Analecta Praehistorica Leidensia 32 / Native Neighbours : local settlement system and social structure in the Roman period at Oss (The Netherlands)

Wesselingh, Dieke A.; Fokkens, Harry; Bakels, Corrie

ANALECTA PRAEHISTORICA LEIDENSIA

2000

ANALECTA PRAEHISTORICA LEIDENSIA 32

ANALECTA
PRAEHISTORICA
LEIDENSIA

PUBLICATION OF THE FACULTY OF ARCHAEOLOGY
UNIVERSITY OF LEIDEN

DIEKE A. WESSELINGH

NATIVE NEIGHBOURS

LOCAL SETTLEMENT SYSTEM AND SOCIAL STRUCTURE IN THE ROMAN PERIOD AT OSS (THE NETHERLANDS)

UNIVERSITY OF LEIDEN 2000

Editors: Harry Fokkens / Corrie Bakels

Copy editors of this volume: Dieke Wesselingh / Harry Fokkens

ISSN 0169-7447

ISBN 90-73368-17-0

Also appeared as doctorate thesis, Leiden, November 9, 2000.

Subscriptions to the series Analecta Praehistorica Leidensia
and single volumes can be ordered exclusively at:

Faculty of Archaeology
P.O. Box 9515
2300 RA Leiden
the Netherlands

contents

4. The Westerveld settlement

The largest excavated settlement in Ussen is known as Westerveld; again the name originates from a field toponym. Discovered in 1980, this was the first part of Ussen to be excavated prior to the building activities instead of during the monitoring of the road trenches. This means that an open-area excavation could be aimed at. During various campaigns between 1980 and 1984, approximately 5 ha were unearthed.[1] Because of the presence of a rectangular enclosure, the original size of the settlement could be estimated at 7.5 ha. Gaps in the settlement plan were caused by an already existing road (the Gewandeweg), running northwest to southeast through the settlement, and by several modern buildings in the eastern part (fig. 72). The Westerveld settlement is situated northeast of the Vijver cluster, *c.* 200 m to the west of the Kennedybaan (fig. 3).[2]

A total of 37 house plans, seven outbuildings, between 13 and 116 granaries, 131 pits and wells and 43 (fragments of) ditches and palisades were excavated (fig. 72). Special features are a large rectangular enclosure marking the boundaries of the settlement and a smaller rectangular ditched structure, which has been interpreted as a rural open-air sanctuary (Slofstra/Van der Sanden 1987, 131-135). Because of the rectangular enclosure, there is no doubt as to which houses belong to the Westerveld settlement. No house plans were found outside the enclosure, but this may be due to the fact that only a small area outside the enclosure was excavated.

4.1 House plans

At the Westerveld settlement, 37 Roman period house plans were found, three of which were dated to the Late Iron Age or the Roman period. The dating of the individual house plans, mainly derived from the wheel-thrown pottery and complemented by intersections, is varying as far as accurateness is concerned. The majority of the plans cannot be dated more precisely than to a period of 50 to 100 years. No house plans were found outside the enclosure, nor were any of the house plans intersecting the enclosure ditches. All house plans belong to the types 7, 8 or 9 (table 22). H89 was incomplete to such an extent that the plan could only be classified as a type 6, 7, 8 or 9. However, since no other type 6-plans were found in the Westerveld settlement, it is unlikely that this plan should be the only specimen.

Orientation of the house plans is either west-east (29 house plans) or north-south (eight house plans). A northeast-southwest orientation, present in both the Vijver and the Zomerhof settlements, is absent. Schinkel (1994, part II, 8) notes that for Oss(-Ussen) the orientation of the house plans seems to be connected with period rather than with housetype. In all of Ussen, only eight house plans show a north-south orientation. These are the eight Roman period plans from the Westerveld settlement. Because of the lack of well-dated house plans, it is not possible to link the north-south orientation to a phase within the Roman period. Dates from north-south-orientated plans range from the pre-Flavian period to the first half of the second century AD (table 23).

Several times houses were rebuilt on the same location. In two cases houses were rebuilt twice on the same spot, and in both cases a change in orientation took place. H70 (north-south) was succeeded by H71 (west-east), which in its turn was overbuilt by H69 (north-south). H109 (north-south) succeeded H108 (west-east), and was succeeded by H110 (west-east).

The length of ten of the 37 house plans is unknown. The mean length of the other 27 is 24.8 m, but three of the incomplete plans are longer than that. The shortest complete house plan recorded in the Westerveld settlement (H119) has a length of 12 m, the longest specimen (H98) has a length of

type	6/7/8/9	7/8/9	7A	7B	7C	8	8A	8B	8C	9	9A	9B	9C	total
number	1	1	3	3	1	1	2	4	6	4	7	2	2	37
total	1	1		7				13				15		37

Table 22. House plans from the Westerveld settlement: number of house plans of each (sub)type.


house
outbuilding
granary
pit / well
ditch / palisade
N
0
100
M
S471
S454
S455
S456
S453
S457
S452
S461
S468
S467
S466
S458
S459
S435
S436
S437
B12
S438
H111
H115
H118
H119
S460
H117
S462
S464
S465
S469
H120
H121
S470
S463
S419
S418
H106
H105
H116
H101
S410
H104
H95
H94
S417
S397
S420
S409
S408
S394
S406
S405
S393
S396
S480
S398
S407
S416
H110
H109
H108
H96
H98
H99
B11
S384
S399
S400
S404
S403
S385
S383
S387
S391
S411
S401
S413
S382
S390
S388
S392
B10
S402
S338
S350
H69
S389
S486
H78
S342
S351
S386
S311
B6
S339
S353
S356
H71
S340
S343
S358
S312
S320
S323
S324
S355
S357
H89
H70
S315
H75
S322
H82
S313
S310
S325
S344
S316
S319
H76
S336
S309
S335
S326
S347
S346
S354
B8
S308
S333
S348
H85
H90
S314
H74
S334
S306
H72
H80
H84
S305
S349
S331
B9
S304
S317
S332
S302
S303
S318
S360
S327
S329
H79
S363
S321
S328
S330
B5

Figure 72. The Westerveld settlement (left: with numbered houses, outbuildings and granaries, right: with numbered pits, wells, ditches and palisades).

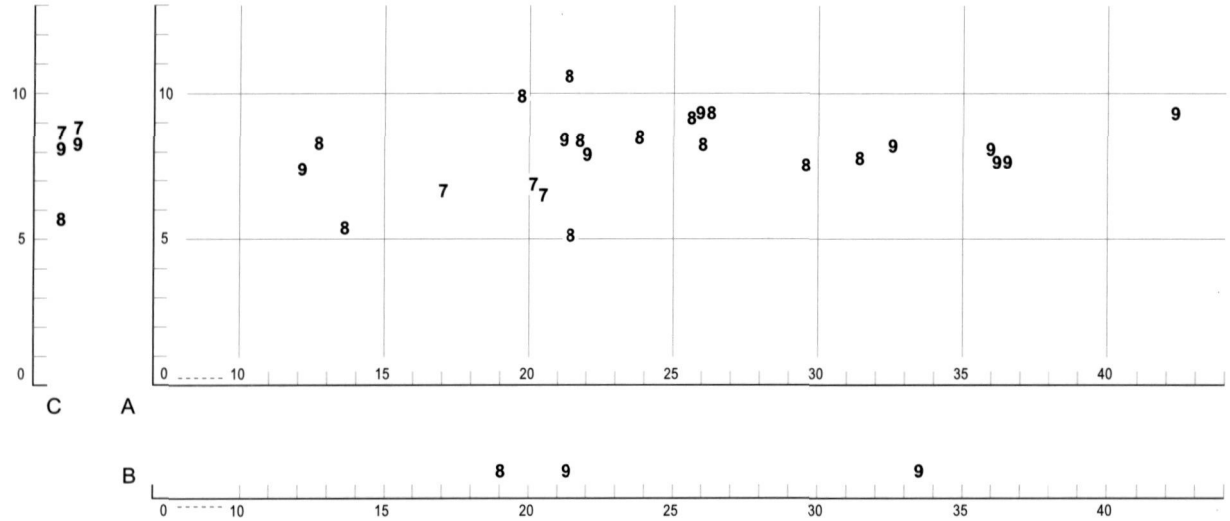


Figure 73. Size of Roman period house plans (numbers indicate types) from the Westerveld settlement. A. vertical: width, horizontal: length, B. length only (width unknown), C. width only (length unknown).

No.	type	length (m)	width (m)	orientation	date	dendro
H69	7A?	20.5	6.5	N-S	IIa	
H70	8A	29.6	7.4	N-S	Ic	
H71	9A	22.0	7.9	W-E	Id	
H72A	7B	>24.0	9.1	W-E	I	
H72B	7C	>35.7	8.5-9.1	W-E	Id	
H74	9A	26.0	8.2	W-E	Ib-c	
H75	8C	19.0	>10.5	W-E	Id	
H76	8C?	>11.2	5.8	W-E	LIA/pre-Flavian	
H78	8C	21.4	10.5	W-E	Id-IIA	
H79	7A	20.1	6.9	N-S	Id-IIa	
H80	8C	21.8	8.3	W-E	LIA/pre-Flavian	
H82	9A	21.3	>7.3	W-E	I	
H84	8C	19.8	9.8	W-E	IIA	
H85	8	21.4	5.1	W-E	IIA	
H89	6/7/8/9	>3.0	>4.9	W-E	pre-Flavian	
H90	8B?	31.5	7.7	W-E	Id-IIa	
H94	9	>10.2	>6.9	N-S	Id-IIa	
H95	7/8/9	>5.3	>5.5	N-S	pre-Flavian	
H96	9C	36.0	8.0	W-E	IB	
H98	9C	42.3	9.2	W-E	Ic	
H99	8B	25.6	9.0	W-E	Id-IIa	
H101	8B?	26.3	9.2	W-E	pre-Flavian	12 BC
H104A	8B	12.7	8.3	W-E	Ib-c	AD 53
H104B	9A	32.5	7.4-8.3	W-E	RP	
H105	9A?	25.8	9.2	W-E	Id	
H106	9A	23.8	8.4	W-E	Id-IIa	
H108	9	33.5	>6.8	W-E	LIA/pre-Flavian	
H109	9?	>27.7	8.1	N-S	I(B)	
H110	9A	21.2	8.3	W-E	Id	
H111	7B	>18.5	>9.1	W-E	Id	AD 79
H115	9	>31.6	8.3	W-E	Id-IIa	
H116	7B?	17.0	6.7	W-E	I	
H117	9B?	36.3	7.4-8.2	W-E	Ic-d	
H118	8C?	13.7	5.2	N-S	Id-IIa	
H119	8A	12.0	7.4	N-S	IIA	
H120	9B	36.2	7.9	W-E	II	
H121	7A?	>4.5	7.5	W-E	II	

Table 23. House plans from the Westerveld settlement. Date: LIA = Late Iron Age (phases I-L), RP = Roman period.

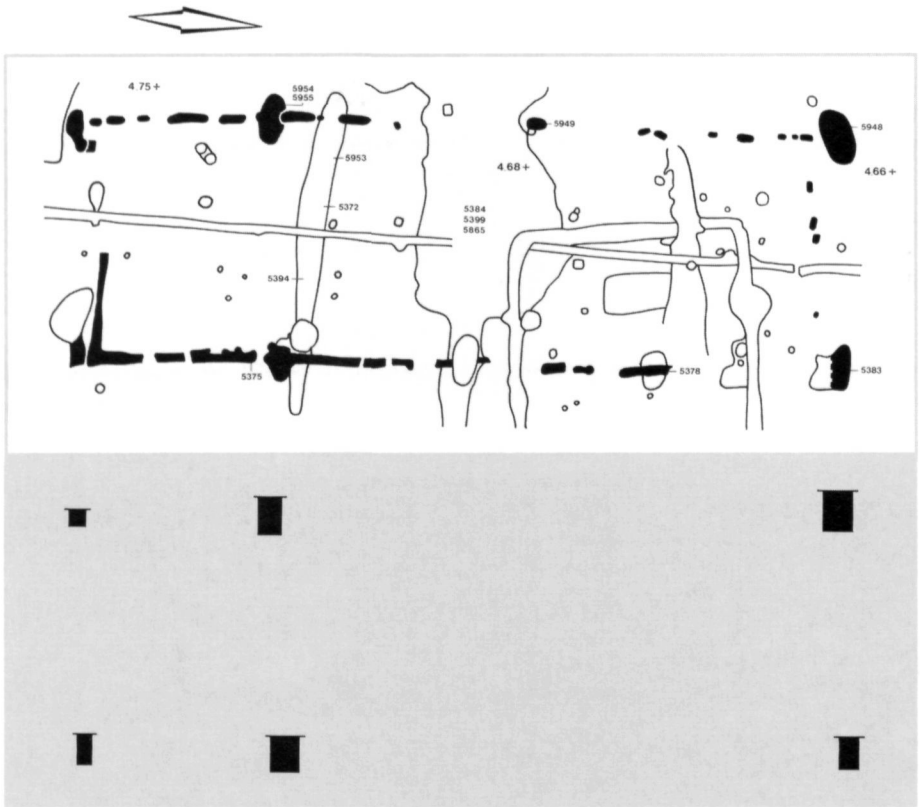


Figure 74. House 69. Scale: plan 1:200, posthole depths 1:100.

42.3 m. Comparing these numbers with the lengths and widths of all the Roman period house plans (fig. 73), it is clear that the houses from the Westerveld settlement were considerably longer than the average Roman period house plan from Ussen.

House 69

Because the central roof-bearing posthole may have disappeared under a recent disturbance, H69 can only be characterised as a possible type 7A (fig. 74). The foundation trench has been partially disturbed so that the exact location of the entrances is unclear. The characteristic location however, opposite each other in the long walls, is not possible. H69 intersects H70 and H71, both of which are dated to the second half of the first century AD. Finds include 33 fragments of handmade pottery and three wheel-thrown sherds. A combination of intersections and pottery yields a possible date of IIa.

House 70

The plan of H70 is the best and most complete example of a type-8A building (fig. 75). It is two-aisled with a total of six central roof-bearing posts, and posts all around the outside. The foundation trench has survived almost completely, showing only one clear entrance in the northern short side. A possible second entrance in the western long side is obscured by a pit (P475). H70 is intersected by H69 and H71. Combined with the pottery, that dates the plan to the second half of the first century AD, probably just before the Flavian period. A group of 45 handmade sherds includes fragments with fingertip and groove decoration, while the wheel-thrown pottery consists of 18 fragments. Besides the pottery, two iron nails were found.

House 71

Only the eastern short wall of H71, a type 9A, was disturbed (fig. 76). The majority of the western external posts are absent. In four of the postholes, remnants of oak roof-bearing posts were found. One of the roof-bearing posts (find no. 5385) was resting on an oak plank. A pointed wooden stick was found in the fill of the foundation trench. The finds consist of 94 fragments of handmade pottery and 16 wheel-thrown sherds, including two pieces of cork urn. The finds date the plan to the second half of the first century AD,

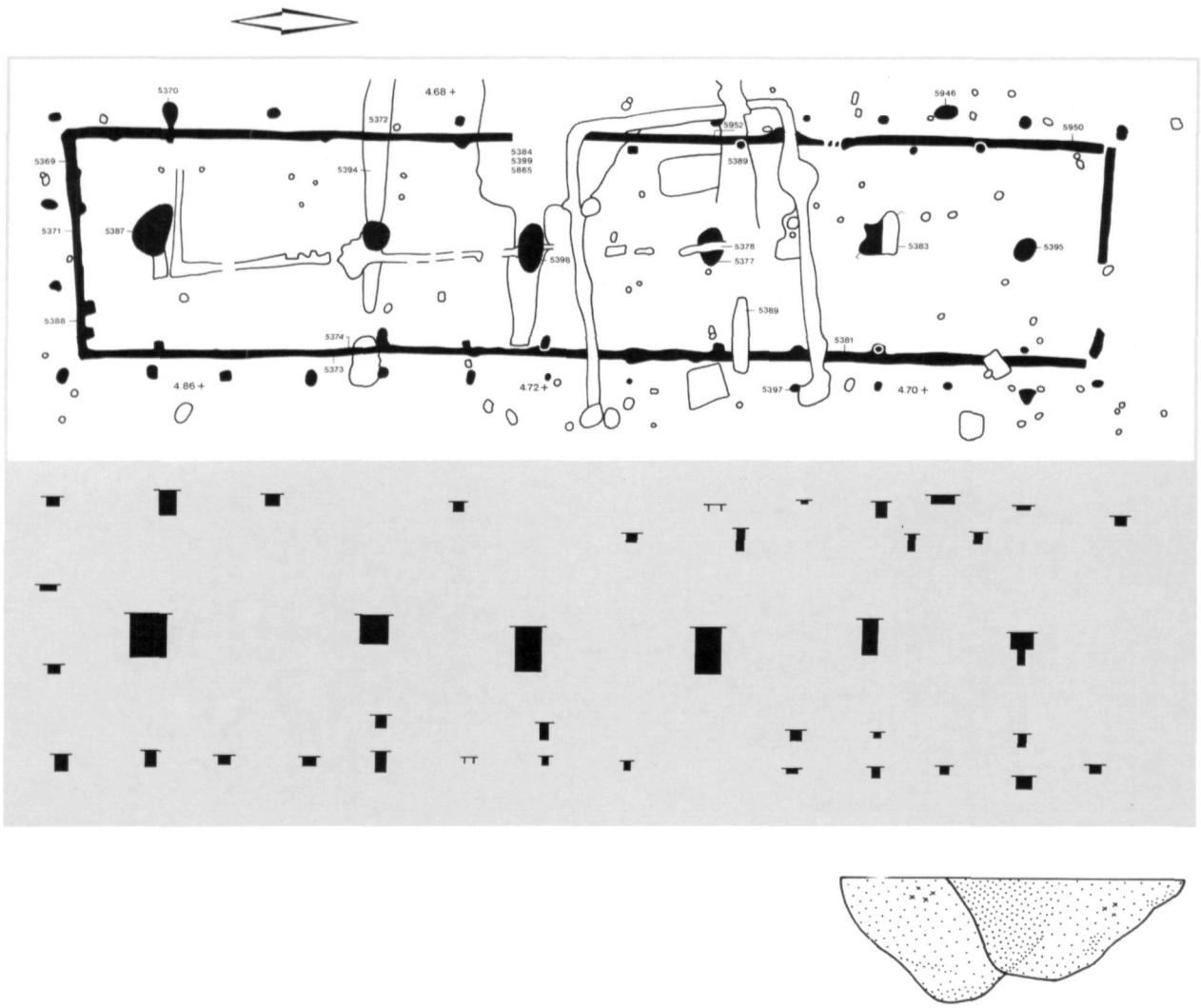


Figure 75. House 70. Scale: plan 1:200, posthole depths 1:100, section 1:30.

which can be reduced to Id by the intersections with H70 and H69.

House 72A

The foundation ditch, which is placed between double wall posts, is only present on the western side of this plan (fig. 77). The eastern half of the plan has two central roof-bearing posts and only a few external posts. Finds include 56 fragments of handmade material and 16 wheel-thrown sherds. Furthermore three iron nails were found.

House 72B

H72B is in fact an elongated version of H72A, which had an extension added to the west side (fig. 78). The most western part of the extension was not excavated. The combination of two type-7B plans makes this the only representative of type 7C: a two/one/two aisled plan with a length of more than 35 m. The finds from the extension, combined with the date of H72A, give the total plan a date of Id. They include 16 fragments of handmade ware and seven wheel-thrown sherds.

House 74

H74 is the most complete example of a type-9A plan (fig. 79). It has the usual two central roof-bearing posts in the western part, and three sets of double roof-bearing posts. Besides the entrances in the long walls there is a third entrance in the eastern short side, possibly functioning as a byre entrance. This plan has yielded a large number of finds:

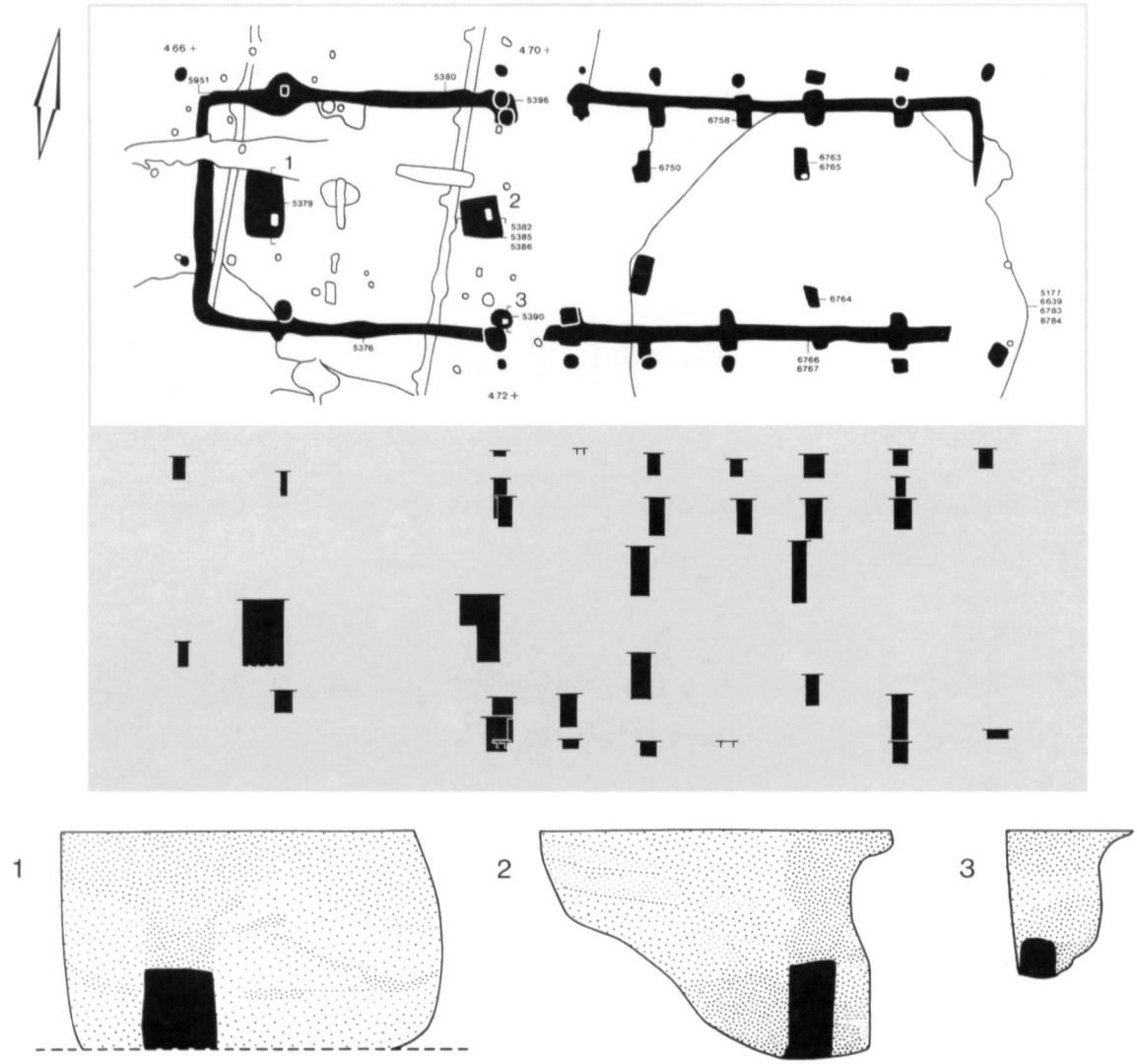


Figure 76. House 71. Scale: plan 1:200, posthole depths 1:100, sections 1:30.

981 fragments of handmade pottery and 94 wheel-thrown sherds, including 20 fragments of cork urn and a complete smooth-walled jug type Hofheim 50/51 (AD 40-80), which may have been a building sacrifice. Other finds are two bronze *Augenfibel* (dated before AD 40) and (fragments) of eleven iron nails.

House 75

A sub-recent ditch has disturbed the southern wall of H75, and there are no external posts on the short sides (fig. 80). Wood was preserved in one of the postholes: the remnants of a central oak roof-bearing post (find no. 5167). The features yielded 29 fragments of wheel-thrown pottery and 184 handmade sherds, including so-called thin red coastal pottery (Van den Broeke 1996). Other finds included 14 iron nails and a (possible) fragment of a roof-tile.

House 76

The larger part of H76 has disappeared under a sub-recent ditch (fig. 81). No posts could be documented externally, and it remains unclear whether the western short side is complete. If it is, the plan would be one of the shortest in the Westerveld settlement, and might have to be classified as an outbuilding. The most western roof-bearing posthole contained oak (find no. 5189). H76 is intersected by H75, and contained 52 handmade sherds and some grit from coastal pottery.

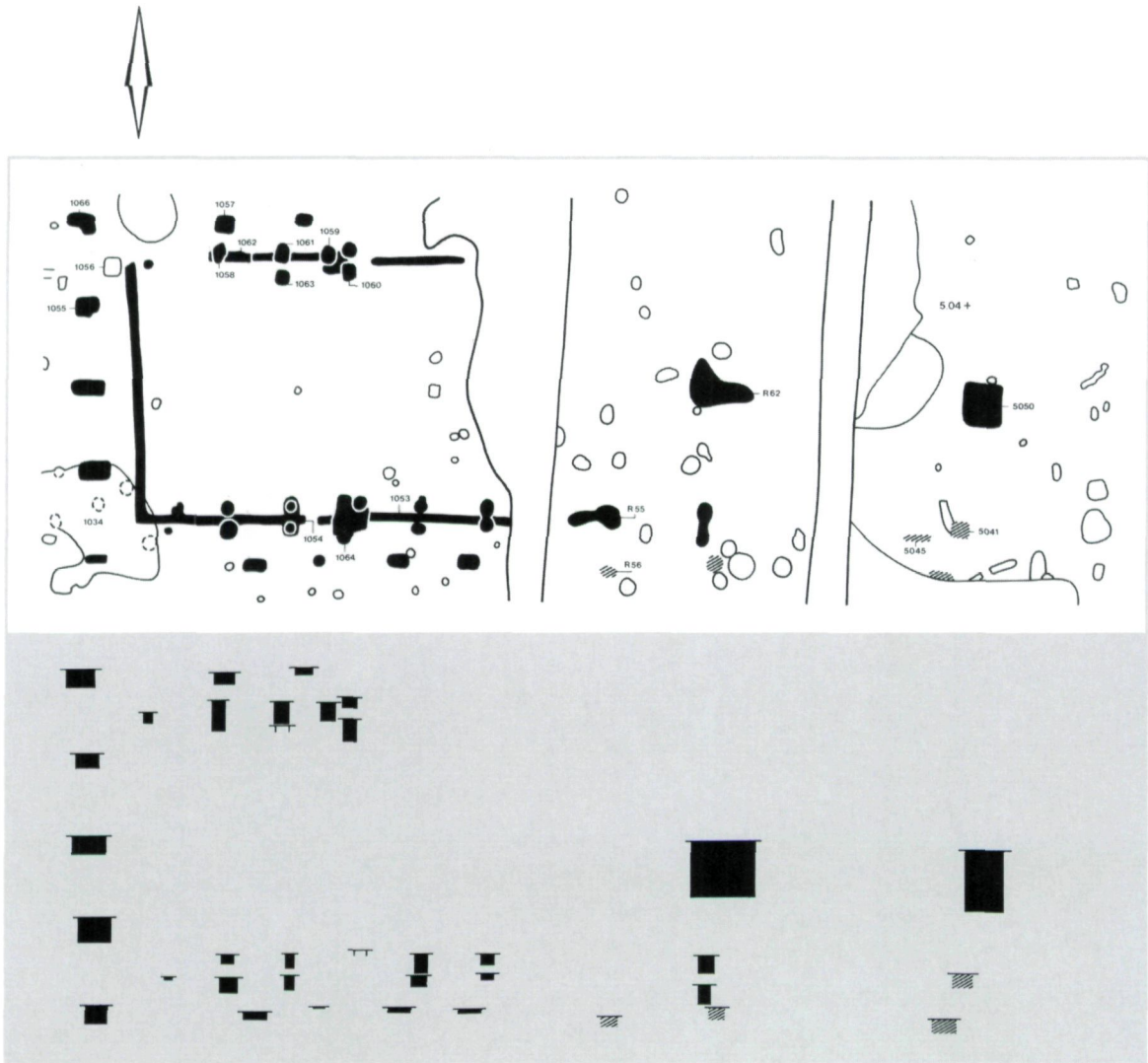


Figure 77. House 72A. Scale: plan 1:200, posthole depths 1:100.

House 78

H78 is an exceptional house plan. It is a complete type 8C, but instead of exterior posts a series of short trenches were lying at rights angles to the foundation trench (fig. 82). The sections of these trenches showed them to be bowl-shaped, while their deepest points were in line with the walls of the plan. Possibly the trenches contained posts, forming a kind of *porticus* all around the building. This situation is different from the regular roof-bearing exterior posts, as seen in other house types from Ussen, including type 8C. The trenches around H78 are much deeper (average depth 70 cm), suggesting that the posts standing in them were longer and supported more weight than the average exterior post. The extra weight might also have been caused by roof-tiles, which could have covered the roof of the *porticus*. Fragments of tiles were found in a nearby well (P300) and in some of the features from the plan itself. It is however uncertain whether the roof was tiled (see chapter 4.7.5).

Remnants of three central oak roof-bearing posts were found, one of which (find no. 5407) was resting on an oak plank. The amount of pottery from this plan is not only large (432 fragments of handmade pottery and 280 wheel-thrown sherds), but also shows a wide variation. The wheel-thrown ware includes a lot of *terra sigillata* and other tableware (see appendix I), dating the plan Id-IIA. Other finds are a

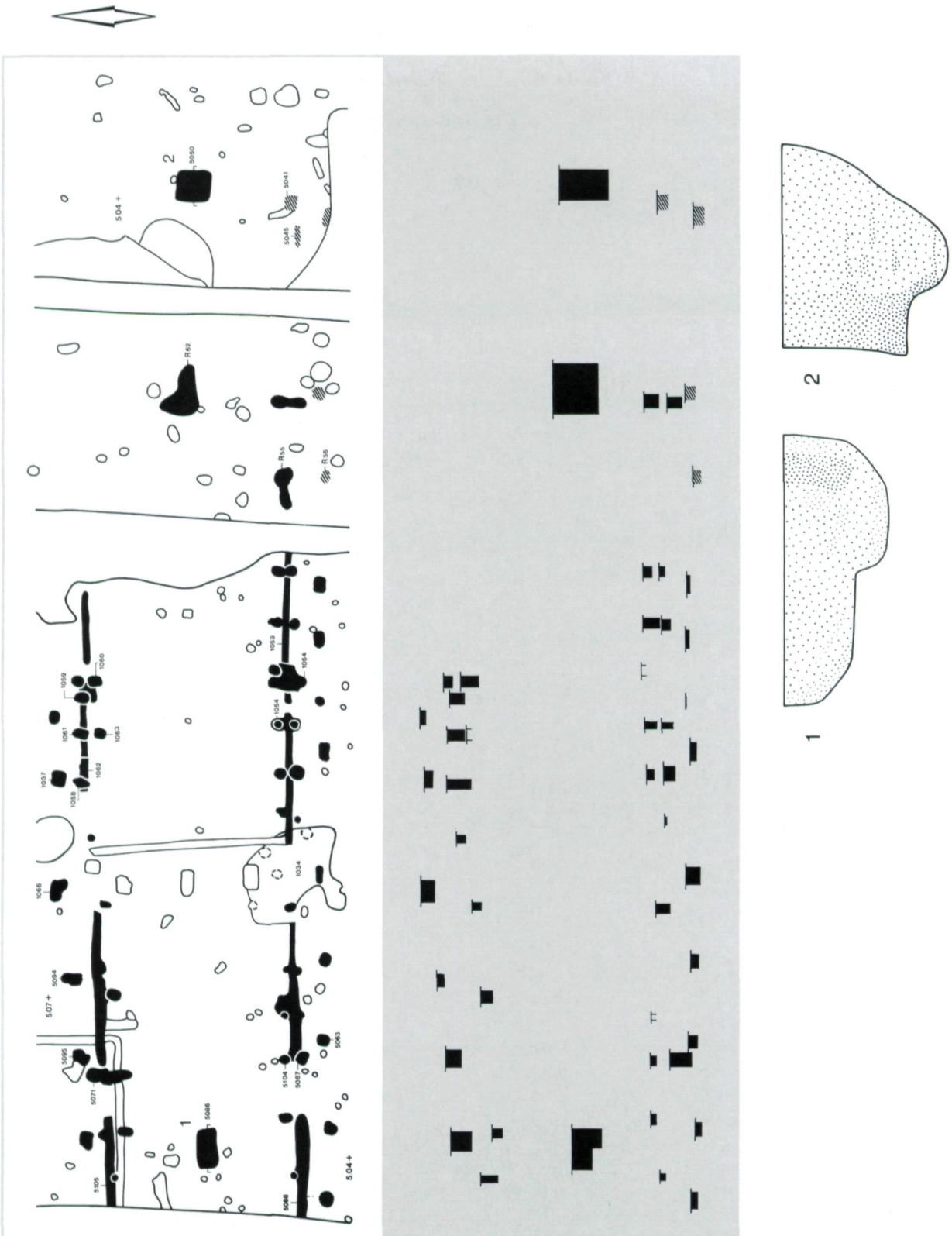


Figure 78. House 72B. Scale: plan 1:200, posthole depths 1:100, sections 1:30.

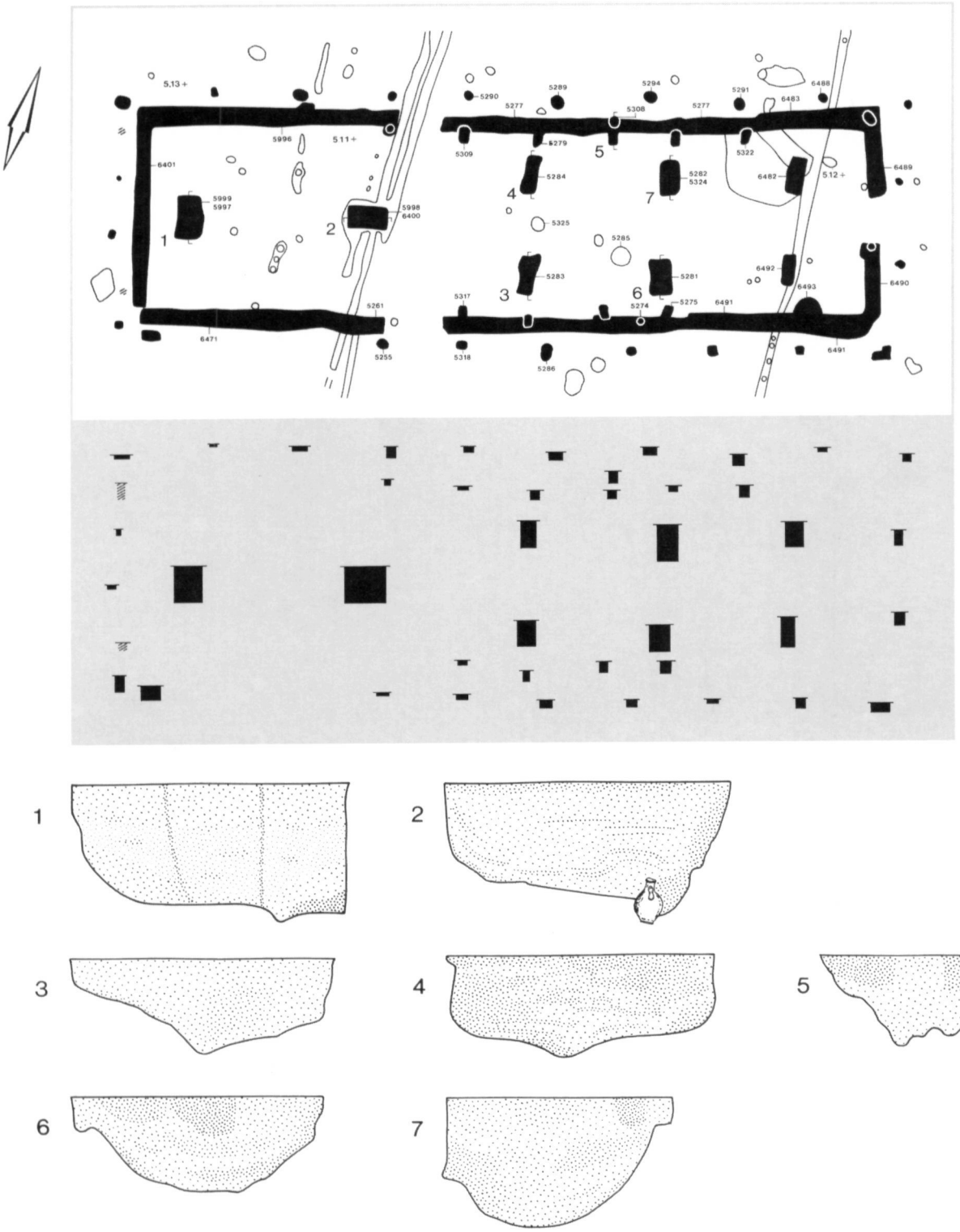


Figure 79. House 74. Scale: plan 1:200, posthole depths 1:100, sections 1:30.

Figure 80. House 75. Scale: plan 1:200, posthole depths 1:100, sections 1:30.

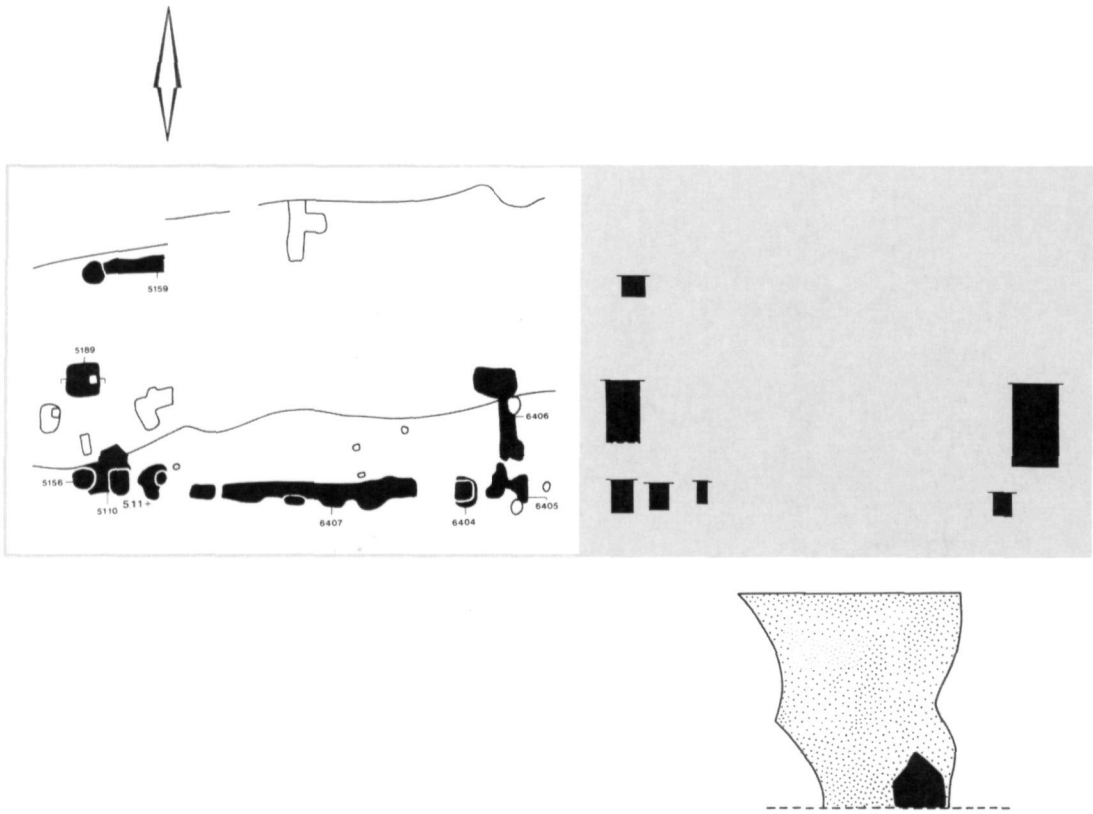


Figure 81. House 76. Scale: plan 1:200, posthole depths 1:100, section 1:30.

fragment of a glass *La Tène* bracelet, 38 (fragments of) iron nails and 22 fragments of (roof) tiles.

House 79
The short walls of H79 are missing, while the north-east corner has been disturbed (fig. 83). What remains is a type-7A plan. The single central roof-bearing post was resting on a wooden plank (wood species unknown). The postholes from the posts standing in the foundation trench were clearly discernible. A deviating aspect of this plan is its north-south orientation, which occurs only a few times in Oss (Schinkel 1994, part II, 10). Just 12 handmade sherds and three fragments of wheel-thrown pottery were found. The only other find besides the pottery was an iron nail.

House 80
The plan of H80 is a type 8C without exterior posts (fig. 84). Only one post, embedded in a narrow ditch on the short western side, could possibly qualify as an external post. Next to the usual set of entrances in the long walls there is a third, narrow entrance at the western end of the southern long wall. All four postholes that held central roof-bearing posts still contained remnants of the wooden posts themselves. Twice, the species of these remnants could be determined as oak. This is one of the two type-8C plans that could be dated to the Late Iron Age and/or the pre-Flavian period. In this case, the date is mainly based on the pottery ratio: 232 fragments of handmade pottery were found, as opposed to only three wheel-thrown sherds. In addition, 24 of the handmade sherds showed characteristic decoration. Besides the pottery, four iron nails were found.

House 82
The northern half of H82 was disturbed by a recent ditch (fig. 85). The plan, a type 9A, has an additional third entrance in the north-eastern short wall. Of the 84 pottery fragments found, 81 were of the handmade kind and three came from wheel-thrown pottery.

House 84
H84 has a complete type-8C plan, though the possible entrances have been disturbed by (sub)recent ditches (fig. 86). Wood (oak) was found in one of the central postholes.

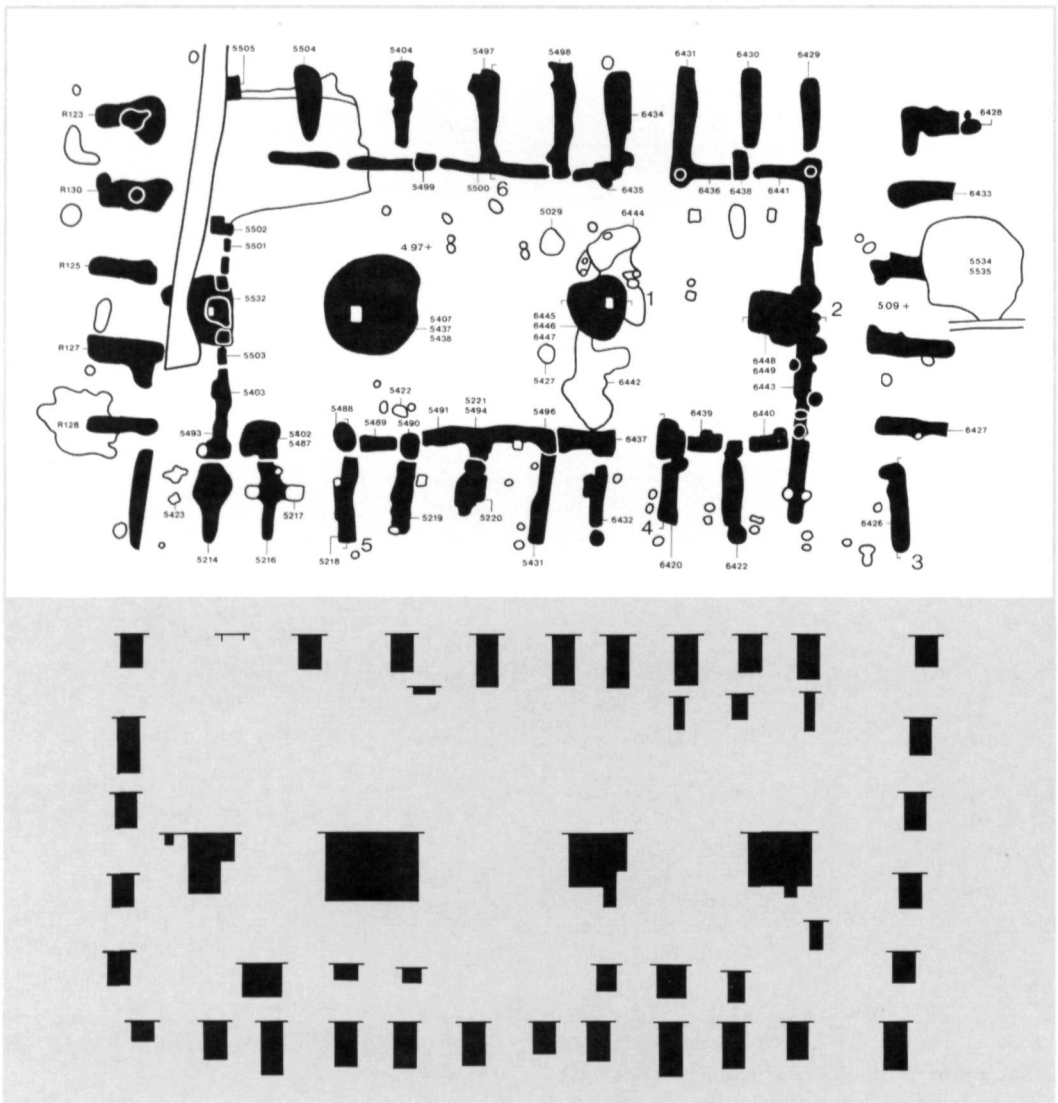


Figure 82a. House 78. Scale: plan 1:200, posthole depths 1:100.

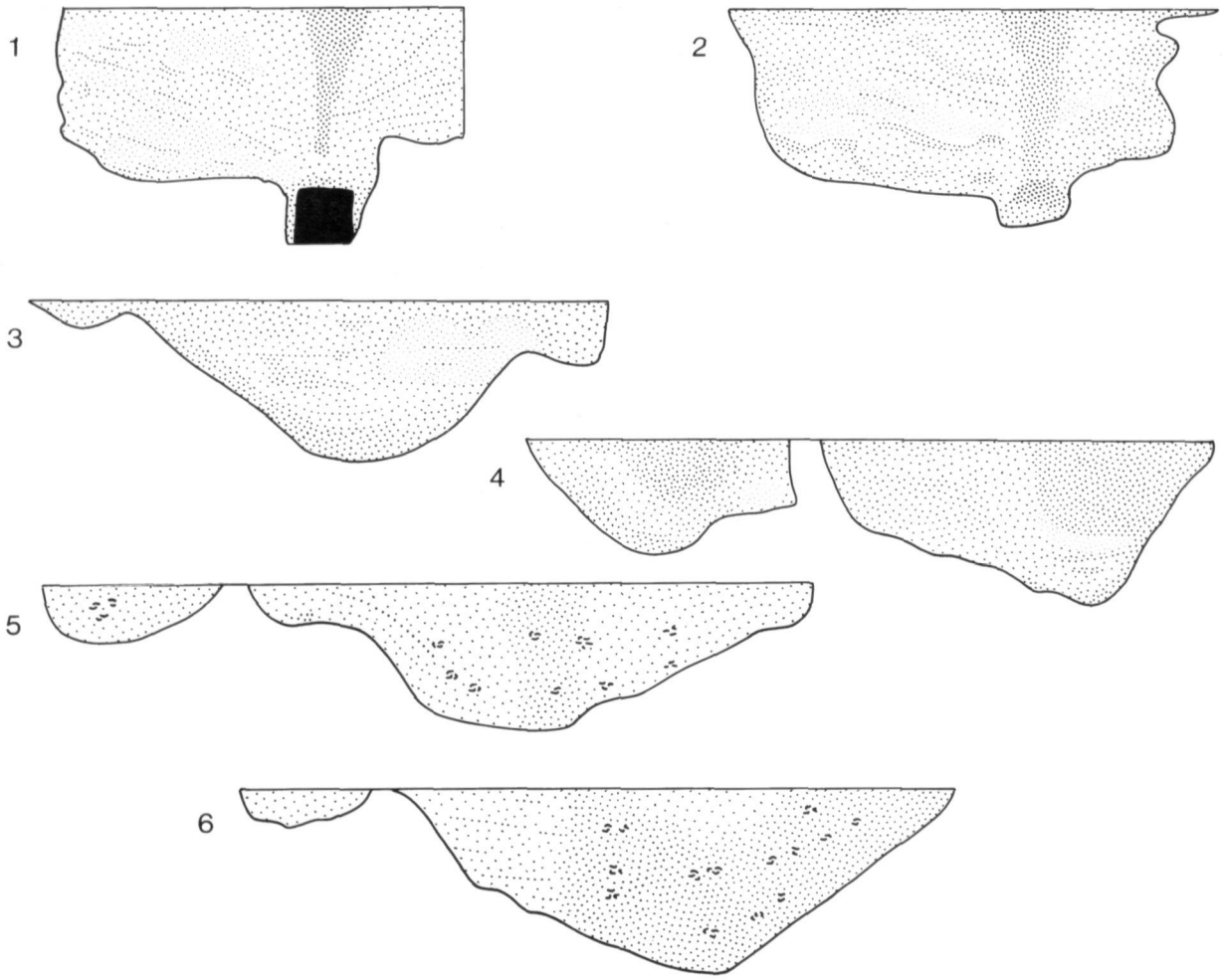


Figure 82b. House 78. Scale: sections 1:30.

A group of 15 handmade sherds and six fragments of wheel-thrown pottery account for a date in the first half of the second century AD. Furthermore an iron nail and fragments of slate were found.

House 85

H85 is a rather incomplete house plan (fig. 87). The deep-founded central roof-bearing posts were sufficient for a type 8. Exterior posts as well as any trace of the wall are missing, so that no further classification can be given. The row of postholes yielded 12 handmade sherds, two fragments of wheel-thrown pottery, some slate and a lead disc (possibly a spindle whorl).

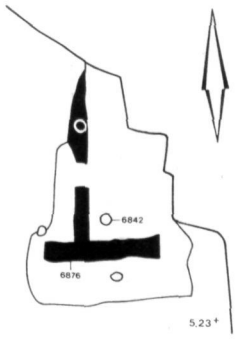


Figure 88. House 89. Scale 1:200.

Figure 83. House 79. Scale: plan 1:200, posthole depths 1:100, section 1:30.

House 89

H89 consists of just a very small fragment of a foundation ditch that probably belongs to a house plan (fig. 88). Type 6, 7, 8 and 9 are all among the possible types for this fragment. Surprisingly enough the small feature yielded two brooches: one a complete *Augenfibel* and the other a fragment of a bent brooch (*Knickfibel*). No other specimens of the latter type were found in Oss (Lawende 1995, 6, see also 4.7.7).

House 90

The foundation ditch of H90 is missing in several places, so that the location of entrances is uncertain (fig. 89). Furthermore, no exterior posts were observed, and a fourth central roof-bearing post could have been disturbed by a recent pit. The remaining features classify as a possible type 8B. Besides some slate, 52 fragments of handmade pottery and 14 wheel-thrown fragments were found.

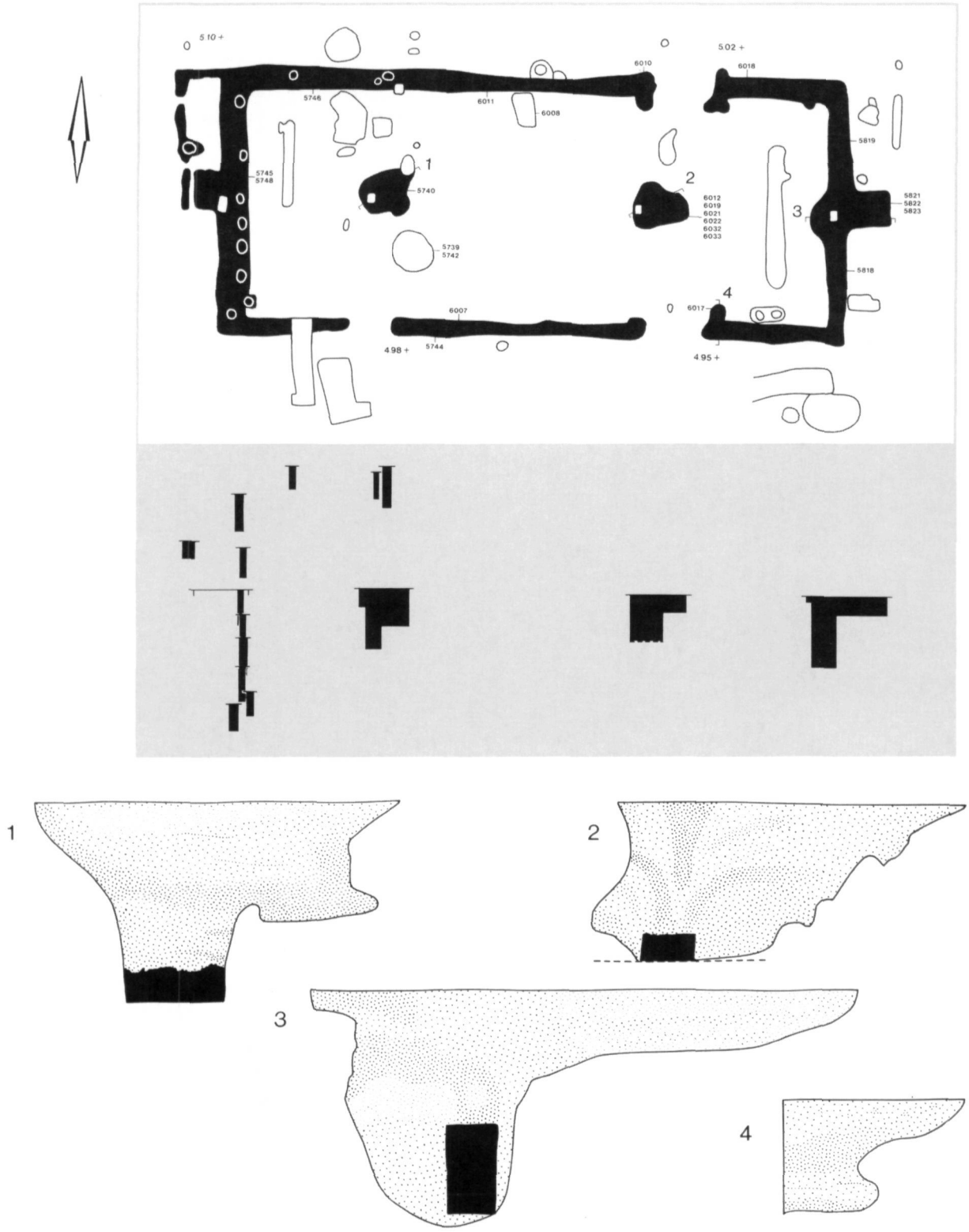


Figure 84. House 80. Scale: plan 1:200, posthole depths 1:100, sections 1:30.

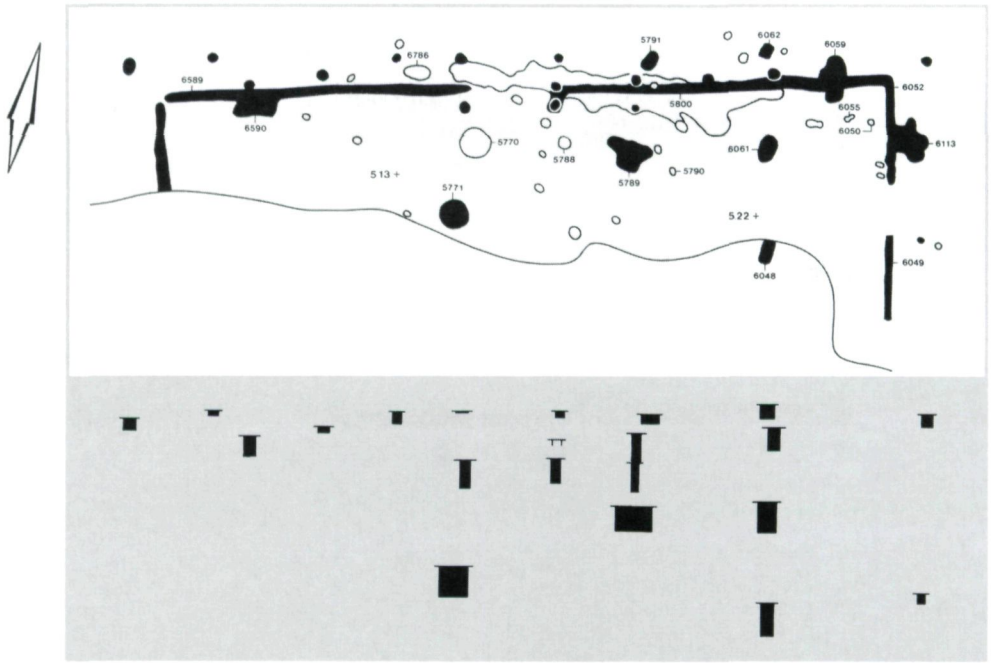


Figure 85. House 82. Scale: plan 1:200, posthole depths 1:100.

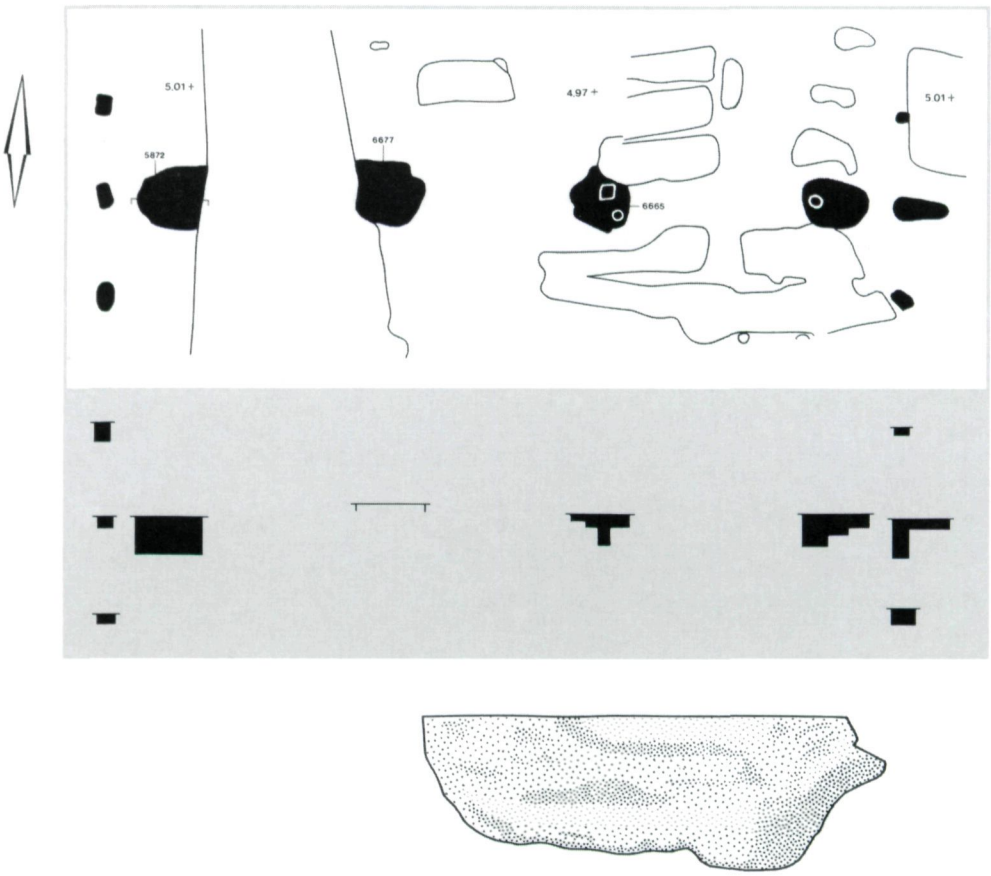


Figure 87. House 85. Scale: plan 1:200, posthole depths 1:100, section 1:30.

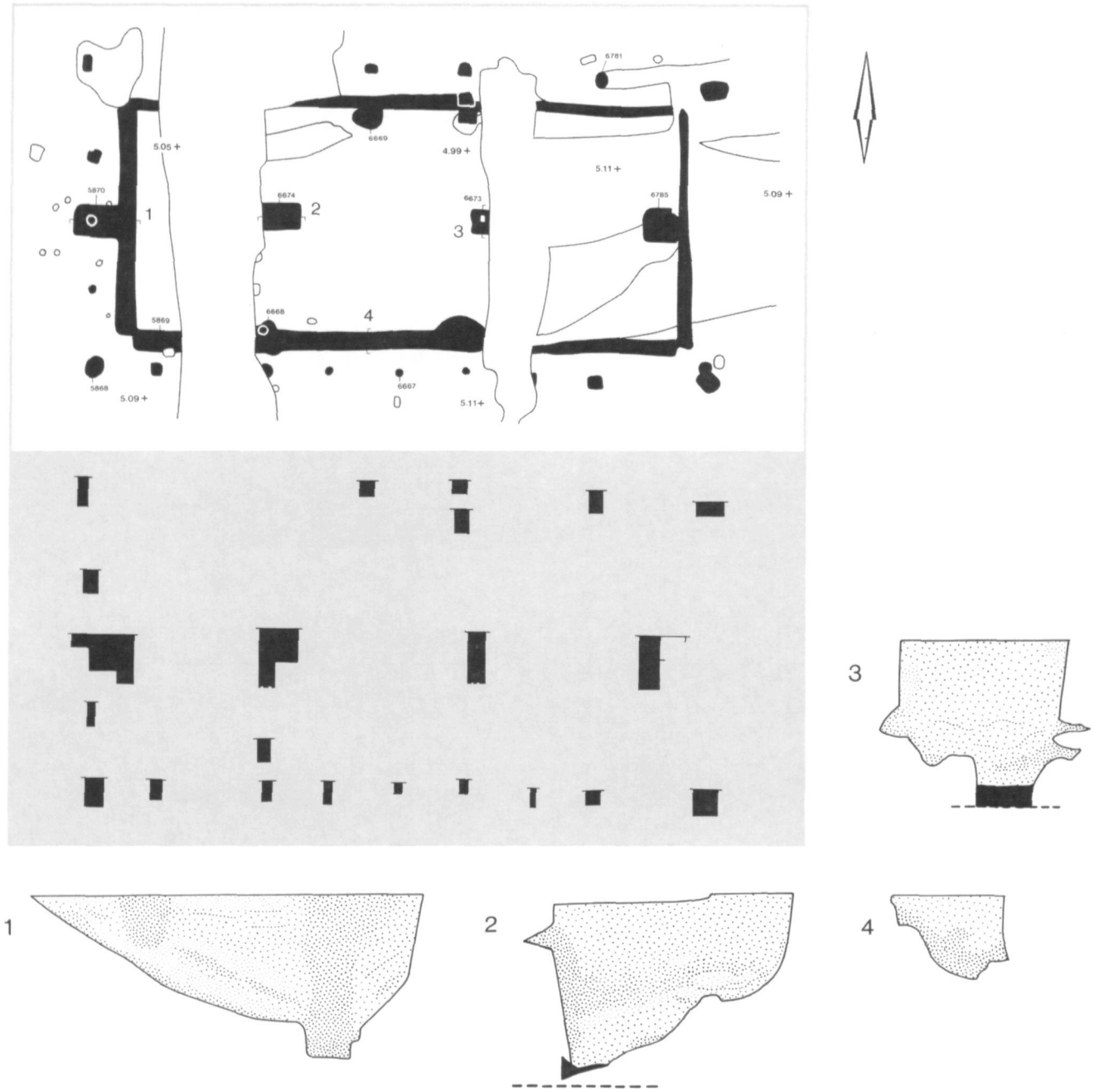


Figure 86. House 84. Scale: plan 1:200, posthole depths 1:100, sections 1:30.

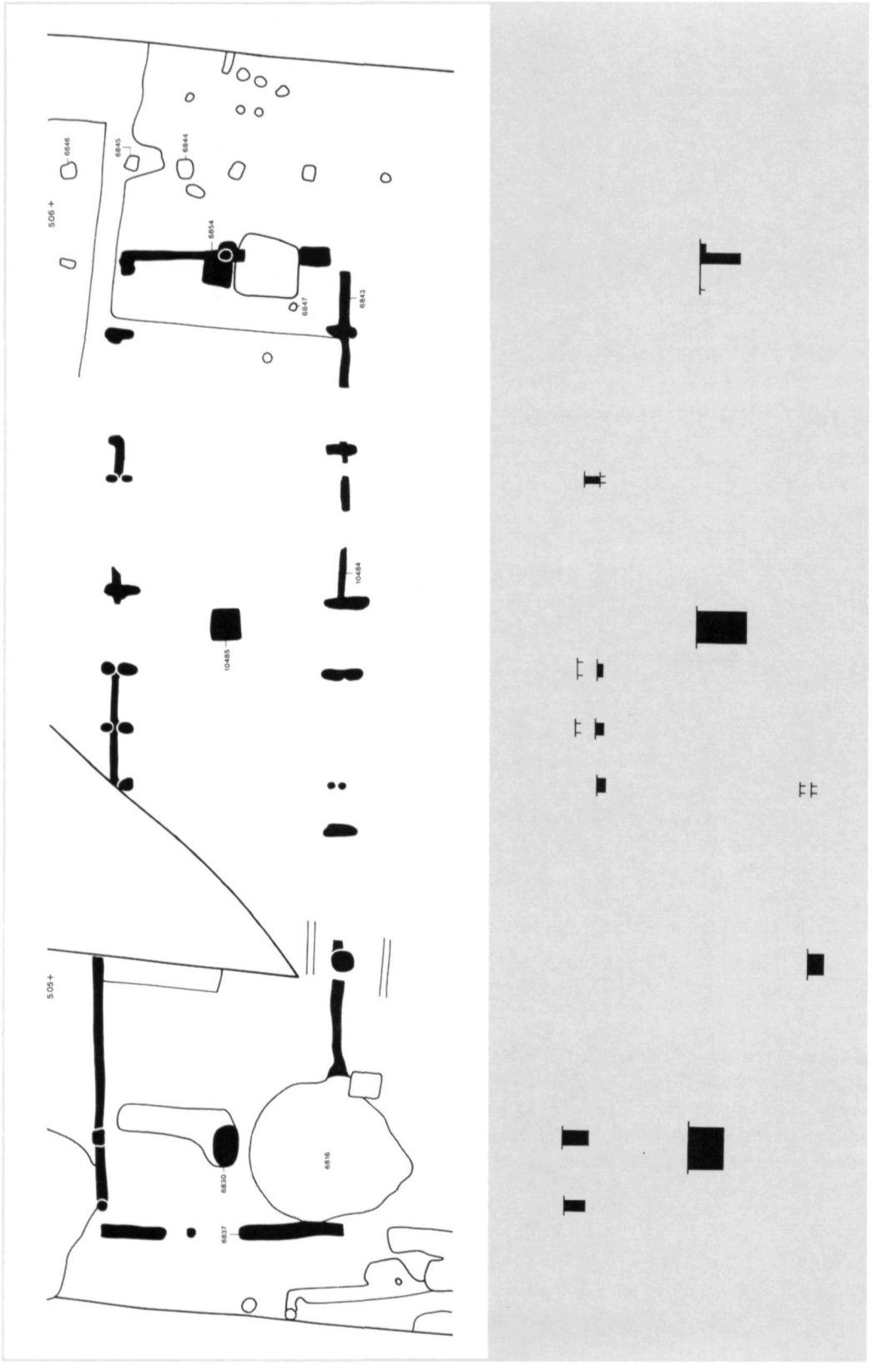


Figure 89. House 90. Scale: plan 1:200, posthole depths 1:100.

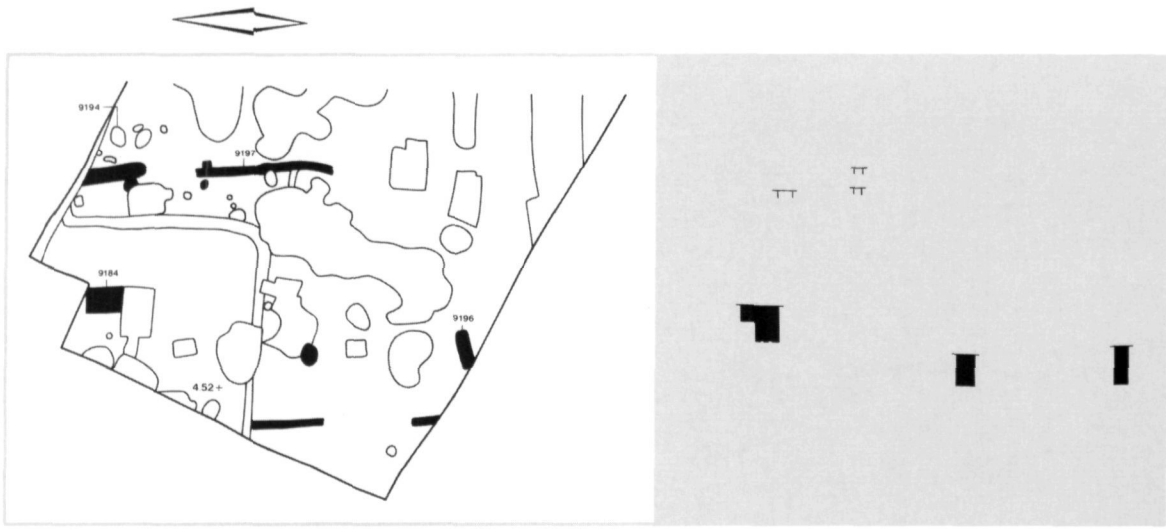


Figure 90. House 94. Scale: plan 1:200, posthole depths 1:100.

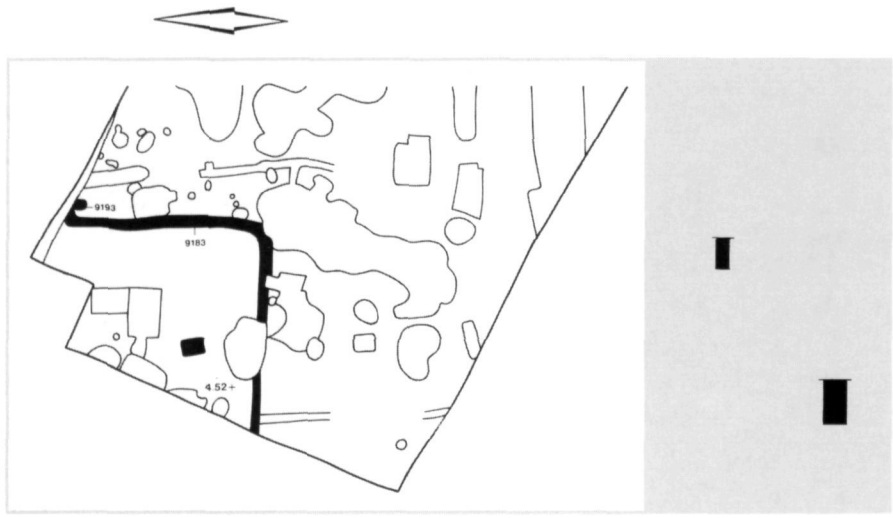


Figure 91. House 95. Scale: plan 1:200, posthole depths 1:100.

House 94

Most of H94 could not be excavated, and the part that lies within the excavation trench is heavily disturbed (fig. 90). Foundation trenches and a two-aisled and a three-aisled part could be discerned, classifying the plan as a type 9. Its north-east orientation is an exception in Oss. Finds consisted of 27 handmade sherds, five fragments of wheel-thrown pottery, and a clay sling pellet.

House 95

The small excavated part of H95 points to a two-aisled plan with a foundation trench, leaving types 7, 8 and 9 as possibilities (fig. 91). External posts could not be documented. The plan is intersected by that of H94, and has the same north-east orientation. A single wheel-thrown sherd and 29 fragments of handmade pottery were found.

House 96

H96 is a type 9C, with the three-aisled part consisting of only one set of roof-bearing posts (fig. 92). The second central roof-bearing post, seen from the west, has probably disappeared under a recent ditch. Only a few external posts could be documented. The three easternmost central roof-bearing postholes, and one of the set of roof-bearing

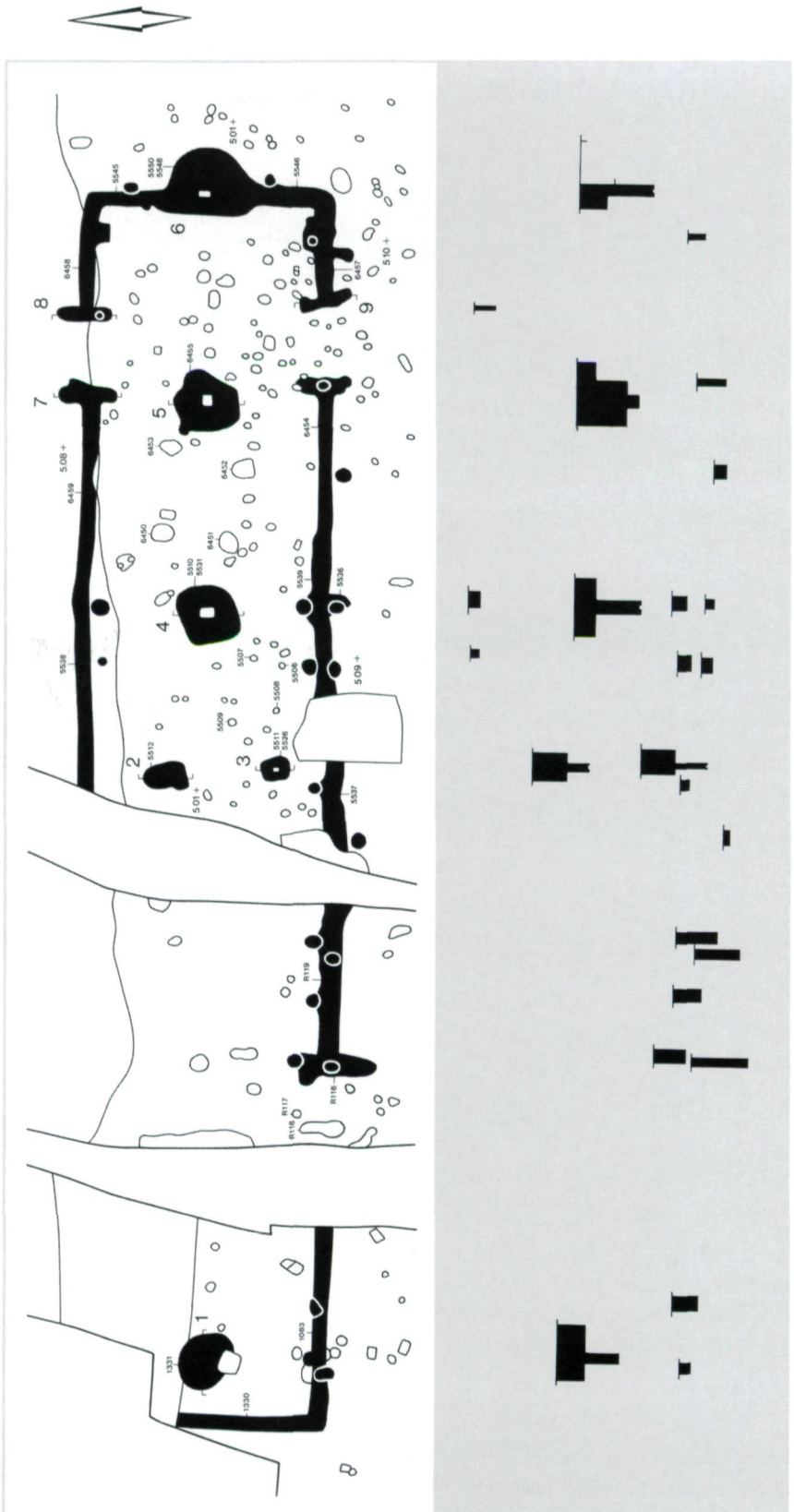


Figure 92a. House 96. Scale: plan 1:200, posthole depths 1:100.

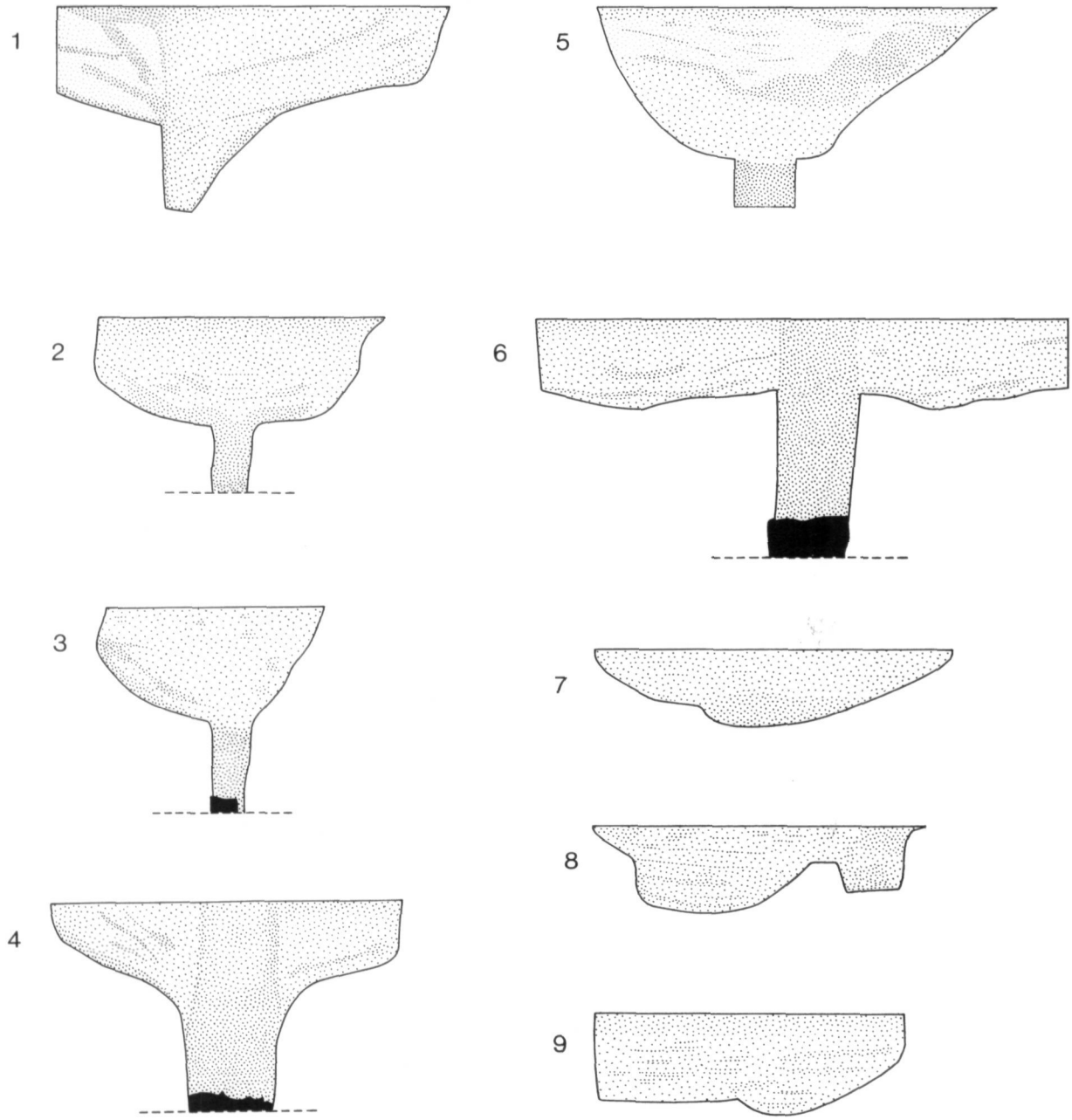


Figure 92b. House 96. Scale: sections 1:30.

postholes, still contained remnants of wood. Together, the postholes and ditches yielded 159 handmade sherds, ten fragments of wheel-thrown pottery, an iron nail and two indeterminable iron objects.

House 98

H98, the largest house plan from Oss, is an almost complete type 9C (fig. 93). The plan is intersected by H99, which has caused some disturbances. A possible roof-bearing post has been cut through, and a third set of roof-bearing posts has possibly disappeared under the westernmost short side of H99. Furthermore, no exterior posts could be documented on the short sides. Wood was found in three postholes belonging to central roof-bearing posts: oak remainders of posts and a plank supporting a post (find No. 6294). Finds consisted of 677 fragments of handmade pottery, 76 wheel-thrown sherds,

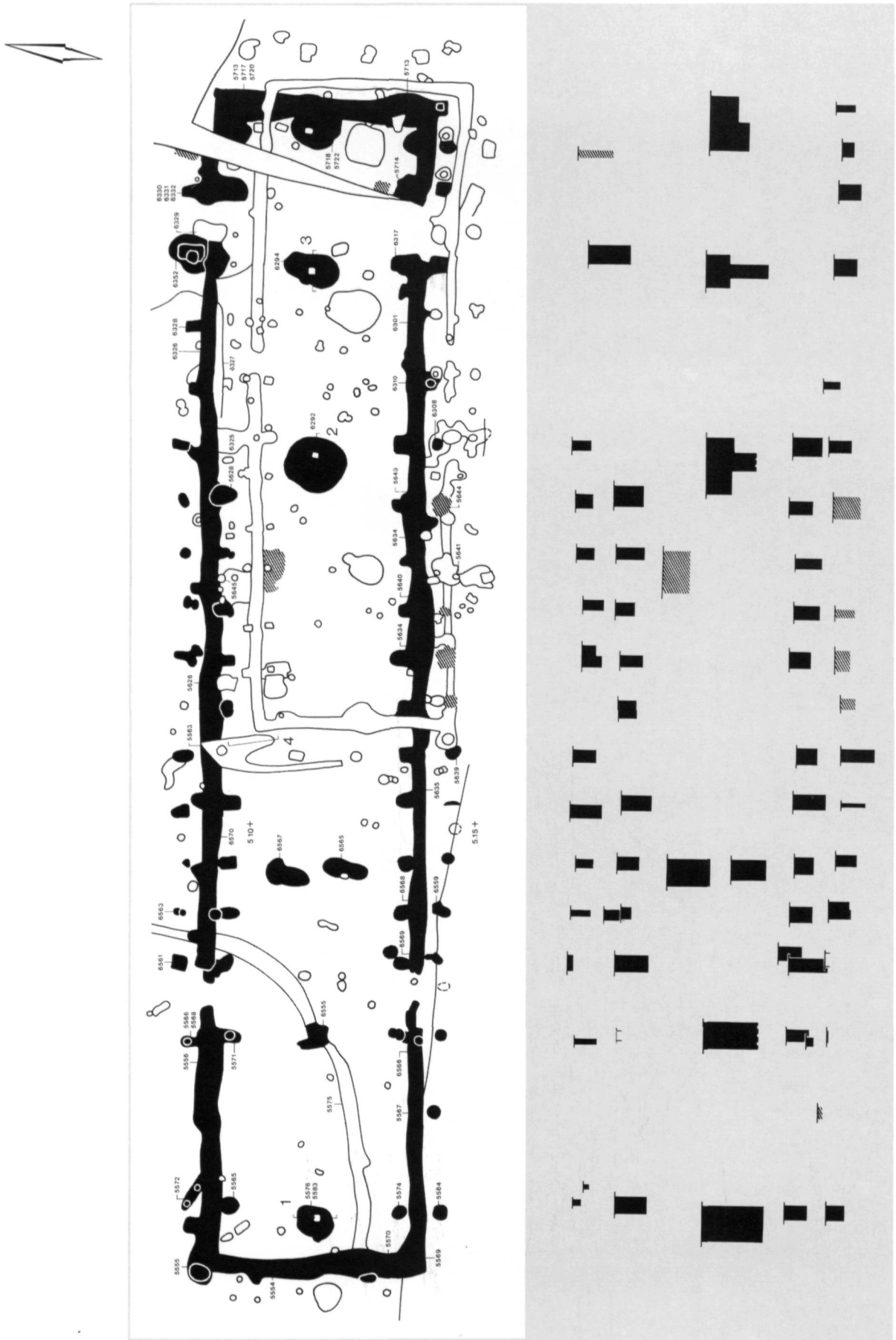


Figure 93a. House 98. Scale: plan 1:200, posthole depths 1:100.

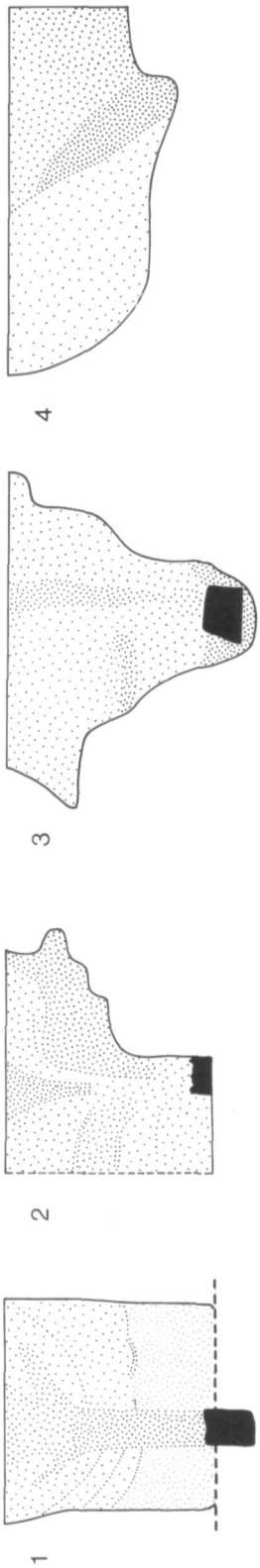


Figure 93b. House 98. Scale: sections 1:30.

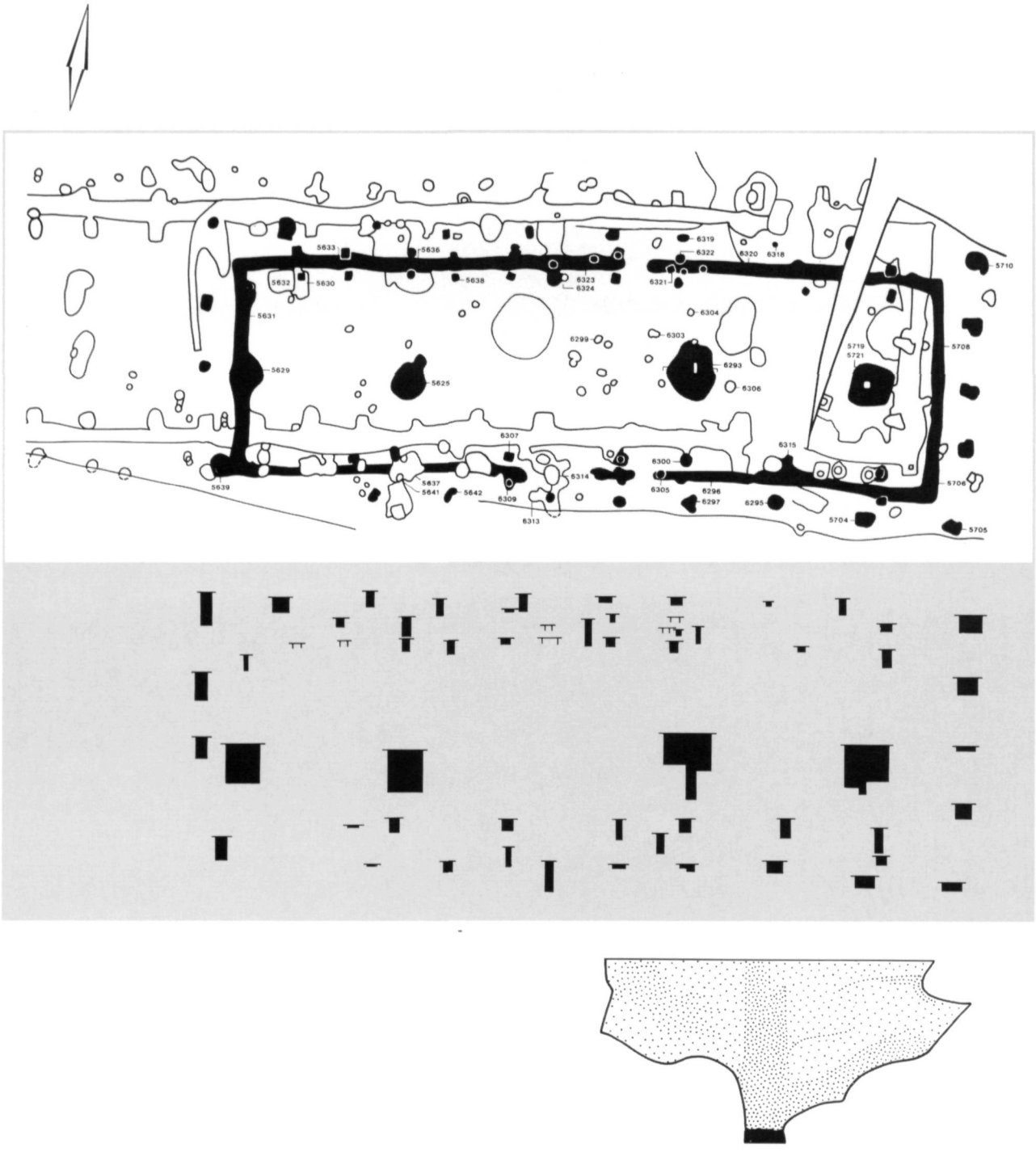


Figure 94. House 99. Scale: plan 1:200, posthole depths 1:100, section 1:30.

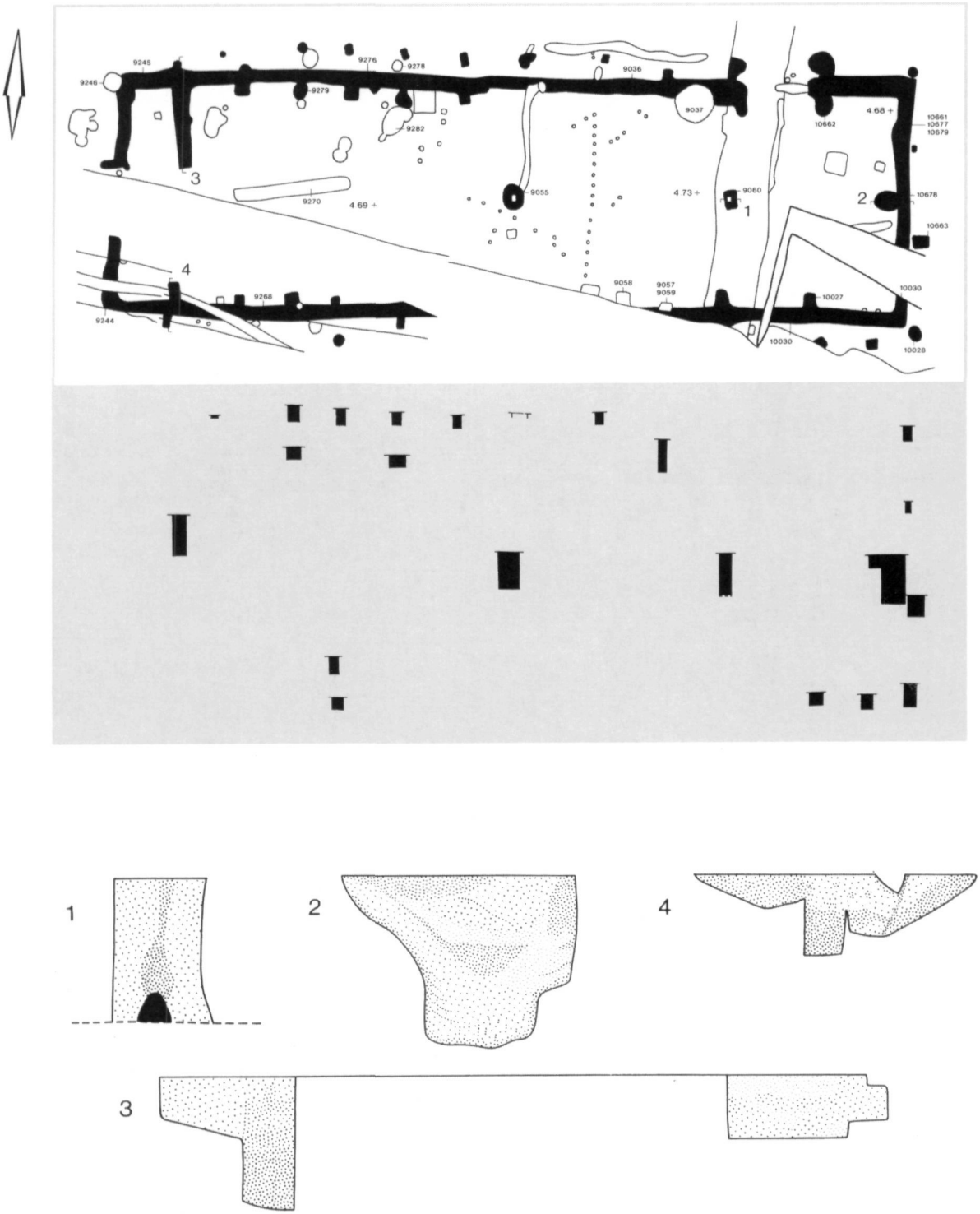


Figure 95. House 101. Scale: plan 1:200, posthole depths 1:100, sections 1:30.

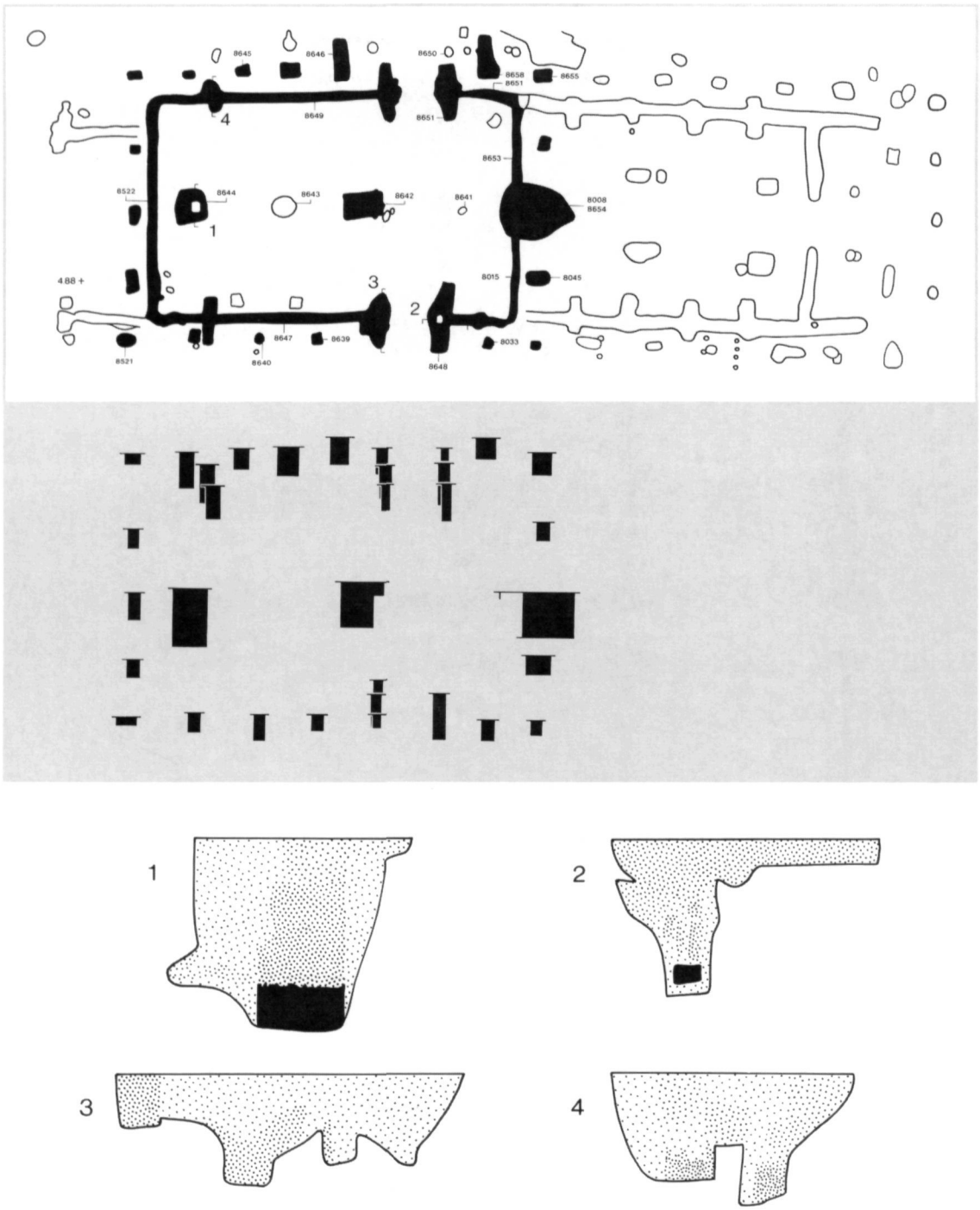


Figure 96. House 104A. Scale: plan 1:200, posthole depths 1:100, sections 1:30.

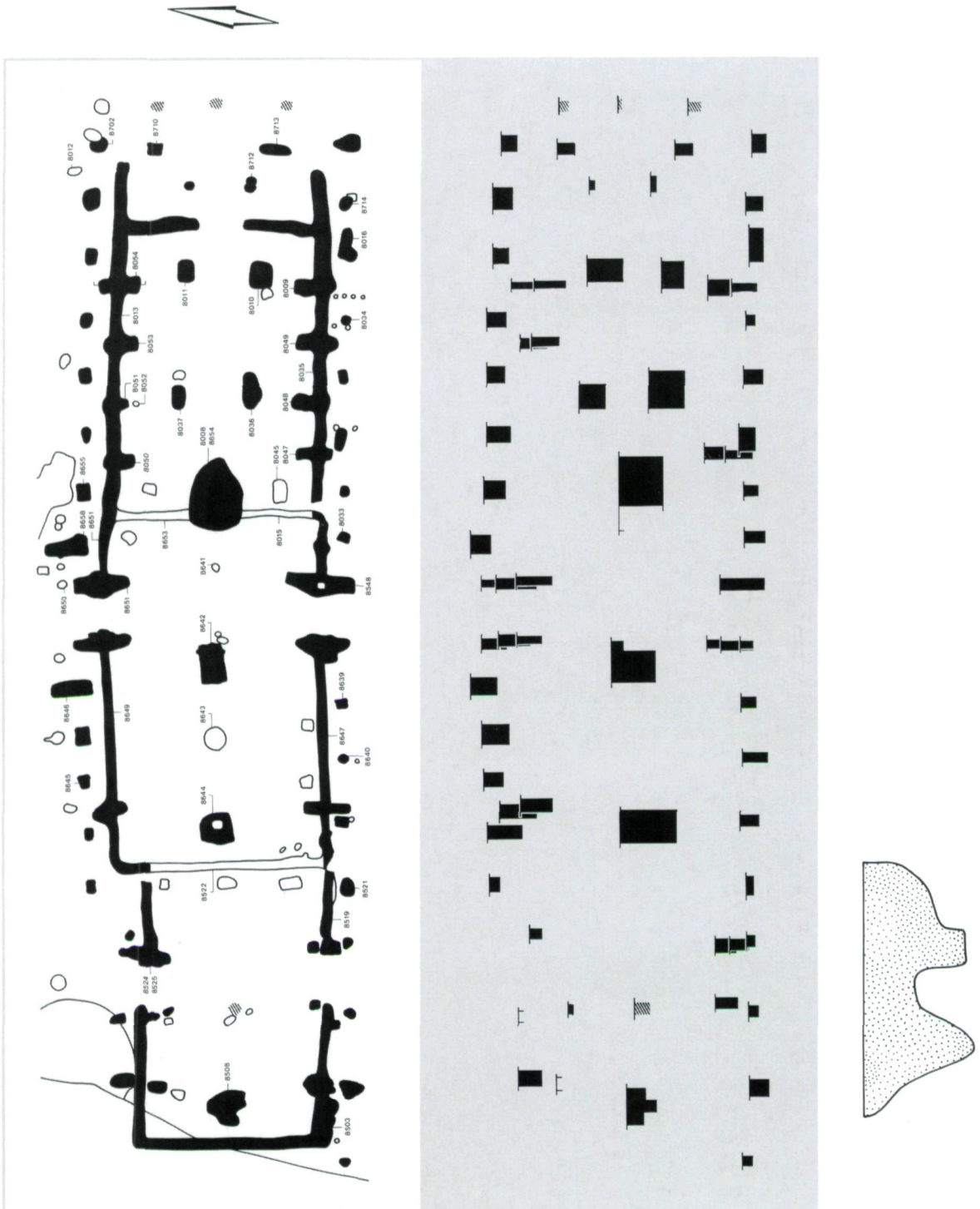


Figure 97. House 104B. Scale: plan 1:200, posthole depths 1:100, section 1:30.

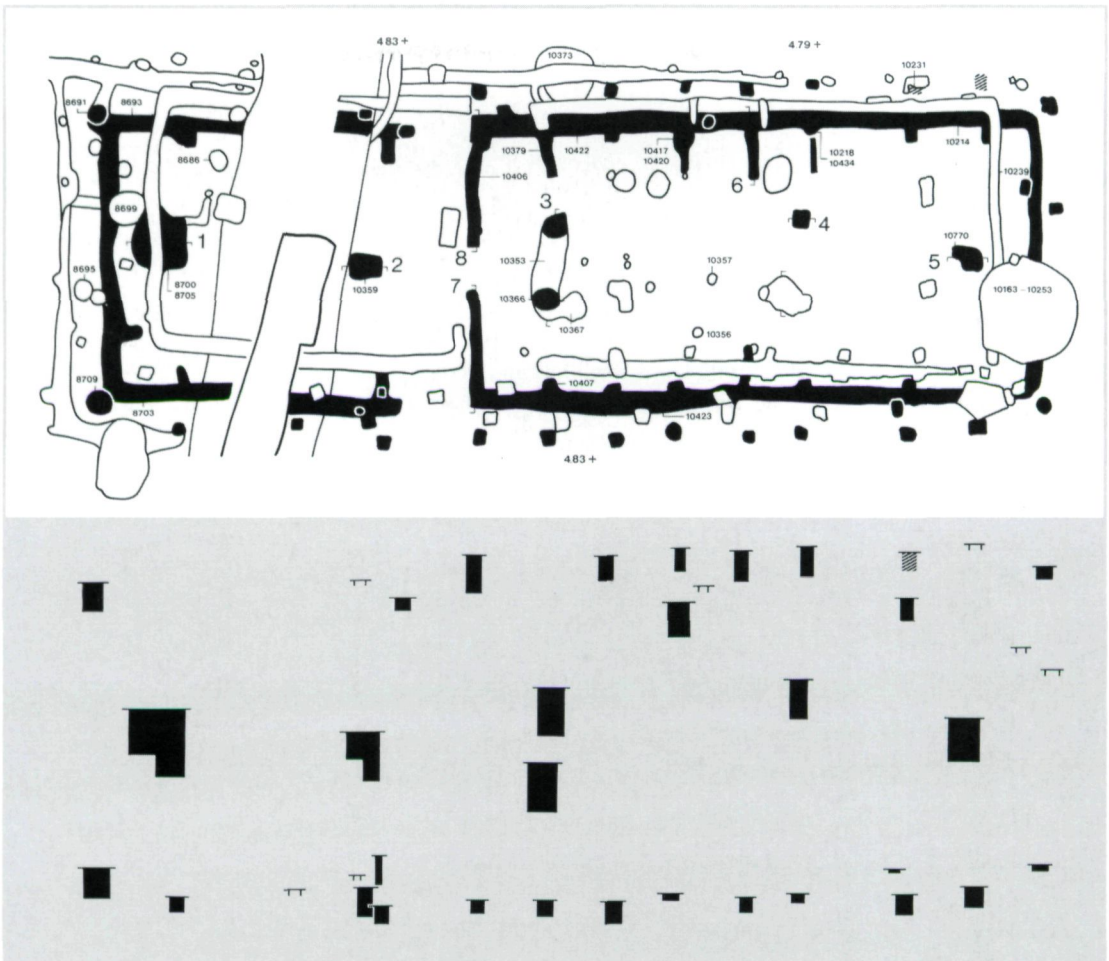


Figure 98a. House 105. Scale: sections 1:30.

a bronze wire-brooch, seven iron nails, a gaming counter made of glass paste, and an iron key.

House 99

The plan of H99 is a complete type 8B, with external posts all around (fig. 94). The long walls show paired wall posts, one on each side of the foundation trench. Two of the central roof-bearing postholes (find Nos. 5721 and 6293) contained oak remnants of upright posts. Finds consisted of 122 handmade sherds, ten fragments of wheel-thrown pottery and two iron nails. In one of the sherds the impression of a grain of millet was visible.

House 101

H101 is a possible type 8B: the (central) roof-bearing posts in the western part could not be documented because of a recent ditch (fig. 95). At the western end a section of *c.* 2 m in length seems to be partitioned off by a ditch lying at right angles to the long wall. Twice, wood was found in a central roof-bearing posthole; in both cases the species could be determined as oak (find No. 9055 and 9060). Dendrochronological research of one of the fragments (find No. 9060) resulted in a date of 12 BC (uncorrected) (Jansma 1995, 132; Van der Sanden 1987b, 50 and fig. 4). The finds included 32 fragments of handmade ware and eight wheel-thrown sherds, the latter from a later date than the wood.

House 104A

H104A is one of the shortest (complete) house plans in the Westerveld settlement (fig. 96). It is a complete type 8B, with remnants of an oak roof-bearing post in one of the central postholes (find No. 8644A). Dendrochronological research of this piece of wood yielded an uncorrected date of AD 53 (Jansma 1995, 132). Another small piece of a wooden post came from the southern entrance (find No. 8648), and was determined as oak.[3] The postholes and ditches yielded

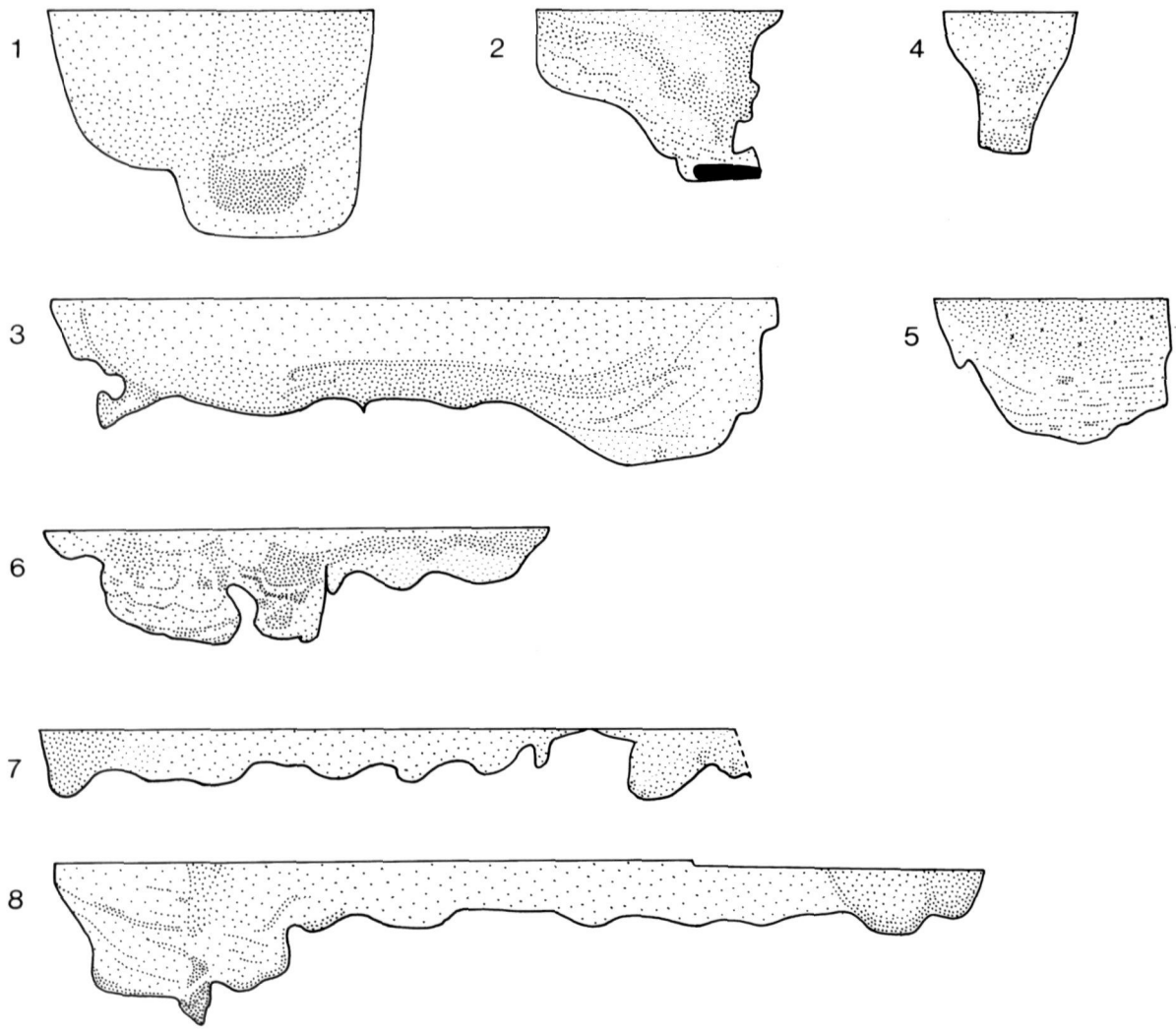


Figure 98b. House 105. Scale: sections 1:30.

88 fragments of handmade ware and 58 wheel-thrown sherds. Furthermore two iron nails, a piece of slate and a fragment of a glass *La Tène* bracelet were found.

House 104B

H104B is in fact an extended version of H104A, with parts added on both sides (fig. 97). The western extension, which is two-aisled, is slightly narrower than the rest of the plan. The eastern extension is three-aisled and seems to have an extra section at the short end. It is possible that the actual wall on the eastern short end is indicated by a (foundation) trench, at right angles to the long walls. The long walls continue for another 2 m, and the space thus created is closed off by posts only, possibly showing an open front.

Finds include 51 fragments of handmade pottery, 33 wheel-thrown sherds, and a fragment of a glass *La Tène* bracelet.

House 105

In H105, a possible type 9A, the three-aisled part is separated from the two-aisled part by the situation of the entrances, and also by two (foundation) ditches (fig. 98). Several shallow ditches lying at right angles to the long walls in the three-aisled part have been interpreted as byre-partitions. Most of the external posts have been disturbed. One of the central roof-bearing posts (find No. 10359) contained the remnants of a wooden plank (species unknown), on which the upright post would have been resting. Finds consisted of 97 fragments of handmade ware

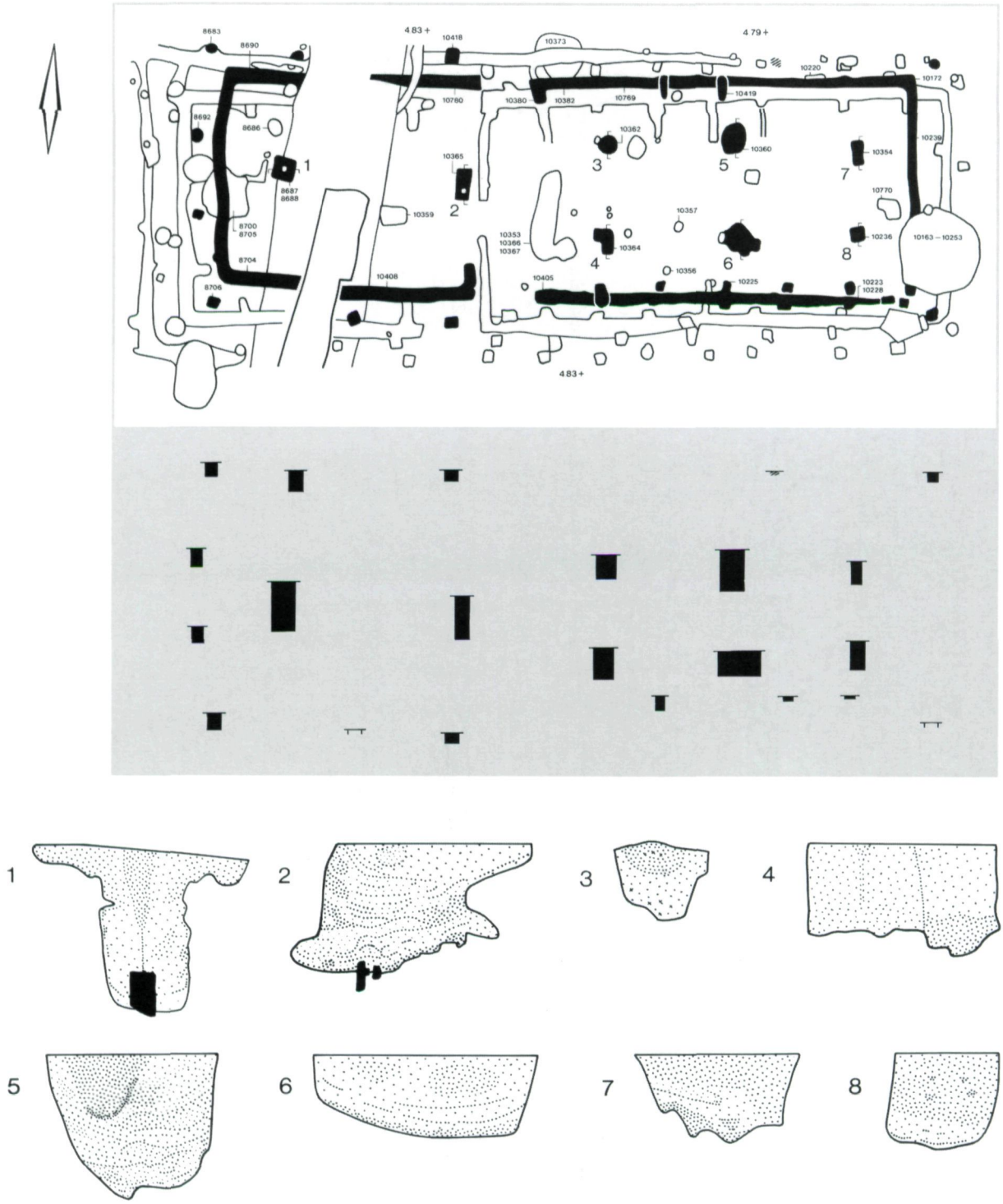


Figure 99. House 106. Scale: plan 1:200, posthole depths 1:100, sections 1:30.

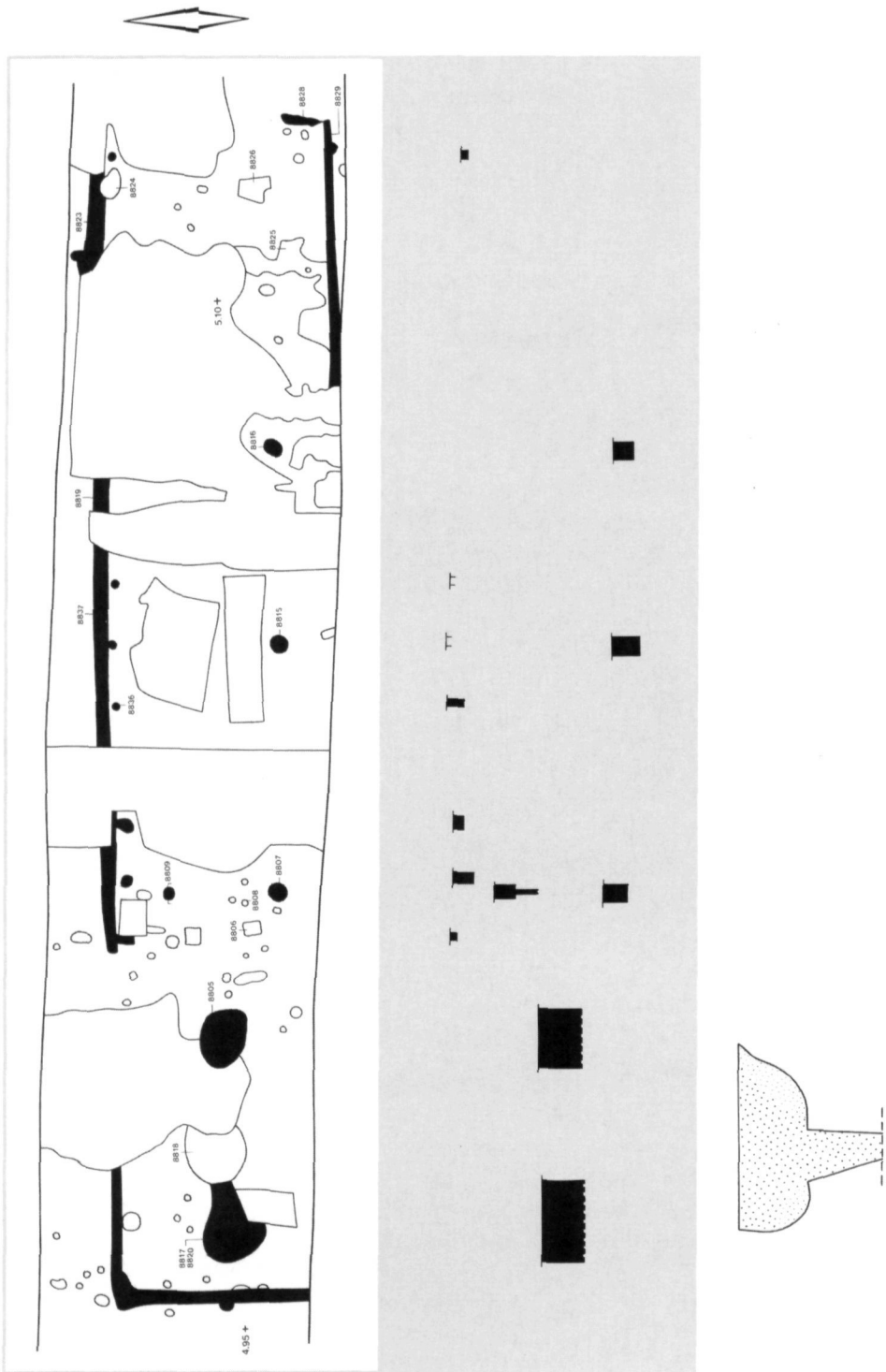


Figure 100. House 108. Scale: plan 1:200, posthole depths 1:100, section 1:30.

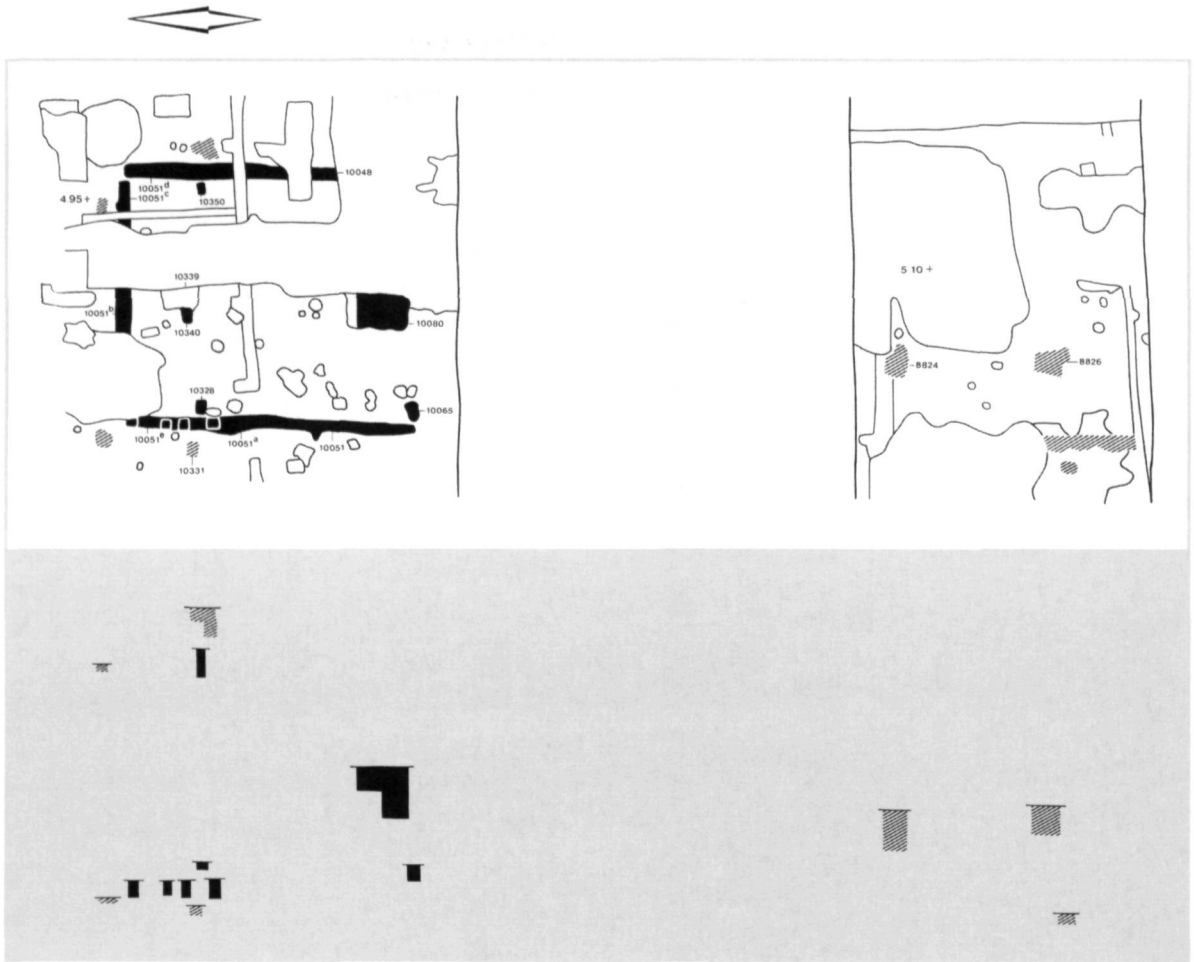


Figure 101. House 109. Scale: plan 1:200, posthole depths 1:100.

and 59 fragments of wheel-thrown pottery. Furthermore, a fragment of a bronze wire-brooch was found.

House 106

H106 is the direct successor of H105. In the eastern part the exterior posts were hardly determinable (fig. 99). The two central roof-bearing postholes in the two-aisled part both contained wooden remnants. One of these (find No. 8688) could be determined as oak, the other (find No. 10365, species unknown) showed cutting traces. Postholes and ditches yielded 137 fragments of handmade pottery, ten fragments of wheel-thrown ware and a bronze arc-brooch.

House 108

The plan of H108 is rather incomplete: part of its southern wall is outside the excavation trench, and its eastern half is disturbed by recent pits (fig. 100). Therefore the plan can be classified as a type 9 only, with no visible external posts. Finds included 81 fragments of handmade pottery and a single wheel-thrown sherd. One of the sherds showed the impression of a grain of barley. Furthermore a bronze acorn-cap and a silver *denarius* (RIC 350) of the emperor Augustus were found.

House 109

Most of H109 is disturbed or could not be excavated (fig. 101). Its possible southern half was documented under rather bad conditions, and no counterpart for one of the roof-bearing posts in this half could be found. The presence of exterior posts remains unclear, and the plan can thus be classified as a possible type 9 only. H109 intersects H108, and has a deviating north-south orientation. With H110 succeeding H109, the orientation changes back to west-east. The features, including those of the uncertain southern part,

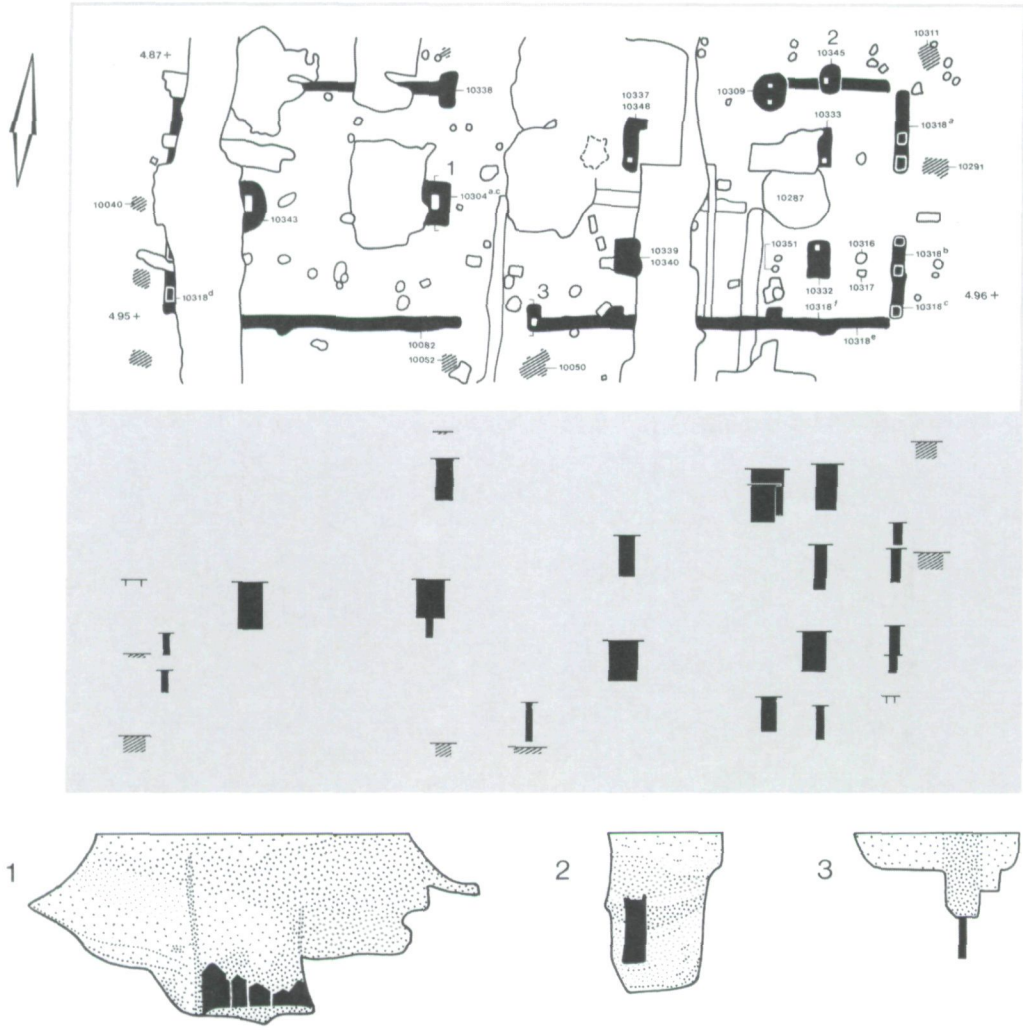


Figure 102. House 110. Scale: plan 1:200, posthole depths 1:100, sections 1:30.

yielded 145 fragments of handmade pottery, six wheel-thrown sherds and an iron nail.

House 110

The majority of the external posts of H110, a type 9A, are either unclear or have been disturbed (fig. 102). This plan intersects the plan of H109. A large amount of wood was preserved in the postholes of H110 (a total of nine find nos., see Schinkel 1994, part II, 122). Unfortunately none of the remains was analysed, the only documentation concerns the fact that one of the central roof-bearing posts had a pointed end. Besides the wood, the features yielded 165 fragments of handmade pottery and 24 fragments of wheel-thrown ware. Other finds included two iron nails and some slate.

House 111

The larger part of H111 remained unexcavated. The documented features form a type 7B-plan, with one central roof-bearing post (fig. 103). In this posthole the remnants of an oak plank, serving to stabilise the upright post, were found (find No. 9668). Dendrochronological analysis dated this wood to AD 79 (uncorrected) (Jansma 1995, 132). Finds include 21 fragments of handmade pottery and 11 wheel-thrown sherds.

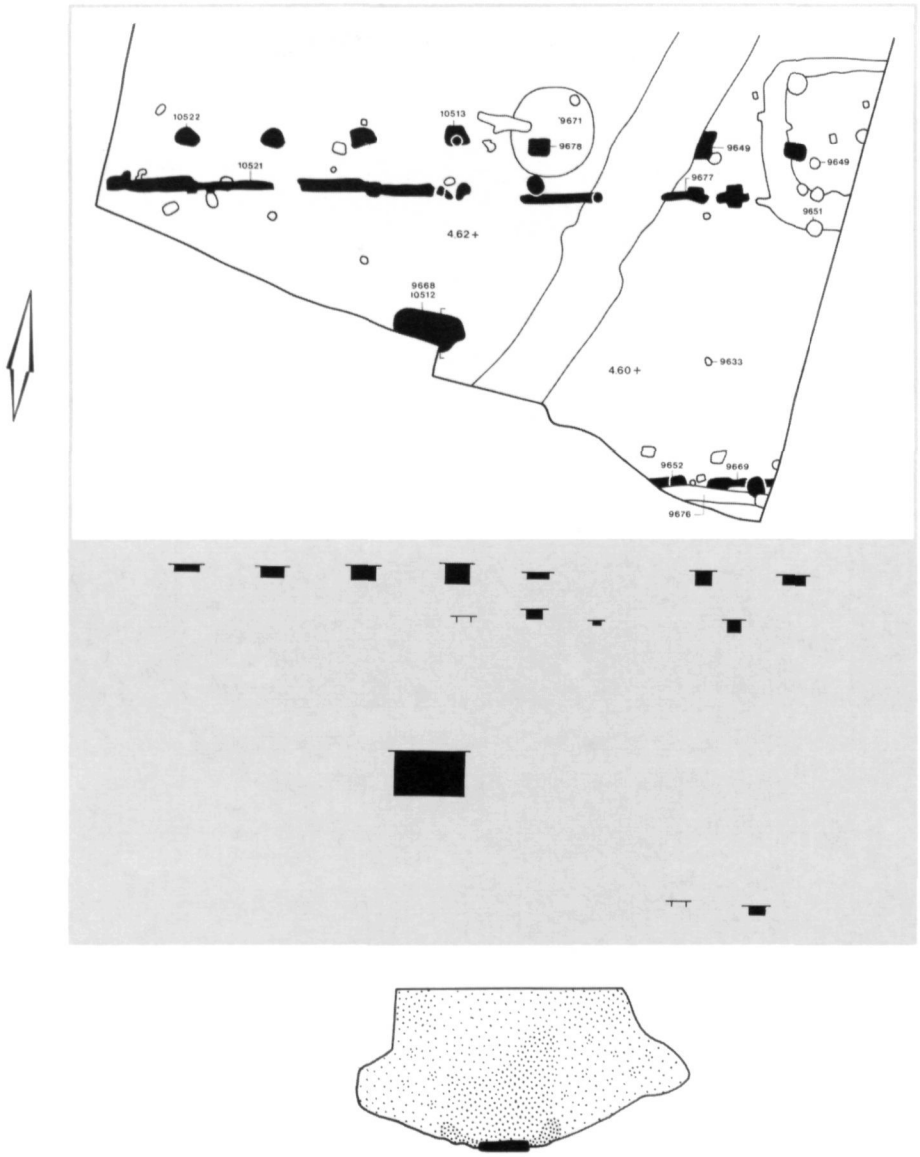


Figure 103. House 111. Scale: plan 1:200, posthole depths 1:100, section 1:30.

House 115

The western half of H115 is situated outside the excavation trenches; its eastern half is heavily disturbed (fig. 104). The plan intersects that of H111. Finds include 65 handmade sherds and nine fragments of wheel-thrown pottery.

House 116

H116 is a rather incomplete house plan: its eastern end is indistinct, external posts could only be documented in the western half and one of the central roof-bearing posts may have been disturbed by a recent pit (find No. 9211) (fig. 105). A group of 59 fragments of handmade ware, seven wheel-thrown sherds, and a glass *La Tène* ring were found.

House 117

A possible type-9B-plan, H117 displays external posts all around, but in the western part (central) roof-bearing posts have been disturbed by a recent ditch (fig. 106). Wood was preserved in three of the roof-bearing post-holes in the three-aisled part. H117 is intersected by H118. Finds include 104 fragments of handmade pottery and three wheel-thrown sherds.

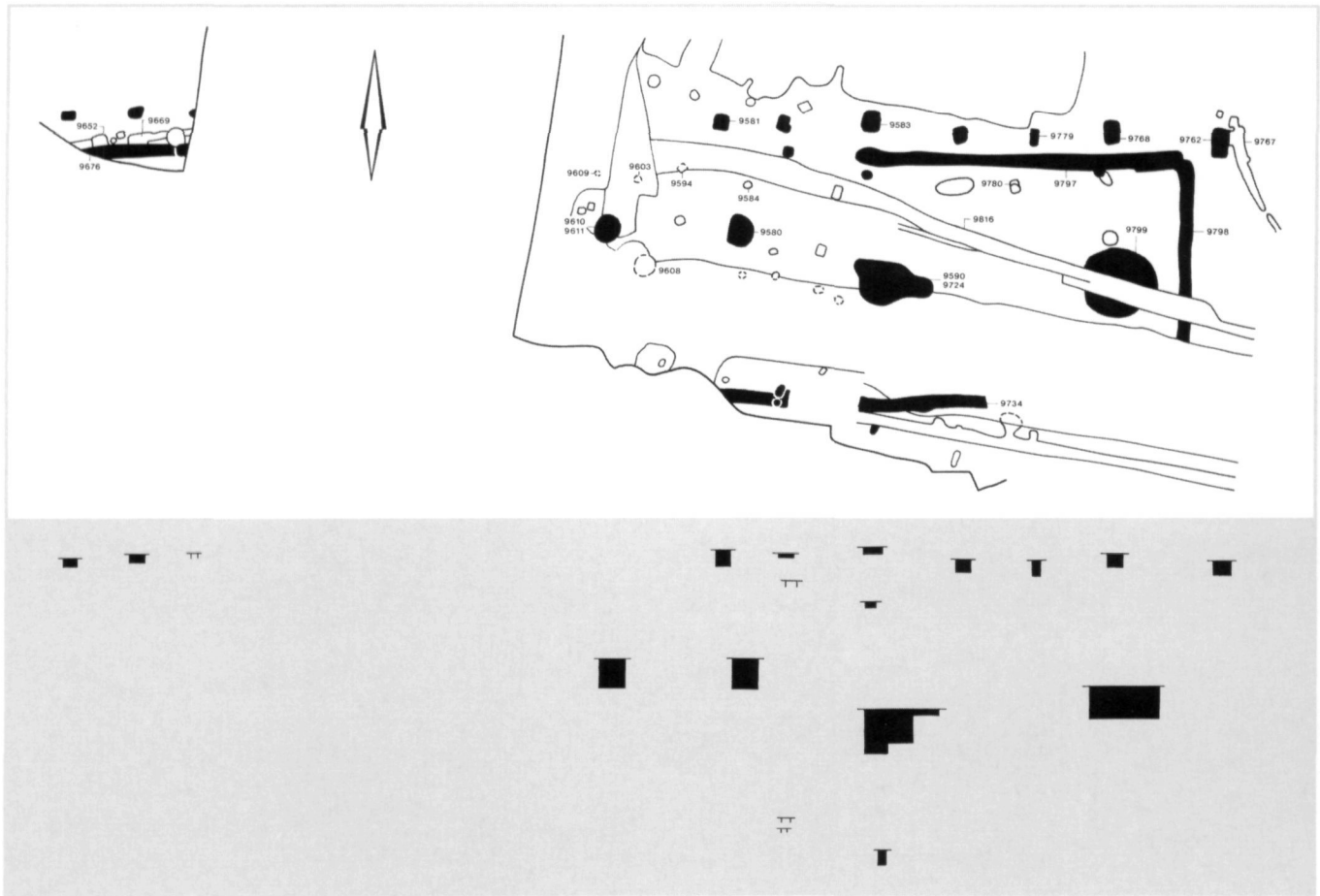


Figure 104. House 115. Scale: plan 1:200, posthole depths 1:100.

House 118

H118 is a small, especially narrow house plan of type 8C, with no visible exterior posts (fig. 107). The foundation trench had disappeared almost completely, only wall posts could be documented. Oak was preserved in one of the central roof-bearing postholes (find No. 9794). The plan of H118 intersects that of H117, and has a deviating north-south orientation. The postholes yielded 54 fragments of handmade pottery, 22 wheel-thrown sherds and a piece of slate.

House 119

H119 is a type-8A plan, with small dimensions and a north-south orientation (fig. 108). Its eastern entrance was possibly disturbed by a recent ditch, and external posts could not be documented around the southern half of the plan. Wood was preserved in two central roof-bearing postholes. One of the pieces could be determined as oak, and showed a hewn flat end (find No. 10698). Finds include 70 fragments of handmade pottery, 17 fragments of wheel-thrown ware, and an iron nail.

House 120

H120 is the only complete specimen of a type 9B, although there are no exterior posts around the central, three-aisled part (fig. 109). Finds include 69 fragments of handmade pottery and 13 wheel-thrown sherds.

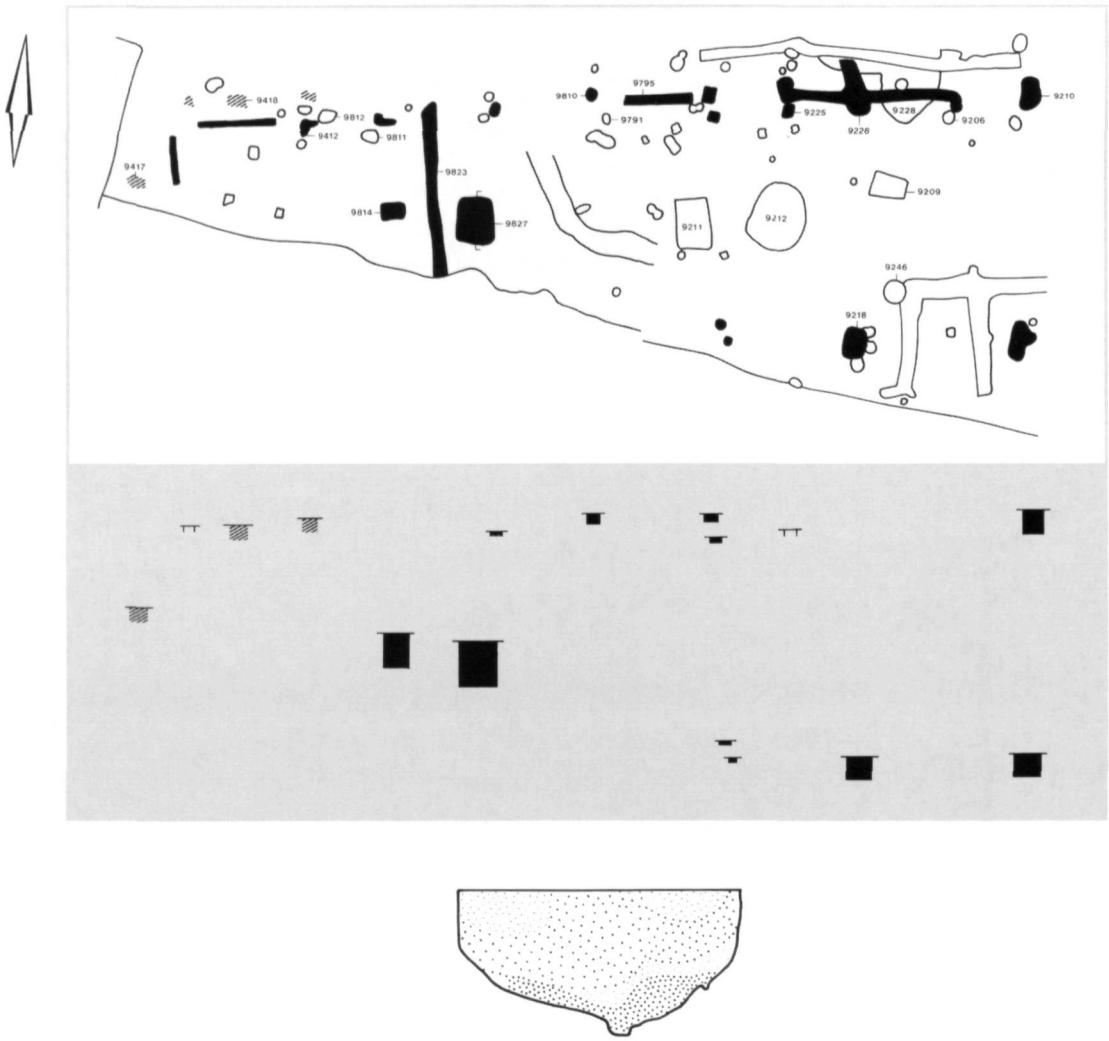


Figure 105. House 116. Scale: plan 1:200, posthole depths 1:100, section 1:30.

House 121

The major part of H121 could not be excavated. What remains is a possible type 7A, with no documented central roof-bearing post (fig. 110). This plan intersects that of H120. Finds consist of ten fragments of handmade ware and five wheel-thrown sherds.

4.2 Outbuildings

Eight structures, situated within the enclosure apart from one (B5), were labelled as outbuildings (table 24). One of these (B7) could be dated to the Late Iron Age. Of the remaining seven, three were find-less and could therefore not be dated. Outbuilding B10 was dated to the Late Iron Age or Roman period, the other three (B8, B11 and B12) contained wheel-thrown pottery and were placed in the Roman period. The precise function of these small buildings is unknown. In the following, the outbuildings that could be dated to the Roman period are described briefly.

Outbuilding 8

The plan of B8 could only be partly excavated. Visible are a foundation trench with an entrance in the short side, and three postholes forming a four-aisled interior (fig. 111). Finds consisted of 11 fragments of handmade ware and one sherd of wheel-thrown pottery.

Outbuilding 10

B10 consists of a foundation trench, forming an almost square structure with an interruption in the south-eastern

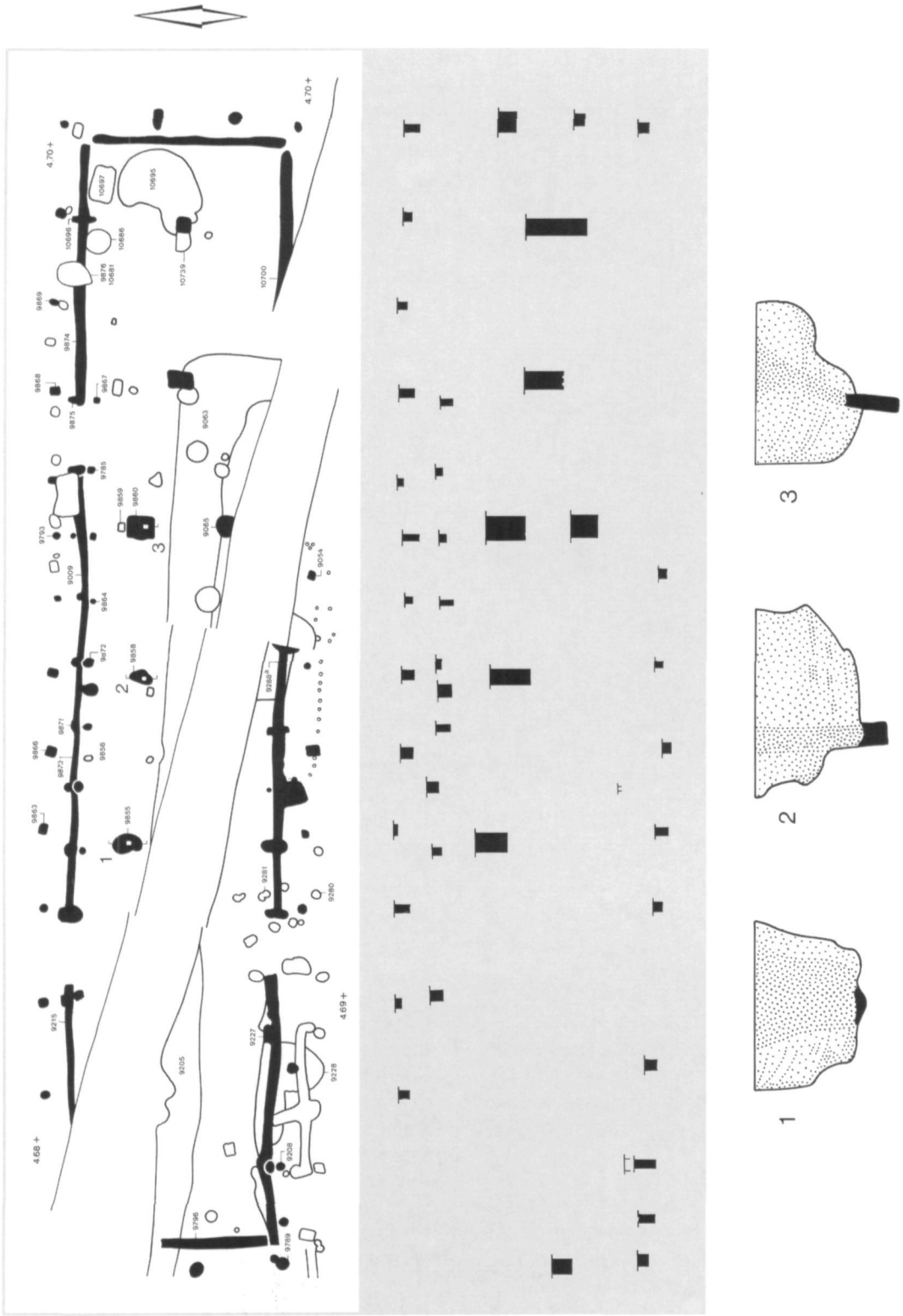


Figure 106. House 117. Scale: plan 1:200, posthole depths 1:100, sections 1:30.

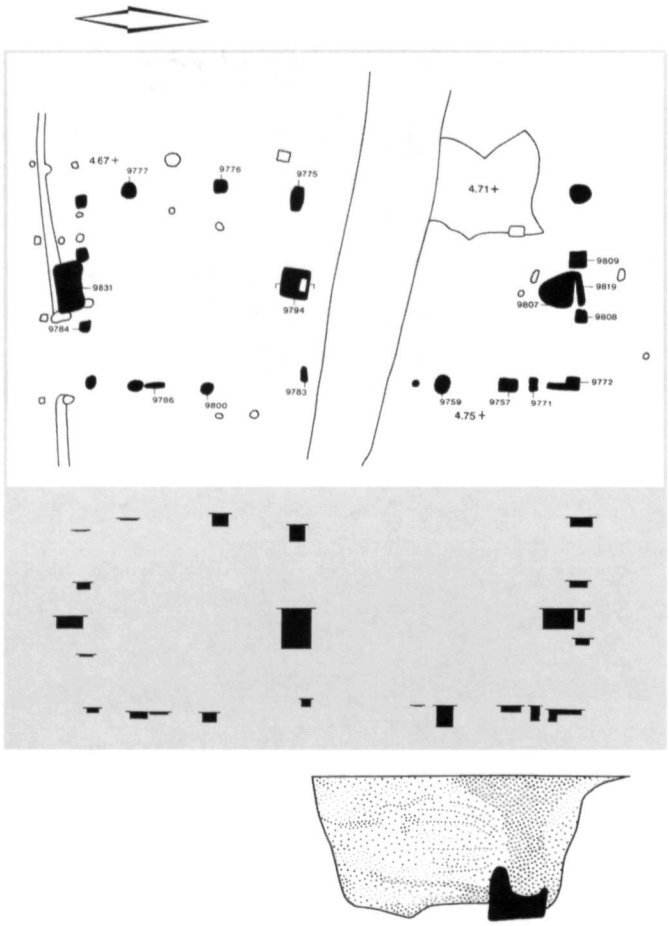


Figure 107. House 118. Scale: plan 1:200, posthole depths 1:100, section 1:30.

corner (fig. 112). Enclosed by the ditch is a pit with a depth of 80 cm. Finds from the ditch included three sherds of handmade pottery. The pit contained 16 fragments of handmade pottery and an iron nail.

Outbuilding 11

B11 is a one-aisled building, consisting of a foundation trench with traces of postholes in it (fig. 113). One of the long sides has a small entrance. The ditch yielded three

No.	length (m)	width (m)	orientation	date
B5	3.5	3.0	NW-SE	?
B6	5.0	4.0	W-E	?
B7	7.7	6.3	W-E	LIA K-L
B8	>5.5	6.0	N-S	Id and later
B9	4.0	>1.7	N-S	?
B10	3.9	3.7	W-E	LIA/RP
B11	>8.8	5.0	N-S	II
B12	4.0	>3.0	N-S	RP

Table 24. Outbuildings from the Westerveld settlement. Date: LIA = Late Iron Age (phases I-L), RP = Roman period.

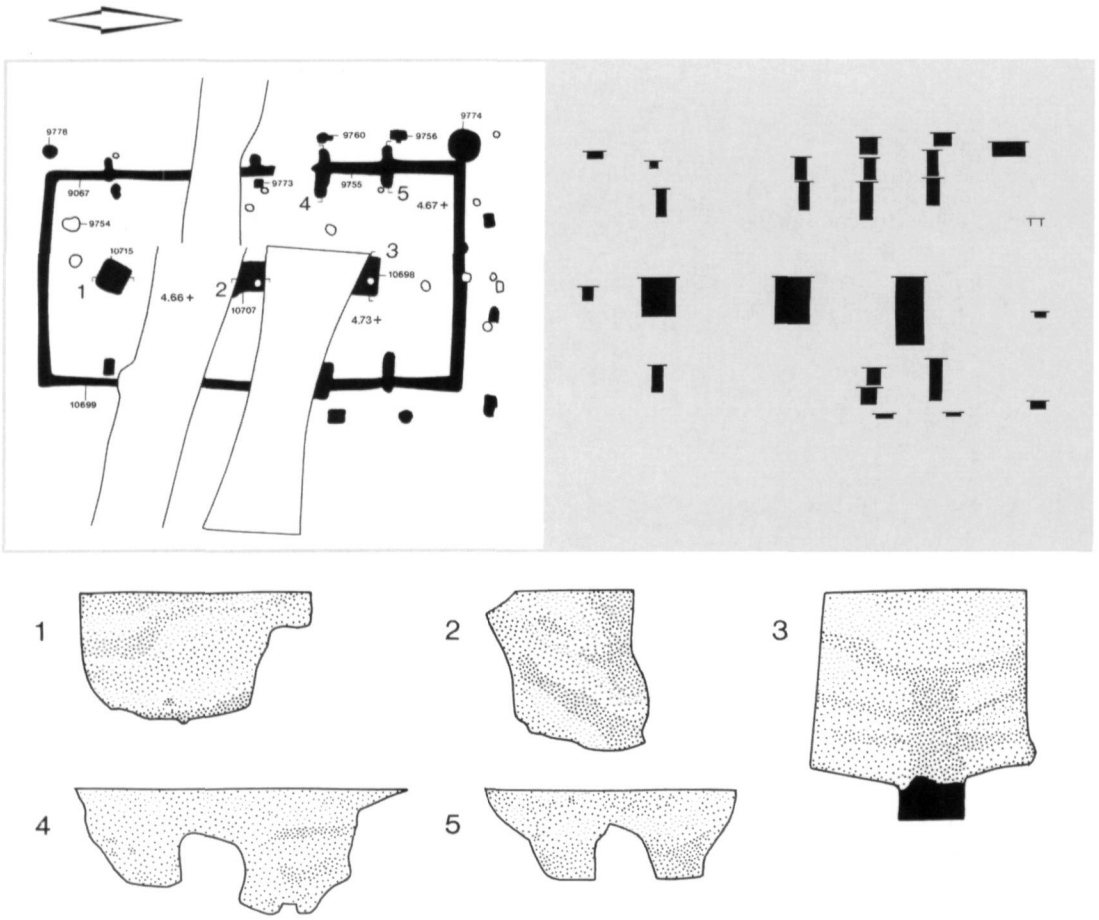


Figure 108. House 119. Scale: plan 1:200, posthole depths 1:100, sections 1:30.

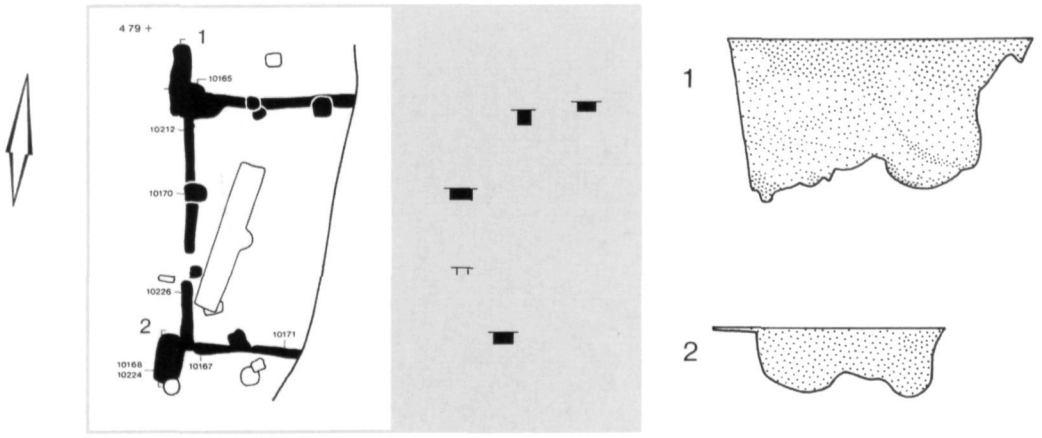


Figure 110. House 121. Scale: plan 1:200, posthole depths 1:100, sections 1:30.

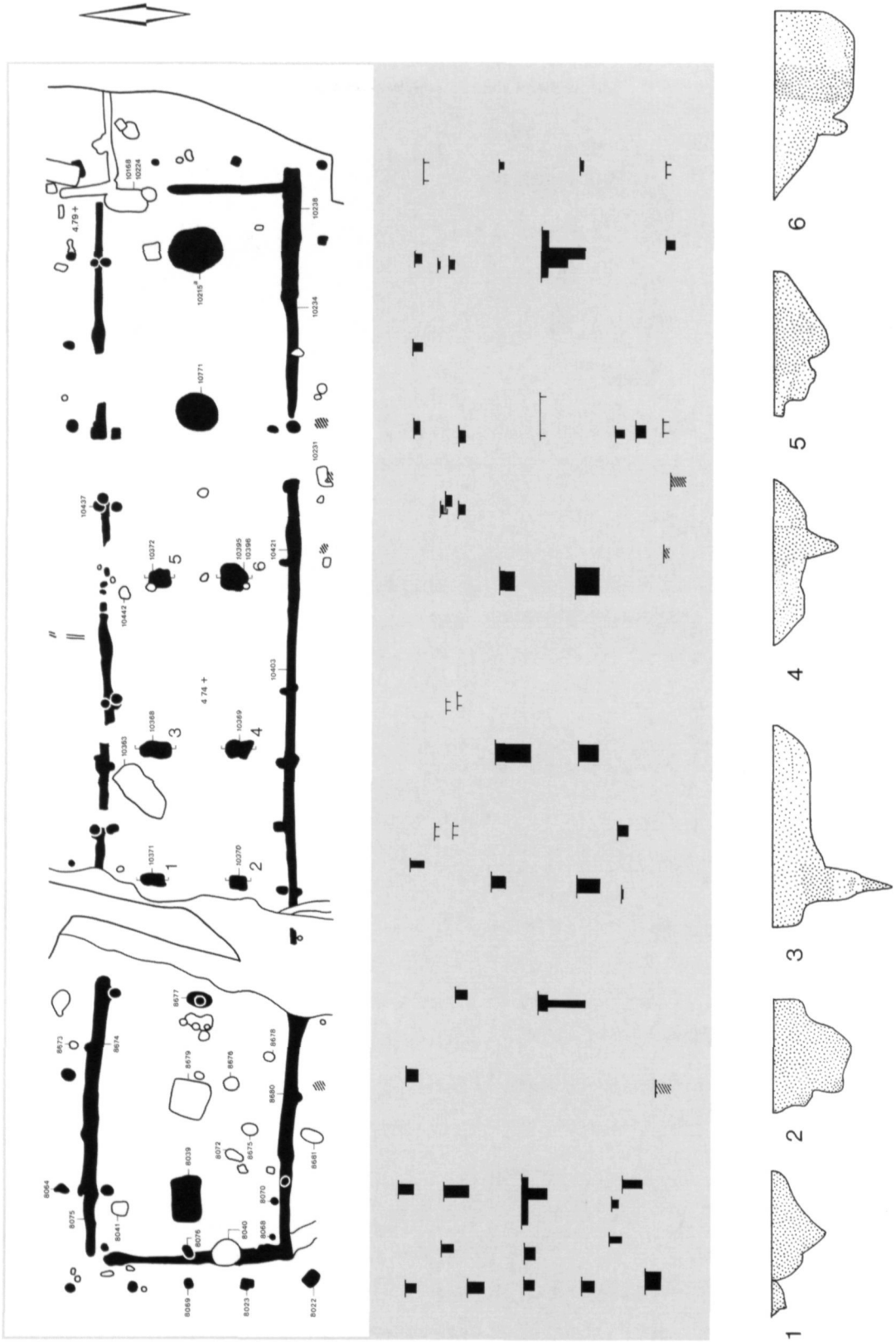


Figure 109. House 120. Scale: plan 1:200, posthole depths 1:100, sections 1:30.

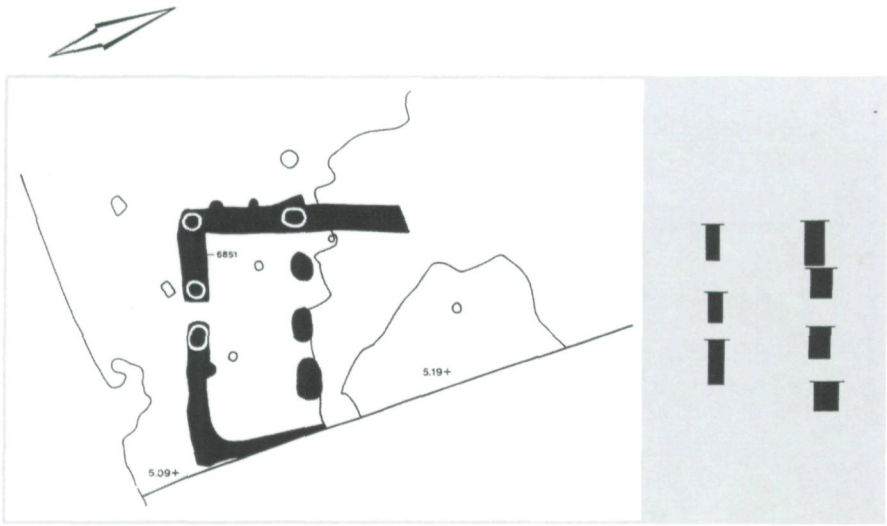


Figure 111. Outbuilding B8. Scale: plan 1:200, posthole depths 1:100.

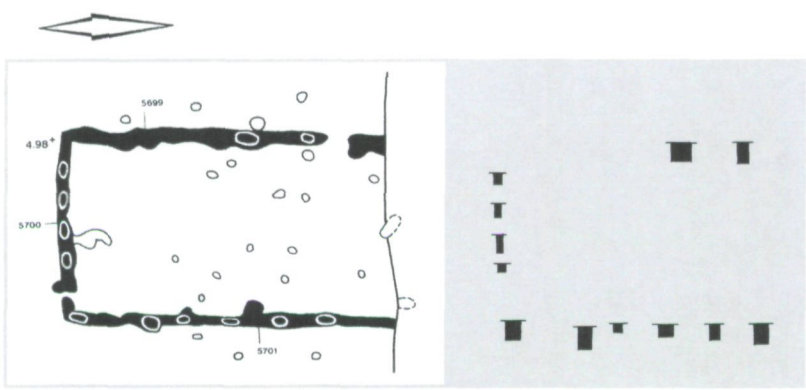


Figure 112. Outbuilding B10. Scale 1:200, section 1:30.

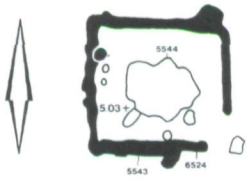


Figure 113. Outbuilding B11. Scale: plan 1:200, posthole depths 1:100.

fragments of handmade pottery, including an almost complete 'mini-pot'. Furthermore, four fragments of wheel-thrown pottery were found.

Outbuilding 12

Of B12 only a wide foundation trench was preserved (fig. 114), which yielded 12 fragments of handmade pottery and three wheel-thrown sherds.

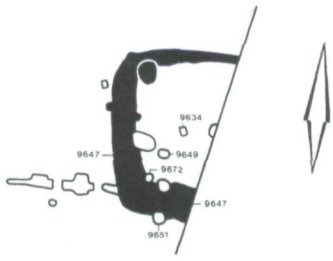


Figure 114. Outbuilding B12. Scale 1:200.

4.3 GRANARIES AND *HORREA*

Only 18 storage buildings found within the settlement enclosure can be dated to the Roman period, one of them with a possible date in the Late Iron Age. Another 86 groundplans that could not be dated were found in the enclosed area. One granary was situated between the two

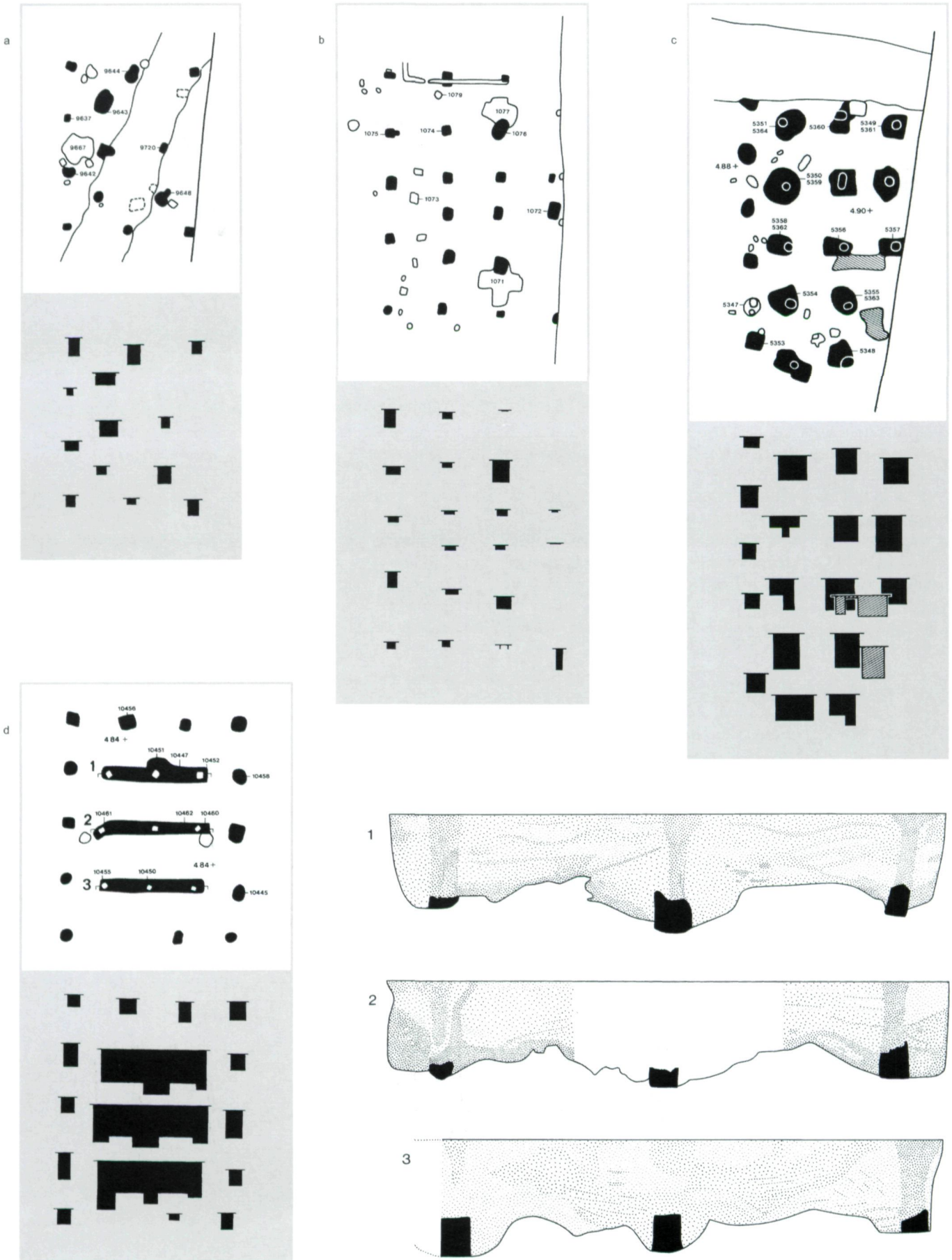


Figure 115. Granaries of type IIIB (a: S309, b: S315) and type IIIA (c: S436, d: S464). Scale: plans 1:200, posthole depths 1:100, sections 1:30.

type	IA	IB	IC	ID	IIA	IIB	IIC	IIIA	IIIB	?	total
number	63	26	11	5	4	1	1	2	2	1	116
total				105			**6**		**4**	**1**	116

Table 25. Granaries and *horrea* from the Westerveld settlement: types.

type	IA	IB	IC	ID	IIA	IIIA	IIIB	total
number	2	1	1	2	3	2	2	13
total				6	**3**		4	**13**

Table 26. Granaries and *horrea* from the Westerveld settlement dated to the Roman period: types.

enclosure ditches, another intersects the outer ditch. Furthermore there are ten undated granaries lying outside the enclosure, but possibly belonging to the Westerveld settlement. Together this makes a group of 116 storage buildings (table 27), of which 50 were find-less.

Most of the granary types distinguished by Schinkel (1994, part II, 139-143) are represented in the Westerveld settlement (tables 25 and 26). The larger types IIIA and IIIB are restricted to the Roman period (Schinkel 1994, part II, 143), and are usually referred to as *horrea* (fig. 115). One of them, S464, was dated with the aid of dendrochronology, and yielded an uncorrected date of AD 50 or 52 (Jansma 1995, 132).

4.4 Pits and wells

A total of 131 pits and wells dated to the Roman period were found within and just outside the Westerveld enclosure (table 30). In 62 cases a form of wooden lining had been preserved, indicating a well. All types of lining from the Oss-Ussen typology by Schinkel were present (table 28), including combinations of types. Of two wells, the type of lining could

type		number of wells
A	unknown	**2**
A1	wattlework	**27**
A2	round or oval: vertically placed elements	**1**
A3	hollowed-out tree trunk	**4**
A4	(wine)cask	**2**
A5	square: horizontally placed elements	**15**
A6	square: vertically placed elements	**1**
A7	construction dug out or washed away	**2**
A*	combination of linings	**8**

Table 28. Roman period wells from the Westerveld settlement: types of lining.

situation	number	pits and wells
within the enclosure	**115**	various
outside the enclosure	**2**	P207, P231
between F125 and F126	3	P342, P393, P418
intersected by F125	1	P348
intersects F125	**7**	P210, P337, P339, P340, P383, P416, P431
intersects F126	**3**	P288, P338, P417

Table 29. Roman period pits and wells from the Westerveld settlement: situation.

No.	type	length/width (cm)	date	No.	type	length/width (cm)	date
S302	IA	300/220	-	S387	IC	190/200	-
S303	IA*	320/300	-	S388	IC	180/190	-
S304	IA*	190/180	-	S389	IC	200/210	-
S305	IA	240/180	-	S390	IA	180/160	-
S306	IIC	390/360	-	S391	IC	160/220	-
S308	IA*	170/170	-	S392	IA	190/140	-
S309	IIIB*	1150/700	RP	S393	IA	220/210	-
S310	IC*	190/210	-	S394	IA	240/210	-
S311	IA	170/150	-	S396	IB	300/220	-
S312	IC	160/200	-	S397	IB*	210/190	-
S313	IB	490/220	-	S398	IA	300/150	-
S314	IIA	350/250	pre-Flav?	S399	IA	240/210	-
S315	IIIB	900/850	I	S400	IB	250/170	-
S316	IA	200/140	-	S401	IIA	340/300	-
S317	IB	330/210	-	S402	IA	220/200	-
S318	IB	340/180	-	S403	IB	200/170	-
S319	IC	150/180	-	S404	IB	150/130	-
S320	IC	530/650	LIA K/RP I	S405	IA	140/130	-
S321	IIA	340/300	IB	S406	-	-	-
S322	ID	150/150	IB	S407	IA	180/170	-
S323	IB	380/320	RP	S408	IC*	190/210	-
S324	IA	180/160	-	S409	IA	180/180	RP
S325	IB	140/120	-	S410	IA	180/170	-
S326	IC	420/500	-	S411	IA	140/120	-
S327	IA	190/190	-	S413	IA	200/180	-
S328	IA	200/180	-	S416	IA	190/190	RP
S329	IA	160/130	-	S417	IA*	210/180	-
S330	IA	180/170	-	S418	IA	140/140	-
S331	IB	350/180	-	S419	IB	400/310	RP
S332	IA	130/110	-	S420	IA	220/170	-
S333	IA	260/240	-	S422	IA*	210/200	-
S334	IB	450/350	RP	S435	IB	510/210	-
S335	ID	320/210	-	S436	IIIA*	700/600	RP
S336	IIA	320/230	RP	S437	IB	140/120	LIA/RP
S338	IA	180/170	-	S438	IB*	270/170	-
S339	IA	180/140	-	S452	IC*	220/230	-
S340	IA	170/120	-	S453	IA	200/170	-
S342	IA	190/190	-	S454	IB	310/190	-
S343	IA	200/180	-	S455	IIB	850/440	-
S344	IA	190/180	-	S456	ID	400/200	-
S346	IA	180/170	-	S457	IA*	180/100	-
S347	IA	190/170	-	S458	IB*	380/250	-
S348	IB	380/190	-	S459	ID	250/190	RP
S349	IA	440/440	-	S460	IB*	300/160	-
S350	IA	130/120	-	S461	IA	160/130	-
S351	IA	320/260	-	S462	IA*	180/170	-
S353	IA	150/150	-	S463	IA	340/260	LIA/RP
S354	IA	200/190	-	S464	IIIA	800/620	RP Ic
S355	IB	410/190	-	S465	IB	310/230	-
S356	IA	220/220	RP	S466	IA	190/180	-
S357	IA	200/180	-	S467	IA	190/180	-
S358	IA*	240/200	-	S468	IA	160/150	-
S360	IA	260/220	-	S469	IB	220/160	-
S363	IA	220/200	-	S470	IB*	210/130	-
S382	IA*	240/160	-	S471	ID*	280/250	-
S383	IB*	600/290	-	S480	IA	230/210	-
S384	IB	370/190	-	S486	IA	120/110	-
S385	IA	200/180	-				
S386	IA	230/210	-				

Table 27. Granaries and *horrea* from the Westerveld settlement. Date: LIA = Late Iron Age (phases I-L), RP = Roman period. * = plan is incomplete.

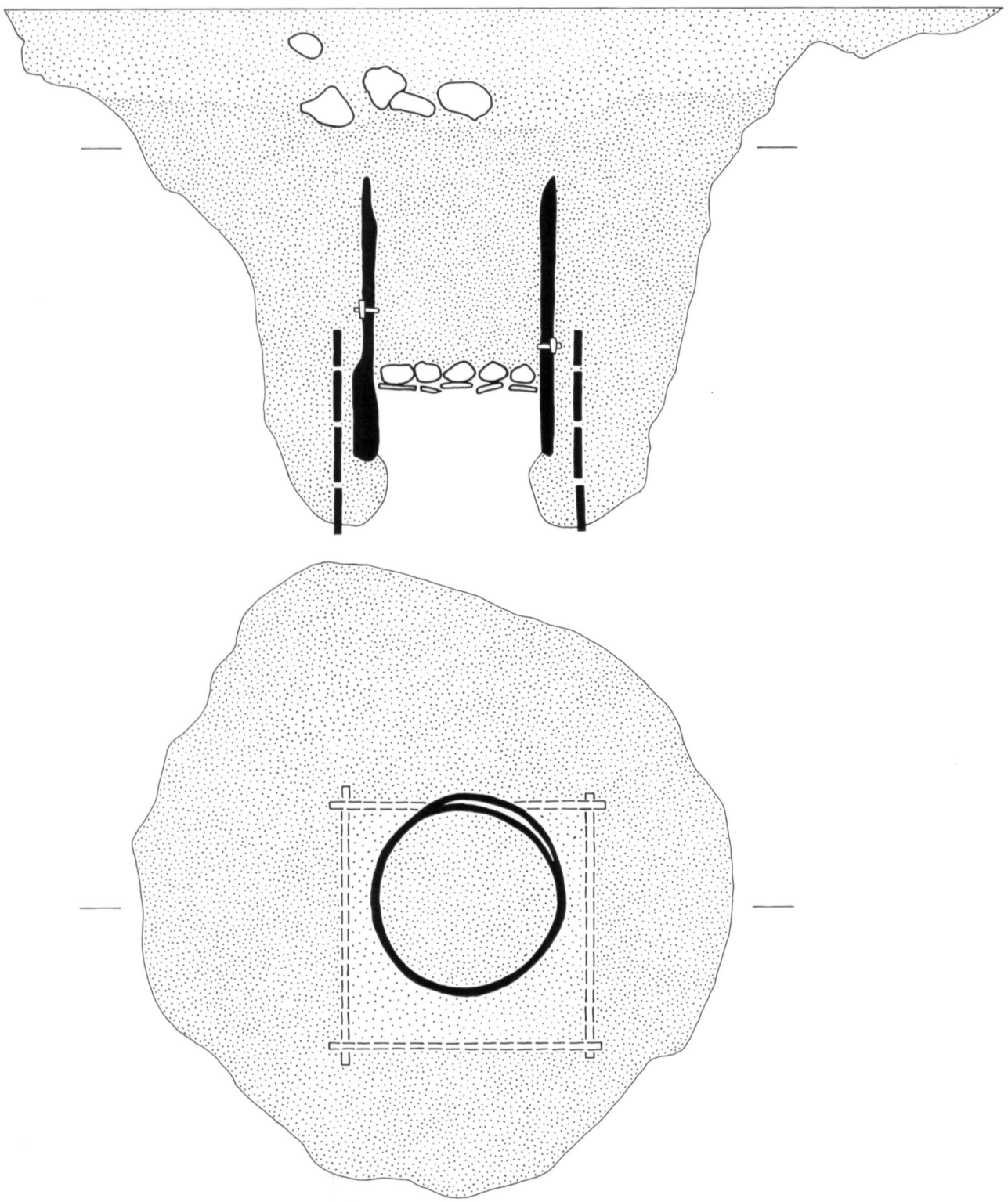


Figure 116. Well of types A3 and A5: P272. Scale 1:30.

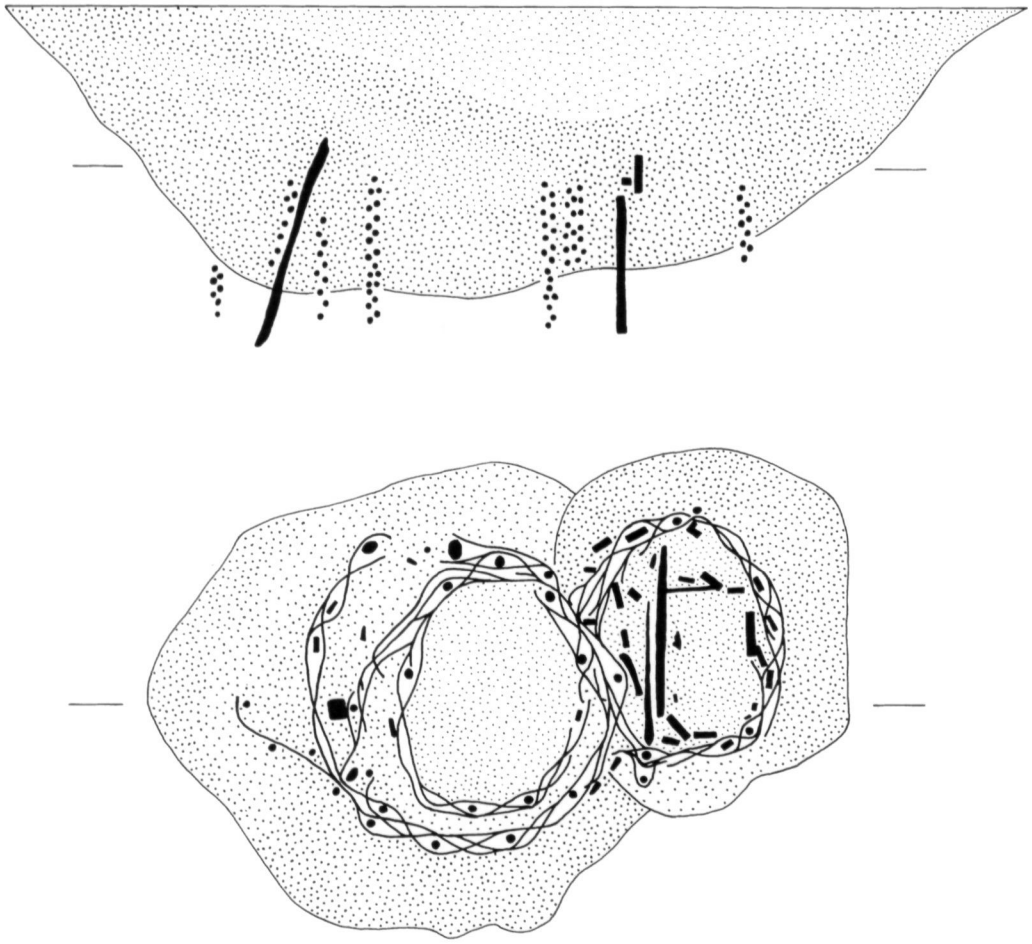


Figure 117. Well of type A1: P372a/b. Scale 1:30.

not be documented. Combined types of lining included three combinations with a hollowed-out tree trunk: a square lining made of horizontally placed elements (P272, fig. 116), wattlework (P422) and a round lining made of vertically placed elements (P412). In two cases, two linings made of wattlework were found in one well (P345 and P372a, fig. 117). Twice a square lining was made of both horizontally and vertically placed elements (P415 and P424) and once a square lining was combined with a round one, both made of vertically placed elements (P411).

The majority of pits and wells are situated within the settlement enclosure (table 29). Only two wells lie just outside the ditches, in the south-west corner. In three cases a pit or well is situated between the inner and the outer enclosure ditch. Apart from some nondescript ditch fragments, pits and wells are the only type of feature intersecting the enclosure ditches. Seven pits are dug out in the filling of the inner ditch (F125), three times this is the case for the outer ditch (F126), and in one case the inner ditch was dug through an old pit.

Wood from four wells was used for dendrochronology, and yielded the following uncorrected dates: AD 72 (P207), AD 78 (P253), AD 145 (P272) and AD 174 (P305). The latter date did not correspond with the date provided by the find material.

4.5 Palisades and ditches

In the area of the Westerveld settlement, 27 ditches and 16 palisades were documented (table 31). Apart from the ditches enclosing the settlement (F125 and F126) and two ditches enclosing smaller areas (F87 and F117), none of the structures are complete. This is largely due to the fact that the features were often shallow. The original number of ditches and palisades will have been larger than what has now been documented: many small ditch fragments, visible on the excavation plan, were not investigated or numbered.

No.	type	depth (cm)	diameter (cm)	diameter lining	wood	date	dendro
P207	A5			100x100	F Q	Id	AD 72
P210	A1		250			Id-IIA	
P213	B-D	90	150			RP	
P231	A1		280	70	A	RP	
P233	E	55	175			Ic	
P234	E	70	150			IB	
P235	E-I	30	110			Ic	
P237	E	85	185			Id-IIa	
P238	H	20	250			Ib-c	
P239	A3	120	150	40		IIb-c	
P240	A2	105	180	70	Q	Id-IIa	
P243	A1	120	230	100	Q	Id-IIa(b?)	
P246	A1	125	400	100x130	A Q S	IIA	
P247	B-D	100	200			Id-II	
P249	A5	180	400	135	Q	IIA	
P253	A5	170	380	120x120	A Q S	Id	AD 78
P254	A3	220	280	75	A Q	Ia-b	
P255	A3	160	270	110	Q	IIB	
P256	A4	165	200	65	Ab P	Ia	
P258	F	80	175			Id-IIa	
P259	F	80	190			IIA	
P260	I	30	220			IB-IIA	
P263	B	70	205			Ia(-b?)	
P264	A5		230	115x115	Q	IA-c	
P265	A1	110	360	80		I-IIa	
P266	A1	110	270	80	S	IIA	
P268	E-I	65	180			IIA	
P269	F	90	330			IIA	
P270	A-I					Ib-c	
P272	A3	225	520	80	F Q	IIA	AD 145
	A5			130	Q		
P288	A1		250	75	A S	IB	
P289	B	85	210			IB-IIA	
P290	E-I	65				RP	
P291	E-I	50	140			RP	
P292	A5		220	110x115		IIA	
P294	A5	120	240	110x110		IB	
P296	E	70	190			IB?	
P297	E	50	150			IB?	
P300	A1	100	250	100x120	Q	Id	
P302	E	40	275			IA	
P303	H	30	245			IId-IIIc	
P304	E	80	175			IIB	
P305	A5	140	310	130x130	A Q S	IB	AD 174
P306a	A4	260	300	95	A Ab P Q S	Ib-c	
P306b	A5	140	350	90x110		RP	
P307	A5		360	130x140	Q	Ic/d-(-IIIa)	
P308	B	100	210			II	
P309	A5	120	250	80x80	Q	Id-IIA	
P310	H	30	80x175			Id-II	
P313	A6	120	320	55x60		IIb-c	
P314	H	50	330			Ib-c	
P315	E	45	135			Id	
P316	E-I					LIA/RP	
P317	F	35	120			Id-IIA	
P318a	A1	195		90x100		IIA	
P318b	B	120				RP II	
P319	B	100	250			IId-IIIc	
P321	A7	80	180			Flav. and later	
P323a	B	120				LIA/RP	
P323b	A7	100				I	
P324a	A1		280	90	Q S	Id-IIB	
P324b	A5		280	102x106	Q	IIB	
P326	E-I	25	160			Id-II	
P327	E	50	210			IIA-c	
P329	A1	115	280	80x110		IIB	
P330	E-I	20	500			IIB	
P331	D	80	180			LIA J-L/RP	
P332a	A1	260	100		A S	RP	

No.	type	depth (cm)	diameter (cm)	diameter lining	wood	date	dendro
P334	E	40	190			Id-IIa(b?)	
P335	C	50	160			LIA L/RP Ia-c	
P336	A1	90	190	70		LIA L/RP I	
P337	A					pre-Flav.	
P338	A	90				Id-IIa	
P339	A1	70	210	65		IB (-IIa?)	
P340	F	50	300			IB-IIa	
P342	F	25	150			Id-II	
P343	A1	90	200	65		LIA L/RP	
P345	A1	100	250	90		IB-IIa	
	A1			70			
P346	H	35	110x200			IIB	
P347	H	20	100x150			IIB	
P348	C	90	280			LIA/RP IA	
P349	A1	115	270	100		IB-IIa	
P369	F	80	260			I(c-)d	
P370	E	75	120			pre-Flav.	
P372a	A1	130	360	70x90		Id	
	A1			110x120			
P372b	A1	130	360	70x90		RP	
P374	A5			93x93		Id	
P375	A1	115	370	80x90	Q	Ib-c	
P378	E	30	140			IB	
P379	E	50	110			IB-II	
P383	A5	100		90x110	F Q	II	
P392	H	40	80x280			Id	
P393	A1	115	160			I	
P394	A1		240	100		Id-IIa	
P395	E	45	180			Ic	
P396	A3	130	45			Id-II	
P401	B	80	150			LIA/RP	
P402	A1	90	260	75		RP	
P403	A1	100	180		Q S	IIA	
P407	A5	160	300	60x85		II	
P408	B-D	100	570			IId-IIIc	
P409	E	50	200			Id-II	
P410	E	7	250			IB-IIa	
P411	A2/6	200	100		Q	IA-IIb	
P412	A2+3	125	300	60	Q	IIB	
P413	A5		250		A	Id-II	
P414	B	60	210			pre-Flav.	
P415	A5/6	150	310	80x140		IIA	
P416	A1	110	210	80		IIB	
P417	A1					Id-IIa	
P418	E	40	140			RP	
P419	A1	110	260	90x110		Id	
P420	H	20	90x170			Id-II	
P422	A1		220			Id-IIa	
	A3			75			
P424	A5/6	110	360	100x100		Ib-c	
P429	A1			100x135	Q	Ib-c	
P430	E	60				RP	
P431	A1	105		120x140	A Q	Id-IIa	
P449	F	55				LIA J-L/RP	
P466	I	10	1000			Id-IIa	
P467	E-I	25	35			LIA/RP	
P475	B	90	800		A Q S	II	
P477	H	10	90x140			RP	
P479	H	30	100x280			IB	
P480	E-I	35	90			IB	
P484	G	45	90			IB-IIa	
P485	H	20	80x200			II	
P486	E	30	90			IIB	
P488	B	50	150			IIB	
P494	H	5	70x110			Id	
P501	F	25	100			IB-IIa	

Table 30. Pits and wells from the Westerveld settlement. Wood: A = *Alnus* (alder), Ab = *Abies* (silver fir), F = *Fraxinus* (ash), P = *Picea* (common spruce), Q = *Quercus* (oak), S = *Salix* (willow). Date: LIA = Late Iron Age, RP = Roman period.

Schinkel (1994, part II) discerned a set of different types, most of which occur in the Westerveld settlement (figs. 118 and 119):

I: palisades made of thin posts, closely set together
IA: linear or L-shaped (N=12)
IB: square
II: palisades with 'normal' sized posts, widely spaced
IIA: linear or L-shaped (N=4)
IIB: square
III: ditches
IIIA: linear or L-shaped with a flat bottom (N=22)
IIIB: linear or L-shaped with posts through the bottom (N=1)
IIIC: square or circle (N=4)

Five times there is a possible link between a palisade or ditch and a pit or well, and one of the ditches (F87, fig. 119) encloses a *horreum* (S309). Three of the palisades show double rows of posts, while in six cases palisades and/or ditches run parallel to each other. Only a small number of ditches and palisades contained finds and could be dated on the basis of these.

The large farmyard enclosure (F117)

Ditch F117 (a-e) encloses an area that can be defined as a farmyard (fig. 120). The western boundary is not clear, but may have been formed by the western ditches of the settlement enclosure itself. In that case, the farmyard would have covered *c.* 1.25 ha. If the area in the south-east corner, partitioned off by palisade F89, is also considered part of the same farmyard, the total surface area adds up to 1.4 ha. The find material from F117 suggests a date somewhere in the second half of the first century/beginning of the second century AD. Pits and wells dug through the fill of F117 indicate that the ditch was out of use in the second half of

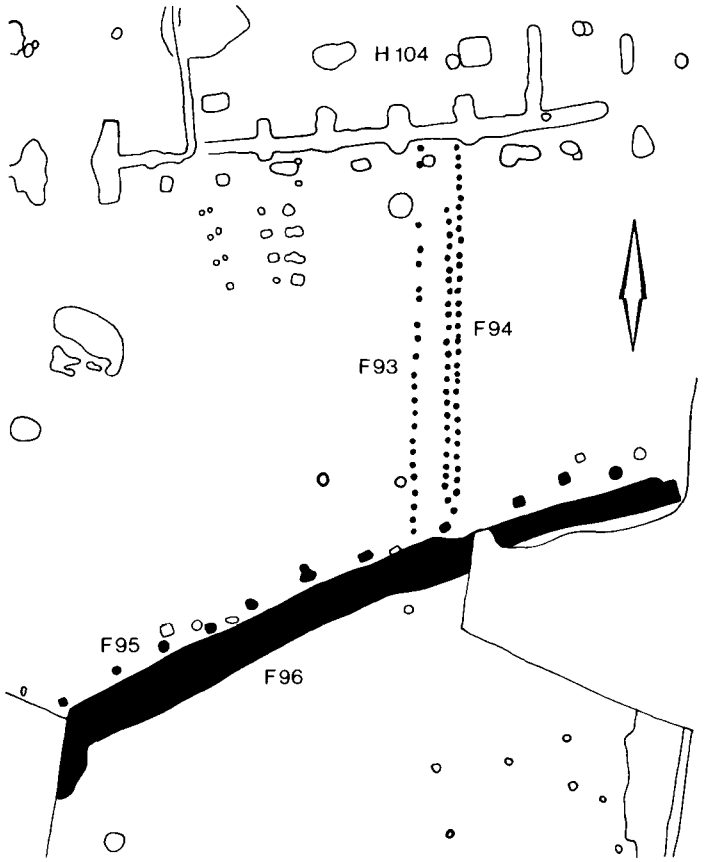


Figure 118. Palisades of types IA (F93, single; F94, double) and IIA (F95) and ditch of type IIIA (F96). Scale 1:200.

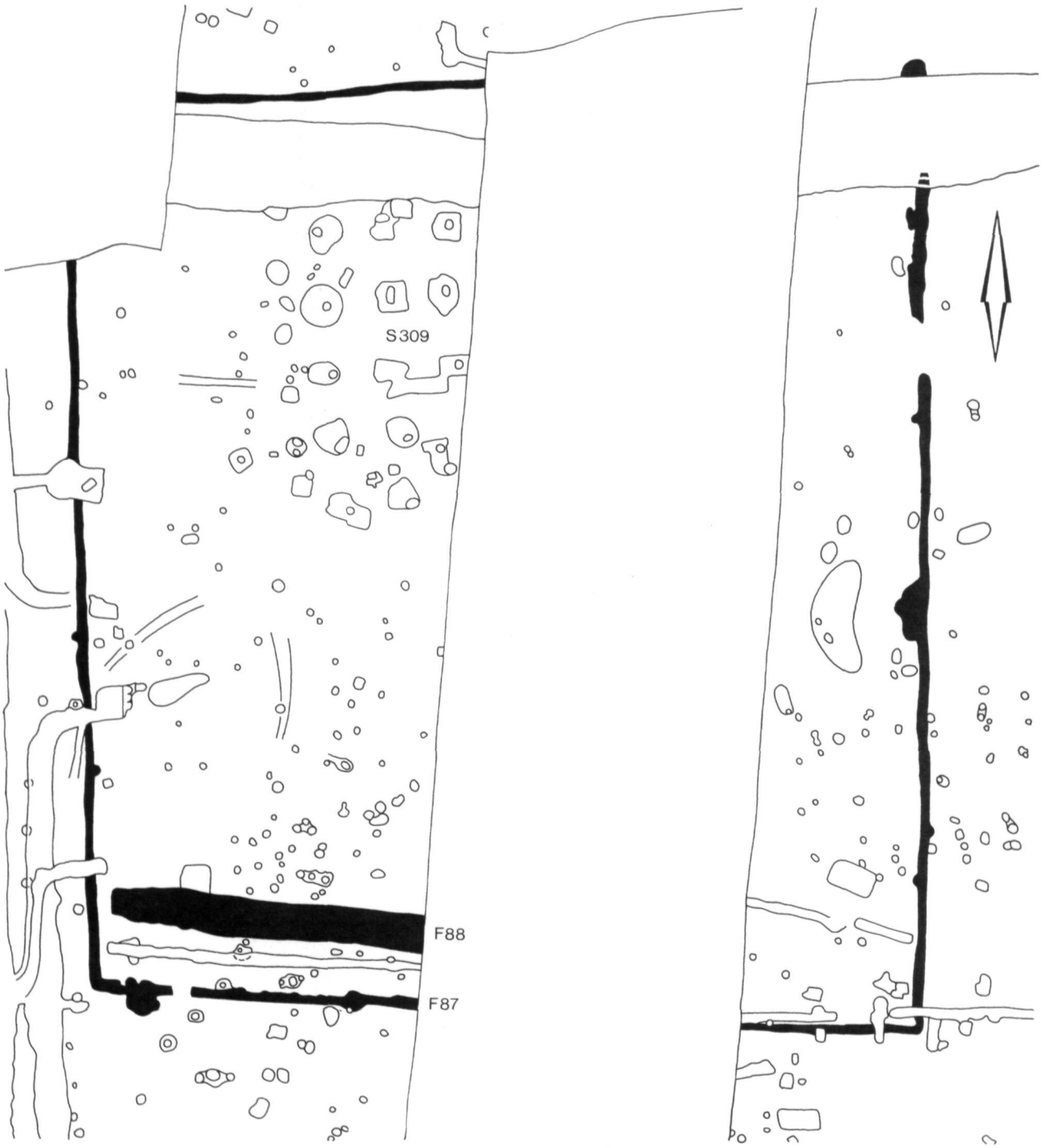


Figure 119. Ditches of type IIIA (F88) and IIIC (F87), enclosing granary S309. Scale 1:200.

No.	type	length (m)	width (m)	orientation	dating	particulars
F38	IIA	14.6		N-S		parallel to F117c
F43	IIA	35.0		N-S		
F44	IIA	24.5		N-S	IIB	
F45	IA	3.2		E-W		
F46	IA	24.0		E-W		double
F81	IA	6.5		NW-SE		partly double
F82	IA	5.9		NW-SE		
F83	IA	2.8		N-S		
F86	IA	7.8		N-S		
F87	IIIC	29.0x27.0	30/40	N-S/E-W	RP	encloses S309
F88	IIIA	10.2	120	E-W	Id-IIa(b)	parallel to F87
F89	IA	21.3		N-S		
F91	IA	38.5		N-S/E-W		corner double
F93	IA	10.1		N-S		parallel to F94
F94	IA	10.0		N-S		
F95	IIA	16.4		NE-SW	II	parallel to F96
F96	IIIA	17.3	60/110	NE-SW	II	
F97	IA	31.8		N-S		parallel to F99
F98	IA	5.0		E-W		
F99	IIIA	38.0	30/100	N-S	II	runnng towards P330
F117a	IIIA	44.0	30/40	N-S/E-W	RP (Ic-IIa)	
F117b	IIIA	47.0	30/40	N-S	RP (Ic-IIa)	double
F117c	IIIA	18.2	40/80	N-S	RP (Ic-IIa)	running towards P265
F117d	IIIA	42.6	40/120	E-W	RP (Ic-IIa)	
F117e	IIIA	28.0	40/100	N-S	RP (Ic-IIa)	
F118	IIIA	5.0	50	N-S/E-W		running towards P259
F119	IIIA	18.0	70/150	NW-SE	Id-IIa	
F120	IIIA	17.0	70	NW-SE	Id-IIa(b)	parallel to F119
F121	IIIA	16.3	100/150	E-W	IIA	
F124	IIIC	Ø 6.4	60	-	Id-II	circle
F125	IIIC	233x318	100/250	N-S/E-W	I-IIa	inner enclosure ditch
F126	IIIC	247x330	120/470	N-S/E-W	I-IIc	outer enclosure ditch
F127a	IIIB	728.0	20/200	N-S/E-W	II	in between F125 and F126
F127b	IIIA	134	60/150	N-S/E-W	II	
F128	IIIA	5.0	100	N-S	RP	
F129	IIIA	51.1	40/100	N-S	RP	
F130a	IIIA	57.0	120/210	N-S	RP (II?)	extension of F125
F130b	IIIA	52.0	320/400	N-S	RP (II?)	extension of F126
F131	IIIA	38.0	50	N-S/E-W	II	
F132	IIIA	66.5	40/100	N-S/E-W	RP	
F133	IIIA	60.0	60/150	N-S/E-W	IB (-IIa)	
F134	IIIA	25.5	150/190	E-W	RP	extension of F126
F135	IIIA	31.5	100	E-W	RP	extension of F125

Table 31. Palisades and ditches from the Westerveld settlement.

the second century AD. The south-eastern part (F177c) cuts through P266, which is dated Id, thus suggesting that at least that part of the farmyard-ditch was constructed after Id. As a whole, the large farmyard seems to have been partitioned off somewhere near the end of the first century AD, and stayed in use for approximately 50 years. This probably includes one or more phases of re-digging or enlarging, for instance illustrated by the double ditch (F117a/b) on the east side. This suggests that in an earlier phase the northern boundary of this farmyard was set slightly further to the south, and that the area was enlarged later on. Remainders of small ditches within the farmyard also indicate different phases and/or internal division into smaller patches. Because the ditches are shallow and could not be retraced everywhere, it is difficult

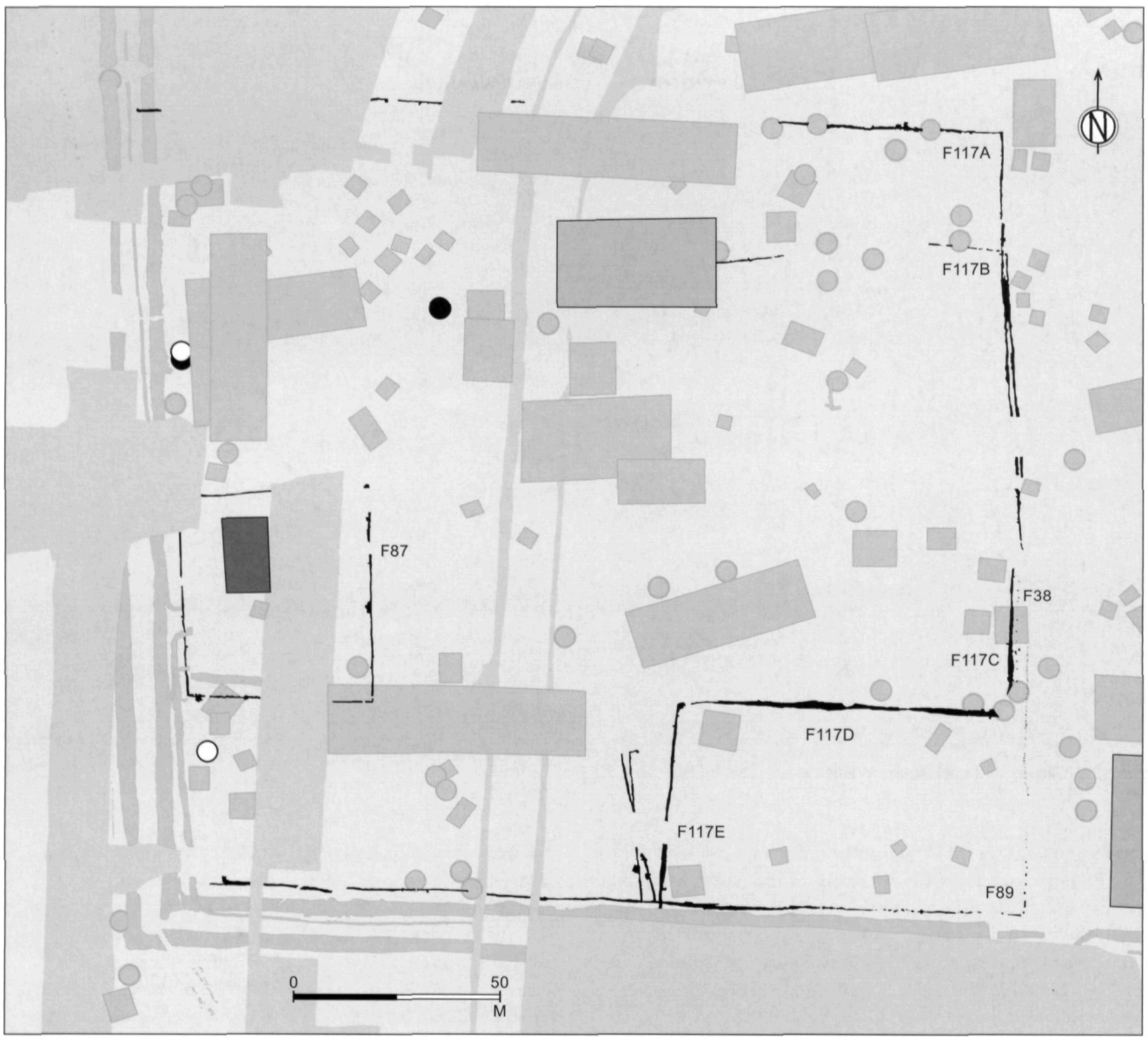


Figure 120. Farmyard enclosure F117.

to point out entrances. Possible openings are on the eastern side.

The settlement enclosure (F125 and F126)

Ditches F125 and F126 form a rectangular ditch-system, comprising an inner ditch (F125) and an outer ditch (F126), which encloses the Westerveld settlement (fig. 121). Sections through F125 show that this ditch was re-dug once. On the west side the younger phase was situated farther away from the settlement, on all other sides the re-digging resulted in the ditch lying closer to the settlement. Of both phases, form and fill were similar. An original depth of *c.* 80 cm means that the ditch did not contain water.[4] Find materials point to a date in the first century AD, which is confirmed by a number of pits and wells dug into the fill of the ditch. The majority of these were dated in the second century AD.

F126 was re-dug at least twice, with the younger phases all situated further away from the settlement than the original ditch. Only on the west side is the situation of the younger phases unclear, due to a lack of good sections. Through all three phases the (reconstructed) depth remained *c.* 60 cm, which means that the outer ditch did not contain water either.

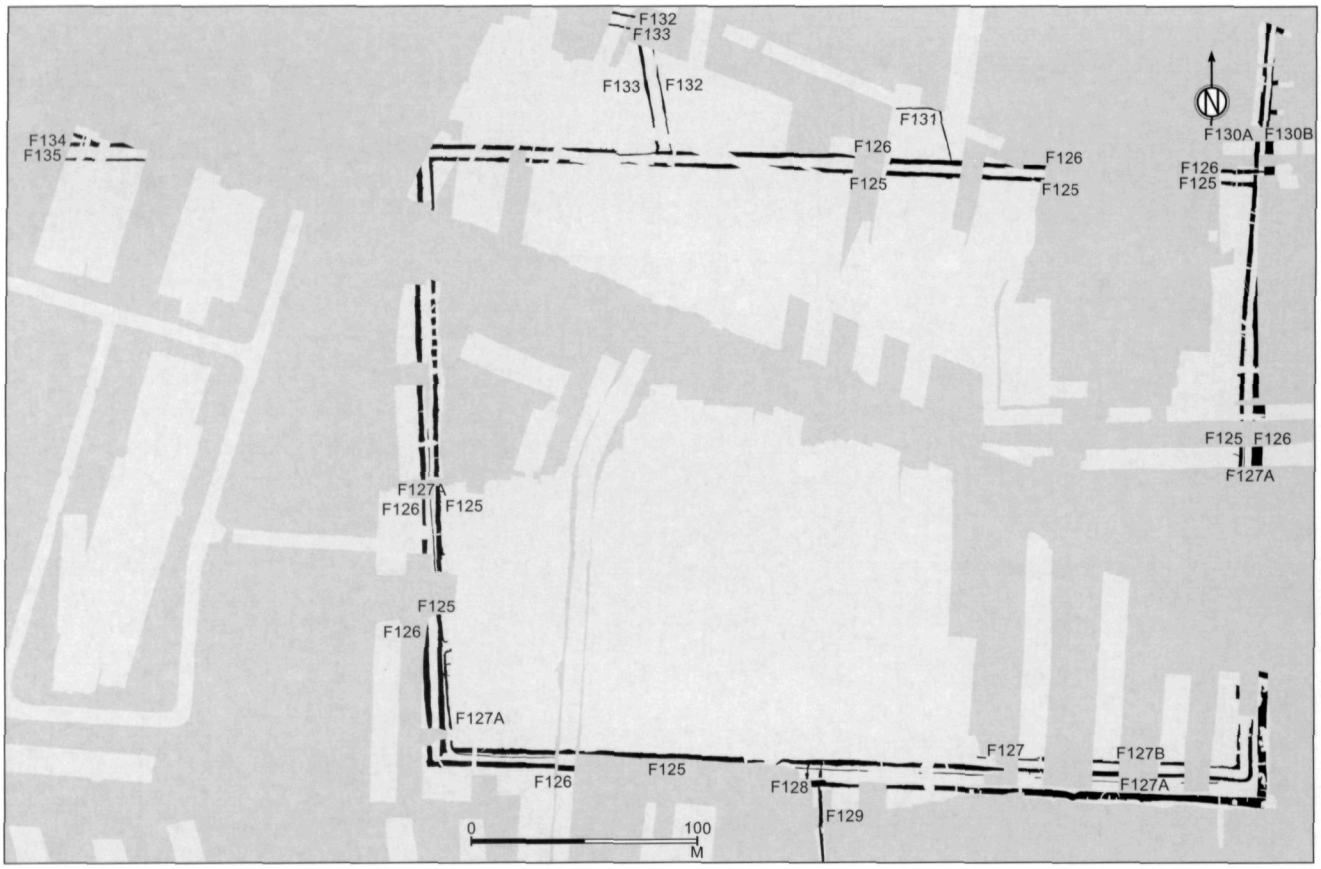


Figure 121. Ditches that enclose the Westerveld settlement (F125 – F135).

The finds from this ditch, and intersections with three wells, point to a date between the beginning of the first century AD and the end of the second century AD. Like F125, F126 cannot be dated precisely. Comparing the finds and intersections, it seems that F125 was out of use slightly earlier than F126. However, both ditches will certainly have been in use at the same time: they never intersect one another, and almost all connecting ditches are in pairs too. Moreover, the northern entrance for both ditches is situated in the same place, and was closed off in both ditches (see below). The double ditch system was probably constructed as a whole, somewhere in the first half of the first century AD. The outer ditch maintained its function until somewhere in the second century AD[5], while the inner ditch, after being re-dug once, was allowed to silt up after *c.* 50 years.[6]

The excavated parts of the enclosure show two entrances. On the northern side, just west of ditches F132 and F133, both the inner and outer enclosure ditch are interrupted over a length of *c.* 15 m. This opening was, at a later moment, closed off by two shallow ditches (*c.* 40 cm), one for each enclosure ditch. On the north side of the ditch that closed off F126, a row of posts with a regular interval of *c.* 2.5 m was placed, completing the 'barrier'. The shallow ditches could not be dated, but it is likely that the closing off of this entrance took place when both enclosure ditches were still in use, i.e. somewhere in the first century AD. This entrance was therefore in use during the earliest phase of the enclosure, but for some reason was closed later. The second known entrance could only be documented for the inner ditch. It is situated on the south side, just west of ditches F128 and F129. The outer ditch was not excavated on this particular spot, so whether or not this was also a double entrance is unclear. The eastern branch of F125 seems to bend southwards here, creating an opening with a maximum width of 4 m. Finally, there is a third possible entrance. On the western side of the enclosure two smaller ditches branch off of the inner ditch, towards the settlement. The distance between the two branches is *c.* 9 m. Situated just west of the enclosed *horreum* (S309 and ditch F87), they may have served as an entrance to that area. The southern of the two branches intersects F87. However, ditch F125 is not interrupted in this place, nor is F126. It is thus not certain whether a real entrance is present.

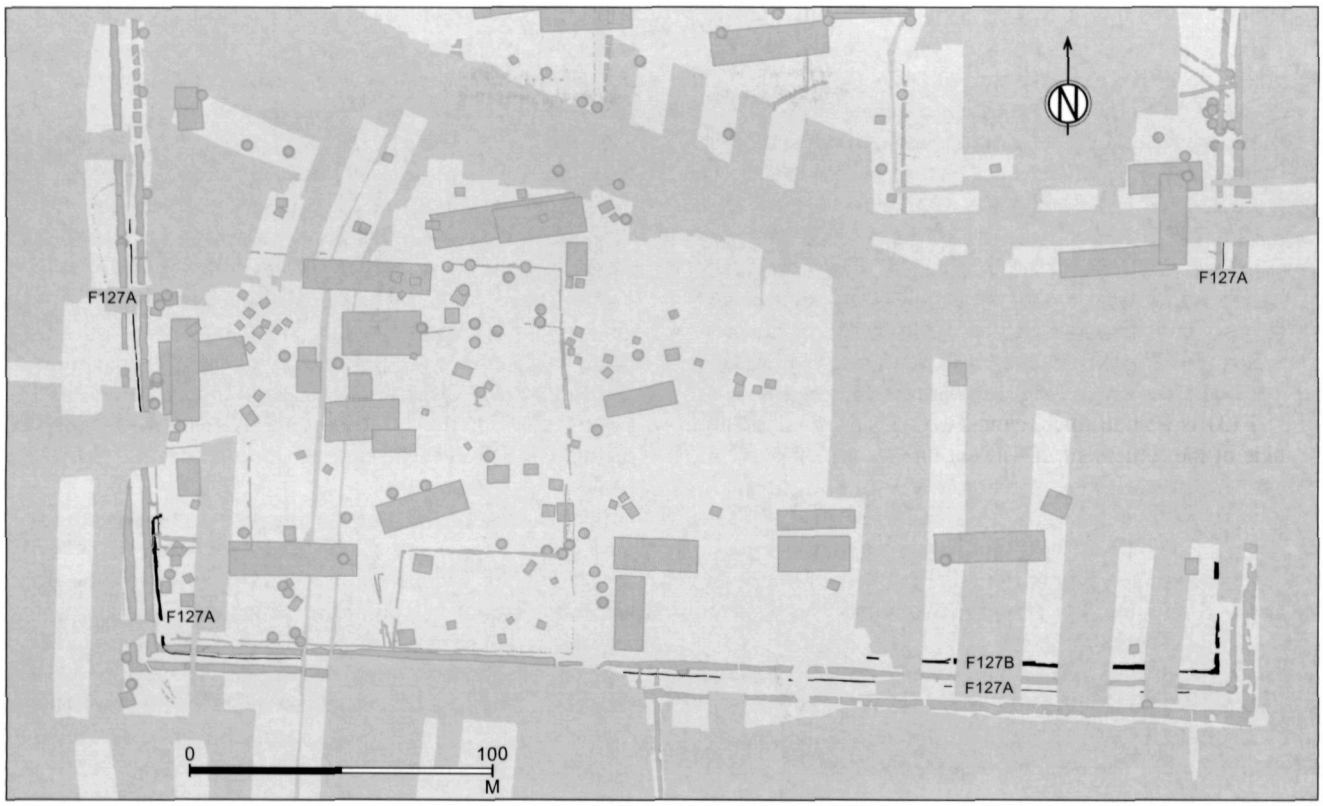


Figure 122. Ditches F127a and F127b.

Ditches following the line of the enclosure (F127a and F127b)

Between both enclosure ditches, on the west, south and east side of the settlement, a narrow palisade ditch (F127a) was documented (fig. 122). It was shallow, with a maximum depth of 20 cm. On the south side the ditch could be traced over a length of *c.* 260 m, with several interruptions. In the south-west corner it intersects F125, and runs just east of it for another 40 m. A section in this place revealed that F127a was re-dug twice. To the south-west of the enclosed *horreum* S309, the ditch bends eastward, just between the two branches of F125, one of which intersects F127a. This would suggest that the palisade ditch was dug later than F125, but that the branches of the enclosure were an even later addition. Further north the ditch was documented again, for a further 56 m, between the enclosure ditches. On the east side there is only a fragment with a length of *c.* 7.5 m, parallel to and in between F125 and F126. Finds from F127a include handmade and wheel-thrown ware, and a fragment of a glass vessel (dated IB-IIA).

In the south-east corner of the settlement a ditch (F127b) following the line of the enclosure was documented. The distance between F127b and F125 is *c.* 5 m. Visible were an interrupted southern branch of *c.* 103 m, a corner, and an eastern stretch of 33.5 m. Sections showed two phases in the eastern branch, with no definite answer as to which was the younger one. The depth of the ditch varies between 30 and 50 cm. Only a few pottery fragments were retrieved from F127b. The (rough) date in the second century suggests that F127 was perhaps the successor of F125/F126, or that it was dug to emphasize the enclosure.

Ditches linked with the enclosure (F128 - F135)

Several other ditches (F128-F135) are linked with the settlement enclosure (see fig. 121). They all continue outside the excavated area. F128 and F129 form a pair of parallel ditches connected to the southern, inner enclosure ditch at an almost right angle. The distance between both ditches is 5 m. F128 joins the inner enclosure ditch, and could be followed to the south for only 5 m. Its depth varies between 20 and 30 cm. F129 seems to have been re-dug once, both phases have a depth of 30 cm. The connection of this ditch with F125/F126 is less clear: F129 could not be followed all the way north to F125, and furthermore it seems to be intersected by F126. The part of F129 between the two enclosure ditches shows just one phase and a depth of only 15 cm. Finally, F129 was dug through the fill of a pit from

the Iron Age (P209). Only a few pottery fragments were found in both ditches, including one wheel-thrown sherd.

F130a and F130b are extensions of F125 and F126 respectively. In the north-east corner, the enclosure ditches extend to the north for at least 50 m. No sections were made through F130b.[7] F130a seems to have two phases, both *c.* 45 cm deep. One of the sections shows a good likeness to sections of F125. The ditch was traced for a further 100 m by means of a coring survey.[8] F130a may have been connected with one of the ditches around the Schalkskamp settlement (Fokkens 1991b, 131; Raemaekers 1993, 25/26, see also chapter 5).[9] Finds from F130a consisted of a large group of handmade pottery and some wheel-thrown fragments

F131 is a small ditch, connected with F126 on the north side of the settlement. It was cut into the fill of F126. F131 runs in a north-northwest direction for the first 21 m, and then bends to the west, where it continues for another 17 m. Its depth is 35 cm. No Roman features were found in the area enclosed by the combination of F131 and F126. Finds included seven fragments of handmade pottery and two wheel-thrown sherds.

About 100 m west of F131, also connected to F126, lie the parallel ditches F132 and F133. Both run in a north-west direction for *c.* 47 m (F133) and *c.* 52 m (F132), and then bend to the west. The bend itself was not excavated. The distance between the two ditches is 5 m. F132 is seamlessly joined to F126; no intersections are visible. Its depth varies between 16 and 40 cm, and only one phase was documented. The ditch intersects a pit dated to the Early Iron Age (P384). Finds include 36 handmade sherds and one post-Roman fragment. F133, with a depth between 25 and 50 cm, clearly shows two phases, the left (southern) one being the youngest. This ditch intersects another pit from the Early Iron Age (P392). F133 seems to have been dug into the fill of F126, thus dating this set of connected ditches later than the enclosure itself.

Finally, F134 and F135 form a set of double ditches situated at a right angle to the enclosure.[10] They seem to be an extension to the west of the northern stretch of F125/F126. The actual place where they would join F126 was not excavated. The distance between both ditches is 6 m. F134 shows two phases, which cannot be dated in relation to one another. Their depth varies between 20 and 40 cm. Finds from the 25 meter long stretch include nine handmade sherds and the base of a *terra sigillata* plate. F135 consists of one phase only, with a maximum depth of 35 cm. Only two handmade sherds and a fragment of a quartzite whetstone were found in this ditch.

4.6 An open-air sanctuary?

Within the Westerveld settlement part of a rectangular or square enclosure (45 x >40 m) was excavated (figs. 72 and 123).[11] The structure, numbered R57[12], consists of a ditch that was originally *c.* 2 m wide and *c.* 80 cm deep. Segments of the western and eastern side of the rectangle and the complete southern ditch could not be excavated. Building activities for houses in the Roman period (H101, H116 and H117) as well as for medieval features and sub-recent ditches have disturbed the enclosure to a large extent. Whether the opening in the north-western corner is really an entrance therefore remains uncertain. Pottery finds from the ditches consisted of 300 handmade fragments and 54 wheel-thrown sherds. Other finds were small amounts of animal bone, baked clay, a whetstone made of sandstone, an iron nail, and a small quantity of iron slag. Together the finds suggest a date in the 1st century AD, but an earlier date is possible (see this chapter note 17 and Van der Sanden 1994, 216).

In an earlier discussion this structure was interpreted as a rural open-air sanctuary (Slofstra/Van der Sanden 1988). A row of five posts in the southern half of the enclosed area was considered to be part of the monument. The main reasons for including the structure from Oss in a group of rural sanctuaries from the Meuse-Demer-Scheldt area were: situation and size of the monument, and; the presence of the row of posts, for which good parallels were present (Slofstra/Van der Sanden 1988, 135). Furthermore there appeared to be a continuity from the (Middle) Iron Age, during which a large enclosure in the cemetery at Oss-Ussen might have been used for cult practices (Slofstra/Van der Sanden 1988, 163; Van der Sanden 1994, 206-210). The arguments mentioned above seem to be no longer strong enough for an interpretation as an open-air sanctuary. After discussing a number of counter-arguments I will argue that an alternative interpretation is possible, which does not necessarily reflect a cultural link with the 'Belgic' sanctuaries in Northern France (Slofstra/Van der Sanden 1988, 155).

The fact that no unusual finds are present cannot be overlooked: none of the objects can be considered a votive offering.[13] Furthermore there are no indications for votive pits. The large size of the enclosure is comparable to the French monuments, but exceptional within the Meuse-Demer-Scheldt region.[14] The area within the enclosure is filled with features to such an extent that it is difficult to say whether the row of postholes is actually part of the structure. Even though fill, shape and colour are valuable arguments for a connection between ditch and posts, the finds (six fragments of handmade pottery) are not convincing. The orientation is the same as that of the northern ditch, but not exactly.[15] The same slightly deviating orientation[16] is used as an argument against a connection between R57 and the row of small posts partly following the track of the enclosure on the inside (F91). The situation of the monument in the

Figure 123. Ditched enclosure R57.

middle of a Roman period settlement is unusual and unlikely. Hoogeloon and Neerharen-Rekem are mentioned as parallels in this respect, but the sanctuary at Hoogeloon is situated *c.* 50 m south of the settlement enclosure (Slofstra 1987, 60; 1991, 149) and the interpretation of the structure at Neerharen-Rekem is questionable (Derks 1996, 227, note 102). It is unlikely that a cult oriented towards the dead and the ancestors was practised in the middle of a living area, while the cemetery was situated well away from the settlement (see 6.1). Moreover, in that case there would be no continuity from the Iron Age in Oss, when (cult) monuments were situated in or near the cemeteries. The fact that the enclosure was overbuilt by a farmhouse (H101) within *c.* 75 years[17] has to count as one of the strongest counter-arguments (see Derks 1996, 227, note 102). Even when out of use, a cult place was usually respected for a long period (Roymans 1995b, 9), something which can also be seen in Iron Age Oss (Van der Sanden 1994).

If R57 is not an open-air sanctuary in the rural tradition of the Meuse-Demer-Scheldt area, other explanations for this large enclosure must be sought. Before discussing its function, it is important to take a closer look at the structure's dating. The two extreme options consist of an origin in the Late Iron Age (*c.* 50 BC at the earliest) and one in the Roman period (the first decades AD). Theoretically, any date between these two is possible (see note 17). A choice for either one of the dates has consequences for two aspects: the amount of time that passed before the structure was overbuilt, and its location with respect to the occupation. If R57 was laid out in the Late Iron Age it would have been situated just north of a cluster of farmhouses (Schinkel 1994, part I, 186)[18], and was overbuilt after *c.* 75 years. If the ditches were dug at the start of the first century AD, around the same time as the large double enclosure, R57 would have been situated within a Roman period settlement, and went out of use after *c.* 25 years.

The finds material allows for an Iron Age date: most of the pottery is handmade. The wheel-thrown ware was found in the (heavily disturbed) western ditch and in the northern ditch, which is underneath a cluster of Roman farms. And as Van der Sanden (1994, 216) points out, it is possible that the ditches were dug during the final decades BC without any typical Late Iron Age pottery ending up in the fill. Since there are no indications that the ditches of R57 were re-dug, they would have been silted up after *c.* 25 years (see this chapter note 6). Building a farmhouse on top of a derelict structure 50 years after it was originally constructed does not seem an unlikely action in a densely occupied area. On the

other hand, a Roman period origin is not impossible. A pottery complex from the first decades AD is likely to contain a large percentage of handmade ware (especially if this includes older debris lying around). Moreover the size, shape, layout and orientation of the ditches show a remarkable similarity to the enclosure ditches F125 and F126. All three had a depth of *c.* 80 cm, a width of *c.* 2 m, and were mostly bowl-shaped in section. Furthermore, both R57 and the ditch system had right angles and a north-south orientation. In my opinion therefore, the large enclosure and the ditches enclosing the Westerveld settlement were dug at the same time, by the same group of people. Keeping this in mind, I will list a number of possible interpretations.

Strictly functional uses, such as a farmyard enclosure or a cattle corral seem unlikely. There are no good parallels for an enclosure of this type. Even though the size of the enclosed area (at least 1800 m2) is appropriate[19], it would not explain the large width and depth of the ditches. If palisade F91 had a similar function, R57 could be regarded as a reinforcement or a follow-up, but the difference in construction and size cannot be explained. The only building that is enclosed by the ditches is H100, which is dated to the (early) Late Iron Age (see note 18) and has a completely different orientation.

Another possibility is that R57 is a funerary monument. Some of the arguments listed above can be used again to weaken this hypothesis: the insignificant find material, the fact that the structure was overbuilt too quickly, and the location. During the Late Iron Age as well as the Roman period, graves were situated in the more or less open area south of the Westerveld settlement. Moreover, there are no indications for any form of interment: no cremation or inhumation remains, no grave goods or even a central pit. For a grave, the size of the structure would be unusually large.

Even if R57 is not a true open-air sanctuary in a regional tradition, it is clear that this large enclosure cannot be explained in a purely functional way or in the funeral tradition of the area. It seems that the fact that we are discussing an *enclosure* is significant. The construction of this enclosure, around the same time as the digging of the ditches that were to enclose the settlement, must have had a special significance. In a way, R57 and F125/126 may have had the same function: the marking of a boundary. Even though in the case of R57 we do not know what was being enclosed, the value of the actual act of enclosing seems clear during the first years of the Roman period in Ussen. Without using the term 'sanctuary', which separates the ideological from the everyday, this large enclosure might have been a statement in itself, or connected to what was being expressed by the large settlement enclosure. In that way, the arguments used by Slofstra and Van der Sanden about continuity from the Iron Age are still valuable. Enclosing an area, for a grave or a cult monument, is still meaningful at the start of the Roman period. But next to that, the practice has now exceeded the level of the funerary monuments, and is used in the settlements too. Precisely because of this link with everyday life a symbolic meaning could well have been combined with a more practical use. Elsewhere in this study I will discuss the meaning of boundaries in Oss in general (see 8.2).

I want to take this interpretation a little further by suggesting a direct link between R57 and the start, or even the foundation of the Westerveld settlement. The construction of R57 at the same time as the settlement enclosure can be regarded as a symbolic action, with the intention to enforce the foundation of the settlement. The digging of the small enclosure can be seen as a construction or foundation ritual, in the same sense as a foundation deposit or sacrifice.[20] Possibly the enclosed area was used on a single occasion for a ritual activity. Afterwards, the ditches were left to silt up, which emphasises this once-only use. According to Hingley (1990), the construction of a boundary *as well as* intentional acts to negate it, can be symbolic. The settlement enclosure was re-dug at least once, while R57 was left to silt up or was perhaps even backfilled. The subsequent overbuilding of the ritual enclosure with a *house* can be seen as a conscious act. One which, considering the part that R57 played in the *settlement's* foundation, was only fitting.

4.7 FINDS

4.7.1 Pottery

The Roman period structures in the Westerveld settlement contained a total of 26,283 pottery fragments, of which 38%

	whole area		structures only	
terra sigillata	387	3	326	3
fine ware	9	+	8	+
Belgic ware	871	7	767	8
cork urn	154	1	136	1
colour-coated ware	366	3	307	3
smooth-walled pottery	1948	16	1574	16
mortaria	408	3	286	3
dolia	1146	10	941	10
amphorae	1479	13	1191	12
Waaslands	142	1	131	1
coarse ware	1617	14	1340	14
grey ware	3373	28	2876	29
indeterminable	47	+	40	+
total	11,947	100%	9923	100%

Table 32. Wheel-thrown pottery from the Westerveld settlement: number of sherds and percentages.

terra sigillata	326	1
fine ware	8	+
Belgic ware	767	3
cork urn	136	+
colour-coated ware	307	1
smooth-walled pottery	1574	6
mortaria	286	1
dolia	941	4
amphorae	1191	5
Waaslands	131	+
coarse ware	1340	5
grey ware	2876	11
handmade pottery	16,360	62
indeterminable	40	+
total	26,283	100%

Table 33. Wheel-thrown and handmade pottery from the structures of the Westerveld settlement: number of sherds and percentages.

(n=9923) were wheel-thrown and 62% (n=16,360) were handmade. Adding the wheel-thrown sherds that were found in the same area, but as stray finds or in features that could not be attributed to Roman period structures, results in a total number of 11,947 wheel-thrown pottery fragments. The total number of handmade sherds from the area is unknown (see 1.3). Comparing the relative proportions of wheel-thrown pottery from structures with those from the whole area (table 32) reveals only very slight differences in the percentages of tableware and grey ware. In order to be able to include the handmade pottery, I will mostly work with the pottery found in structures only (table 33).

The numbers in table 33 reflect the period during which the Westerveld settlement was used: most of the types date from the first and second centuries AD. Pottery from the late second century and the third century, such as the colour-coated *Qualitätsware* (technique d) and 'shiny grey' ware and *sigillata* mortars type Dragendorff 45, occurs in small quantities. Handmade ware, mostly used during the first century AD, accounts for the majority of the sherds found. Grey ware is present in reasonable amounts, all others categories are represented in smaller quantities. Eight fragments of fine tableware were found, a type of pottery that was not present in the smaller settlements.

At 62%, the relative amount of handmade pottery is large. The fact that the Westerveld settlement shows almost seamless continuity from the Late Iron Age occupation in the area certainly contributes to this. Finds from several structures dated to the Late Iron Age and/or the Roman period were included in the pottery lists, as well as some undated granaries and outbuildings. However, eliminating the pottery found in these structures hardly changes the proportions. Most of the larger find complexes derive from structures from the Roman period, such as the enclosure ditches and several house plans, pits and wells (see appendix I). Apparently debris including large quantities of handmade ware was lying around when the settlement was built and in use. The relative amount of handmade pottery from pre-Flavian pits and wells is 76%, after AD 150 it has decreased to 37%. Certainly more wheel-thrown vessels were used in the second century AD, but it seems that handmade pottery did not fall into complete disuse. The proportion of tableware found in all structures (just over 5%) is not exceedingly large, but some of the wells from the pre-Flavian period have relatively large amounts, such as P135, P270, P256, P314 and especially P254, in which four fragments of a vessel in fine ware were found. Among the houses from this early phase H70 and H74 yielded slightly more tableware, although the numbers are quite small. H74 contained a large number of sherds (1080), but 91% of these was handmade.

The Westerveld settlement shows an interesting group of early Roman pottery imports. The earliest ones include Arretine *sigillata* (see below), dated to the Augustan period. Other early *sigillata* finds include fragments of small drinking cups (type Hofheim 5, found in H74 and P272), and the slightly later and less exclusive version Dragendorff 24/25. Augustan or later is the lid of a Pompeian red-coated plate (type Oberaden 23) found in P375. Several fragments of early small colour-coated drinking bowls (type Hofheim 22, sand-sprinkled inside and outside) were found: in P253, as a stray find and a specimen in fine ware in P422. Fragments of a wine-*amphora* from the pre-Flavian period (type Haltern 70) were found in S314, while P234 yielded fragments of a jug-*amphora* (type Hofheim 77). Early grey ware included beakers type Stuart 204 (P249 and S314) and fragments of two Belgic *terra rubra* plates were found in H74. Finally, cork urn should be regarded as an early import, although with 136 fragments it was by no means an exclusive possession. These vessels came into the settlement during the first decades AD, when possession of such goods was an exception. The majority of the early pottery was found in the southwestern corner of the settlement, with slightly larger concentrations in and around H74 and H72. Apart from several fragments of plates, all early pottery imports can be connected with (wine) drinking which fits in with two wine casks found in wells (see 4.7.9). After AD 50 the Roman pottery imports seem more widespread, including such vessels as *terra sigillata* drinking cups (type Dragendorff 24/25) and wine-*amphorae* (type Dressel 2/5, found in F125 and R57). From the Flavian period onwards imported pottery is present in large quantities all over the settlement.

Terra sigillata

A total of 387 fragments of *terra sigillata* were found, 326 of which were in features that were part of structures dated to the Roman period. The majority of the (identified) pottery was

structure	form
P235	plate (Haltern 2)
P254	plate
P256	bowl (Haltern 8)
F125 (close to P233)	plate

Table 34. Arretine *sigillata* from the Westerveld settlement.

Figure 124. Arretine *sigillata*, two fragments of two plates (P254 and P235). Scale 1:4.

stamp	vessel form	potter (period AD)	region	structure
PACATVS F	Drag.27	-	Central Gaul	posthole near H96
ALBA[NVS] retrogade	Hofheim 2B/4B	Albanus (65-80)	La Graufesenque	F117d
M(a)CRIN : F	Drag.18/31	Macrinus (117-161)	Lezoux	stray pit
MVR[ ]	Drag.27	Murranus (41-80)	La Graufesenque	P308

Table 35. Potter's stamps on *terra sigillata* from the Westerveld settlement.

made in Southern Gaul during the first century AD (table 36). Fifteen fragments were decorated, and four sherds could be identified as Arretine *sigillata*, from four different vessels (table 34, fig. 124). No Argonne *sigillata* was found. Seven times a potter's stamp was documented, in three cases it was illegible (P272, P243, stray find). The other four are listed in table 35.[21]

Stamped mortaria

In eight cases a potter's stamp was found on a fragment of a mortar. One (P253) was illegible, of a another one (a stray find) only an 'O' was left. The other six are listed in table 37.

stamp	vessel form	potter	region	period	structure
VETERA	Stuart 149	Vetera(nus)?	Bavay	I -IIA	P318a
FRIOMASI / E.V.GONMAS	Stuart 149	Friomas	south of Tongres	I -IIA	P318b
DVRIO	Stuart 149	?			stray find
]IDV[/ OFE	Stuart 149	Candidus?			stray find
]IVS M PER[of VERER[	Stuart 149A	Vererius?	Bavay?		stray find
VECTOR	Stuart 149				P372b

Table 37. Potter's stamps on *mortaria* from the Westerveld settlement.

	type	number of sherds	total
undecorated			
Arretine	Ha.2	1	4
	Ha.8	1	
	plate	2	
South Gallic	Drag.15/17	2	88
	Drag.18	14	
	Ritt.2B	2	
	plate	9	
	Drag.27	15	
	Hofh.5	1	
	Drag.29	13	
	Drag.37	2	
	bowl	8	
	Déch.67	1	
	Drag.24/25	6	
	Curle11	1	
	Drag.35	1	
	Drag.35/36	1	
	indet	12	
South Gallic?	Drag.18	2	16
	plate	3	
	Drag.27	1	
	Drag.33	2	
	Drag.37	1	
	bowl	2	
	indet	5	
Central Gallic	Drag.27	1	1
Central or East Gallic	Drag.18 or 18/31	2	51
	Drag.18/31	9	
	plate	4	
	Drag.31	8	
	Drag.27	4	
	Drag.32	4	
	Drag.45	1	
	Drag.38	2	
	Drag.37	4	
	bowl	1	
	Curle15	1	
	Drag.33	9	
	Drag.43?	1	
	indet	3	
East Gallic	Drag.18/31	1	17
	Drag.31	4	
	Drag.27	3	
	Drag.45	1	
	Drag.37	2	
	Drag.33	1	
	indet	5	

	type	number of sherds	total
indet	Drag.18 or 18/31	1	42
	Drag.31	3	
	Drag.32	2	
	Drag.38	2	
	Drag.37	1	
	Drag.33	2	
	inkpot (late)	1	
	Drag.40	1	
	bowl	3	
	indet	26	
decorated			
South Gallic	Drag.29	6	10
	Drag.37	3	
	Déch.67	1	
Central Gallic	Drag.37	2	2
East Gallic	Drag.37	2	2
Indet	Drag.37	1	1
total			234

Table 36. Fabric, region and types of *terra sigillata* pottery from the Westerveld settlement.

4.7.2 Clay objects

Numerous fragments of baked and unbaked clay were found, including many that were recognised as parts of wattle-and-daub walls or floors. The majority of these were found in wells. Among the documented artefacts are spindle whorls (N = 34), loomweights (N = 27) and sling pellets (N = 61). Of most of these objects only fragments were present. The spindle whorls show various sizes and shapes, including discs, conical and tapered ones. As far as reconstruction was possible, the loomweights were all of the triangular kind with three perforations, which was the common type in the Roman period (Van den Broeke 1987b, 38). Contrary to what is documented for the Iron Age (Schinkel 1994, part I, 165-166), no large concentrations of sling pellets were found.[22]

An exceptional object is a fragment of a clay face mask, found in P243 (fig. 125). It was probably made in Cologne during the first decades of the 2nd century AD (Van Boekel 1987). Three fragments of terracotta figurines were found, one of which came from a well (P249) while the other two were stray finds. The fragment from P249 derives from the pedestal of a human figure, of which only the left foot is partly visible (fig. 126). The statuette probably originates from the Rhine/Moselle area.[23] Not much can be said about the other two fragments. One is too fragmented, the other, part of a small bird, might be of medieval origin.

4.7.3 Tephrite objects

A large number of features from the Roman period contained fragments of tephrite. In 46 cases, fragments of querns were recognised. Apart from one find, all querns were rotary querns. Top stones were documented 18 times, bottom stones only six times. Most fragments showed ribbed decoration on the sides, and often the surface was covered with zones of parallel ridges. The majority of the stones had an original diameter of *c.* 40 cm, the largest diameter being 44 cm. This size, together with the ribbed sides, indicates the later (after AD 50) version of Van Heeringen's type d (Van Heeringen 1985, 378).

4.7.4 Stone objects

As was the case with clay and tephrite, many stone finds could not be recognised as (parts of) artefacts. In the Westerveld settlement, unworked fragments were found of quartzitic stone, sandstone, granite, slate and flint. Artefacts included querns (at least four) and whetstones (at least 25).[24] The quern fragments were made of sandstone or quartzitic stone. One fragment (found in P319) was exceptional: it was made of 'Conglomerate of Burnot' and seemed to derive from a huge circular quernstone with a diameter of *c.* 70 cm. Whetstones, some of them oblong (at least seven specimens), were made of quartzitic stone, fine-grained sandstone, schist,

Figure 125. Clay face mask (h. 16.9 cm). Scale 1:2.

Figure 126. Terracotta statuette (P249). Scale 1:1.

Figure 127. Whetstone made of schist (P237). Scale 1:2.

(quartzitic) slate, diabase and fine-grained *Grauwacke* (a type of slate). Figure 127 shows a whetstone made of schist, found in P237. Finally, a piece of quartzite with a 'face' was found in P407.

4.7.5 Building materials

A relatively large number of (Roman) building materials were found, including brick, tuff and worked or perforated slate. The total number of brick fragments was 257. One of these was a piece of an actual brick (P309), the other 256 were tile-fragments. No stamped tiles were found. Table 38 shows the various types of tile that could be recognised.

Of the 129 *tegula*-fragments, only 11 could be recognised by the presence of (part of) a rim. All other *tegulae* were classified by thickness (between 15-20 and 45 mm, see Lammers 1994, 160). A convex shape was documented for 25 fragments, which were classified as *imbrices*. A complete set of roof-tiles would consist of an equal number of *tegulae* and *imbrices*. Lammers (1994, 160) already noted that for small fragments of *imbrices* the convex shape is not visible, thus causing the tiles to be classified as *tegulae*. Another reason for the smaller number of *imbrices* might lie in the possibility that the tiles from the Westerveld settlement were not part of one roof (see below).

Three fragments were slightly thinner, ranging from 12 to16 mm. They may have been part of *tubuli*, box tiles that

type	number
tegulae	129
imbrices	25
tubuli (?)	3
floor-tiles (?)	4
indet.	95
total	256

Table 38. Tile fragments from the Westerveld settlement: type.

structure	number	weight (kg)	%	date
P249	154	17.5	45.5	IIA
H78	23	3.1	8.0	Id-IIA
P318	14	2.0	5.0	IIA
P259	10	1.7	4.5	IIA
others	55	14.2	37.0	mostly II
total	256	38.5	100	

Table 39. Tile fragments from the Westerveld settlement: structures.

were used in hypocausts. However, the characteristic patterned ridges on the outer surface were lacking. Four fragments were thicker than a regular *tegula*, measuring between 45 and 50 mm. They could have been part of another type of tile that was used as flooring rather than a roof covering. Of the 256 fragments, 95 could not be ascribed to a form of brick, mainly because they were too small and their thickness could not be measured.

All brick material was weighed, usually per find number. Together the 256 tile fragments weighed 38.5 kg. The mean weight of the Westerveld tiles is 150 g per fragment. This number gives a good indication of the fragmentation of this find group. The largest piece of *tegula* that was found in Oss measured 180 mm in width, and this was an exceptionally large fragment. A complete *tegula* would have measured approximately 495 x 345 mm, with a weight of more than eight kg (Lammers 1994, 165).[25]

The spatial distribution of the tile fragments shows a clear concentration (fig. 128). More than 45% (17.5 kg) were found in a well (P249) close to H78. Two other wells (P259 and P318) contained 1.7 kg and 2.0 kg respectively, while the features of H78 itself yielded 3.1 kg (see table 39). All other find numbers with tiles contained less than one kg, and in most cases just a single fragment. As is visible in figure 128 the tiles concentrate around H78, although smaller quantities were found all over the settlement.

Roof-tiles or a tiled roof

The presence of roof-tiles does not automatically mean that a building with a tiled roof was present in the settlement. For the smaller settlements in Oss the small quantity of brick already led to that conclusion, but even in the case of the 38.5 kg from the Westerveld settlement a tiled roof is not certain. Van der Sanden (1987b, 64-65) carefully formulated a 'direct connection' between H78 and the roof-tiles found in and near the house plan. His reconstruction of a house with a tiled *porticus* was preliminary, but has since then been quoted so often that the tiled roof of H78 has become an undisputed fact.[26] Lammers' analysis of the roof-tiles from the Horden (Lammers 1994) is one of the first attempts to get more detailed information out of roof-tiles. His methods to establish the presence of a tiled roof will be followed here for Oss-Westerveld.

If there was one building in the Westerveld settlement that had a tiled roof, it was probably H78. The main reason for this choice is the concentration of tiles in and around this house plan, combined with at least 40 iron nails. The unusual layout of the plan (see 4.1) is another good argument: the deep-set posts that formed the *porticus* did not have a roof-bearing function. In spite of that they seem to have carried a heavy load, which may have consisted of roof-tiles. Finally, the distribution of other find categories shows a number of exceptional finds, such as large amounts of tableware, glass vessels, metal objects and Roman kitchen herbs, concentrating in and around H78. Apparently the inhabitants of H78 were in a position to obtain a range of high-quality goods, either through wealth, status, or a combination of the two. H78 was dated Id-IIA, and roof-tiles were introduced in these areas by the Roman army during the first century AD. Around the time that H78 was built, tiles were probably not yet available to everyone.

So while there are grounds to suspect that H78 was adorned with a tiled *porticus* at least, we have to take a closer look at the tiles themselves to see if this was indeed possible. For a rough estimate of the amount of tiles needed to cover the roof of the *porticus*, I will use the reconstructed measurements and weights mentioned above. The surface of the *porticus* is *c.* 40 m^2. A reconstructed *tegula* would have a surface of *c.* 0.17 m^2, so in order to cover the whole *porticus* one would need 235 *tegulae*, together weighing 2021 kg. Adding the same number of *imbrices*, the total weight of the (*porticus*) roof adds up to 2844 kg. The 38.5 kg that were found make up only 1.4% of the weight of the complete roof.[27] However, the small percentage does not mean that we have to discard the option of a tiled roof completely. At Hoogeloon (Slofstra 1987), a proper villa was built, complete with baths and a heating system. Even though a tiled roof was certainly present, the tile fragments found made up only 3% of the reconstructed weight of the roof.[28]

For the above estimate, it is assumed that all tiles came from one and the same roof. If this is true, the tiles need to be fairly similar, at least in size. Of the 128 *tegulae*, only five had a rim that could still be measured. The height varied between 50 and 64 mm, with only two rims of the same size. The thickness of the *tegulae* themselves could be measured in 111 cases, and varied between 18 and 42 mm, covering 21 different measurements. The number of rims is too small to reach a final conclusion, but the variation in thickness is rather large, which makes it unlikely that the tiles were all part of a well-fitted roof. It is not unthinkable that the tiles were on the *porticus* anyway, and that the owner took the badly fitted roof for granted. Since it was only the *porticus* that was tiled, and not the whole roof, leaks or the odd tile falling off would not have caused a large problem. Perhaps the possession of a partly tiled roof during a period when roof-tiles were still a scarce item, outweighed the fact that the tiles did not function properly. Another option could be that the roof was originally properly fitted, but that the usable tiles were transported elsewhere once H78 was out of use.

If there was no tiled roof at all, the brick material may have had a secondary use. This is difficult to prove: the fragments are rather small, while paving, drainage pipes or foundation supports require relatively large pieces of tile. Furthermore, no traces of soot or secondary firing, which

could have indicated hearth paving, were documented.[29] One type of secondary use is certain though: several perforated tile-fragments found in the Ossermeer were interpreted as net-sinkers (Verwers/Beex 1978, 32-33, see also 6.2).

Dating and origin of the tiles

The earliest evidence for brick in the eastern river area dates to around AD 50, when it was imported and used by the Roman army. After AD 70, when the tile-works at De Holdeurn (Berg en Dal) were established, tiles and bricks were produced locally (Willems 1986, 183). After the initial production and use by the army, brick became available to the non-military population of the area at some point during the first century AD. From the second century onwards the use of brick was widespread.

The brick from Oss is hard to date. Stamped tiles, which when military in origin usually give a good indication of production and thus date, were not found. The only clues are the features in which the tiles were found. It turns out that the majority were found in second-century wells, as could be expected. Three wells are dated Id-IIa(-b). Unfortunately there is no information available as to the exact find-spot of the tiles. They may have ended up in the wells long after the wells themselves were out of use (see 1.3.2). The most interesting date is that of H78: Id-IIA. Even though the plan could not be dated very precisely, it still has one of the earliest dates of all features with tiles found in them. The dates allow for the scenario where tiles were on the roof of the *porticus* at the end of the first century AD and ended up in wells during the second century AD. In that case, H78 can be considered a relatively early example of a non-military tiled building. This possible first century date is especially interesting considering the fact that in the eastern river area virtually all settlements with Flavian roof-tiles had stone buildings at some point (Willems 1986, 183). For some reason, the Westerveld settlement never reached that point (see chapter 8).

Due to the lack of stamps, the origin of the tiles from Oss is uncertain. For the eastern river area, the tile-works at De Holdeurn are considered to be the main supplier, with smaller civil tile-works supplementing a minor part of the production.[30] Whether the Westerveld tiles came from a military or a civil production centre cannot be established. If the tiles were a military product they could have been supplied directly to the Westerveld settlement, though an intermediary such as a military settlement, seems more likely.

Other building materials

At least 54 fragments of worked slate were found, together weighing *c.* 50 kg.[31] Of these, 23 fragments were perforated, while most of the others showed signs of working, such as sawing. Apart from a few stray finds and a fragment from F125 or F126, all worked slate was found in pits and wells. Worth mentioning is P272, which contained a total of 27 kg of slate, of which eight pieces were worked. Two fragments were exceptionally large, measuring 36 x 37 cm and 33 x 38 cm

Figure 129. One of the sheets of perforated slate found in P272 (h. 42.7 cm) with a close-up of its perforation (diam. 7.5 mm).

structure	worked slate	tuff	mortar	trachite	lead	iron ore (blocks)	roof-tiles	nails	date
P210	1	-	-	-	-	-	-	-	Id-IIA
P255	4	-	-	-	-	-	-	2	IIB
P266	1	-	-	-	-	-	-	-	IIA
P269	4	-	-	-	-	-	-	1	IIA
P272	8	x	x	-	-	-	x	8	IIA
P307	1	-	-	-	-	-	x	14	IIc/d(-IIIa)
P313	1	x	-	-	-	-	-	-	IIb-c
P318	6	x	-	-	x	-	x	18	IIA
P319	4	x	-	-	-	-	x	5	IId-IIIc
P330	1	x	-	-	-	-	x	-	IIB
P347	1	-	-	-	-	-	-	-	IIB
P407	8	x	-	x	-	x	x	-	II
P408	3	x	-	-	-	-	x	-	IId-IIIc
P466	10	-	-	-	-	-	x	1	Id-IIa
P488	5	-	-	-	-	-	x	-	IIB

Table 40. Pits and wells from the Westerveld settlement with building materials other than brick (number of fragments or x = present).

respectively (fig. 129). Such sheets of slate, especially perforated fragments, may have been used as roofing material (Bult/Hallewas 1986, 23). Table 40 shows pits and wells that contained various kinds of building material, other than brick.

All pits with building material contained fragments of slate that were worked or perforated. Tuff was found in seven of the pits, in two cases (P313 and P407) shaped in a large block. These regularly shaped fragments could have been used to build walls. Mortar, blocks of iron ore or iron slag, a wedge-shaped fragment of trachite, and lead, occur only occasionally but always in combination with slate and roof-tiles. The majority of the pits containing building materials date from the second century AD. Iron nails could also have been used for building purposes. They are usually associated with timber, although there is a possibility that roof-tiles were fastened with nails. Tiles with holes in them were not found, but the slate sheets may have been held in place by nails. A total of at least 277 iron nails, usually with a square or rectangular section, were found in the Westerveld settlement (see also 4.7.7).

The distribution of the other building materials is different from that of the roof-tiles: while the tiles concentrate around H78, the other materials are present in other locations (see fig. 128). The highest concentrations were found in the north, near P407/P408 and further south near P318/P319. The number of finds associated with (partly) stone buildings is too small to conclude that such a building was present. Tuff, lead and trachite could have been used for other purposes. The slate, just like the tiles, could have been used on a wooden building, or for a secondary purpose.

4.7.6 Glass objects

Glass finds from the Westerveld settlement include beads, gaming counters, *La Tène* bangles, and vessels. A total of eight glass beads were found. Three of these were so-called melon beads, made not of proper glass but of the sintered *faience* variety (fig. 130). One, a stray find, was complete,

structure number	number of fragments	date
P323a	2	LIA/RP
P449	1	LIA/RP
H116	2	I
F125	1	I-IIa
F126	4	I-IIc
P314	1	Ib-c
H104A	1	Ib-c
P395	1	Ic
P305	1	IB
P345	1	IB-IIa
P410	1	IB-IIa
H104B	1	Id
P300	1	Id
P372a/b	2	Id
P466	2	Id-IIa
P334	1	Id-IIa(b?)
H78	1	Id-IIA
P324a/b	1	Id-IIB
P272	1	IIA

Table 41. Structures from the Westerveld settlement with *La Tène* glass bangles, sorted by date.

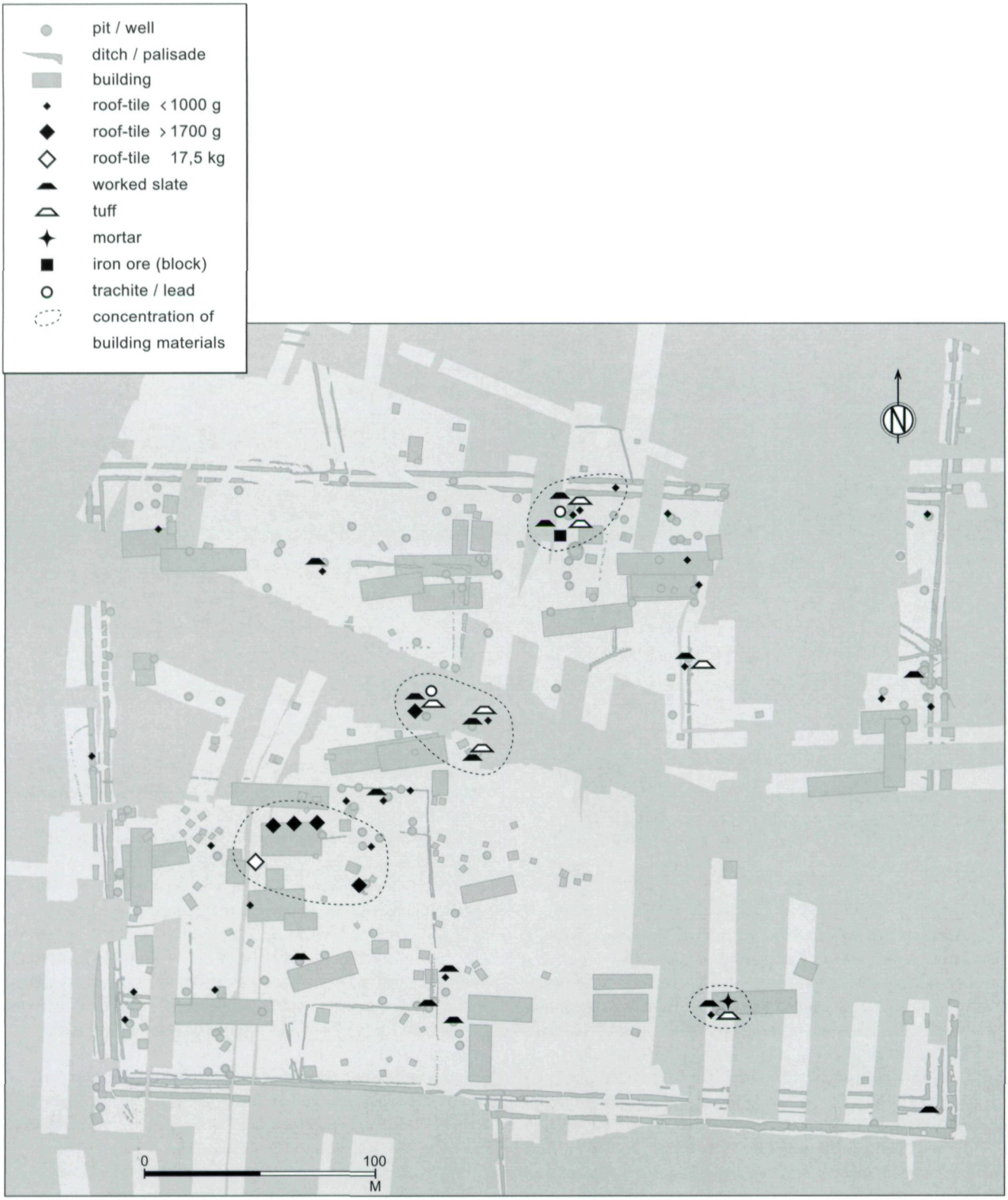


Figure 128. Distribution of building materials in the Westerveld settlement.

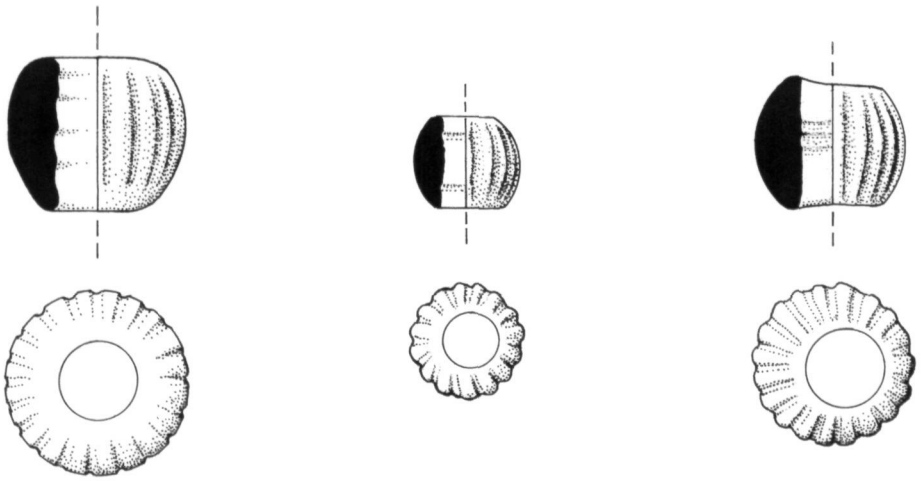


Figure 130. Three melon-beads. Scale 1:1.

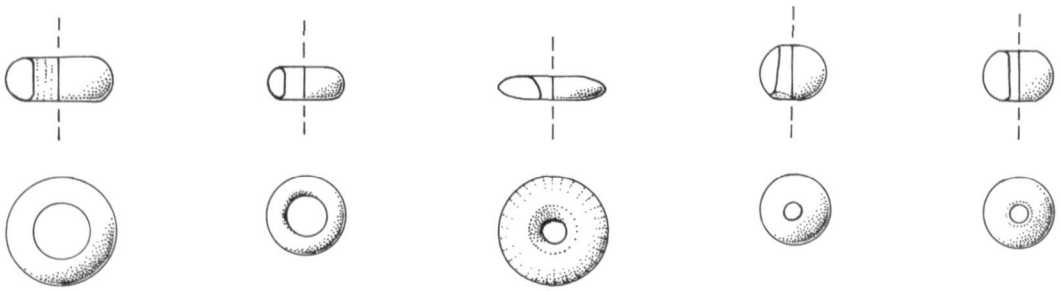


Figure 131. Five glass beads. Scale 1:1.

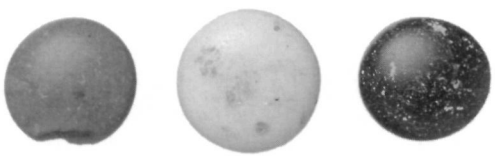


Figure 132. Three gaming counters made of glass paste. Scale 1:1.

the other two (from P253 and F125) were fragments. All three were bluish green. The other five glass beads were of different shapes and colours. Two (stray find and F126) were flat and white, two were blue (stray find and P270) and one (stray find) was round and brown (fig. 131). Apart from the melon bead the stray finds could be of post-Roman date. Three gaming counters were found, all plano-convex in section but of different colour: one white (H89), one black (near H105) and one blue (F133) (fig. 132).

Features dating from the Roman period yielded 30 *La Tène* bangle fragments (figs. 133 and 134). Most fragments were found in pits and wells (N = 16), others in houses (N = 5) and in ditches (N = 5).[32] Based on grave finds from Central Europe, the current tentative hypothesis regards the bangles as women's jewellery (Roymans 1996c, 59), but other functions have been suggested (cf. Willems 1986, 196) and a combination of different functional and ideological meanings is possible. Van den Broeke (1987b, 40) was the first one to state that *La Tène* bangles were still in use during the Roman period, even though the manufacturing had probably stopped by then. Just how long the bangles were still in use is difficult to assess. In the Westerveld settlement fragments of *La Tène* bangles were found in several features dating to the second century AD (table 41), but especially for pits and wells any such date should be regarded as a *termini ante quem* (see 1.3.2).

Table 42 shows the various types and colours. Both colourless fragments had yellow foil on the inside. Two bangle fragments were re-heated and bent to form a ring or pendant, a third one had been burnt. The variation in colour and type seen in Roman period Westerveld corresponds to percentages from the Lower Rhine area (Roymans/Van Rooijen 1993, 4/5).[33] The D-shaped or 1-ribbed type

Figure 134. Selection of fragments of glass *La Tène* bracelets. Scale 1:1.

	3a	3b	7a	7b	7c	7d	total
blue	5	3	8	1			17
purple	5	3	1		1		10
brown						1	1
colourless			2				2
total	10	6	11	1	1	1	30

Table 42. *La Tène* glass bangles from the Westerveld settlement: colour and type (Haevernick).

(Haevernick 3a and 3b) and the 5-ribbed type (Haevernick 7a and 7b) are dominant, with 53.3 and 40% respectively. In the Lower Rhine area, this is 51.9 and 35.1%. The slightly higher percentage of ribbed bangles in the Roman period seems to confirm the older hypothesis that the development goes from the D-shaped type to the ribbed types (Suter 1984; Van den Broeke 1987b, 39-40). However, recent finds have shown that ribbed and D-shaped types both occur in the earliest find complexes in Switzerland, and it is more likely that there is no development in that respect (pers. comm. N. Roymans).

As in the Lower Rhine area, roughly half of the D-shaped bangles belong to the subtype that is decorated with a thread of yellow glass paste (Haevernick type 3b) (fig. 135). The other 50% is of the plain subtype Haevernick 3a. Within the group of 5-ribbed bangles the undecorated subtype (Haevernick 7a) is clearly dominant (fig. 136). In accordance with the pattern seen elsewhere in Europe, the most common colour is blue (56.6%). Different from the general European pattern, but similar to what is known from the Lower Rhine area, is the relatively large number of purple fragments (33.3%). Brown and colourless bangles are represented in small quantities only, green fragments are absent.

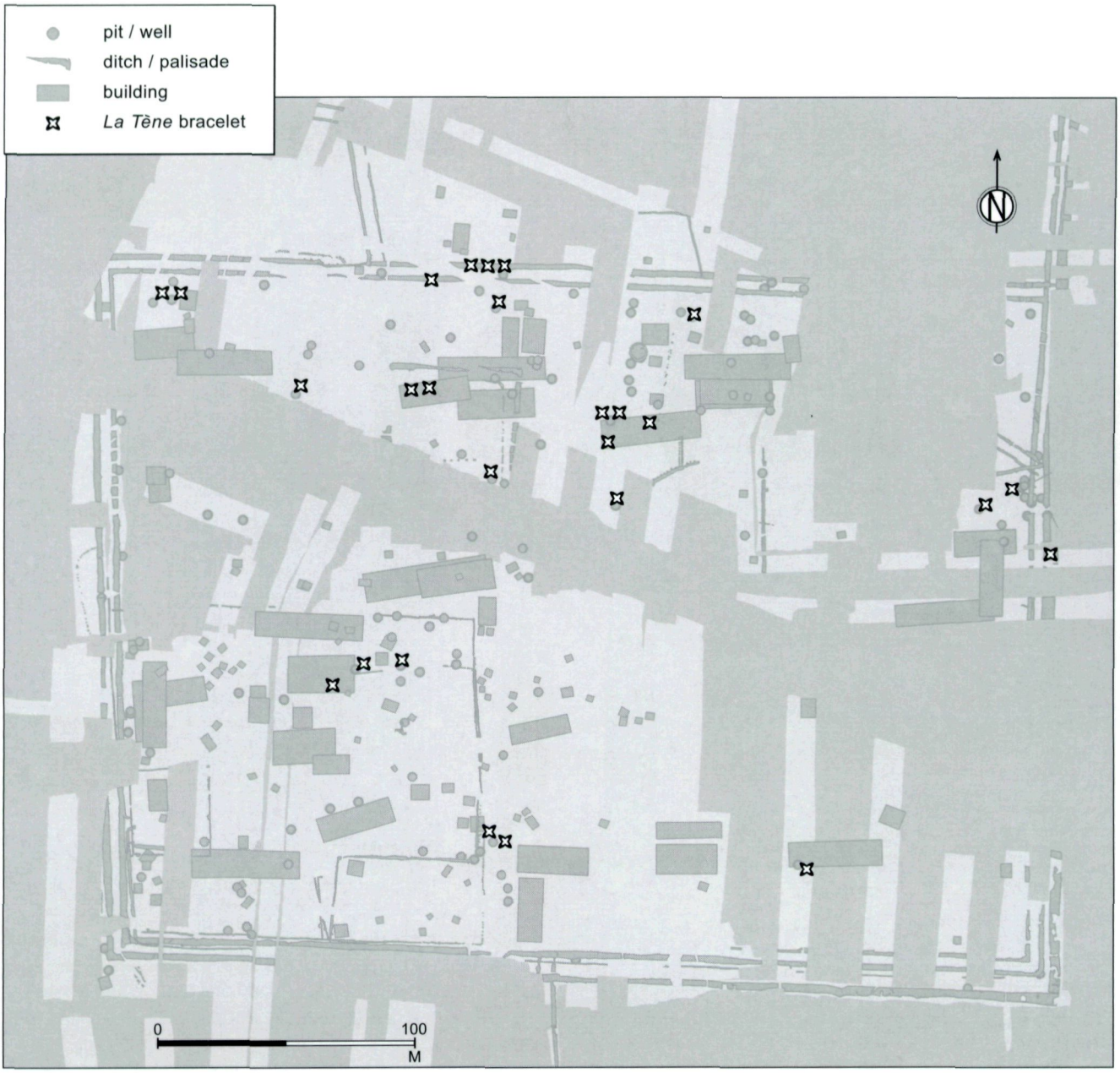


Figure 133. Distribution of glass *La Tène* bracelets in the Westerveld settlement.

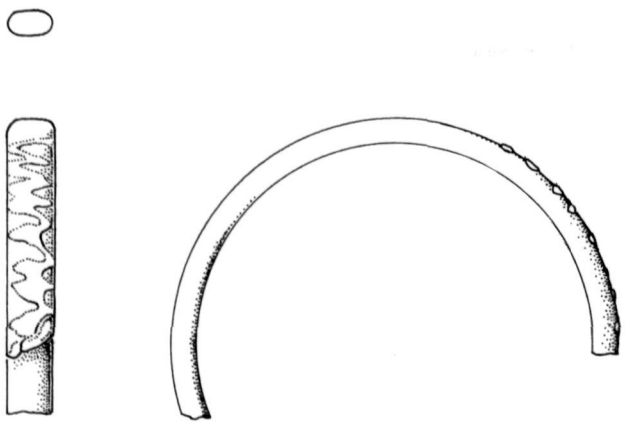


Figure 135. Large fragment of a bracelet of type 3b. Scale 1:1.

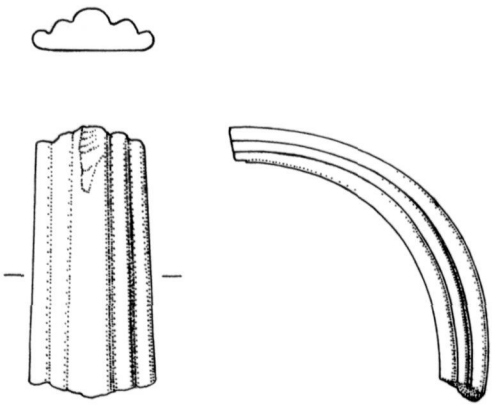


Figure 136. Large fragment of a bracelet of type 7a. Scale 1:1.

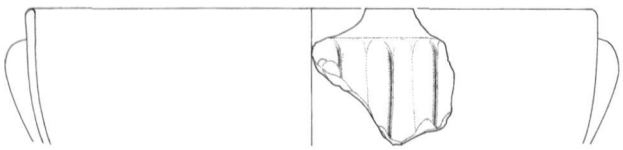


Figure 138. Fragment of a glass pillar-mounted bowl . Scale 1:2.

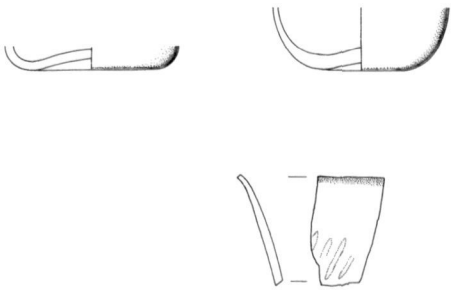


Figure 139. Selection of fragments of glass vessels. Scale 1:2.

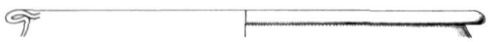


Figure 140. Rim-fragment of a glass vessel. Scale 1:2.

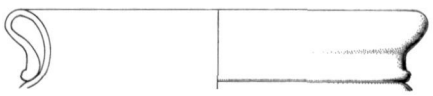


Figure 141. Rim-fragment of a glass vessel. Scale 1:2.

Although no centre of manufacture has yet been found, there are strong indications for a local production of glass bangles in the Lower Rhine area (Peddemors 1975, 105-108; Roymans/Van Rooijen 1993, 5-8). The tribal organisation in this region, with its less hierarchical structures, suggests that production took place in the larger settlement complexes, where the local elite was residing. In the Ussen area, the Westerveld settlement would be the only likely candidate for such a production centre, but no indications such as raw materials or semi-manufactured products were found. Moreover, the 7-ribbed type, which seems to be exclusive to the Lower Rhine area and therefore counts as an argument for local production, was not found in Ussen.

A total of 35 fragments of glass vessels were found in the Westerveld area (fig. 137). Of only 16 finds could the form of the original vessel be established. These include four fragments of a square bottle (type Isings 50), all with a blue-green colour (S464, P466, F117d and F127). This fairly common type of vessel was in use between AD 50 and AD 300, with an emphasis on the period AD 70 - 200. From the same period came two fragments of bluish-green glass (P240) that were part of a cylindrical bottle (type Isings 51). Six other blue-green fragments stemmed from pillar-mounted bowls (type Isings 3), a typical 1st century form that was in use until *c.* AD 117 (fig. 138). One of them (P466) could be classified as a pre-Flavian subtype. The fragment from P249 was burnt. The other fragments were found in H78, P412, P422 and a posthole that was not part of a structure.

Two fragments, one green (P378) and one light-green (single post-hole) are from cups or beakers dated to the

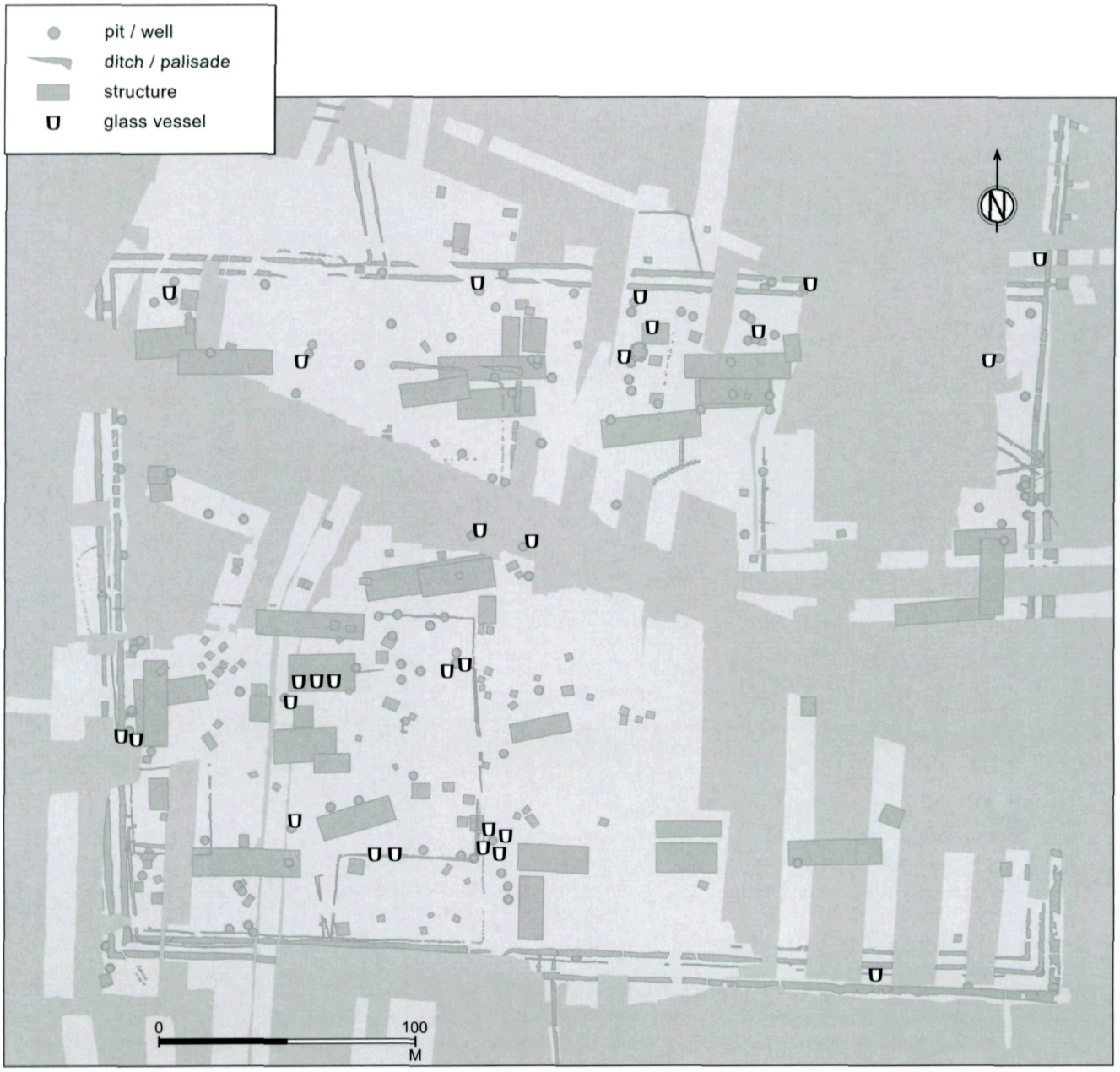


Figure 137. Distribution of glass vessels in the Westerveld settlement.

second half of the 1st century AD (fig. 139). Possible types are Isings 12, a so-called Hofheim-cup decorated with wheel-cut lines, and a beaker Isings 34. A bright-green rim-fragment (P309, fig. 140) could be from a number of vessel-types, including a square jar Isings 62 (AD 50-200, with an emphasis on the 1st century AD), an ovoid jar Isings 67b (AD 50-100) or a bulbous jar Isings 67c (AD 50-150). Finally a light-green fragment with part of an optically blown rib (P253, fig. 141) may be from a bulbous or conical jug (Isings 52 or 55) or an ovoid jar (Isings 67b). The relatively good quality of the glass indicates a date between AD 70 and AD 125.

A number of glass sherds cannot be ascribed to a vessel type, but they have a colour distinct from the common blue-green. Besides the aforementioned pillar-mounted bowl fragment, H78 also contained two other fragments of

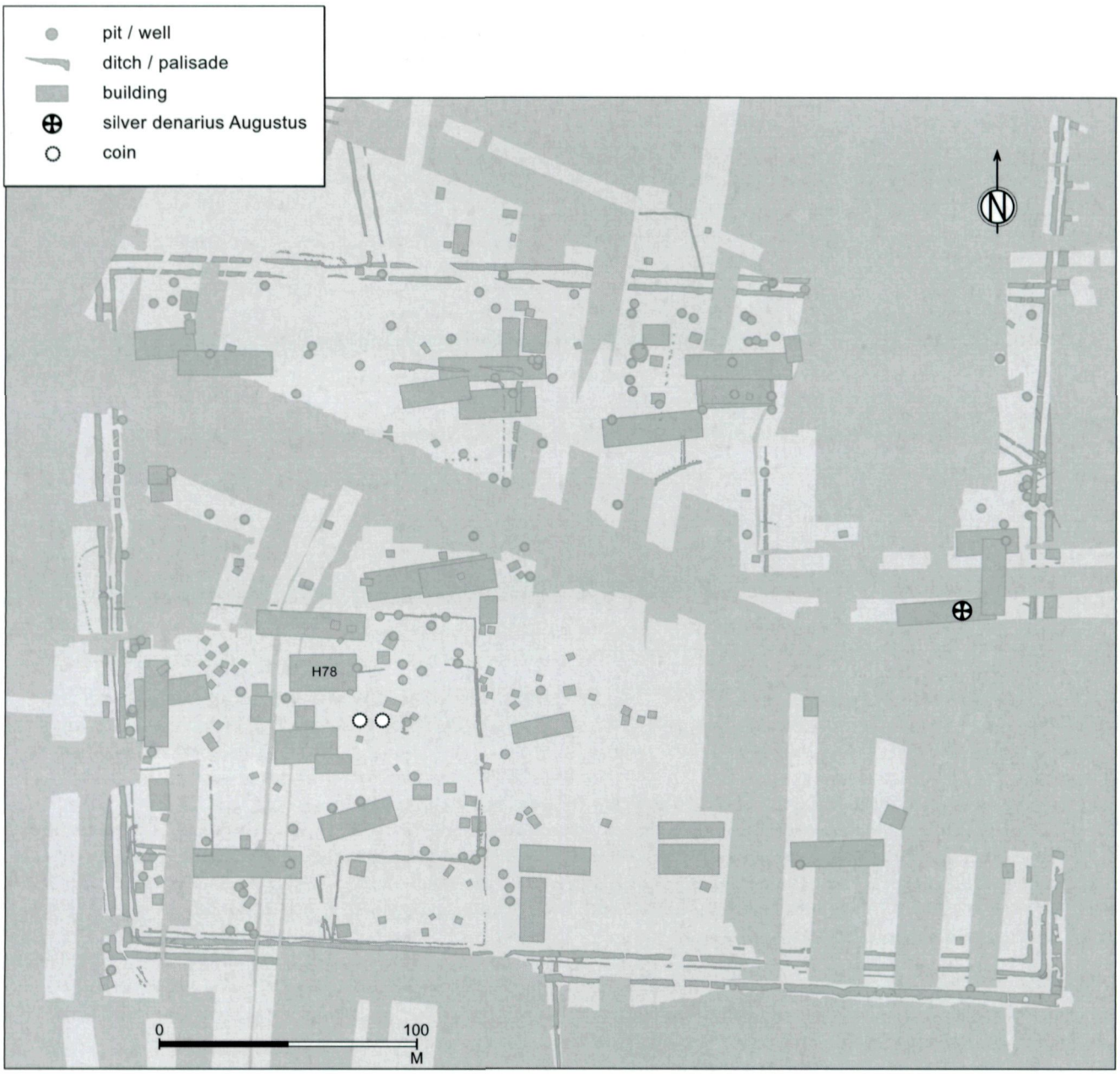


Figure 142. Distribution of coins in the Westerveld settlement.

vessel-glass. One is colourless but very small, the other is a strong dark-blue, which points to an early date (Ia-c). Other fragments with different colours are a yellowish-green fragment (P408) and a stray find that is opaque white, which dates it to the first half of the 1st century AD. From the same period dates a dark-blue fragment with white wavy rolled-in decoration (P372a). Another early sherd (Ib-c), probably of Italic origin, is dark-blue decorated with white blobs. Unfortunately it was found on a spoil-heap.

The remaining 12 fragments, all in various shades of blue-green, could not be dated. They include two foot-fragments (P319, P466), two base-fragments (F117d, P466), two ear-fragments (P394, stray find) and six wall-fragments (P309, P318, P418, P419, F130 and a post-hole that could not be ascribed to a structure).

denom.	authority	date	RIC/BMC	find spot	remarks
den.	Augustus	2 BC - AD 14	RIC 350	H108	
as/dup.		I/II		surface	rev: personification
as/dup.		(I)/II/III		surface	rev: possibly personification

Table 43. Coins from the Westerveld settlement.

Figure 143. Silver *denarius* (front and back) from the reign of the emperor Augustus (H108). Scale 1:1.

type	number	date
wire-brooch (iron)	1	*c.* 50 BC - AD 50
spoon-bow brooch *(Schüsselfibel)*	1	*c.* 25 BC - AD 50
sprung brooch	2	*c.* 25 BC - AD 50
bent brooch *(Knickfibel)*	1	Ia-c
arc-brooch *(Bogenfibel)*	2	Ia-c
eye-brooch *(Augenfibel)*	5	I
wire- brooch	19	IB-IIA
hinged brooch (silver-plated)	1	Ic-IIA
indet	5	-
total	37	

Table 44. Brooches from the Westerveld settlement (bronze, unless stated otherwise).

4.7.7 Metal objects

Metal finds include bronze and silver coins, iron nails, bronze, iron and silver-plated brooches, various other bronze and iron objects, some lead, and iron slag.

Only three coins were found in the Westerveld settlement (table 43 and fig. 142). Two were stray finds, too damaged to be classified more precisely than *'as* or *dupondius'*. They were found in the same area, *c.* 6 m to the south-east of H78. The third coin is a silver *denarius* of Augustus, found in one of the foundation ditches of H108 (fig. 143). The *denarius* from H108 could be dated to the period 2 BC - AD 14, and is thus one of the earliest dated Roman imports in Oss. However, it is unknown whether the coin came into the settlement during an early phase. In the Early Roman Period silver coins in non-military settlements did not function as a commodity according to Roman fashion, but were considered a valuable prestige good. If this was the case for the *denarius*, its presence in the Westerveld settlement fits in with other early imports. However, the building it was found in does not stand out in any way. The other finds from this house plan mainly consist of handmade pottery, dating it to the Late Iron Age or the first half of the first century AD. H108 is thus the earliest dated house plan of type 9.

A total of 37 brooches was found, none of them complete (table 44, fig. 144). An iron brooch was found inside the plan of H96, but not in one of its features. A date in the Iron Age is therefore still possible. The rather small fragment could be classified as a bow with an internal chord (fig. 145). A hinged brooch, found in the upper layers of the fill of P335, was made of silver-plated bronze. It is a small specimen with a rolled-over head, and the bow is decorated with a single groove (fig. 146).The brooch is dated to after AD 70, and must count as a residual find in an older derelict well. The other 35 brooches are made of bronze.

The spoon-bow brooch was found in P466 (fig. 147). It is a brooch of the 'Nijmegen' variant (Haalebos 1986, 16-17), which was in use between the end of the last century BC and the middle of the 1st century AD. According to Haalebos (1986, 18) this type of brooch was popular with Roman soldiers along the Dutch part of the *limes*. The five *Augenfibel* include three early types, where the 'eyes' are proper holes (H74, P305 and P313), one later version, where the 'eyes' are reduced to dimples (H89) and one brooch that is too corroded to allow further determination (H74). Around AD 50 the eye brooch is one of the most worn brooch types in military settlements (Haalebos 1986, 37). Of the two arc-brooches, one was tin-plated and decorated with grooves (P305, fig. 148), the other could be classified as a type B, dated to after the middle of the 1st century AD (H106). The bent brooch, found in H98, was too fragmented for further determination. Both sprung brooches (P314 and a stray find) had rolled-over heads, the one from P314 could be classified as a Langton

Figure 145. Iron wire-brooch (stray find, near H96). Scale 1:1.

Figure 146. Bronze hinged brooch (P335). Scale 1:1.

Figure 147. Bronze spoon-bow brooch (P466). Scale 1:1.

Figure 148. Bronze arc-brooch found in P305. Scale 1:1.

Figure 149. Bronze sprung brooch (type Langton-Down) found in P314. Scale 1:1.

section	number	found in
circular	11	P319, P336, P375, P431, F125 (2x), F126, stray finds (4x)
flat strip	2	P269, P392
triangular	2	P372a, P372b
polygonal	4	H98, P407, P424, F125

Table 45. Bronze wire-brooches from the Westerveld settlement: section of the upper bow.

Down type (fig. 149). This particular brooch is often regarded as women's wear, and dates between 20 BC and AD 30. The five brooches that could not be classified at all were too fragmented: three times only the needle was found (P272, P307 and a stray find), and in the other two cases it was just a fragment of the spring (H105 and a stray find).

The majority of the brooches from the Westerveld settlement are wire-brooches (single-piece brooches with a coiled spring), a type that is widespread in the Rhine area after AD 70. They can be classified according to the section of the upper bow (table 45). Four of the bronze wire-brooches had a decorated bow, the decoration consisting of one or two rows of punched dots (H98, P269, P372a and P392).

Brooches are usually regarded as a common clothing attribute, serving to fasten the clothing of native people and

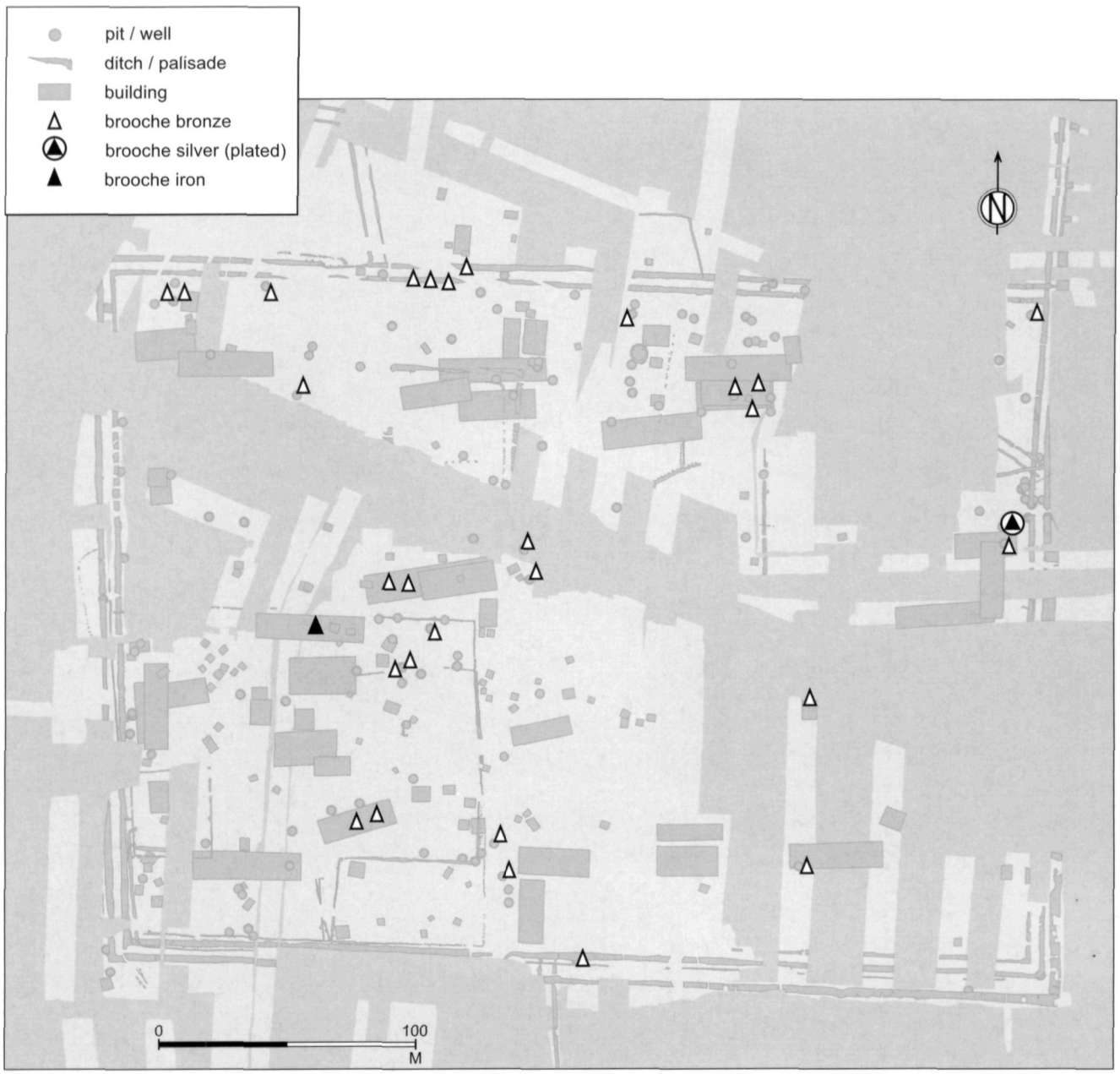


Figure 144. Distribution of brooches in the Westerveld settlement.

of the Roman military. Only the very poor did not use metal brooches (Van der Roest 1994, 145). However, the increase in brooches compared to the Iron Age (eight brooches in the whole of Oss) could be more than just a result of the general increase in (Roman) material. They were part of dress and appearance of individuals, and could thus be used to express people's changing identities (Jundi/Hill 1998, 130). An further indication of this could be the more elaborate, more visible brooch-styles that replaced the simple wire-brooches. In Oss the number of brooches increases in the first century AD, but the majority are still wire-brooches: not very elaborate or visible. The distribution of brooches over the Westerveld settlement is fairly even, thus a group of brooch-wearers that would

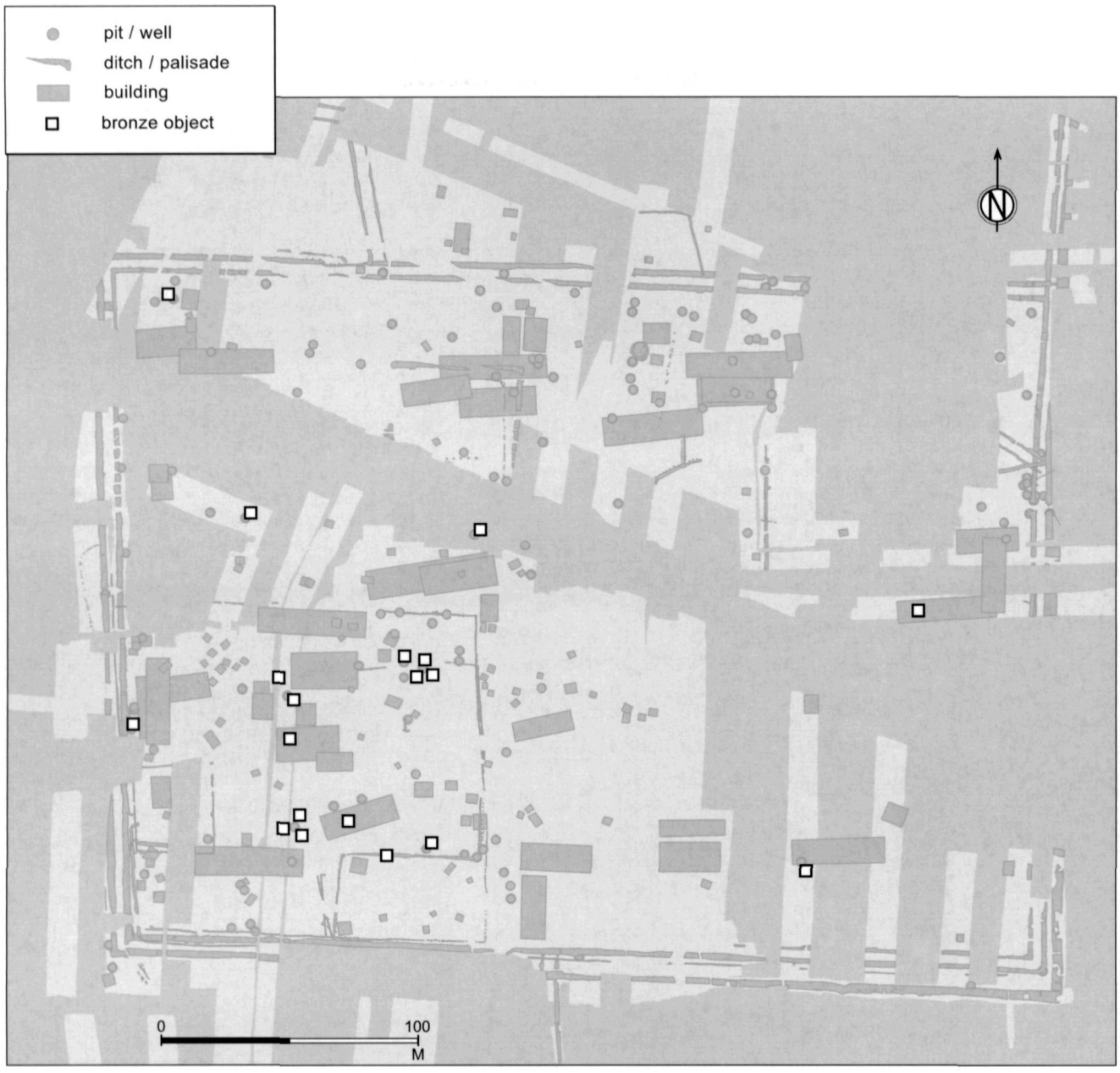


Figure 150. Distribution of bronze objects in the Westerveld settlement.

emphasise new social and cultural status cannot be distinguished within the settlement. However, the fact that the number of brooches in the Westerveld settlement is much larger than in the smaller settlements can be significant. It is important to note that brooches are an Iron Age phenomenon that continues, in an altered way, in the Roman period.

At least 25 recognisable bronze artefacts were documented (fig. 150). Next to this group there are several cases where very small scraps of bronze were found. The artefacts are listed below, grouped according to the structure they were found in. Many of the objects, especially the broken or damaged ones, should be regarded as scrap metal.

H74: Handle-attachment of a bronze vessel (Eggers type 92, *Fußbecken*, dated IA), with rilled decorations and traces of solder (fig. 151). For a parallel see Franzius 1993, 159/160, and Franzius 1995, fig. 9.1.
H78: Fragment of bronze plate, with the remains of a nail.
H108: Small bell in the shape of an acorn-cap, the iron clapper is missing (Schinkel 1994, part I, 170, fig. 124*m*).
P240: Ring (max. diameter 1.7 cm)
P249: Fragment of bronze-plate
Handle or haft of a knife or a key (bits of iron still attached) (fig. 152)
P253: Ornate fitting with nail (fig. 153)
(Belt/strap-mount) fitting or stiffener (fig. 154)
Horse equipment, comparable to a martingale stop (Dutch: *riemgeleider*) (dated II/III) (fig. 155)
P263: Small rod, square-sectioned (poss. part of brooch)
P272: Flat fragment with nail (fig. 156)
P294: Needle or bracelet, broken and bent into a small ring, attached to the handle of an iron knife
P305: Massive ring (max. diameter 5 cm)
P306a: Fragment of bronze-plate (sides perforated), possibly used to repair vessels (fig. 157)
Fragment of bronze-plate with nail (fig. 158)
Bent rod (part of bracelet?)
P318a: Horse equipment, comparable to a martingale stop (Dutch: *riemgeleider*) (dated I) (fig. 159)
P372a: Half a handle (poss. from bucket)
F117d: Slide key (dated II) (fig. 160)
stray finds: Bronze-plate
Fragment of a bronze thimble (fig. 161)
Two small casting jets
Bronze rod
Crushed object (jewellery?)
Half of a bracelet or needle with knob, originally inlaid with silver (dated II) (fig. 162)

As was the case with the bronze objects, the iron ones were preserved badly. Some of them were too encrusted to be analysed or preserved. Besides several small fragments of iron, 31 objects could be recognised (fig. 163). They are listed below.

H78: Hook or clamp
H96: Object, poss. split pin (fig. 164)
H98: L-shaped lift key (fig. 165)
H99: Object, poss. tweezers (fig. 166)
H109: Slide key (fig. 167)
P234: L-shaped lift key (fig. 168)
P249: The bit of a (slide) key, poss. belonging to bronze handle
Part of a handle (bucket)
P253: Key? (heavily corroded)
P272: Pen-like object (fig. 169)

Figure 151. Bronze handle-attachment (H74). Scale 1:1.

Figure 153. Bronze ornate fitting (P253). Scale 1:1.

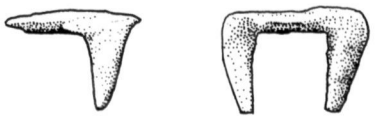


Figure 154. Bronze belt stiffener (P253). Scale 1:1.

Figure 152. Bronze knife handle (P249). Scale 1:1.

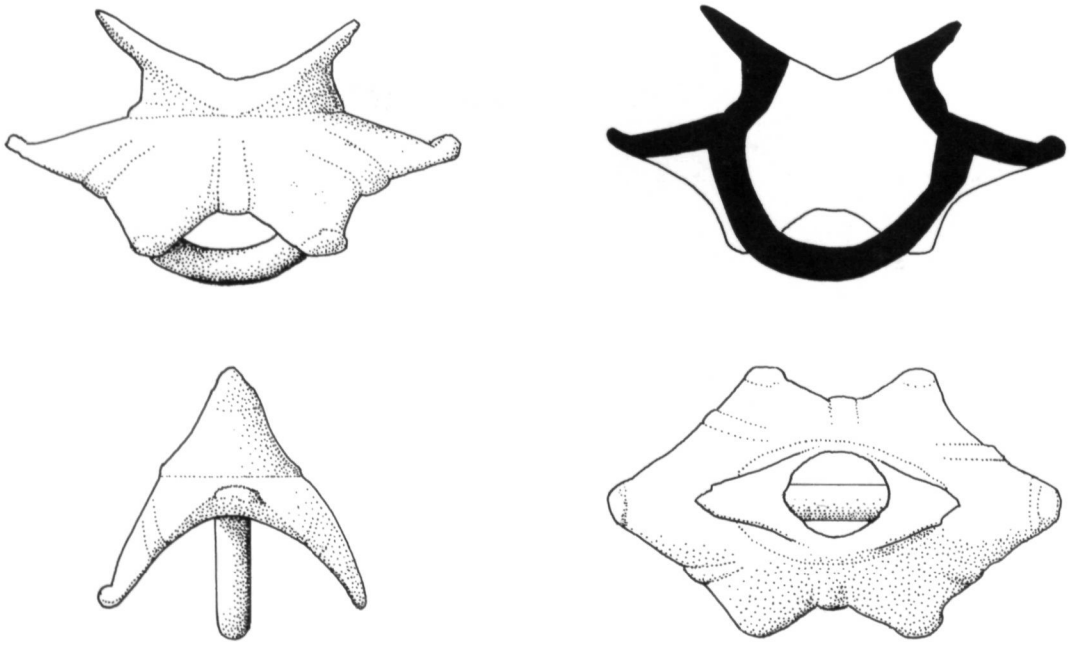


Figure 155. Bronze horse equipment (P253). Scale 1:1.

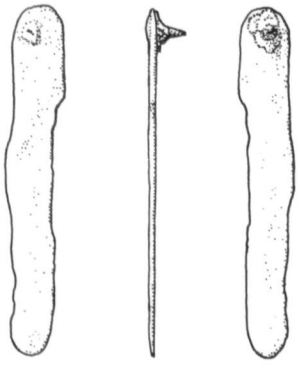
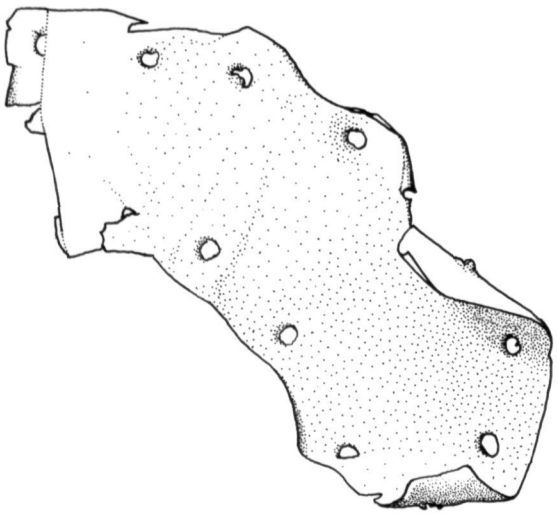


Figure 156. Bronze fragment with nail (P272). Scale 1:1.

Figure 158. Bronze-plate with nail (P306a). Scale 1:1.

P294: Knife (native type) with bronze ring attached to handle (fig. 170)
P300: Fitting (thick fragment)
P306a: Ring (cylindrical, max. diameter 2.3 cm) (fig. 171)
P307: Fragment of a knife (fig. 172)
P308: Handle (of a bucket)
The bit of a (lift) key
P319: Knife (fig. 173)
P329: Half a ring (max. diameter 3 cm)
P372a: Object, fork-shaped (fig. 174)
P431: Knife
Half a ring (conical shaped)
P466: Buckle or clasp, triangular with eye (fig. 175)
P494: Ring
F126: Clamp
F133: Small ring



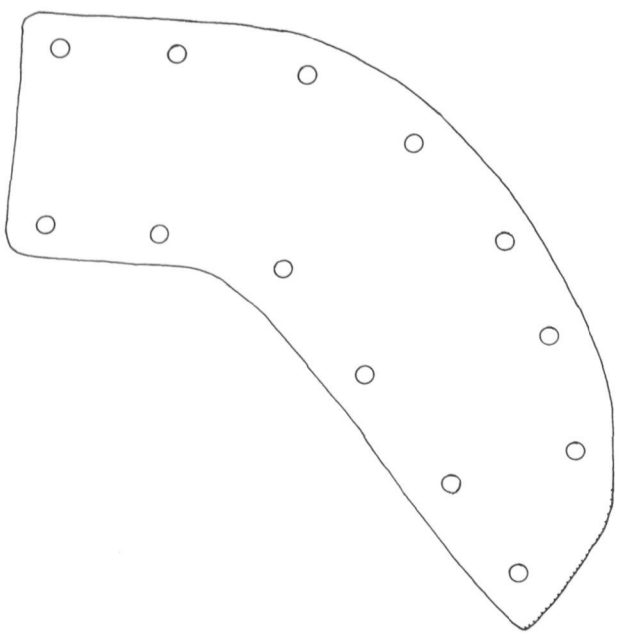


Figure 157. Bronze-plate found in P306a. Scale 1:1.

Figure 160. Bronze slide key (F117d). Scale 1:1.

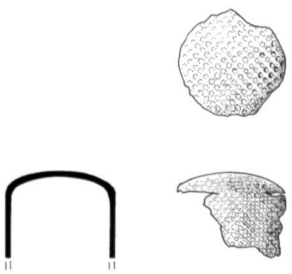


Figure 161. Bronze thimble (stray find). Scale 1:1.

Figure 162. Bronze knobbed bracelet (stray find). Scale 1:1.

stray finds: Buckle?
Fragment of knife (with fragment of bronze handle still attached?)
Large nail or peg (square-sectioned with triangular, flattened head) (fig. 176)
Ring (max. diameter 5.5 cm)
Handle? (fig. 177)
Ring
Hoe

Two lead artefacts were found (fig. 163): a flat fragment (P318, fig. 178) and a spindle-whorl shaped object (H85, fig. 179). The latter weighed 54.8 g, which is the exact equivalent of two Roman ounces or *unicae*. It could therefore have served as a weight for scales. Iron slag was present in many features, usually in small quantities. An exception to this is P272, in which 17.5 kg of slag and 7.5kg of possible cinders were found. This material was concentrated in the upper fill, together with large fragments of slate and other stone material.[34] The blocks of iron ore or iron slag found in P407 are mentioned under 4.7.5.

At least 277 iron nails or fragments of nails were found, the majority rectangular-sectioned. Most structures contained

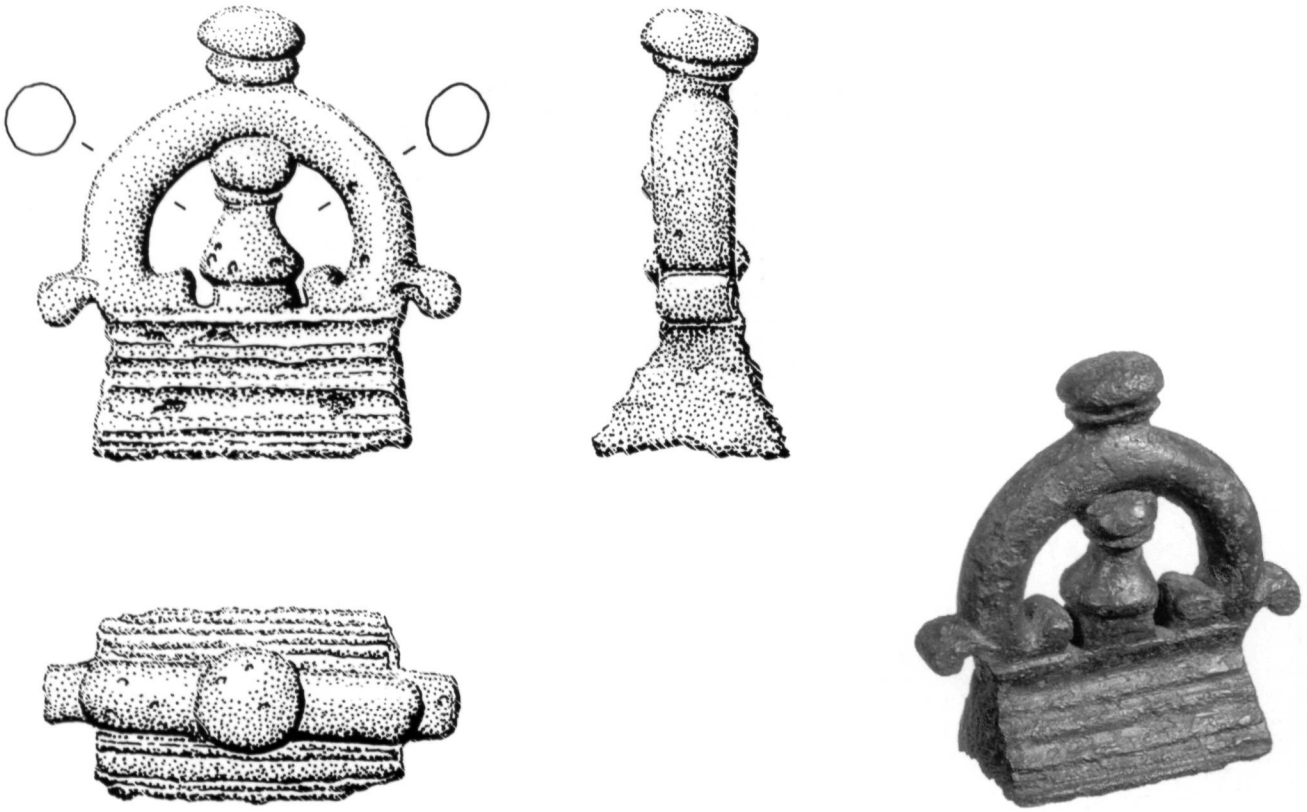


Figure 159. Bronze horse equipment (P318a). Scale 1:1.

Figure 167. Iron slide key (H109). Scale 1:1.

Figure 168. Iron lift key (P234). Scale 1:1.

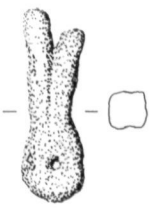


Figure 164. Iron split pin (?) (H96). Scale 1:2.

Figure 165. Iron lift key (H98). Scale 1:2.

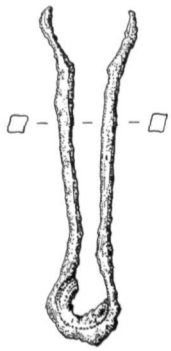


Figure 166. Iron tweezers (?) (H99). Scale 1:2.

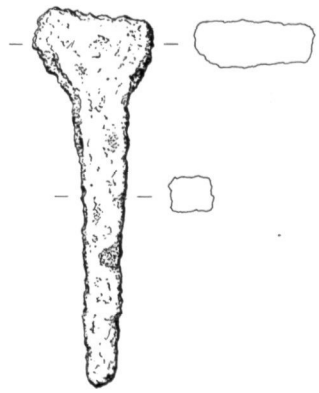


Figure 169. Iron pen-like object (P272). Scale 1:2.

Figure 170. Iron knife with bronze ring (P294). Scale 1:2.

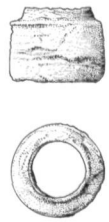


Figure 171. Iron cylindrical ring (P306a). Scale 1:2.

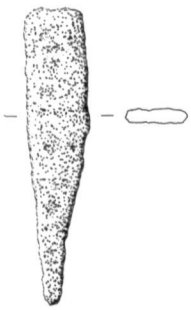


Figure 172. Fragment of iron knife (P307). Scale 1:2.

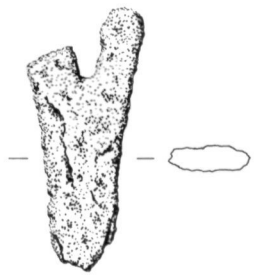


Figure 174. Iron fork-shaped object (P372a). Scale 1:2.

Figure 173. Iron knife (P319). Scale 1:2.

Figure 175. Iron buckle or clasp (P466). Scale 1:2.

Figure 176. Iron peg/nail (stray find). Scale 1:2.

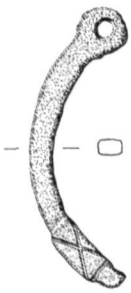


Figure 177. Iron handle (?) (stray find). Scale 1:2.

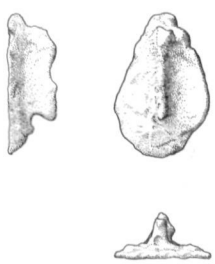


Figure 178. Lead object (P318). Scale 1:2.

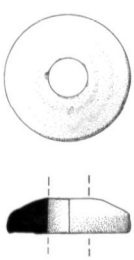


Figure 179. Lead spindle whorl (H85). Scale 1:2.

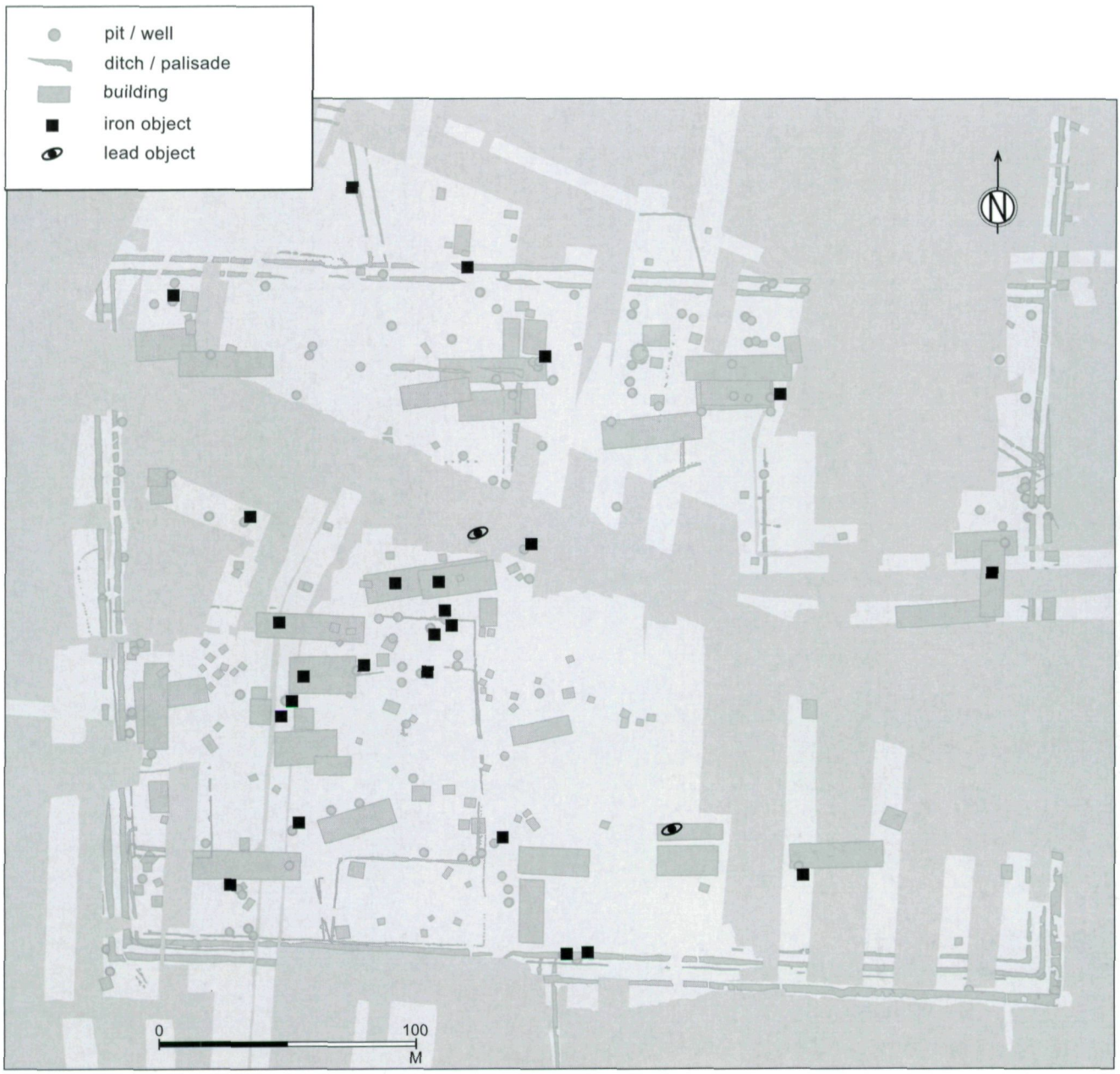


Figure 163. Distribution of iron and lead objects in the Westerveld settlement.

between one and ten nails, only in a few cases the number was higher. These include H78 (*c.* 40 nails), P253 (*c.* 20 nails), P307 (*c.* 14 nails) and P318 (*c.* 17 nails). Table 40 shows the occurrence of nails in combination with other building materials.

4.7.8 Leather objects

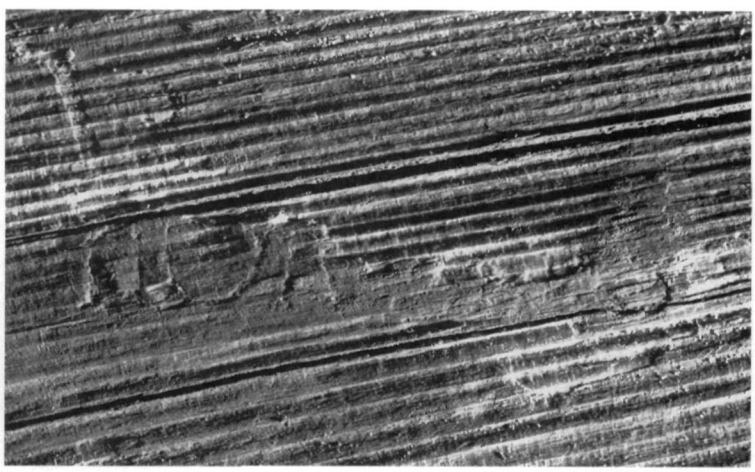
The only leather in the Westerveld settlement was found in well P255. The find consisted of three fragments of a goatskin shoe, probably the heel parts of one *carbatina*. The leather is decorated with two or three rows of parallel slanted incisions. This type of shoe dates from the 2nd and 3rd century AD (Van Driel-Murray 1987).

4.7.9 Wooden objects

Worked wood was present in the form of well-linings, remains of wooden posts in buildings and a small number of wooden artefacts. The first two categories have been

Figure 180. Re-used timber in P415. Scale 1:4.

Figure 181. Wine cask used in P256. Scale 1:10.



ə 182. Inscriptions on staves of the wine cask used in P306. Scale of two lower stamps 1:1.

Figure 183. Hollowed-out tree-trunk in P255 with clamps *in situ*.

Figure 184. Wooden mallet (P375). Scale 1:2.

described in Schinkel 1994, part II. Some of the wood used for well constructions appeared to be re-used timber. An example is P415 (Schinkel 1994, part II, 169, fig. 57), of which one of the re-used elements was part of a mortise and tenon joint (fig. 180).

Other artefacts that were re-used in well-linings are two (wine) casks (P256 and P306a). Only the lower two-thirds of the staves were preserved, the hoops made of split wicker that held them together could not be saved (fig. 181). Lid and base had been removed to make their use as well-linings possible. Assuming that the stopper hole for filling was originally halfway, the height of the barrels would have been 90 cm (P256) and 180 cm (P306a). The maximum diameters were 65 and 95 cm respectively. Both casks were made of a mix of silver fir (*Abies alba*) and common spruce (*Picea* sp.). The staves from the largest barrel showed three inscriptions, possibly the names of the cooper and the wine-merchant (fig. 182). Both the type of wood and the inscriptions suggest that the cask was made and filled in northern Italy or the south-east of France (see for an extensive description Bogaers 1987).

The fill of well P256 also contained a perforated, crescent-shaped wooden object, which may have been part of a clamp. Similar objects were found *in situ* in wells P255 and P272, where they held together the parts of hollowed-out tree-trunks (fig. 183). The two clamps from P255 were made of oak, the three from P272 of oak and ash. In four cases the wooden pegs were preserved too, while one of the clamps from P272 was fastened with four iron nails. The possible clamp from P256 was made of common spruce (*Picea* sp.), a type of wood that in Oss was only found as part of (wine) casks. This suggests that the clamp-like object may have been part of the cask.[35] From P375 came an object that looks slightly similar to a clamp. It is however much thicker and could therefore also be interpreted as a wooden mallet (fig. 184). Both the head and the remains of the handle were made of oak.[36]

Two wooden bowls, both made of maple-wood (*Acer* sp.), were found in two wells. One (found in P254) was only partly preserved. It was 13.5 cm high with a maximum diameter of 38 cm, and a concave base (fig. 185). The second one (found in P253) was more or less complete but smaller, with a height of 6 cm and a maximum diameter of 22 cm. This one had a flat base (fig. 186).

Figure 185. Wooden bowl from P254, height 13.5 cm. Scale 1:4.

Figure 186. Wooden bowl from P253, height 6 cm. Scale 1:4.

4.7.10 Faunal remains

The faunal remains from the Westerveld settlement comprise more than 97% of all animal bones from Roman period Ussen[37] (Lauwerier/IJzereef 1994; 1998). Half of the (number of) bones could be identified (table 46). The remains were in poor condition and rather fragmented; larger animals may therefore be over-represented.

No remains of hunting or fishing were found. According to Lauwerier and IJzereef these activities cannot have been of importance for the local diet. Cattle constituted the most important source of meat, the horse is generally considered not to have been a source of meat. It is well-known that the cattle's size changed under Roman influence: the withers height increased from 110 cm or less in the Iron Age to 125 cm or more during the Roman period (Lauwerier 1988). Two reconstructions of cattle from the Roman period at Oss-Ussen suggest animals of Iron Age sizes. The (very tentative) conclusion drawn by Lauwerier and IJzereef is that Roman husbandry practices had no influence on cattle raising at Oss-Ussen.

species	number	%	weight	%
cattle	517	67	6751.2	73
sheep/goat	25	3	98.0	1
pig	32	4	195.6	2
horse	181	24	2218.7	24
dog	12	2	40.1	0
domestic fowl	1	0	0.9	0
total identified	768	50	9304.5	66
cattle/horse size	666	87	4630.6	95
sheep/pig size	65	8	92.3	2
mammal	38	5	170.0	3
total not identified	769	50	4892.9	34
total	1537		14197.4	

Table 46. Animal bones from the Westerveld settlement (after Lauwerier/IJzereef 1994, table 25; 1998, table 4).

In the central roof-bearing post of one of the house plans (H120), a chicken foot bone (*tibiotarsus*) was found. This animal was introduced into these areas with the arrival of the Romans (Prummel 1987, 187). An extra piece of information about the fauna in the Westerveld settlement came from a botanical sample: in P329 bones from at least three green frogs were found.[38] Either the frogs were living in an old well, or the bones were in clay sods from the river Meuse that were used to line the wells.

4.7.11 Botanical remains

Numerous samples for botanical research were taken from the features belonging to the Westerveld settlement (table 47).[39] A first scan showed that seeds were present in several of the samples, a selection was studied further by Van Amen (1995). No samples were taken from outbuildings. The one good sample from a granary (S309) was not analysed, but a first scan showed that it contained *Hordeum* sp. and *Spergula* sp. The samples from the house plans did not yield many seeds or any remarkable species. This is partly caused by the sandy soil which does not preserve these types of materials well. Wet conditions in pits and wells help to preserve uncarbonized seeds too and thus yielded a much more varied list of species.

Next to the normal range of crops such as barley, emmer, spelt, flax, millet, and beet, which were all present in the smaller settlements as well, the Westerveld samples gave evidence for the use (or at least the presence) of Roman herbs. They include coriander, poppy, savory, celery and dill. Apart from two poppy seeds, none of these species were found in the Iron Age settlements (Bakels 1994, 225; 1998, 347). They can therefore be interpreted as a Roman period phenomenon, of which the occurrence was restricted to the Westerveld settlement (Bakels/Wesselingh/Van Amen 1997). Several other species were found that were not present in the smaller settlements. Of flax, seen in Vijver and Zomerhof as well, remains of the stems were found. Together with the occurrence of its associated weed *Cuscuta epilinum* these are

type of feature	samples taken	samples with seeds	analysed samples
house plan	21	14	9
outbuildings	-	-	-
granaries/*horrea*	4	1	-
pits/wells	67	57	16
ditches/palisades	2	?	-
total	94	72	25

Table 47. Soil samples from the Westerveld settlement.

indications for local flax production. Turnip was grown for its oil and to be used as a vegetable and cattle feed. Another new plant is hop, which could be used for brewing beer. Whether this activity already took place in Ussen is not clear, since beer made from hops is mostly known from the medieval period and hops can be used for medicinal purposes too. Also new is the walnut, of which a piece of shell was found. The walnut tree occurs in the southern part of the Netherlands from the Roman period onwards (Bakels 1996, 141), but a single shell fragment does not constitute sufficient evidence to assume that a walnut tree actually grew in or near the Westerveld settlement. The nut could have been imported.

Something worth mentioning is a sample from P254, containing thousands of grain fragments, all smaller than 1 mm. In the same sample a blackberry pip was found with more grain fragments stuck to it, together with pieces of an apple core. All this gives the sample a cesspit-like character: perhaps faeces or food (bread, porridge) were in the pit. In P329 we see a similar situation: a sample contained carbonised pieces of grain, possibly the remnants of charred porridge.

An analysis of the culinary habits of the farmers at Oss, mainly based on the botanical results from the Westerveld settlement, has been published elsewhere (Bakels/Wesselingh/Van Amen1997). It appears that new foodstuffs, introduced by the Romans, entered the area from AD 50 onwards. Most of the culinary innovations remained restricted to the large Westerveld settlement, which led to the suggestion that they were consumed by the local elite only. However, the main part of the diet still consisted of the traditional cereals and meats. The 'Roman' addition was mostly flavouring in character: although this must have changed the appearance of the dishes, the menu remained 'native' in essence.

4.8 Analysis

4.8.1 Size and date

Of the total 7.5 ha of settlement indicated by the enclosure, approximately 5 ha were excavated. All Roman period house plans were found within the enclosure, but two Roman period wells, an outbuilding and several undated granaries were situated just outside the enclosure ditches. Both the wells (P207 and P231) and the outbuilding (B5) were found close to the south-western corner, while most of the granaries lie in an area directly north of the settlement. However, even though activities may have been taking place outside the enclosure, the settlement in the narrowest sense (i.e. the cluster of compounds) did not cover more than the *c.* 7.5 ha enclosed by ditches F125 and F126.

Continuity in habitation from the Late Iron Age onwards was established (Schinkel 1994, part I, 265, fig. 158): occupation cluster XVIII consists of three contemporaneous farmsteads shifting through a large territory. Towards the end of the Late Iron Age a stronger clustering occurs in the area where the subsequent Roman period settlement will be situated. Farms tend to be rebuilt closer to their predecessor and together with the appearance of new house-types (8C and 9) a change in orientation occurs from northwest-southeast to west-east.

The start of the Roman period settlement at Westerveld coincides with the beginning of the Roman period, i.e. 15 BC. However, this is an artificial starting point; since the settlement was continuously occupied there was not necessarily any change at that point in time. One of the elements that distinguishes the Roman period settlement from its Iron Age predecessor is the enclosure: the planned layout certainly marks a new settlement phase. Unfortunatley the digging of the ditches cannot be dated more accurately than the (beginning of) the first century AD. The end of the Westerveld settlement is equally uncertain. There are no farmhouses that can be dated to the second half of the second century AD on the basis of finds material, although approximately 15 pits and wells can be dated to that period. Pottery from the last quarter of the second century and later is present, including plates in 'smoked' Belgian ware (type Holwerda 1941, 81, colour-coated beakers in *Qualitätsware* (technique d) and 'shiny grey' ware (type Niederbieber 33), dented Belgian beakers (type Niederbieber 33), *terra sigillata*

bowls (type Dragendorff 32 and 40), *mortaria* (type Dragendorff 45) and a late type of inkpot. There could have been buildings from the late second century in the unexcavated parts of the settlement, but it is also likely that some of the farms have to be dated to several decades later (see 1.3.2). Occupation will not have lasted much after AD 225: the Westerveld settlement is dated I-IIIa.

4.8.2 Layout and periodisation

The Westerveld settlement was laid out in a structured way. This is clearly visible in the double rectangular enclosure, the marked-off compounds, frequent rebuilding on the same spot and to a lesser extent in the orientation of the house plans. The enclosure, including the two parallel ditches F127a and F127b, serves to mark the boundaries of the settlement. Its remarkably orthogonal layout creates a strict planned impression, bringing to mind Roman-style towns and military camps. The Westerveld enclosure is however a native version: the ditches do not have the well-known V-shaped section nor are they always regular in width. Moreover, the entrances are not situated on the axes.

Compared to the enclosure, the internal layout seems less organised, but this is partly due to the large areas that could not be excavated. Several structured elements can be discerned though. First, the orientation of the house plans is always either north-south or west-east. The north-south orientation is absent in the rest of Ussen. Furthermore, all north-south orientated house plans are situated on the edges of the settlement, close to the enclosure. Some of the west-east orientated house plans have a slight deviation in a south-west/north-easterly direction. Their short ends are parallel to a line that can be drawn from the northern to the southern entrance, the same direction that is visible in the pair of ditches just to the right of the northern entrance. Possibly this was an early route through the settlement. Later the northern entrance was closed off, and houses H98/H99 and the presence of the large farmyard in the south-eastern corner obstructed the diagonal route, probably forcing it off in a straight north-south direction.

A second element that suggests a structured internal layout are the farmyards. The yards are indicated by the rebuilding of farms on the same spot or in the same small area. In a few cases ditches or fences marking these compounds could be documented. The best example is the large farmyard (F117) which seems to have been enlarged at least once. It covers almost 1.5 ha, which is twenty percent of the total settlement. Within this enclosed area there is a second ditch enclosing a *horreum* (S309), and several smaller ditches (not numbered). All these ditches have the same north-south/west-east orientation as the settlement enclosure. Several other ditch and fence fragments, such as F99 and F94, will have served to mark off farmyards too.[40] It is difficult to establish the exact number and location of the farmyards, since they were not all occupied at the same time. The number of contemporary houses fluctuated between four and ten: layout and periodisation are thus closely connected.

Whether there was a central open space in the Westerveld settlement, as Slofstra (1991, 149) suggests, is difficult to establish. The area slightly east of the centre of the settlement could qualify as such, since it is not built upon and especially during the earlier periods the houses seem to be grouped around it. However, parts of it could not be excavated and in theory there could have been house plans here originally. Even if there were no farms on it, a central open space does not necessarily have to be devoid of structures. Outbuildings or wells might be present, especially if they served communal purposes. In Hoogeloon for instance, wells are situated in the central open area during the first and the second century AD, while in the latter phase granaries were built on the edge of the 'village square' (Slofstra 1987, 54-56 and 71). A different situation can be seen in the Zomerhof settlement (see 3.7.2), where a possible central space with outbuildings is associated with one particular farm. Thus 'central' does not necessarily mean 'communal' and 'open' is not always 'empty'.

Reconstructing the exact number of farmyards and the succession of the farmsteads is difficult. This is partly caused by the unexcavated areas, but a larger problem is posed by the dates of the individual house plans. Out of 37 house plans, 25 could be dated to a period of 50 years or less. The rest could not be dated more accurately than 75-100 years. Since the average lifespan of a prehistoric timber building is estimated at 30 years (see 1.5), it is difficult to base a sequence on the dates available. In some cases this is solved by intersections. Housetypes cannot be used for relative dating, at least not *within* the Roman period (Schinkel 1994. part II, fig. 1). Furthermore, it is possible that the sequence of farms is compressed into a period that is too short (see 1.3.2).

In order to obtain an impression of the development of the settlement and the sequence of the farmyards, I have chosen five phases of roughly 50 years each (table 48). Three of these phases overlap partly, and some of the house plans have been assigned to one phase while they could also have belonged to another. Theoretically, the eight farms that were dated between AD 70-125 could all belong to either the previous (AD 70-100) phase or the next phase (AD 100-150). When the new farm is built on top of the old one the sequence is clear, but this is not always the case. I have chosen to depict the period between AD 70 and AD 150 as three subsequent phases since within these 80 years, three farms could have been built and used for 25-30 years each. However the development may have been different to the impression that is created by letting the phases overlap.

Something else that should be kept in mind is the restricted lifespan of the buildings: the farms (30 years) will not have lasted a whole phase (50 years). Thus the number of farms within each phase is a maximum. This problem is partly solved by the fact that unexcavated areas could contain extra house plans, and by the overlapping of the phases. Taking all these things into account allows a number of conclusions to be drawn.

period	number of farms/farmyards
25 BC - AD 25	4
AD 25 - 70	9-11
AD 70 - 100	8-9
AD 70 - 125	8
AD 100 - 150	5-6
AD 150 – 225	0-1

Table 48. Number of farms/farmyards in each period of the Westerveld settlement, based on finds and intersections.

Table 48 and figures 187 to 192 show that the settlement expands rapidly during the pre-Flavian period, stays the same size (8-9 farmyards) until *c.* AD 125 and then diminishes again during the second century, before finally going out of use around AD 225. Unfortunately we cannot determine whether the settlement was at its largest before or after AD 70, when peace and prosperity followed the Batavian revolt. But even if it was after AD 70, the number of farms had already increased significantly well before the Flavian period. What is clear is that after AD 125 the number of farms decreases. However, considering the relatively large number of finds from the late 2nd and early 3rd century, it is unlikely that there were no farms at all during that period. Taking into account the remarks in paragraph 1.3.2 on the dating of buildings, some form of correction should be applied in order to solve this. Rigorously adding 50 years to each dated building and adding two extra farms for the first phase would create a completely different picture. The rapid expansion would then take place after AD 70 and the decline in the number of farms only starts after AD 150/175, with one farm still present at the start of the 3rd century AD. Although theoretically this could have been the actual development of the settlement, I will not apply this correction. There are no ways of differentiating this approach and if the dates for the Westerveld settlement are corrected then it would have to be done for the whole of Oss. Instead I assume that at least one farm was still present around AD 200, and judging by the distribution of the late pottery, this final farmyard was probably laid out in the northeastern corner of the settlement.

4.8.3 Development and nature of the settlement

In this section I will sketch the development and the nature of the Westerveld settlement. Information from structures and finds, including the botanical material, will be combined for each phase. Some conclusions on the character of the settlement will follow after that.

Around the start of the Christian era the inhabitants of the Westerveld area decide to lay out a rectangular ditch system (fig. 187). Having lived in the area for centuries in farms that lay scattered in the landscape, they now group their houses and emphasise this by surrounding the settlement with a double ditched enclosure. Two or three farms have just been built and are already in use, a fourth (H101) is built shortly after the ditch system has been dug. The building is placed on top of an almost square enclosure, which had a short-lived ritual function. Close to this yard, on the northern side of the settlement, is an entrance, flanked on the eastern side by two ditches. A second entrance is situated on the southern side, near another farm. It is possible that there are additional openings by which the settlement can be entered, for instance near other farmyards.[41] The ditch system stretches further than the settlement enclosure. More ditches are connected to it on the outside, dividing and structuring the landscape around the hamlet. There is a possible link with the enclosure around the smaller settlement Schalkskamp. Scattered between the farms lie several pits and wells, the latter lined with wattlework or a hollowed-out tree-trunk. In one well the lining consists of a re-used wine cask. Close to the smallest farmstead is a large granary, while other smaller storage buildings are situated on each yard. The four farms, all with a west-east orientation, are built using different constructions. All four have a foundation trench and external posts, but the two southern buildings are two-aisled, with central roof-bearing posts included in the short walls. The other two farmsteads are partly two, partly three-aisled, and slightly longer.

The inhabitants of this hamlet practice mixed farming, growing barley, emmer, spelt and millet. Other crops include flax, which is produced in the settlement, and turnip to extract oil and as a vegetable and cattle feed. The emphasis is on cattle-breeding, with cows as the most important animals for meat consumption, traction and secondary products. Sheep and pigs yield meat and other products, while horses are not eaten but used for transport, traction and carrying only. The diet is supplemented with wild fruits, such as apple, blackberry and raspberry. Next to relations with their direct neighbours from the surrounding settlements, the Westerveld people have contacts with other communities. They still use their own handmade pottery, but probably through exchange they obtain Roman wheel-thrown vessels. In this early phase of the settlement there are infrequent occurrences of *terra sigillata* vessels from Italy.

Figure 187. The Westerveld settlement: phase 1 (25 BC-AD 25).

Figure 188. The Westerveld settlement: phase 2 (AD 25-70).

Figure 189. The Westerveld settlement: phase 3 (AD 70-100).

These are discarded in wells in the south-western corner of the settlement, including the one lined with a wine cask. The cask may have arrived filled with 280 litres of wine, and as such was a valuable and rare possession. Perhaps the fine Arretine ware came with it as a gift. Other imported objects include a small bronze bell, and a silver *denarius* emissioned by the emperor Augustus, both found on the eastern farmyard. The coin is not used as a means of payment in a truly monetary way, but more likely kept as a prestige object. Bracelets of coloured glass paste have been fashionable for a long time, and are still being used. Occasionally a Roman type of bronze brooch is used for fastening clothing. Close to one of the farms (H80) there is a pit in which there is a stock of over 50 clay sling pellets, an object much used in earlier decades.

Over the next 50 years the settlement rapidly expands and comprises at least nine farmyards (fig. 188). On the northern and eastern yards new farms have been built very close to or on top of the old ones. The farm on the eastern side has a new orientation: north-south, which is parallel to the sides of the enclosure ditch. The same north-south orientation is used for two new farms near the western side of the enclosure. The original route between the two entrances is now obstructed by new farms. Various types of house-construction exist alongside each other including the partly one, partly two-aisled construction. At least three buildings show the partly two, partly three-aisled division. Next to wells lined with wattlework there is one well with a combination of a square and a round lining, and another one with a square construction. A second wine cask is re-used as a well-lining, this time twice as big as the one used before.

Although more imported wheel-thrown wares are being used, the majority of the vessels are still made by hand. New objects are the occasional glass vessel, and iron slide keys. Two bronze brooches end up in the postholes of H89. The inhabitants of the southwestern corner (H74) use a large amount of pottery, but less than 10% of the vessels have been made on the wheel. One of these vessels, a complete wheel-thrown jug, is deposited in one of the central postholes of their farm, probably as a building sacrifice. Other imported objects may belong to the owner of this house: two bronze brooches and the handle attachment of a bronze vessel. Perhaps he also possesses the so-called *Fußbecken* (bronze basin) that this piece of bronze was originally soldered onto. A new element of the menu is celery. Seeds of this kitchen herb end up in the well (P306) lined with a wine cask. The cask was made in northern Italy or southern France, and originally contained over 1300 litres of wine. The well may be part of the yard around H98, which is an exceptionally large farmhouse with a length of over 42 m. The inhabitants of H98 use and discard a lot of pottery, and a Roman-style glass gaming counter.

Several changes take place during the last decades of the first century AD (fig. 189). The Westerveld settlement remains large with eight to nine contemporary farms, including three buildings with lengths of over 35 m. All farms have foundation ditches and most of them are either two-aisled or two/three-aisled. New farms are built along the northern edge and in the south-western corner of the settlement. Next to several wells with wattlework linings there are many square revetments made of horizontally stacked planks. The northern entrance in the enclosure is closed off now. More products are being imported, but the wheel-thrown pottery does not outnumber the handmade kind. Tableware is more abundant, and glass vessels are used occasionally. Next to traditional objects such as clay sling pellets and spindle whorls the Westerveld people use metal articles, including iron keys, knives and bucket-handles. Bronze is used for brooches, which are widely used, and for fittings. Around a farm in the northern half of the settlement (H105) large amounts of pottery are discarded, as well as gaming counters and glass beads.

Around the transition to the second century more changes occur (fig. 190). Although the settlement stays the same size the mean length of the farmsteads has decreased slightly. Most wells are lined with wattlework, occasionally a hollowed-out tree-trunk is used or a revetment of planks. Most of the farmyards are still in use, but in the south-western corner the situation has changed. Previously containing four farms set close together, the area now shows a single building (H78), which is surrounded by a timber *porticus*. The owners of this particular house seem to have claimed a space previously inhabited by several families. This is emphasised by a ditch, marking the boundary of the farmyard, which measures nearly 1.5 ha. A large *horreum*, enclosed by another ditch, possibly belongs to this yard too. On this large farmyard a lot of pottery is being used and discarded, among which are many wheel-thrown vessels, but still more than half of the pottery is handmade. The inhabitants also use several glass vessels. A clay face mask, fabricated in Cologne, ends up in a well near H78. A large number of Roman tiles is present near the farm: perhaps these are on the roof of the *porticus*. Another type of building material is worked slate; holes are pierced in slabs of slate to attach them to roofs or walls. A new element in the kitchen is the herb coriander, which is used by the inhabitants of H78 but also near H106 on the northern edge of the settlement. The inhabitants of this farm also add other Roman ingredients to their menu, such as beet, savory, dill and walnut.

When the house with the *porticus* starts to fall apart after *c.* 30 years it is not replaced (fig. 191). During the first half of the second century AD the large farmyard contains only one small farm and some pits and wells. One of these gathers

Figure 190. The Westerveld settlement: phase 4 (AD 70-125).

Figure 191. The Westerveld settlement: phase 5 (AD 100-150).

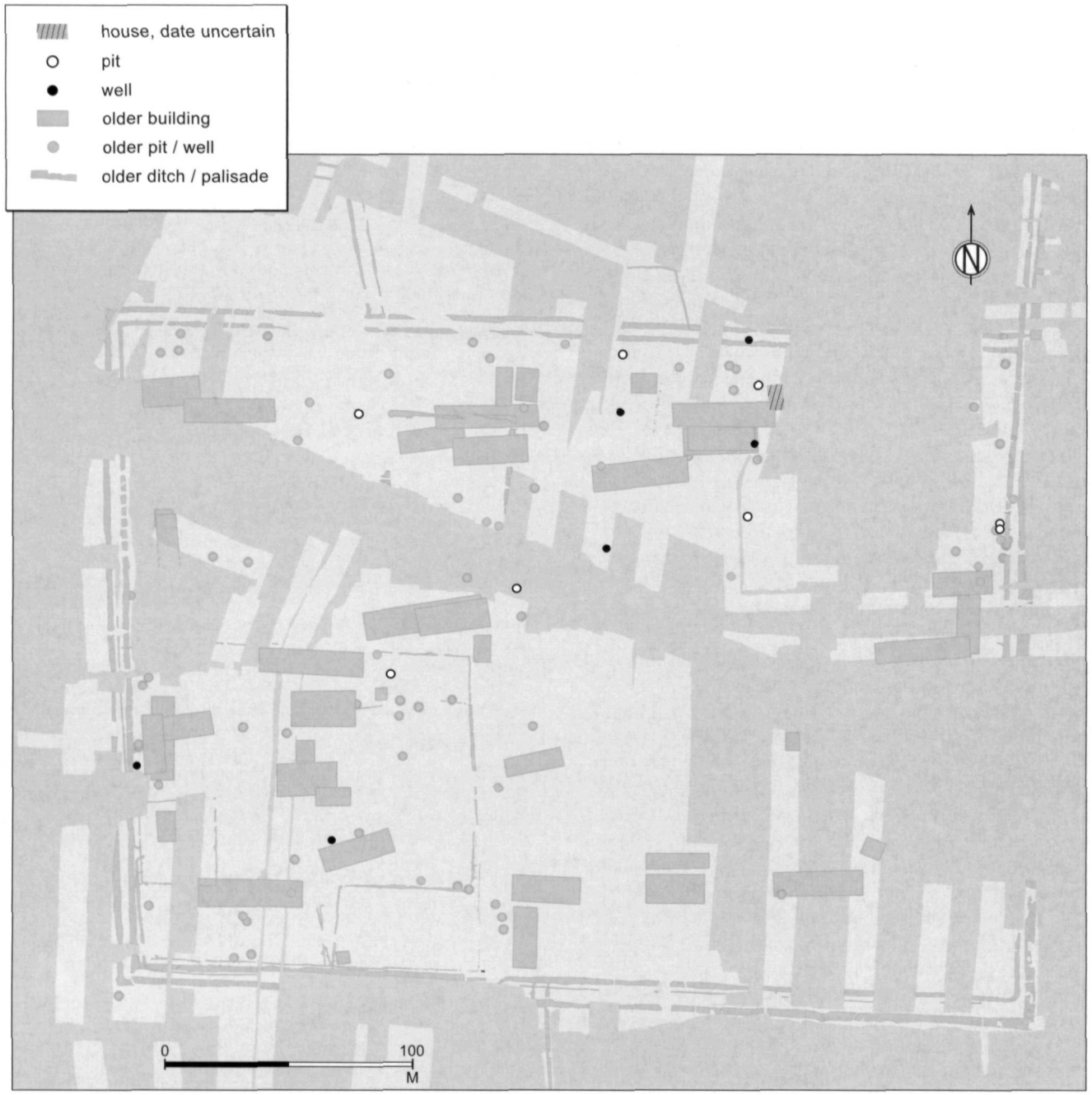


Figure 192. The Westerveld settlement: phase 6 (AD 150-225).

discarded material: glass ware, fragments of tiles, a glass melon bead, several bronze and iron objects and even a terracotta statuette. Among the bronzes are fittings, keys, brooches and a piece of horse equipment. Only three other yards are still in use, and the farm buildings are considerably shorter. The only larger farm is H120, and near this farm the bone of a chicken is discarded: a culinary novelty introduced by the Romans. The enclosure now consists of a single ditch: the inner ditch has silted up. Wheel-thrown pottery is available in large quantities all over the settlement. Some Roman building materials, such as tiles, perforated slate and tuff, are present, but probably re-used and not in the shape of a stone building. It seems to concentrate around the middle of the settlement and in the north, near H120. The timber farmhouses start to rot and many of them are not rebuilt. The enclosure ditch has not been re-dug, and is hardly visible any more. A small farm replaces H120 (fig. 192), and there may be another farmstead, accompanied by pits and wells. Many of these are clogged with discarded building materials and in one case a decorated goatskin shoe in Roman fashion. Somewhere around AD 225 the area is deserted.

The Westerveld settlement can be characterised as a large, structured rural settlement. Basically it is a self-supporting agrarian community, but at least some of its inhabitants have (indirect) contacts with the Romans. Especially during the first decades of the first century AD several imported goods enter the settlement, probably as a result of exchange between (military) Romans and the local elite residing in the Westerveld settlement (see fig. 220). Wine, fine drinking vessels and plates, and the odd silver coin and brooch will have been regarded as prestige goods. In the following years the settlement grows fast, farms become larger and after AD 50 more households acquire Roman goods. Around AD 100 the internal social ranking that was already present in the pre-Flavian period and possibly before becomes apparent in the settlement structure. A large yard surrounds a farm with a timber *porticus*, while many imported goods concentrate around this building. The owner of this farm is undoubtedly influential and well-off, although his Roman style house is still a medium-sized timber farm. As the settlement becomes smaller and less structured over the next decades, the signs of social stratification disappear too.

notes

1 Originally Verwers wanted to stop excavating in 1981 in order to begin the analysis of the enormous amount of data. However, the promising results of the first excavations at the Westerveld settlement made it clear to new project leaders, Van der Sanden and Van den Broeke, that excavating as much of it as possible would be worthwhile.

2 Co-ordinates 163.05/420.22 (Topographical map of the Netherlands, sheet 45E).

3 This wood sample is not mentioned in table 8 from Schinkel 1994 (part II, 121).

4 Based on Raemaekers (1993, 6-7), who has reconstructed the original groundwater level around the beginning of the first century AD at 3.95 m + NAP.

5 According to Van der Sanden (1987d, 66), F126 was in use for the larger part of the second century AD. Considering however that the ditch was re-dug only twice, it cannot have functioned very much longer after *c.* AD 150.

6 A rough estimate for the period after which a ditch such as F125 silts up is 25 years (Raemaekers 1993, 13, based on British experiments).

7 A preliminary plan of the Westerveld settlement (Van der Sanden 1987d, 62, fig. 7) shows that F130b was initially not recognised as a Roman period extension of F126.

8 The survey was carried out by P. Haane and G. van Alphen in 1986. In their report they use the term 'eastern ditch' (i.e. F126), but Van der Sanden (1987d, 66) mentions the inner, western ditch (i.e. F125) as the one that was followed.

9 Sections through the Schalkskamp enclosure ditch (F137) showed a striking similarity to sections of F125/F130a (pers. comm. W van der Sanden).

10 These two ditches are not visible on the plan of the Westerveld settlement, since they are situated more than 100 m west of the enclosure.

11 This enclosure has been discussed at great length in various articles. The most important is Slofstra/Van der Sanden 1988. It is further described in Van der Sanden 1987d, 61; 1988, 110/111; 1994, 215/216, and Schinkel 1994, part II, 253-255 and table 19.

12 The R-number (R for ritual, also used for graves) is a result of the interpretation as a cult-monument.

13 The finds that were labelled 'unusual' (Slofstra/Van der Sanden 1988, 162) include a handmade cup, several fragments of 1st century *terra sigillata* and two (fragments of) *La Tène* glass bracelets. The latter find group was found all over the settlement in a pattern that suggests the bracelets were treated as normal refuse (see 4.7.6). Apart from two fragments, the 1st century *sigillata* was found as stray finds within the enclosed area. No coins or other metal objects were found.

14 The other sanctuaries measure 22.5 x 20.5 m (Hoogeloon), 24 x 37 m (Alphen), 33 x 32 m (Wijnegem), and 13.5 x 11 m (Neerharen-Rekem). At Wijshagen no clearly recognisable peripheral structure was found.

15 The difference in orientation between the row of posts and the northern ditch of R57 is 4°.

16 The difference in orientation between the eastern ditch of R57 and F91 is 3°.

17 The exact period during which the enclosure was functioning and consequently the amount of time that passed before the ditches were overbuilt is unclear. The various problems were amply described by Van der Sanden (1994, 216). In the first place the pottery from the ditches as well as that from the house plans is mainly handmade and thus difficult to date. It is possible that R57 was dug during the last decades BC. Wood from one of the roof-bearing posts from H101 was analysed and yielded an uncorrected dendrochronological date of 12 BC (Jansma 1995, 132). The corrected date could lie somewhere between AD 3 and AD 16, but might also be younger, as the find material suggests. The use period of R57 could thus be anything between 25 and 75 years.

18 One of the house plans from Schinkel's cluster XVIII, H100, is situated *inside* the supposed open-air sanctuary. This plan cannot be dated more precisely than 'Late Iron Age', which is the period 250 BC - 0 AD. Theoretically it could have been present when the ditches of R57 were dug, but that is not likely. Because of its northeast-southwest orientation and its early type (4), Schinkel suggests that H100 is dated to early in the Late Iron Age (Schinkel 1994, 195-196). The house was thus out of use (and possibly invisible) when R57 was laid out.

19 Cf. the enclosed area around S309, which measures 783 m^2, and the large farmyard enclosed by F117, which covers an area of at least 10,000 m^2.

20 Although I consider the creation of R57 a foundation ritual, it is not a foundation deposit or sacrifice. This would require the sacrifice or deposit of an object (Van den Broeke 1977, 1/2), for which there are no indications. A common aspect however is the emphasis on the precise moment as well as the specific occasion (i.e. the construction of the settlement enclosure and thus implicitly the foundation of the settlement itself) on which the act is carried out (Van den Broeke 1977, 25).

21 The stamps were identified by different specialists: ALBA(NVS) by dr. M. Polak, M(A)CRIN: F by prof.dr. J.K. Haalebos and MVRI[ ] by drs. M. Brouwer. The PACATVS F stamp was only read, not identified. The sherd displaying it was identified as Central Gallic fabric, but the potter Pacatus worked in Rheinzabern, which is in Eastern Gaul (Oswald/Pryce 1966, 87).

22 It should be mentioned that one of the features containing a large number of sling pellets, P467, is dated to the Late Iron Age and/or Roman period. However, this is mainly based on the lack of wheel-thrown pottery. The fact that this pit contained so many sling pellets and was situated close to other (Iron Age) features with large numbers of these clay projectiles points to a late prehistoric date.

23 Determination G. van Boekel.

24 This list is incomplete, since it only covers the finds from structures. Many more fragments of querns and especially of whetstones were found in undated features or as stray finds.

25 In Rijswijk a complete *tegula* was found measuring 412 x 302 cm (Bloemers 1978, 314).

26 See for example Van der Sanden 1990, 102; Slofstra 1991, 163; Fokkens 1993, 47 and Roymans 1996b, 74, table 4.

27 Unfortunately the weight of *tegulae* and *imbrices* was not documented separately.

28 It should be noted that at Hoogeloon not all tile fragments were weighed, so the percentage will have been higher originally.

29 The fragments may have been used to pave the floors of the byres, as Lammers (1994, 167) suggests for the later farms of Hoogeloon. In H78, a byre section is not visible. Perhaps the *porticus* was in fact a series of partly outdoor stables, the floors of which were paved with tile fragments. This hypothesis is merely an idea, and cannot be proven.

30 Willems (1986, 183) suggests the presence of such a small tile-works south of the Meuse.

31 This weight is only an estimate, since worked and unworked slate were not weighed separately.

32 Of four fragments the exact find spot is unclear. They were listed as found in the Roman period settlement, two of them possibly in or near H110.

33 Roymans and Van Rooijen base their conclusions for the Lower Rhine area on the fragments from the Jansen Collection only. Since this particular collection totals more than 1700 bangles from all over the area, it is thought to be representative. When comparing Roman period Ussen with the percentages from the Jansen Collection it should be kept in mind that the latter covers the whole use period, thus including the Late Iron Age.

34 The excavators suspected this complex to be some sort of oven.

35 The height of the cask (only 90 cm) indicates that originally a second cask was on top of this one to form a well-lining. The clamp may have been part of this second barrel, which was not preserved.

36 An Iron Age mallet of the same size was found in Rockanje (Brongers/Woltering 1978, 66, fig. XIII).

37 The analysis was carried out on the find material from 1976 - 1986, so the Schalkskamp settlement was not included.

38 Determination by W. Prummel.

39 From several house plans, pits and wells, more than one botanical sample was taken. In table 47, only one sample for each structure was counted.

40 Several ditch fragments were on the original field drawings but not sectioned or numbered. Since they could not be dated they are not included on the settlement plan.

41 In 1997, rescue excavations directly to the east of the Westerveld settlement revealed a possible Roman period ditch (Jansen/Fokkens 1998, 9). If there was an entrance just south of H108, this ditch could have been leading up to it, in the same way that ditches F128/129 and F132/133 flank the other two entrances.