne Valley fabric.
- C4 Verulamium Region Whitewares (Davies *et al.*, 1994). Sandy, oxidised wares from the Verulamium region were supplied in small quantities to the site throughout the late 1st and early 2nd centuries. Vessels consist almost entirely of flagons and mortaria.
- C5 Wares with calcined flint filler
- C5A 'Silchester ware' with profuse up to 3.00mm crushed calcined flint filler. Vessels in this fabric appear at Silchester during the early 1st century and cease to be supplied after AD 60. The form range at Arborfield is almost entirely restricted to bead-rim jars with the occasional everted-rim storage jar. The former are almost invariably fired black and the latter oxidised with rim-edge blackening.
- C5B Variant with sparse to moderate up to 1.00mm calcined flint and moderate soft red ferrous inclusions. A very rare fabric of similar date to C5A.
- C5C Alice Holt 'Silchester' ware with profuse up to 0.10mm quartz and sparse to moderate up to 1.00mm calcined flint filler (Lyne forthcoming, A). This fabric is uncommon at Arborfield and largely restricted to slack-profiled and bead-rim jars and beakers. The bead rims are much better defined than those on jars in Fabric C5A and approximate to those on similar vessels of later date in Fabric C1 *c.* AD 30–60.
- C6 Grog-tempered wares:
- C6A Wheel-turned brown-black fabric with profuse coarse white, brown and grog, with surface polish. Used for necked and cordoned jars. The great rarity of this fabric at Arborfield is one of the reasons for thinking that the site is entirely post-Conquest in date *c.* 100 BC–AD 50.
- C6B Tournmetted lumpy black fabric with profuse coarse white, brown and grey grog. Similar to Highgate Wood Fabric B and used for a variety of jars and bowls. A rare but persistent fabric at Arborfield *c.* AD 0–100.
- C6C Lumpy tournmetted or handmade brown-black fabric with profuse up to 2.00mm crushed orange grog. A very rare fabric at Arborfield and restricted to jar body sherds.
- C6D Brown storage jar fabric with profuse coarse buff and brown grog filler. Storage jars in this fabric seem to have gone on being made long after other grog-tempered vessels had ceased being produced.
- C6E Wheel-turned soot-soaked fabric with profuse up to 0.10mm quartz and up to 2.00mm brown grog filler. Very rare at Arborfield and probably late Iron Age in date.
- C7 Handmade soot-soaked fabric with profuse ill-sorted up to 1.00mm quartz filler. Another very rare pre-Flavian fabric.
- C8 Reddish-brown fabric with profuse up to 3.00mm irregular quartz and crushed iron slag filler. Some sherds have coarse red ferrous inclusions as well. In view of the evidence for iron-working on the site (see below), this may be a very local fabric and appears to have been used to make large vessels of uncertain form. Another very rare fabric and possibly restricted to a single large open vessel.
- C9 Sand-free greyware with no obvious inclusions, used for beakers and other small closed forms. Rare.
- C10 Dorset Black-Burnished Ware (BB1). Handmade BB1 kitchen wares from production sites around Poole Harbour enjoyed the widest distribution of all coarse pottery in Britain during the 2nd and 3rd centuries. This trade may have been an adjunct to salt distribution and Arborfield has small quantities of 2nd and 3rd century beakers, bowls and dishes.
- C11 Storage jar fabric fired orange-brown with profuse up to 0.50mm multi-coloured quartz and coarse grog filler.
- C12 Handmade black fabric with profuse up to 2.00mm irregular and vesicular off-white inclusions and chaff filler. This is another very rare and probably local fabric and restricted to large storage vessel sherds, a bowl and a foot from a ?grate.
- The following fabrics are also very rare and restricted to one or two vessels each.
- C13 Wheel-turned grey fabric with profuse up to 0.20mm quartz and black organic inclusions.
- C14 Soot-soaked black fabric with profuse up to 0.50mm quartz and crushed white ?limestone filler.
- C15 Gritty grey fabric with profuse up to 0.50mm quartz and moderate up to 3.00mm crushed deep-red ironstone filler, fired orange-brown with external greying.
- C16A Handmade brown-black fabric with occasional up to 5.00mm calcined flint and profuse rounded, soft up to 10.00mm reddish-brown ferrous inclusions. ?Late Iron Age.
- C16B Very friable handmade brown-black fabric with profuse up to 3.00mm brown-black grog. ?Late Iron Age.
- The above two fabrics are restricted to the primary enclosure ditch (127) and their significance is discussed below.
- C17 Coarse-grey fabric with profuse up to 1.00mm iron-stained quartz filler, fired rough black.

The finewares

F1 Samian

Arborfield has produced very little Samian, but this includes vessels from the following sources:

F1A South Gaulish La Graufesenque Samian

F1B Martres de Veyre Samian

F1C Central Gaulish Samian

F2 Gallo-Belgic Finewares

F2A Terra Nigra. A fragment from a platter in this fabric from hollow 124 (context 3, trench 12) is the only piece from the site.

F2B Whitewares. As with Terra Nigra, there is only one fragment, from a closed form, in this fabric.

F2C Terra Rubra. Some fragments from a bowl came from ditch 120.

F3 Oxfordshire Fine Oxidised ware (Young 1977, 185). Sand-free pale orange fabric with no obvious inclusions. This fabric is restricted to a couple of 2nd century Dr.30 and Dr.38 bowl copies at Arborfield.

F4 Sand-free cream fabric.

F5 Very fine orange-red fabric with moderate up to 1.00mm red grog, up to 0.10mm white inclusions and mica.

F6 Verulamium Region Mica-dusted ware (Davies *et al.* 1994, 52). A few Gallo-Belgic type platters were supplied to the site during the late 1st and early 2nd centuries.

F7 Very-fine pale orange fabric with moderate up to 1.00mm red grog and sparse up to 1.00mm calcined flint. Fired buff with grey patches.

F8 Oxfordshire Whitewares (Young 1977, 56 and 93). A few mortaria and flagons were supplied to the site during the 2nd and early 3rd centuries.

F9 Sand-free micaceous orange fabric.

F10 Central Gaulish Colour-Coated Ware (Greene 1979, 43). Sand-free buff fabric with profuse mica and matt brown-black colour-coat. There are fragments from a single hairpin beaker from the site *c.* AD 70–140.

F11 Sand-free mica-dusted greyware. Also represented by a single beaker at Arborfield *c.* AD 55–120.

F12 Very-fine-sanded orange-brown fabric fired grey with profuse 0.20mm quartz, up to 1.00mm brown grog filler and profuse mica.

F13 Verulamium Region Glazed Ware. This rare fineware fabric is represented by a solitary bead-rim beaker at Arborfield.

THE ASSEMBLAGES*Assemblage 1*

This assemblage came from the various slots across enclosure ditch 127 (17, 111, 134, 142, 203, 226, 227, 228, 242 and 303).

The slots across this feature yielded very little pottery, but this indicates that ditch 127 was one of the earliest, if not the earliest, feature on the site. Ninety five sherds (529g) of pottery were retrieved from the eleven sections, of which 42% by sherd count are featureless body fragments in the probable late Iron Age Fabrics C16A and 16B: a further 4% in a Fabric C6E variant may be of similar date. Flint-tempered 'Silchester Ware' fabric variants C5A, B and C make up a further 21% and 'Belgic' grog-tempered ware Fabrics C6A, B and D another 11% of the assemblage. Alice Holt/Farnham sand-tempered Fabrics C1A and B account for another 12% and Fabrics F5 and F7 from the Claudio-Neronian Silchester kilns for 5% (Timby 1989, 88).

The breakdown of this assemblage suggests that the enclosure ditch was cut at some time during the middle/late Iron Age and remained in use until *c.* AD 50–55. The ditch is the only feature which has produced pottery of late Iron Age character, the presence of which can be interpreted in several ways. The pottery could be residual in its context or indicate that the late Iron Age potting tradition survived well into the late Iron Age in this part of Berkshire.

Assemblage 2

Context 272 at the base of hollow 124 produced 97 sherds (1514g) of pottery datable to the period AD 43–70.

Amounts of pottery are too small for quantification by EVEs but statistics based on numbers of sherds show that Alice Holt Fabrics C1A and IB account for more than half of all the pottery (58%) and the *c.* AD 30–60 dated flint and sand tempered Fabric C5C from the same source for a further 1%. The next most significant fabric is 'Silchester ware' C5A (15%), represented by fragments from bead-rim cooking-pots and an everted-rim storage jar.

The wheel-turned Belgic grog-tempered ware Fabric C6A is represented by a single sherd and

the coarser C6B by 12 sherds from a variety of vessels (12%). Finewares consist of a sherd from a South Gaulish Samian Dr.15/17 platter (c. AD 43–85) and two sherds from a closed form in Fabric F7.

Figure 5

1. Biconical necked bowl similar to Thompson's grog-tempered form G2-5 (1983), in polished black soot-soaked Fabric C1A[SS]. Ext. rim diameter 180mm c. AD 43–60.
2. Rim from butt-beaker (Lyne and Jefferies 1979, class 3) in similar fabric fired grey. Ext. rim diameter 160mm c. AD 50–70.
3. Another, simpler, beaded Class 3 beaker rim in similar fabric. Ext. rim diameter 100mm c. AD 50–70.
4. Bead rim fragment in rough grey Fabric C1B c. AD 50–90
5. Bowl in pale grey Fabric C1A fired medium-grey. Ext. rim diameter 140mm c. AD 30–60+. The Alice Holt/Farnham material also includes two copies of Terra Nigra CAM 8 platters and two lid-seated Class 5 Atrebatian bowls (Lyne and Jefferies 1979, 31).
6. Beaker rim in black Fabric C5C. Ext. rim diameter 100mm. A fragment from a second, similar example was also present.
7. Platter in grey Fabric C5C fired orange-brown with rim-edge blackening.
8. Lid-seated bowl in lumpy grog-tempered Fabric C6B fired black. Highgate Wood Fabric B Form 363 (Davies *et al.* 1994) dated c. AD 55–100 and an import from the Lower Thames Valley. Ext. rim diameter 200mm.
9. Convex-sided dish or hole-mouthed jar sherd in similar fabric. Ext. rim diameter 160mm. This small assemblage is unusual in its form make-up, in being dominated by open forms and beakers. There are very few cooking pots from the context, suggesting that specialised activities took place within the hollow.

Assemblage 3

Slot 304 (450) across ditch 120 produced a considerable 1799 sherds (21.917kg) of heavily broken-up pottery; sufficient for quantification by EVEs based on rim sherds. This ditch, with its extension, ditch 130, replaced ditch 127: the fabric and form breakdown of the sherds from it suggests that this event took place shortly before AD 60.

The bulk of the pottery is made up of sherds from vessels in Alice Holt/Farnham industry accounting for a further 13% and 3% respectively. Tiny amounts of Oxfordshire coarseware Fabrics C2A/C and Lower Colne Fabrics C1A, 1B and 5C (65%), with Silchester Ware Fabric C5A and grog-tempered C6B Valley greyware Fabric C3 are also present and indicate limited supply from those two sources. Amounts of Verulamium Region Whiteware sherds are equally small in what is clearly a late 1st century assemblage, and are derived from a couple of Flavian screw-neck flagons and a pre-Flavian butt beaker.

Further breakdown of the Alice Holt/Farnham closed forms EVEs total has large lid-seated necked and cordoned jars of Class 1–12 type making up 26%, smaller Class 1–20 examples 31% and Class 4 bead-rim jars 34%. The high percentage of bead-rim jars and lack of Class 3A examples with Figure 5 rims other than one example from the top of the ditch suggests that there is little, if anything, in the assemblage which is later than c. AD 80/90.

The overwhelming domination of the assemblage by cooking-pots and other closed forms, and the poor showing of finewares is typical of a low status rural farmstead of this period.

Further, similar, assemblages came from other cuts further to the north-west across ditch 120 but amounts of material decrease away from the main focus of occupation in hollow 124. Slots 104, 105, 112 (Fig 4), 146 and 225 produced 585 sherds (7730g), 96 sherds (1783g), 32 sherds (348g), 13 sherds (76g) and 1 sherd (36g) respectively.

Figure 5

10. Bead rim jar in black 'Silchester ware' Fabric C5A. 71.5E/55N
11. Another variant in similar fabric. Ext. rim diameter 180mm. 71.5E/55N
12. Another, larger example in similar fabric. Ext. rim diameter?

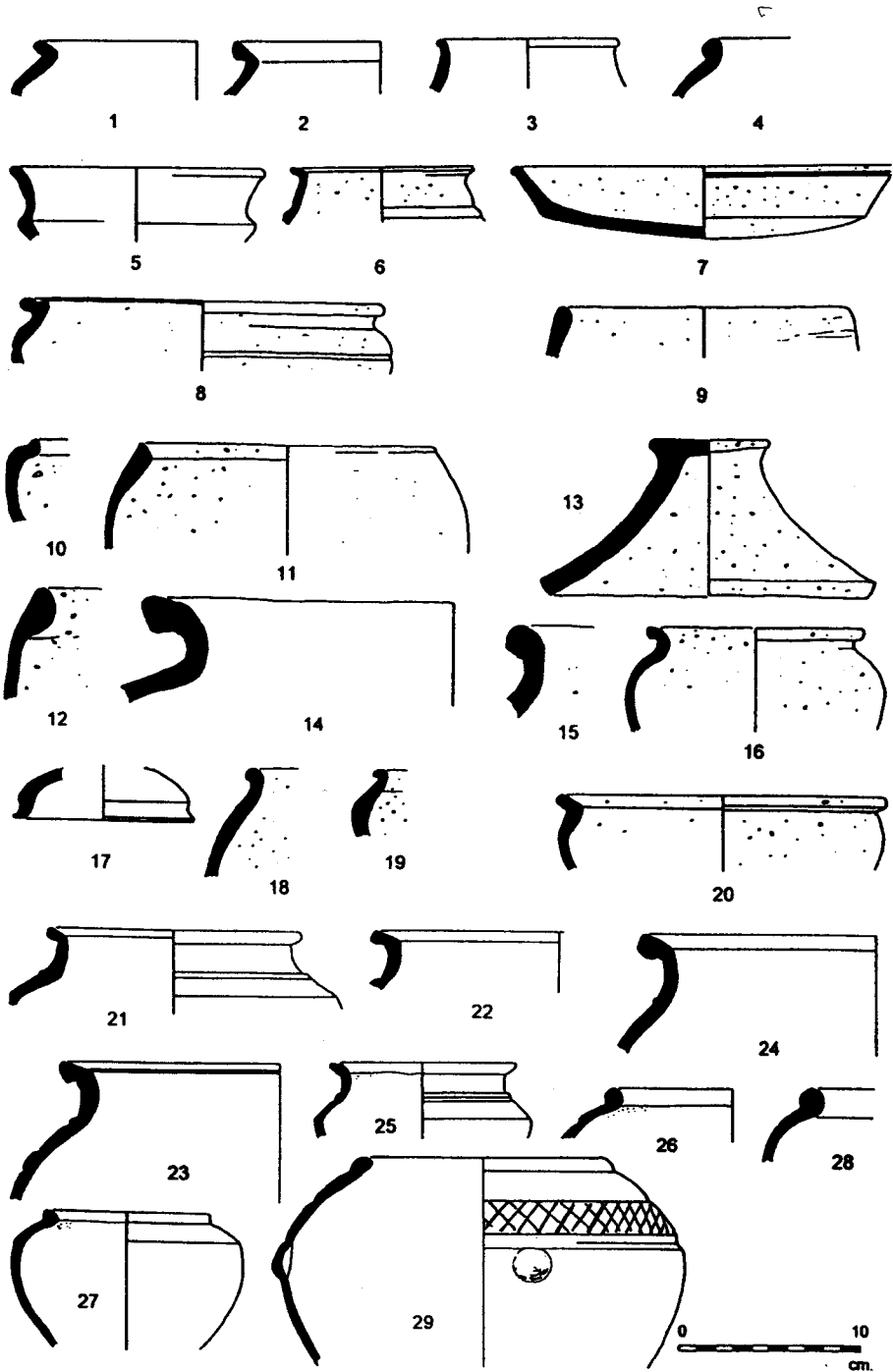


Figure 5. Pottery (see text for details)

<i>Fabric</i>	<i>Jars</i> EVE	<i>Bowls</i> EVE	<i>Dishes</i> EVE	<i>Beakers</i> EVE	<i>Store jars</i> EVE	<i>Others</i> EVE	<i>Total</i> EVE	<i>%</i>
C1A	8.89	1.19	0.10	0.20			10.38	52.1
C1B	1.75	0.34	0.11	0.14			2.34	11.7
C2A/C	0.51				0.15		0.66	3.3
C3			0.12				0.12	0.6
C4				0.23		Flagon 0.12	0.35	1.8
C5A	2.04					Lid 0.48	2.52	12.6
C5C	0.20						0.20	1.0
C6B	0.51					Lid 0.13	0.64	3.2
C6D	0.10				0.33		0.43	2.2
C.9		0.07	0.22				0.29	1.5
C12		0.09					0.09	0.5
C15		0.09					0.09	0.5
<i>Total</i> <i>coarseware</i>	14.00	1.78	0.33	0.79	0.48	0.73	18.11	91.1
F1A			0.09	Dr.15/ 17			0.09	0.5
F3	0.13						0.13	0.7
F.5						Flagon 0.22	0.22	1.1
F.6		0.01	0.15				0.16	0.8
F.8						Flagon 1.00	1.00	5.0
F.9				0.17			0.17	0.9
<i>Total</i>	4.13	1.79	0.57	0.96	0.48		1.95	19.88
<i>%</i>	(71.1%)	(9.0%)	(2.9%)	(4.8%)	(2.4%)		(9.8%)	

Table 1. Quantification of pottery assemblage 3

13. Lid in similar fabric. Ext. rim diameter 180mm.
14. Storage jar in coarse-grogged brown Fabric C6D with rim edge blackening. Ext. rim diameter 340mm. 71SE 55N 15 Necked jar in similar fabric fired patchy orange/brown/grey. Ext. rim diameter 200mm. West of 104.
16. Everted rim jar in lumpy black Fabric C6B. Ext. rim diameter 120mm.
17. Small lid of Thompson Type L1 (1983) in similar fabric. Ext. rim diameter 100mm c. 15 BC-AD 60.
18. Handmade necked jar in black Fabric C5C. Ext. rim diameter ? c. AD 30-60. West of 104.
19. Carinated bead-rim jar in similar fabric. Ext. rim diameter ? c. AD 30-60. West of 104.
20. Necked bowl of Thompson Type G2.3 (1983) in black Fabric C12. Ext. rim diameter 180mm. The type is dated c. AD 30-60 by Thompson but continues in Highgate Wood B fabric until c. AD 100 (Davies *et al.* 1994). 71.5E/55N.
21. Necked and cordoned jar of Lyne and Jefferies Type 1-12 (1979), in polished soot-soaked Fabric C1A[SS]. Ext. rim diameter 140mm.
22. Similar but in smooth grey Fabric C1A with buff margins. Ext. rim diameter 200mm. 71.5E/55N.

23. Necked and cordoned jar in grey Fabric C1A. Ext. rim diameter 260mm.
24. Lid-seated necked and cordoned jar of Lyne and Jefferies Type 1-13 (1979), in grey-brown Fabric C1A. Ext. rim diameter 240mm.
25. Necked and cordoned jar of Type 1-20 in black Fabric
26. Bead rim jar of Lyne and Jefferies Class 4 (1979) in grey Fabric C1B fired rough grey-black. Ext. rim diameter 140mm. 71.5E/55N.
27. Small bead-rim jar in grey Fabric C1A. Ext. rim diameter 90mm. West of 104.
28. Another example in similar fabric. Ext. rim diameter 160mm.
29. Bead rim jar in grey Fabric C1B fired rough black with orange margins. This vessel is very unusual in having pushed out hollow bosses spaced around its girth. Ext. rim diameter 120mm. C1A[SS] with carinated shoulder. Ext. rim diameter 100mm.

Figure 6

30. Atrebatc bowl variant with reeded rim in Fabric C1A[SS] fired polished black. Ext. rim diameter 180mm. 71E/54N.
31. Variant without lid seating in similar fabric. Ext. rim diameter 180mm. 71E/54N.
32. Another example without lid seating in grey Fabric C1A. Ext. rim diameter 180mm.
33. Lid-seated Atrebatc bowl of Lyne and Jefferies Class 5 (1979) in brown Fabric C1B fired polished black. Ext. rim diameter 140mm. 71SE/55N.
34. Bowl in grey Fabric C1A fired black with brown margins, copying South Gaulish Samian Dr.29 form with combed decoration. Ext. rim diameter 120mm. 70E/55N.

This assemblage also includes Alice Holt/Farnham greyware copies of Gallo-Belgic platter forms CAM 5B, 12 and 16B with surface blackening and the broken foot from a tripod bowl in similar fabric.

35. Verulamium Region Whiteware flagon rim of Frere Type 241 (1983) dated c. AD 85-105. Ext. rim diameter 60mm. One of three
36. Butt-beaker rim in similar fabric. Ext. rim diameter 100mm. An early, pre-Flavian product of the industry.
37. Bowl with down-turned flange in reddish-brown Verulamium Region Mica-dusted ware, of Frere Type 216 dated c. AD 60-75 at Verulamium (1983). Ext. rim diameter 180mm.
38. Imitation Gallo-Belgic platter in similar fabric. Ext. rim diameter 200mm c. AD 60-120
39. Beaker in mica-dusted sand-free grey Fabric F11 with fine horizontal rilling on the neck and shoulder. Ext. rim diameter 100mm. The form is

similar to a London type dated c. AD 55-100 (Davies *et al* 1994, fig 118-882).

- Central Gaulish hair-pin beaker fragment in sand-free buff Fabric F10 with traces of black colour-coat. Ext. rim diameter 80mm c. AD 60-120.

Assemblage 4

The pottery from pit 201 (278) produced 152 rather scrappy sherds (2576g) of pottery. The assemblage is too small for reliable quantification by EVEs but includes coarse Oxfordshire grey ware jar rims similar to those in the much fresher Assemblage 5. The pottery also includes a number of late 1st century sherds from Alice Holt/Farnham Type 1.20 and Class 1A forms, and 'Silchester Ware' bead-rim jars and a lid.

Large, fresh sherds from a Martres de Veyre Samian Dr.27 cup and the following vessels were also present and suggest that the feature was abandoned some time during the early 2nd century before being cut into by pit 231.

Figure 6

40. Dr.30 copy of Young's Type 042-7 (1977), in pale orange Fabric F3. Ext. rim diameter 80mm c. AD 70-150. More sherds from this vessel were present in the fills of pit 231.
41. Necked and cordoned jar in blue-grey Fabric C2D. Ext. rim diameter 120mm.

Assemblage 5

The pottery from pit 231 (383 and 390) produced the largest amount of pottery from the whole site. Amounting to 1560 sherds (37.049kg), this pot group differs from Assemblage 3 in including large numbers of fresh, joining sherds from reconstructable vessels. Quantification by EVEs reveals this mainly early 2nd century assemblage to differ in several ways from the late 1st century Assemblage 3.

The Alice Holt/Farnham industry share of the assemblage has now declined to 30% with Silchester ware and grog-tempered wares are absent except for the odd residual body sherds. Oxfordshire coarseware Fabrics C2A/C and

<i>Fabric</i>	<i>Jars</i> EVE	<i>Bowls</i> EVE	<i>Dishes</i> EVE	<i>Beakers</i> EVE	<i>Store-jars</i> EVE	<i>Others</i> EVE	<i>Total</i> EVE	<i>%</i>
C1A	4.29	0.41	0.05	0.11		Strainer 0.16 Pinch-neck flagon 1.00 Lid 0.11	6.13	20.5
C1B	1.75				1.17	Lid 0.02	2.94	9.8
C2A/C	6.25				2.51		8.76	29.3
C2D	0.28	0.68					0.96	3.2
C2E	2.90	0.55	0.94				4.39	14.7
C4						Flagons 0.44 Mortarium 1.00	1.44	4.8
C9	1.25			0.27			1.52	5.1
C10				0.47			0.47	1.6
Misc.	0.65						0.65	2.2
<i>Total cse.</i>	<i>17.37</i>	<i>1.64</i>	<i>0.99</i>	<i>0.85</i>	<i>3.68</i>	<i>2.73</i>	<i>27.26</i>	<i>91.2</i>
F1A			0.25 Dr.36 0.10 Dr.15/ 17				0.35	1.2
F1B						Dr.27 0.25	0.25	0.8
F3						Dr.30 copy 0.84	0.84	2.8
F6			0.22				0.22	0.7
F8						Flagons 0.31 Mortarium 0.66	0.97	3.3
<i>Total</i>	<i>17.37</i>	<i>1.64</i>	<i>1.56</i>	<i>0.85</i>	<i>3.68</i>	<i>4.79</i>	<i>29.89</i>	
<i>%</i>	<i>(58.2%)</i>	<i>(5.5%)</i>	<i>(5.2%)</i>	<i>(2.8%)</i>	<i>(12.3%)</i>	<i>(16.0%)</i>		

Table 2. *Quantification of pottery assemblage 5*

C2D are now very much in the ascendant and make up 29% and 3% of the assemblage respectively. Oxfordshire fine oxidised ware (F3) and whiteware (F8) account for a further 6%. Probable Lower Colne Valley industry Fabric

C2E vessels make-up 15% of the assemblage and Verulamium region Fabrics C4 and F6 a further 5%.

A breakdown of the Alice Holt/Farnham closed

forms EVE total reveals a marked change from the late 1st century one. The large lid-seated necked and cordoned Class 1 jars make up a scarcely differing 24% but the smaller 1–20/28 type is down to 13%. The greatest change, however, is the near disappearance of bead-rim jars (4%) and their replacement by rim jars of Class 3A (44%) and everted rim jars of Class 3B (15%). Nearly all of the datable Alice Holt/Farnham industry vessel forms fall within the c. AD 90–150 range: the two exceptions are an early Antonine Class 6B dish and late 2nd century Class 1a liquid storage jar.

The range of forms in Oxfordshire and Lower Colne Valley coarseware Fabrics C2A/C is very much more limited and to all intents and purposes made up of vessels with stubby everted and rolled over rims ranging in size from small cooking-pots to large storage vessels. The Table 2 breakdown of these vessels places all such jars with an external rim diameter of 240mm or over in the storage jar column: it is, however, quite possible that these larger vessels are simply communal cooking pots. The supplanting of much of the Alice Holt/Farnham industry share of pottery supply to Arborfield by larger Oxfordshire products could indicate a change in the social structure of the settlement at the end of the 1st century.

Figure 6

42. Class 1 necked and cordoned jar in grey Fabric C1A with burnished acute laticing on the shoulder and a well-developed flattened rim. This form is paralleled in c. AD 100–150 dated contexts at site AH52 in Alice Holt Forest (Lyne forthcoming B, fig 29, 137).
43. Another example, but of Type 1–12, in grey Fabric C1B fired black with buff margins. Ext. rim diameter 180mm c. AD 60–100.
44. Necked jar of Class 1, similar to Lyne and Jefferies Type 1–25 (1979) but lacking a neck cordon. In smooth grey Fabric C1A and similar to AD 100–150 dated example from Site AH52 (Lyne forthcoming b, fig 29, 138). Ext. rim diameter 140mm.
45. Necked and cordoned liquid storage jar of Lyne and Jefferies Class 1A (1979), in pale-grey Fabric C1B with rolled over rim. Ext. rim diameter 140mm. A 2nd century type.

46. Plain jar of Lyne and Jefferies Class 3A (1979) in grey Fabric C1A with shoulder groove. Ext. rim diameter 160mm c. AD 90–150.
47. Class 3A jar with reeded rim and stabbed raised shoulder cordon in grey Fabric C1B fired black with buff margins. Ext. rim diameter 240mm. A late 2nd century type.
48. Class 3A jar in grey Fabric C1A with decorated reeded rim and burnished multiple chevrons on the shoulder above a stabbed, raised cordon. Ext. rim diameter 180mm. Paralleled in form in AD 100–150 dated contexts at Alice Holt Site AH52 (Lyne forthcoming B, fig 29, 167).
49. Another example with reeded rim and stabbed shoulder cordon, but without the burnished decoration. In blackened Fabric C1B. Ext. rim diameter 200mm c. AD 120–180.
50. Class 3B jar with stubby everted rim and burnished acute lattice decoration on the body, in grey Fabric C1A. Paralleled in AD 100–150 dated levels at Alice Holt Site AH52 (Lyne forthcoming B, fig 29, 169). Ext. rim diameter 180mm.
51. Lid-seated hemispherical bowl in grey Fabric C1A fired black. Ext. rim diameter 160mm. The form occurs in c. AD 100–150 dated contexts at Site AH 52 in Alice Holt Forest and is inspired by Samian Form Dr.36 (Lyne forthcoming B, fig 30, 223).
52. Flanged dish of Lyne and Jefferies Class 6B in grey Fabric C1A. Ext. rim diameter 170mm. This form occurred in c. AD 150–170 dated contexts on Site AH52 and is influenced by contemporary BB2 forms (Lyne forthcoming B, fig 34, 408). Ext. rim diameter 170mm.
53. Class 8 pinch-neck flagon top in grey Fabric C1A. Pit 231 (390).
54. Everted rim jar with burnished acute body laticing in coarse off-white Fabric C2A. Ext. rim diameter 150mm. A similar BB1 derived form was present at the Oxfordshire Boars Hill kilns (Harris and Young 1975, fig 9, 28) c. AD 100–150.

Figure 7

55. Large hook-rimmed jar in similar fabric with surface greying. Paralleled at Boars Hill (Harris and Young 1975, fig 8, 26). Ext. rim diameter 240mm. One of several c. AD 100–150.
56. Similar form but in black-brown Fabric C2B. Ext. rim diameter 280mm.
57. Similar but smaller form in similar fabric. Ext. rim diameter 160mm.
58. Everted rim jar imitating a 2nd century BB1 form in flecky dark-grey Fabric C2C. Ext. rim diameter 140mm. Pit 231 (383).
59. Flanged bowl of Young's Type R44.2 (1977) in Fabric C2D with internal lid seating and external acute lattice. Ext. rim diameter 160mm c. AD 140–200.

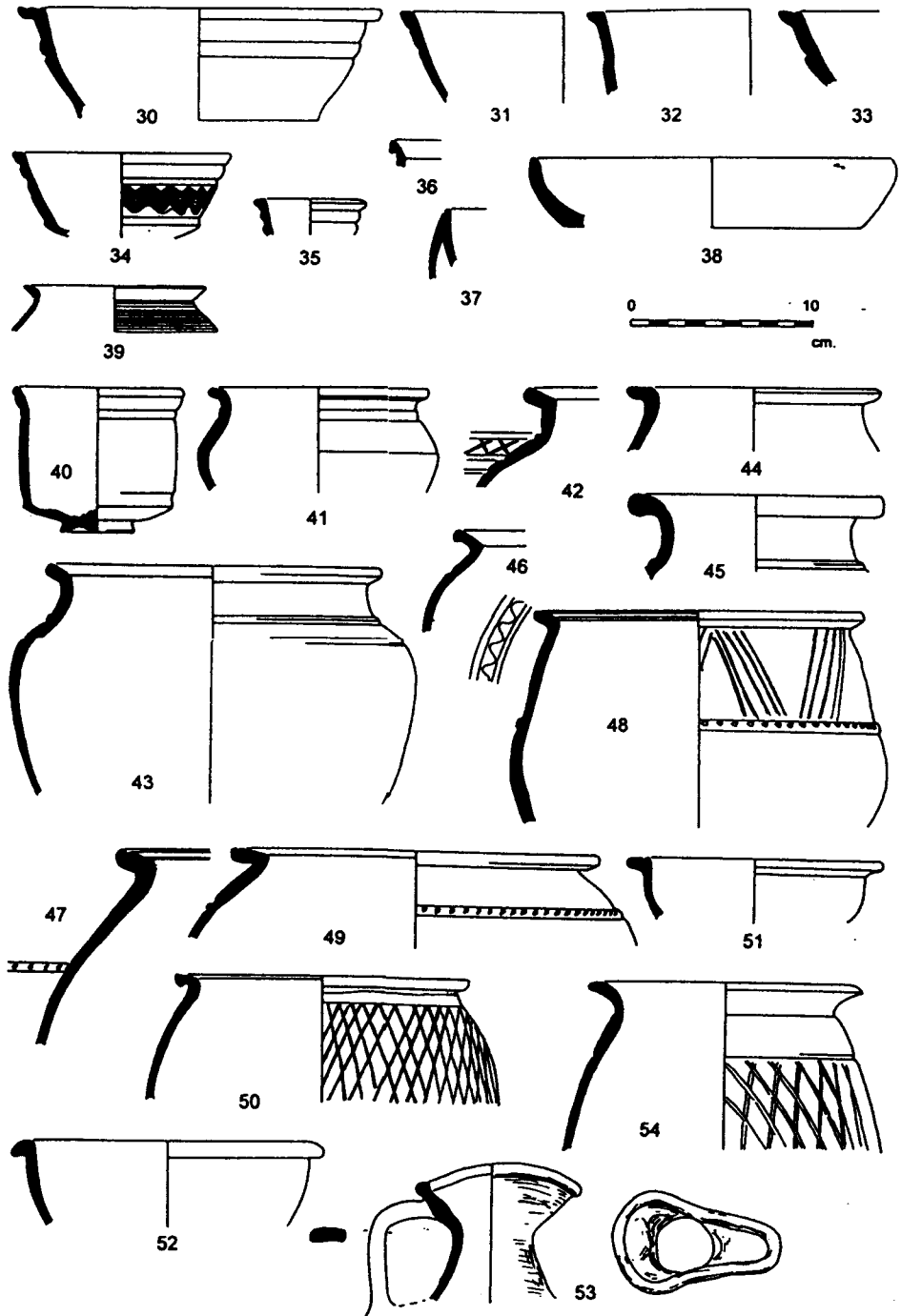


Figure 6. Pottery (see text for details)

60. Necked bowl with carinated shoulder in grey Fabric C2D (Harris and Young 1975, fig 8, 19). Ext. rim diameter 180mm c AD 100–150.
61. Greater part of necked and cordoned jar in grey Fabric C2E with burnished diagonal lines on its shoulder. Ext. rim diameter 140mm.
62. Another, similar vessel in similar fabric but with a hooked rim. Ext. rim diameter 120mm.
63. Necked and cordoned jar with carinated shoulder, in similar fabric. Ext. rim diameter 120mm.
64. Flanged bowl in dark-grey similar fabric and a wobbly kiln second or waster. Ext. rim diameter 160mm.
65. Greater part of platter in pinkish-brown Fabric C2E fired rough grey-black. Ext. rim diameter 230mm.
66. Complete beaded and flanged mortarium in cream Fabric C4 with evidence for heavy wear and stamped DOINVS. Ext. rim diameter 180mm c AD 70–110.
67. Flagon of Frere Form 1954 (1984) in cream Fabric C4. Ext. rim diameter 120mm c AD 130–160.
68. Beaker of Gillam Form 24 (1976) in BB1 Fabric C10. Ext. rim diameter 110mm c AD 120–180.
69. Mortarium of Young's Type M7 (1977) in Oxfordshire C1B with rolled over rim. Whiteware. Fabric F8. Ext. rim diameter 230c. AD100–170.
70. Imitation Gallo-Belgic platter in brown, mica-dusted Fabric F6 Ext. rim diameter 180mm c AD 70–120.

Assemblage 6

The assemblage from hollow 124, section 223 (362), at 409 sherds (3841g), was too small for reliable quantification by EVEs. The assemblage is similar in make up to Assemblage 5, although more broken up and with more residual sherds. The pottery includes fragments from some of the same vessels as are present in that assemblage and it is probable that the feature is of similar date to pit 231.

Figure 7

71. Small everted rim beaker in buff Verulamium Region Glazed Ware Fabric F13 with poorly fused yellow glaze. Ext. rim diameter 80mm.
72. Imitation Gallo-Belgic platter in gritty grey Fabric C13 fired orange-brown with external greying. Ext. rim diameter 160mm.
73. Flanged bowl of Gillam Type 35 (1976) on BB1 fabric C10. Ext. rim diameter 160mm c AD 140–180.

Assemblage 7

This assemblage came from the upper fills of working hollow 124, slot (266, 268 and 391; Fig 4). The upper fills of this feature produced 680 sherds (9719g) of pottery ranging in date from the mid 1st century to c. AD 270. The assemblage includes large numbers of sherds from vessels which were also present in the fills of pits 201, 223 and 231 within the hollow and is clearly an accumulation of material spanning the entire period of activity within the feature. The following pieces are from vessels which are not present in the pit assemblages:

Figure 7

74. Elaborately moulded and lid-seated dish with foot ring in grey Fabric C1A fired black. Ext. rim diameter 160mm.

Figure 8

75. Deep Alice Holt/Farnham industry Type 5D–1 bowl (Lyne and Jefferies 1979, 47), in rough black Fabric C1A with buff margins and burnished acute lattice decoration. Ext. rim diameter 200mm AD 4) 150–180. Working hollow 124, slot 143 (391) (Fig 4).
76. Basal sherd from large slab-built open form in coarse orange-brown Fabric C8 with iron slag filler. The piece has broken on the junction between the base and the slab-built wall of the vessel, revealing slashes for keying the two sections together. Working hollow 124, slot 143 (391).

Assemblage 8

The pottery assemblage from pit 145 (270, 268, 271 and 273). That portion of pit 145, which was fully excavated, produced 182 sherds (4154g) of Antonine to early 3rd century pottery. Further large, fresh sherds of similar date came from the surface of this pit. The complete and near complete nature of several of the vessels in this small assemblage renders the pottery unsuitable for detailed quantification.

Figure 8

77. Large everted jar rim in grey Fabric C2C with shoulder groove. Ext. rim diameter 200mm. Pit 145, 271.

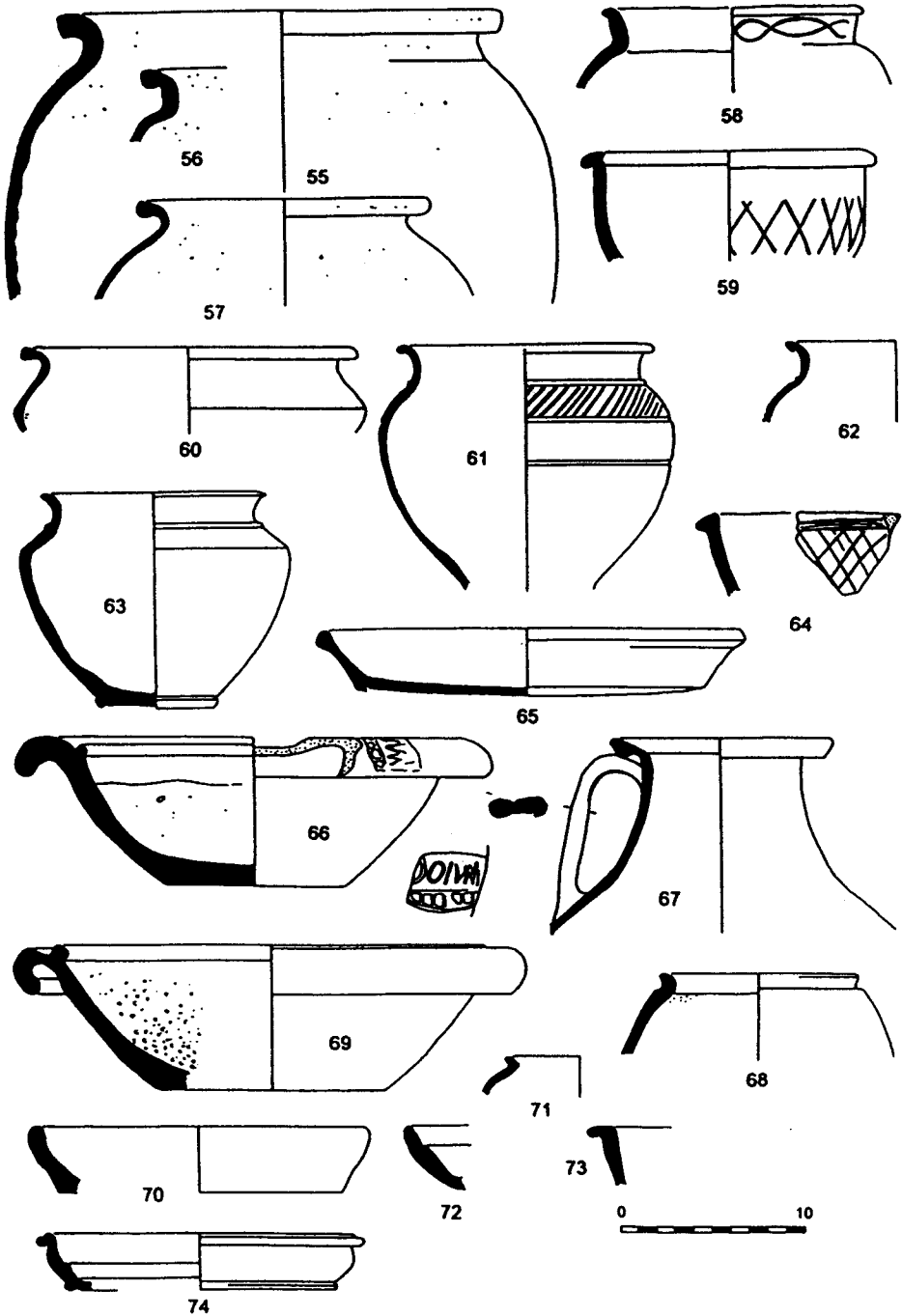


Figure 7. Pottery (for details see text)

78. Small necked and cordoned jar in grey Fabric C2E with watery white slip applied to the upper half. Ext. rim diameter 120mm. Pit 145, 273.
79. Complete poppyhead bag-beaker in grey Fabric C2E with orange patches. Decorated with five rectangular dot barbotine panels over applied watery white slip. Ext. rim diameter Similar to example from pit 6, Insula V dated c. AD 125–150 (Wheeler and Wheeler 1936, fig 31, 39). Pit 145, 271.
80. Upper half of strap-handled flagon with flanged rim, in similar fabric with similar slip. Ext. rim diameter 100mm. Pit 145, 270.
81. Poorly-made flanged dish in grey Fabric C1B fired black with brown margins. Ext. rim diameter 180mm. Pit 145, 270.82. Flanged and moulded bowl of Young's Type R41 (1977) in grey Fabric C2 fired rough black. Ext. rim diameter 160mm. Pit 145, 270.
83. Greater part of lop-sided flanged bowl of Young's Type R43 (1977) in similar fabric fired patchy grey. Ext. rim diameter 140mm. Pit 145, 271.
84. Flagon of Young's Type W.6 (1977) in white Fabric F10. Ext. rim diameter 70mm c. AD 150–240. Pit 145, 271.
85. Rim from lagena of Young's Type W.8 (1977) in similar fabric. Ext. rim diameter 120mm c. AD 100–240. Pit 145, 270.

This assemblage also includes a BB1 flanged bowl of Gillam Form 38 (1976) dated c. AD 140–200 and a fragment from a Central Gaulish Samian Dr.37 bowl.

Some of the white-slipped grey wares appear to be wasters or kiln seconds. The dot-barbotine decorated beaker (Fig 10, 79) has areas of discolouration and a vertical firing crack, the necked bowl (Fig 10, 78) has a distorted rim and a flanged bowl (Fig 10, 83) is of such poor quality that it is unlikely to have travelled any distance from source. It seems possible that a Lower Colne Valley industry potter may have migrated to somewhere near the site and set up a kiln during the mid 2nd century. Significant quantities of Oxfordshire products continued to be sent to the site but Alice Holt/Farnham pottery supply remained at a low level.

Assemblage 9

The pottery from the fills of ditch 125 and its spur ditch 123 at the northern end of the site.

Neither of the cuts across these ditches produced very much pottery. The fills of ditch 125 (slot 106 contexts 157, 169 (Fig 4), slot 207 contexts 286, 287, slot 224 contexts 364, 365 and slot 302 context 467) produced a mere 36 sherds (274g) of pottery. This assemblage is largely made up of abraded residual material but also includes a body sherd from a 3rd century Alice Holt/Farnham storage jar and an everted-rim fragment from a cooking-pot of similar date from the same source.

The fills of ditch 123 (slot 111 contexts 167, 170 (Fig 4); slot 131 context 163 (and slot 133 context 185) contained an even smaller 36 sherds (200g) of pottery. This material includes more 3rd century Alice Holt sherds and fragments from a similarly dated BB1 dish.

Assemblage 10

The pottery from ditches 122, 321 and 322. This discontinuous string of ditches also produced very little pottery. The fills of ditch 122 at the eastern end (slot 113 context 177; slot 118 context 192 (Fig 4); slot 119 context 256 (Fig 4); slot 149 context 289; slot 222 context 360; and slot 237 context 395) produced a mere 57 sherds. (618g) between them. Most of these sherds are residual in their contexts but include fragments from both incipient and developed BB1 beaded and flanged bowls (c. AD 240–300+) and four sherds from 3rd century Alice Holt/Farnham industry vessels.

The fills of ditch 322 to the west (slot 204 contexts 283 and 288; slot 205 context 285; and slot 300 contexts 464 and 465) produced an equally small 58 sherds (568g) of pottery, including the following:

Figure 8

86. Flanged bowl of Alice Holt/Farnham Class 5A in grey Fabric C1B and similar to an example from Alice Holt Site AH 52 (Lyne forthcoming B, fig 39, 679). Ext. rim diameter 240mm (c. AD 200–220).

Amounts of 3rd century pottery in Assemblages 9 and 10 and in the fills of pit 231 and elsewhere

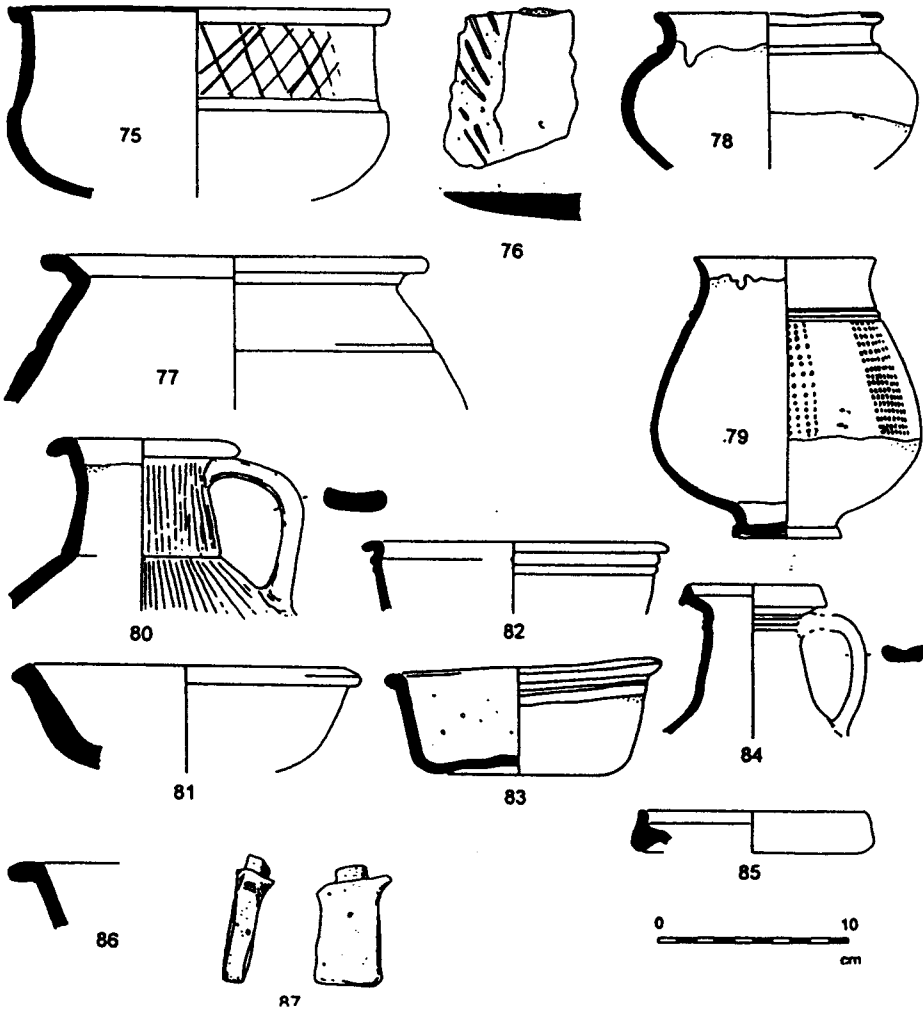


Figure 8. Pottery (see text for details)

are very small and indicate a sharp decline in the intensity of occupation on the site after AD 200. Most of the identifiable 3rd-century sherds come from the revitalised Alice Holt/Farnham kilns (Lyne and Jefferies 1979, 56) and the BB1 potteries around Poole Harbour in Dorset. There is no pottery which need be later than the end of the 3rd century.

Miscellaneous sherds

Most of the range of pottery forms and fabrics is covered above, but the following piece is of interest and may be connected with iron working or pottery manufacture on the site:

Figure 8

87. Leg from ?grate in very coarse black fabric with profuse up to 3.00mm sub-angular and irregular

white limestone inclusions. Grate fragments, including legs of similar design, were present in 2nd century contexts at pottery production Site AH.52 in Alice Holt Forest, although the fabric is different (Lyne forthcoming B). Ditch 331, slot 115 (262) (Fig 4).

METALWORKING DEBRIS

by Chris Salter

A total weight of 52.9kg of material was examined, the vast majority of which was iron slag. The slag was recovered from many of the contexts across the site and for all phases of site use. Much of this was in the form of moderate-sized to large lumps of dense slag. Some of the slag was weathered to such an extent that it was difficult to distinguish slag from natural hard pan concretions. This weathering, together with the relatively small quantity of slag, much of which was of a form which could have been produced by either by iron-smelting or by iron-working, made the interpretation of the material difficult. Such small assemblies are more likely to have been produced by some form of iron-working, ie simple forging and welding activity associated with artefact fabrication and repair. In general, when the total weight of slag recovered is as low as 50kg, it is thought likely that the material was generated as a result of forging rather than smelting activity. This is also thought to apply even in the case of Iron Age iron smelting activity, where the quantities of slag are usually low. There is general assumption that a Roman iron-smelting site would have produced several tonnes of slag.

However, this assemblage contained material that was more likely to have been the result of iron smelting. In particular, the combination of massive furnace bottoms, furnace slag fragments and tap-slag is characteristic of smelting activity. The presence of small quantities of tap-slag-like material is not necessarily evidence for smelting, as small tap-slag like flows can form during smithing. Similarly, large slag-cakes can form by extensive welding of raw blooms, or during fabrication using dirty (raw) iron.

Table 3 gives a detailed classification of the debris by slag type, and Table 4 gives the proportion of debris by likely production process. This shows that over half of the debris (57.1 %) was directly attributable to smelting activity (the top four debris classes in Table 3). It is likely that the proportion of smelting slag to that produced by other processes is likely to be even higher than reported, as on sampling and preparation of polished sections some of the pieces of slag designated as undiagnostic iron-working slag in Table 3 showed internal structures than were more likely to be the results of smelting.

<i>Slag Type</i>	<i>Weight (g)</i>	<i>% of total weight</i>
Furnace bottoms	9842.0	18.62
Smelting slag	15649.0	29.61
tap slag-smelting	2864.3	5.42
Smelting slag (probably)	1846.8	3.49
Smithing hearth bottom	2706.0	5.12
Smithing hearth bottoms fragments	1548.4	2.93
Undiagnostic iron- working slag	15216.1	28.79
Low density slag	108.0	0.20
Vitrified hearth lining	1506.0	2.85
Fired clay	596.0	1.13
Iron object	206.0	0.39
Natural – rock etc	326.0	0.62
Non-metallurgical – soil etc	439.3	0.83
<i>Total</i>	<i>52853.9</i>	

Table 3. Weight distribution of metal-working debris by slag types

The relative amount of tap slag was low (5.4% of the total) when compared with quantity of furnace bottom and other smelting (furnace)

slag (2.8kg against 27.3kg). This may reflect a smelting process producing a relatively viscous slag, which would have made slag-tapping difficult and less effective than was generally the case. Or more likely, the combination of the small sample size and some form of selective archaeological deposition have resulted in a predominance of non-tapped material

<i>Process Type</i>	<i>Weight (g)</i>	<i>%</i>
Smelting	30202.1	57.14
Smithing	4254.4	8.05
Iron-working	15216.1	28.79
Pryotechnical	1614.0	3.05
Others	1567.3	2.97
<i>Total</i>	<i>52853.9</i>	

Table 4. Weight distribution of metal-working debris by process type

In Table 3, low density slag covers materials that are the result of the interaction of refractory materials such as hearth-lining, soil or rock fragments, with the fuel and other hearth contents at high temperature. Other high temperature processes such as pot-making are also able to generate this sort of material. In this report, low density slag covers a wider range of materials than can be placed in the fuel ash slag class used by other authors. Vitrified hearth lining, and fired clay, are not necessarily indicative of metallurgical activity as they can be produced by a range of high temperature processes. However, in this case, most this material is likely to have been directly associated with ironworking.

A small number of corroded iron objects were located by the use of a small hand-held metal detector. The weight of this material was over-reported as the surrounding ferrocrete was included in these tables. Most of the natural

material was either rock (chert and heat-cracked chert) or soil concreted together with precipitated iron mineral (hard pan/ferrocrete) formation. Much of this initially appeared to be possible iron ore, as did some of the slag. However, no unambiguous samples of iron ore were recovered.

THE NATURE OF THE DEPOSIT – SMELTING AND SMITHING OR JUST SMELTING

The amount of debris recovered was low, so that it could be argued that the material simply represented the debris from a forging site using a high proportion of raw blooms or semi-finished raw and 'dirty' metal. The debris was not recovered from primary metal-working contexts. The normal primary deposits for iron smelting sites would be in the form of a slag heap close to the bloomery furnace where it was either the forge floor or a dump close to the smithy door for a forging site. Here, material was recovered from secondary fills and more disturbed contexts and the total weight of slag is not a good indicator of the nature of the iron-working activity. The identification of the type of iron-working activity was based totally on the slag morphology. In this case the evidence from the small quantity of tap slag and the larger quantity of furnace slag would indicate that there was a Roman iron-smelting site in the near vicinity. The regional significance of the findings is discussed below.

GLASS

by Matthew Gleave

One rim and neck fragment of yellowish-green glass with applied handles on either side, was recovered from pit 145. A few pin-prick bubbles are present, elongated in the neck. Apart from a few scratches on the top surface of the rim, the fragment is in fresh condition. The handles were applied on the neck, folded upwards, out and down to form typical 'dolphin' style handles. The rim was folded out, down and inwards and then flattened horizontally, causing an irregular-shaped opening at the top of the neck.

(Dimensions: 31 x 52mm; weight, 30g; thickness, 3mm; rim diameter, 35mm; internal diameter of rim, 8 x 10.5mm; internal diameter of neck, 13.5mm; neck length, 23mm).

This fragment undoubtedly comes from a vessel type known as an *aryballos* or oil flask, a common Roman vessel type through the 1st to 4th centuries AD. Based on a Greek pottery or glass vessel popular in the Mediterranean region from the 6th century BC, the vessel would have had a globular body and the handles typically had bronze chains hung through them as carry straps, although there are no scratches on the inside of the handles as would be expected if this was the case for this vessel. Some examples have been found with bronze or worked bone stoppers, although the narrowed irregular opening at the top of the neck on this vessel does not suggest this. The yellowish-green colour of the vessel suggests a 2nd to 3rd century date, which is in accordance with the pottery evidence (AD 120–170)

A fragment of undiagnostic yellowish-green glass with a few pin-prick bubbles was retrieved from the surface of hollow 124 (slot 3).

METALWORK

Two pieces of metalwork were recovered during the excavation, both badly corroded. An iron stud/button from pit 13 (257) is undated. It is 14mm in diameter, with the remains of a tapered fixing in the back. An unidentified object from ditch 331 (slot 115, 263), 76mm long and 13mm wide, appears to be two strips of iron joined together at one end by three metal brackets. Additional, badly corroded, unidentified fragments have been included in the slag report above.

BRICK AND TILE

Five pieces of tile were recovered from the excavation; one piece from 145 (271) being a fragment of *tegula*. The remainder were too fragmented to identify to type but are detailed in the site archive.

FIRED CLAY

by Jo Pine and Steve Ford

A total of 303 pieces (11.543kg) of fired clay was recovered. This can be divided into two categories; featureless fragments, and parts of recognisable objects. Recognisable objects include at least eight loomweights (plus six possible loomweights) and four fragments of daub. Where sufficient exterior features of the loomweights had survived, these indicated that they were of triangular form. The remaining fragments were all undiagnostic, although some may be daub. The assemblage was carefully examined for the presence of material possibly associated with iron production (such as crucible remains or vitrified clay fragments), but these were not noted. Of the eight loomweights, two (two fragments, 957g) came from Phase 2 contexts, and six (nine fragments, 1454g) came from Phase 4 contexts. Of the six possible loomweights, two (238g) came from Phase 2 contexts, three (542g) from Phase 4 contexts, and one (30g) was unstratified.

STONE

by David Williams

Fourteen pieces of stone were analysed, and these are catalogued and described in Table 5. Included are fragments of a quern or millstone probably from the Pennine region of northern Britain, and other fragments of probable quernin both an Upper Greensand stone similar to that from a quarry at Potterne, Wiltshire, and in a Lower Greensand similar to material from a quarry in south-west Oxfordshire.

BURNT FLINT

A small amount of burnt flint was recorded from 16 contexts. This is detailed in the site archive.

ANIMAL BONE

by Sheila Hamilton-Dyer

A very small collection of fragmented animal bone was recovered from the site. A total of 37 individual bones was recorded. The majority of these, 23, are of cattle, with half, 12, being the

<i>Cut/deposit</i>	<i>Phase</i>	<i>Description</i>	<i>Wt (g)</i>
300 (464)	5	Two fragments from a large quern or millstone in a coarse millstone grit. Almost certainly from the Pennine region of northern Britain.	150
208 (292)	3	Four fragments of iron-rich ?Carstone. Possibly from a quern as three of the pieces have a flattish worn surface. Possibly from the Upper Cretaceous to the north of the site.	548
104 (153)	2	Part of a burnt broken pebble of Sarcen. Probably from the Upper Cretaceous to the north of the site or from a local river or stream.	258
119 (256)	5	An irregular-shaped fragment of stone from the Lower Greensand series with ill-sorted polished yellow and white quartz grains and grey to black chert, possibly from a quern. This stone seems very similar to material from the quern quarry site of Cole's Pits, Faringdon, Oxfordshire, held in the stone collection of the Dept of Archaeology, University of Southampton (see Crawford 1995).	250
231 (390)	4	Large segment of quernstone in an Upper Greensand stone. This stone is similar to material from the quarry site at Potterne, just south of Devizes, Wiltshire, held in the stone collection of the Dept of Archaeology, University of Southampton.	595
145 (271)	4	Two large building blocks of Potterne Stone.	4250
208 (292)	3	Broken slab of burnt fine-grained sandstone. Origin unknown.	209
103 (154)	2	Small slab of shelly limestone. Origin unknown	102

Table 5. Catalogue of stone

remains of loose teeth. Three of the other bones are fragments of jaws which are eroded and have lost all the teeth. The four sheep/goat remains are also of loose teeth. Other mammal bone could be identified only as cattle- or sheep-sized

A single bone of an amphibian was also recovered. All the material is in poor condition, eroded and abraded. The indication from the ceramic evidence and features of settlement edge features, perhaps field boundaries, would be consistent with the faunal evidence. Bone

quickly buried in pits near the settlement would be expected to survive better than material in shallow features at the periphery, or even scattered as part of the manuring system. Cattle remains are usually dominant in Roman assemblages but it should be noted that the larger bones of cattle are more likely to survive than those of smaller animals. The high proportion of loose teeth, more resistant to destruction than bone, also indicates that much material has been lost and, therefore, that this collection is unlikely to offer true representation

of the species proportions. Similarly, the high level of teeth and jaw fragments may be due to taphonomic bias rather than a result of disposal practices.

CHARRED SEED REMAINS

by John Letts

Forty flotation samples were submitted for analysis. Seventeen of the samples contained fragmented charcoal, which is particularly abundant in the sample from gully 123 (slot 229, 375). Five samples contained cereal grain, but only one specimen from pit 145 (271) can be identified with any certainty as a grain of wheat (*Triticum sp.*). Spelt wheat (*T. Spelta*) seems to have been favoured in the Roman period and hulled wheat chaff is almost always found on Roman sites, but its presence here cannot be confirmed due to poor preservation. A catalogue is included in the site archive.

DISCUSSION

by Jo Pine, Steve Ford and Chris Salter

The excavations described above have produced evidence of activity which began in the late Iron Age and continued, apparently without interruption, until at least the mid 3rd century AD. Pottery of middle Iron Age character was also recovered from deposits of later date and either indicates settlement of this period somewhere nearby or the survival of a long-lived pottery tradition. The form of the settlement and the modest nature of the finds, mainly pottery, suggests that the site is a low status farmstead, albeit with one, possibly two, important non-agricultural functions.

The earliest phase of activity (Fig 3) is represented by a curving length of ditch (127/129) which might have formed part of a free-standing enclosure. There was a single internal and two external features of contemporary date and it is possible that this ditch defined a settlement enclosure. However, ring-gully houses typical of the middle and late Iron Age, or even circular post-built houses such

as those recorded in the region at Park Farm, Binfield (Roberts 1995) and Fairclough Farm, Warfield (Torrance and Durden 2003) were conspicuous by their absence. With the knowledge that the site has not been excavated in full, a more likely interpretation is that this feature is associated with the management of livestock and lies adjacent to areas of human occupation. Excavations carried out on Iron Age and Roman sites on the chalklands of Wessex and in the Thames Valley have shown a wide variation not only in their morphological characteristics but also in their use. Some enclosures are densely occupied with, presumably, an unbroken sequence of settlement lasting for several hundred years, whereas others are almost devoid of evidence for any internal settlement activity (Coe *et al.* 1995).

At some time in the mid to late 1st century AD the circular ditch had become infilled and remodelling took place (Phase 2). Part of the original line was reused by a straight length of ditch (130) which, along with ditch 334, appears to have defined a trackway at its north-west end. This observation may relate to a wider pattern reported by Collis (1996, 91) who has noted that a number of late Iron Age and Roman enclosures on the chalk downlands of Wessex were remodelled at this time. A number of smaller features were present but there are no clear indications of structures used for habitation or industry, although the large volume of pottery recovered from ditch 120 points to settlement activity nearby. Again, this may be a product of the partial nature of the excavation, with occupied areas located elsewhere, but rural houses of Roman date are not commonly encountered and may be mostly constructed of non-earthfast foundations. The large 'working hollow' (124) was dug at this time.

It is not clear if the previous phases of ditch digging were supplemented by banks and hedges that preserved these boundaries without recourse to recutting, but the ditches had

become silted up by the early 2nd century (Phase 3). Deposits belonging to this period comprise a few large pits, activity within the working hollow, and a few isolated lengths of gully.

Further remodelling of the site took place in the mid to late 2nd century and 3rd century (Phases 4 and 5) with a pattern of rectilinear ditches which did not respect the arrangement of the earlier boundaries on the site. A few pits are dated to the earlier of these phases, but the impression gained from the plan of the ditches is that activity on this part of the site is that of paddocks or fields. No activity is recorded later than the mid 3rd century AD.

Direct evidence for the agricultural economy of the site in any period is lacking, with just a few charred plant remains recovered and the survival of only the most durable of faunal remains. The presence of quernstones is presumably related to the processing of grain but the presence of these objects provides few clues to the relative importance of arable compared to pastoral farming at this site. However, the site is more unusual in having evidence for both metal and pottery production. Substantial quantities of iron slag were recovered from many features across the site, together with furnace bottom fragments, iron ore and possible roasted iron ore; suggesting the presence of iron smelting on the site. The quantity recovered from Arborfield can be emphasised by comparison to recent excavations of sites of a broadly similar date in the region. Excavations at Wickham Fields and Thames Valley Park, Reading, produced only modest quantities of slag (less than 4kg) and the site closer to Arborfield at Park Farm, Binfield, had no iron slag at all (Andrews and Mephram 1996; Barnes *et al.* 1997; Roberts 1995). The quantity from Arborfield (45kg) compares more favourably with the finds at the 1st century AD site at Riseley Farm, Swallowfield (Lobb and Morris 1991–3), where more than 27kg of ironworking debris was recovered.

Yet the quantity of slag present is not large and possibly the main area of production and dumping has not been identified, or the work was intermittent. It is possible that the majority of the debris comes from the production of a single large object. Iron slag was found from many features across the site and from all phases of site use, but the greatest proportion is associated with deposits of Phases 2–4, especially the infilled large hollow 124 and adjacent features. The modest quantity of fired clay from the site appears to be the remnants of daub, loomweight, etc, and there are no indications that it was directly used in iron production, such as for crucibles. Nevertheless, a strong association with iron production seems probable and this is discussed further below.

The presence of a possible waster, a small amount of pottery tempered with iron slag (Fabric C8), and the leg from a possible grate similar to examples from the Alice Holt kiln sites, suggests that small-scale pottery production may have taken place.

The last comprehensive survey of Roman settlement of the London Clay and the other Tertiary geological outcrops in east Berkshire (Ford 1987) concluded that, whilst settlement was present the density, size and status of sites was low in contrast to those located on the chalklands and river gravels to the north. The survey was unable to comment on the nature of the Iron Age background to the Roman settlement or to detail the development of settlement patterns throughout the Roman period. In the intervening years, fieldwork, mostly as a result of development pressure, has led to the location of more settlements of Roman date and, perhaps of greater interest, several of Iron Age date. The data yet are too few to build a comprehensive model of settlement and the detailed information that does exist indicates a divergent chronological and typological pattern. Two Iron Age sites have been excavated in this study area. At Fairclough

Farm, Bracknell (Torrance and Durden 2003) unenclosed occupation of middle Iron Age date was recorded but did not last much beyond 100 BC. In contrast, at Park Farm, Binfield (Roberts 1995), a larger, enclosed settlement began in the middle Iron Age and was occupied through the transition to the Roman period up to *c.* AD 200. The site at Arborfield was not occupied before 50 BC but continued in use until *c.* AD 300. Two Roman sites are known only from detailed fieldwalking evidence. At Ashridge Wood, Wokingham (Ford 1987, 88), the pottery dates from *c.* AD 50–200. Subsequent trenching of this site in 1991 (Ford 1993) failed to locate any subsoil deposits. Pottery from the site at Cabbage Hill, Warfield, dates from AD 200–400 (Mees 1989). To add to the diversity of this small sample of sites, the deposits at Arborfield may have more to do with the production of iron than with settlement on the London Clay and the other Tertiary geological outcrops.

THE REGIONAL CONTEXT OF IRON WORKING

by Chris Salter

It is well known that there was extensive Roman iron production in the Weald (Cleere and Crossley 1995), the Forest of Dean (Cleere 1986) and along the Jurassic ridge of Northamptonshire and Lincolnshire (Condron 1997). The presence of small-scale iron-smelting sites supplying the immediate needs of the local community, and of medium-scale production centres supplying wider rural and local urban centres are less well studied.

Figure 9, which shows the locations of iron smelting sites of all periods in southern England (excluding data from the recent Blackdown and Exmoor surveys), illustrates the wide geographical scatter of iron-smelting activity. In some cases, such as the Black Down Hills of the Somerset–Devon border, the individual sites



Figure 9. The location of iron smelting sites of all periods in southern (including data from the recent Blackdown and Exmoor surveys)

have produced several thousand tonnes of slag. Thus, the overall scale of production of the area in the Roman period must have been at least regionally significant. This in turn means that the simplistic three centre model proposed by Cleere (1986) has to be modified if it is to reflect the true iron economy of Roman Britain.

Figure 10 shows the location of a cluster of 15 iron-smelting sites in the area to the east of Arborfield (Ford 1987, 96, fig 38), including one very close to the present site. None of these slag heaps, to the author's knowledge, have been excavated, nor examined in any detail. The precise nature of the iron-working activity is not known. However, given that it is unusual for iron-working activity other than smelting to leave noticeable slag heaps, it seems reasonable to assume that these slag heaps represent remains of iron-smelting activity. The only historical evidence dating from the late 18th century for iron-smelting activity in the Thames Basin comes from Weybridge (Dewey and Bromehead 1915, 91–3) well to the east of this group of sites. The quantity of slag associated with Iron Age and Anglo-Saxon sites is usually small and less likely to occur as discrete mounds of slag easily locatable by field survey. On balance this would suggest that most of the iron slag heaps on Figure 10 are likely to date to the Roman period.

Most of the slag heap sites shown on Figure 10 are located on the Bagshot or Bracklesham Beds, whereas our site is located on the London Clay (Table 6). Iron ores can develop locally in the London Clay where it consists of sands and clays, and sandy deposits were observed in the evaluation trenches to the east of the main excavation (Pine 1998). In any event, the Barton, Bagshot, and Bracklesham Beds all outcrop within a few kilometres of Arborfield. The iron ores in all these formations are present as thin bands of iron-rich sand, distinct ironstone bands, or as superficial hard-pan. Further to the east at St. George's Hill, Surrey, the ironstone of the Bracklesham Beds was sufficiently extensive

for it to be mined and used in the iron works at Weybridge (Dewey and Bromehead 1915, 91–3). As far as physical resources required, there was a supply of ore in the form of local ironstones in the Tertiary sands (Salter and Ehrenreich 1984). The same geological formations would also have been the source for the clay to construct the furnaces and presumably there was a suitable supply of wood in the region.

Condrón (1997), in her analysis of the Jurassic ridge iron industry, suggested a four-stage hierarchy for iron smelting and smithing sites:

1. Smithing and/or smelting for household use
2. Specialists serving small communities and supported by that community
3. Town-based artisans
4. Specialist production focusing on smelting or smithing, supported by other communities such as military and civilian production centres and smithing centres

The author doubts that smelting continued to be a household activity into the late Iron Age, let alone the Roman period, due to the degree of specialist skill required to produce iron efficiently in a bloomery furnace. However, the scheme is useful as a basis from which to analyse the Arborfield site.

The evidence is at present circumstantial, in that none of the other sites located on Figure 6 have been investigated, but it would seem likely that the Arborfield site is a western representative of a cluster of smelting sites of a previously unrecognised medium-scale iron-smelting industry. Above, it was argued that most of these sites are likely to be of Roman date. Until dating evidence becomes available, the cluster of sites can be considered as a single industry. In which case, it would fall into Condrón's classes 2

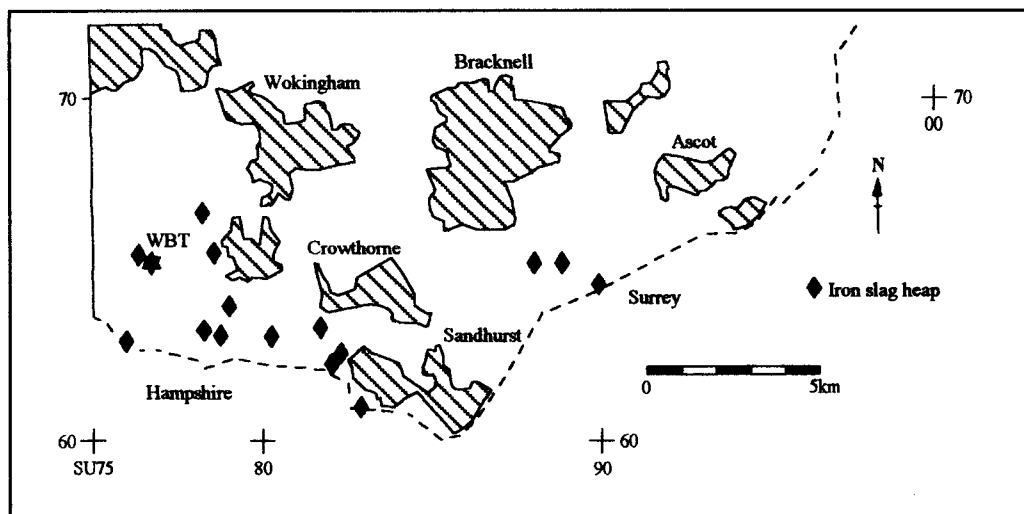


Figure 10. The location of iron-smelting sites in the area east of Arborfield (after Ford 1987)

or 4, that is, it is a specialist production industry that is, it is a specialist production industry either supplying the local or some more distant communities.

Considering the communities that might have been involved, it is not obvious that there was a need for extensive iron production in the immediate area. The density of Roman settlement on the tertiary geological outcrops of East Berkshire is not large (Ford 1987, 45) but there are sizeable settlements at Finchampstead, (Finch-Smith 1987, 242), Wickham Bushes (Corney and Gaffney 1983, 17), Riseley (Ford

1994–7, sites 15 and 17) and possibly near New England Hill (Ford 1987, 88). All of these sites are located on the Silchester–London road (Margary 1955, road 4a), and Silchester itself is only 14km away. None of this cluster of smelting sites, including Arborfield, is more than a few kilometres from the road. Apart from supplying these local sites, it is more likely that this industry at Arborfield was intended to supply a market for iron in Silchester and London

ACKNOWLEDGEMENTS.

Both the evaluation and subsequent excavation were commissioned by Persimmon Homes (South East).

The excavation was carried out during May and June 1998, to a specification approved by Mr R Bourn, formerly of Babtie Group Limited, archaeological advisers to Wokingham District Council. The author would like to thank the following for their help during this project: Mr N Pishavadia of Persimmon Homes; Mr R Bourn of Babtie; Cordelia Hall and Andy Smith for assisting with the fieldwork; Melanie Hall for editing the text; Leigh Torrance for preparing

<i>Geology</i>	<i>Number of sites</i>
Gravel	2
Plateau Gravel	1
Barton Beds	1
Bracklesham Beds	6
Bagshot Beds	4
London Clay	2

Table 6. Geological setting of iron smelting sites in East

the CAD illustrations; and Nicola Powell for post-excavation work.

BIBLIOGRAPHY

- Andrews, P and Mephram, L, 1996, 'Slag' in A Crockett, 'Iron Age to Saxon settlement at Wickhams Field, near Reading, Berkshire: Excavations on the site of the M4 motorway service area', in P Andrews and A Crockett, *Three Excavations Along the Thames and its Tributaries, 1994*, Wessex Archaeology Rep 10, Salisbury, 140 *Britain and Ireland*, Sheffield, 87-94
- Barnes, I, Butterworth, C, A, Hawkes, J, W and Smith, L, 1997, Excavations at Thames Valley Park, Reading, Berkshire, 1986-88, Wessex Archaeology Rep 14, Salisbury
- BGS, 1946, *British Geological Survey*, 1:50,000, Sheet 268, Drift Edition, Keyworth
- Cleere, H, 1986, 'Iron making in the economy of the Ancient World. The potential of archaeometallurgy', in B G Scott and H Cleere *The crafts of the blacksmith*, proceedings of the 1984 UISPP Comité pour la Sidérurgie Ancienne, Belfast, N Ireland, 1-6
- Cleere, H and Crossley, D, 1995, *The Iron Industry of the Weald*, Second Edition
- Coe, D, Fasham, P J and Keevill, G, 1995, 'Discussion of the Iron Age Sites', in P J Fasham and G Keevill, with D Coe, *Brighton Hill South (Hatch Warren)*, Wessex Archaeology report 7, Salisbury
- Collis, J, 1996, 'Hill-forts, enclosure and boundaries', in T C Champion and J R Collis (eds), *The Iron Age in Britain and Ireland*, Sheffield, 87-94
- Cordon, F, 1997, 'Iron production in Leicestershire, Rutland and Northamptonshire in Antiquity', *Trans Leicestershire Archaeological and Historical Society* 71, 1-20
- Corney, M, and Gaffney, V, 1983, 'Wickham Bushes', in A Taylor and R Taylor (eds), *Recent Archaeology in Berkshire*, Berkshire Archaeological Society Field Research Group, Reading, 17
- The site code is WBT96/79 and the site archive has been deposited with Reading Museum (accession no 1998.79).
- Cottrill, F, 1937, 'The Pottery from the Kilns', in K P Oakley, C E Vulliamy and E Clive Rouse, 'The excavation of a Romano-British Pottery Site near Hedgerley', *Rec Buckinghamshire* 13, 272-280
- Crawford, O G S, 1953, *Archaeology in the Field*, London
- Davies, B, Richardson, B and Tomber, R, 1994, *The archaeology of Roman London Volume 5, A dated corpus of early Roman pottery from the City of London*, CBA Res Rep 98, York
- Dewey, H and Bromehead, C E N, 1915, 'The geology of the country around Windsor and Chertsey', *Memoirs of the Geological Survey of England and Wales* 269
- Finch-Smith, R, 1987, *Roadside settlements in lowland Roman Britain, A gazetteer and study of their origins, growth and decline, property boundaries and Cemeteries*, BAR (Brit Ser) 157, Oxford
- Ford, S, 1987, *The East Berkshire Archaeological Survey*, Berkshire County Council Department of Highways and Planning, Occ pap 1, Reading
- Ford, S, 1989, Hogwood Shaw, Hogwood Farm, Finchampstead, Archaeological Evaluation, TVAS Report 89/8
- Ford, S, 1993, Ashridge Wood, Wokingham, Berkshire, An archaeological evaluation and excavation, Thames Valley Archaeological Services report 93/14, Reading
- Ford, S, 1994-7, Loddon Valley (Berkshire) fieldwalking survey, *Berkshire Archaeol J* 75, 11-33
- Frere, S, 1983, *Verulamium Excavations 2*, Rep Res Com Soc Antiq London, no. 41
- Frere, S, 1984, *Verulamium Excavations 3*, Oxford Univ Comm Archaeol Monogr 1
- Gillam, J P, 1976, 'Coarse fumed ware in North Britain and beyond', *Glasgow Archaeol J* 4, 57-80
- Greene, K, 1979, *Report on the Excavations at Usk: The Pre-Flavian Fine Wares*, Cardiff
- Hall, M, 1996, Whitehall Brick and Tile Works, Sheerlands Road, Arborfield Garrison, An

- Archaeological Desktop Study, Thames Valley Archaeological Services report 96/79, Reading
- Harris, E and Young, C J, 1975, 'The 'Overdale' Kiln site at Boar's Hill, near Oxford', *Oxoniensia* 39, 12-25
- Lobb, S J and Morris, E L, 1991-3 'Investigation of Bronze Age and Iron Age features at Riseley Farm, Swallowfield', *Berkshire Archaeol J* 74, 37-68
- Lyne, M A B, forthcoming A, 'The Changing Pattern of Human Settlement in Binsted, Kingsley and Alice Holt Forest: Part 1, Mesolithic to Roman', (Proc Hampshire Field Club Archaeol Soc)
- Lyne, M A B, forthcoming B, Excavations on pottery waster dump 52 in Alice Holt Forest 1977-80
- Lyne, M A B and Jefferies, R S, 1979, *The Alice Holt/Farnham Roman Pottery Industry*, CBA Res Rep 30, London
- Margary, I D, 1955, *Roman Roads in Britain*, Vol I, 76
- Mees, G, 1989, Cabbage Hill, Warfield, Berkshire Archaeological Society Field Research Group Newsletter, 7, no 2, Reading
- Orton, C J, 1975, 'Quantitative Pottery Studies, Some Progress, Problems and Prospects', *Science and Archaeology* 16, 30-5
- Pine, J, 1998, An Archaeological Evaluation at Whitehall Brick and Tile Works, Thames Valley Archaeological Services report 96/79b, Reading
- Roberts, M R, 1995, 'Excavations at Park Farm, Binfield, 1990: an Iron Age and Romano-British settlement and two Mesolithic flint scatters', in I Barnes, W A Boismier, R M J Cleal, A P Fitzpatrick and M R Roberts (eds), *Early settlement in Berkshire: Mesolithic-Roman occupation sites in the Thames and Kennet valleys*, Wessex Archaeology Rep 6, Salisbury, 93-132
- Salter, C and Ehrenreich, R, 1984, 'Iron Age metallurgy in Central Southern Britain', in (eds) B Cunliffe and D Miles, *Aspects of the Iron Age in southern Britain*, Oxford Committee for archaeology monograph, 146-161
- Thompson, I, 1983, *Grog-tempered 'Belgic' Pottery of South-eastern England*, BAR (Brit Ser) 108, Oxford.
- Timby, J, 1989, 'The pottery', in M Fulford, *The Silchester Amphitheatre: Excavations of 1979-85*, Britannia Monogr Ser 10
- Torrance, L and Durden, T, 2003, 'Middle Iron Age Settlement at Fairbridge Farm, Bracknell', in (ed) S Preston *Prehistoric, Roman & Saxon sites in eastern Berkshire; excavations 1989-1997*, TVAS Monograph 2 Reading.
- Wheeler, R E M and Wheeler T V, 1936, *Verulamium: A Belgic and Two Roman Cities*, Rep Res Com Soc Antiq London, no. 11
- Young, C J, 1977, *Oxfordshire Roman Pottery*, BAR (Brit Ser) 43, Oxford