

Helgö, from postholes to houses

An archaeological building analysis of Terraces I and III in Building Group 2 at Helgö

Per Frölund and Hans Göthberg

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Contents

| | |
|-----------------------------------------------|-----------|
| Introduction | 6 |
| Background and earlier interpretations | 6 |
| Methods | 7 |
| Aims | 8 |
| Glossary | 9 |
| Results | 11 |
| Descriptions | 13 |
| Terrace I | 13 |
| Area between Terraces I and III | 19 |
| Terrace III | 23 |
| Dating | 30 |
| Terrace I | 30 |
| Terrace III and area between | 30 |
| Building Group 2 general | 31 |
| Comparisons with earlier interpretations | 31 |
| Building construction and function | 32 |
| The character of the settlement | 34 |
| Relative and absolute chronology | 34 |
| Terrace I | 35 |
| Area between terraces I and III | 35 |
| Terrace III | 36 |
| Overall conclusions | 37 |
| Evaluation | 42 |
| Concluding summary | 43 |
| Administrative information | 44 |
| References | 44 |
| Appendix 1. List of digitized features | 47 |

Introduction

This is a report on a study of Building Group 2, Helgö, Ekerö parish, Stockholm county, in which Upplandsmuseet (Uppland museum) digitized and analysed building remains from Terraces I and III and the area between them. They were excavated from 1954 to 1959 within the remit of the Helgö Project. Kristina Lamm, formerly of the Helgö Project, commissioned this study, with financial assistance from *Berit Wallenbergs stiftelse*.

Background and earlier interpretations

It was obvious right from the earliest seasons of fieldwork that there had been houses on Terraces I and III (Holmqvist, Arrhenius & Lundström 1961; Holmqvist & Arrhenius 1964). The presence of post-holes arranged in pairs, diagnostic of internal roof-supporting construction in aisled buildings, was noted, as was the fact that many paired post-holes replaced each other (Holmqvist 1970, p127). But the number of the buildings could not be established, largely because of the dense concentration of features within comparatively confined areas, suggesting numerous superimpositions. In addition to the evidence from features the buildings were also discussed in the light of the great abundance of artefacts there.

The excavators' interpretations of the excavated remains were pretty generalized. Buildings with roof-supporting posts were thought to have stood on both terraces. The artefacts found in Building Group 2, and from Terrace I in particular, are rich in both quantity and quality, leading to the belief that it housed a banqueting hall, cult centre or storehouse (see Lundström 1981, p20). Another interpretation of the features on Terrace I was that they made up an aisled building with dwelling area and a byre. Subsequently Arrhenius (1988, p26–28) interpreted Terrace III as a boat house, c.28m x 5m in size and with small stakes beside the walls. It was replaced by another boat house c.0.5m down the slope, and in its final phase it was replaced by an aisled building 43m long, with a stone south wall (Arrhenius 1988, p27–29).

Other interpretations focused more closely on the features and described the buildings more clearly. Herschend (1995) proposed two buildings on Terrace I, one of them being a hall. He inferred from the differential distribution of artefacts that the eastern part housed permanent occupants, with the west end being a hall for ceremonial use. Kaufmann (1995) suggested that four medium-sized aisled houses replaced one another on Terrace I, designating them 1A–D.

Three phases of aisled houses were postulated for Terrace III. The buildings were defined by two ditches and a stone paving which overlay one another and delimited Terrace III on the south. The southern ditch was thought to indicate a building 23m long. It was superseded by the biggest house which was presumed, from the length of its northern ditch, to have been 43m long. In the final building period, the stone paving was taken as evidence for the house being of the same length (Holmqvist 1970a, p 127; Holmqvist 1976, p37–39). The eastern part of each house

could have served as a dwelling whereas the western part, which contained fewer finds, may have been a warehouse or store (Lundström 1970b, p138–143).

A more likely interpretation of the houses on Terrace III was that there had been two large aisled buildings: 3A (28m long) and 3B (37m long). There was also a small house at the east end of the Terrace: Building 3C, called *Rotenberg* by Kaufmann (1995) who suggested its use as a store.

Three structures were identified in the area between Terraces I and III: IIIB in the east and IIIC and IIID in the west. The first was interpreted as an SFB dug into the slope. The others consisted of a collection of post-holes, the most southerly of which were dug into a pit in the slope and therefore thought to be from an SFB (Holmqvist 1970b, p127–128).

Log houses on stone sills were found on both terraces. On Terrace I, definite stone sills were taken to indicate two houses measuring 17 x 7.5m. They were laid out at an acute angle to each other and thus thought to be houses from the latest phase.

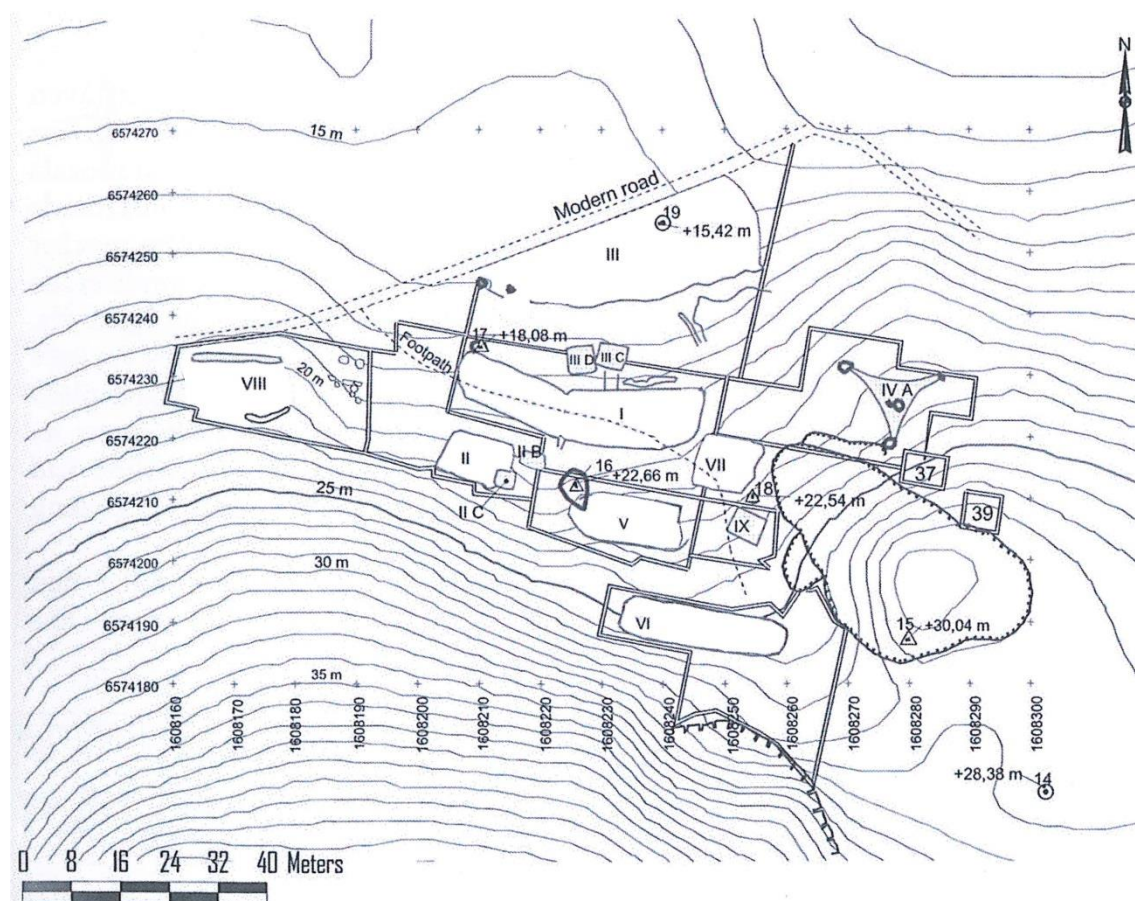


Figure 1. The terraces in Building Group 2 at Helgö lay on a north-facing slope, between 30m and 15m a.s.l. (Kitzler Åhfeldt 2008, fig. 4, slightly modified)

Methods

The field plans (original scale 1:75) were digitized by scanning them into tif files (tagged image file format). The Helgö Project's local co-ordinate system was re-created digitally and the plans then rectified to this system. Rectification was done in

Esri ArcGis and vectorized in Intrasis. The different characteristics among the archaeological objects and different types of relationships were registered in Intrasis, the most relevant relationships being contextual and stratigraphic. The analysis was carried out as a relationship analysis of the archaeological features' planometric and stratigraphic conditions plus their physical dimensions and shapes. Plans, sections and the published 'special descriptions' were used for the analysis (Arrhenius *et al.* 1961a; Holmqvist 1964).

Aims

The primary aim of the study was to isolate the individual houses on Terrace I and III and separate them into building phases. Assessment of building construction and, if possible, date and function were also aims. The paradoxical situation is that the artefactual evidence for Helgö Building Group 2 is very rich and thoroughly researched, whereas the buildings and structures have been largely disregarded. There are many reasons for this. One is the difficult conditions on the terraces, where there were a great number of features in a small space. Another possible reason is that when Helgö was being dug, excavations of complex prehistoric/early medieval settlement sites with houses were not common. Only in recent decades has comparable evidence been recovered through excavations of settlements which have been occupied over a long time-span. Now we know about sites with a similar multiplicity of features, houses and complicated inter-connections resulting from long periods of use.

| Construction | Description | Type |
|--------------------------|-------------------------------------------------------------------------------------------------------------------------------|-------------|
| Single-aisled (unaisled) | Roof supported by walls – posts for stave construction or timber-framing, or horizontal logs | D1, D2 |
| Two-aisled | Single row of posts in middle of house plus wall posts | F |
| Three-aisled | Two rows of posts, usually paired. Distance between them may vary, both within the rows and between the rows. Plus wall posts | A, B |
| Single- or three-aisled | Combination of wall posts and paired posts | AD, BD |
| Two- and three-aisled | Combination of posts in middle axis and paired posts | AF, BF |
| Corner-post houses | Posts in corners forming square or rectangle. Sometimes with wall posts. | D5a-b |
| SFB | Completely or partially sunken floor, often with posts or similar supports for walls or roof | DG |

Figure 2. Table showing building typology for Uppland after Göthberg 2000 and Schütz & Frölund 2007. Note that sub types for A, B and D1 are not included. For description of those see Göthberg 2000.

The houses and structures revealed by our analysis have been classified according to the current typology for Uppland (Göthberg 2000). The typology of smaller houses follows Schütz & Frölund (2007).

Glossary

Prefix A = feature (*anläggning*)

Prefix F = find (*fynd*)

Balanced or overbalanced construction (*balanserad eller överbalanserad konstruktion*): used of plans of three-aisled halls.

The central aisle (or nave), defined by longitudinal rows of paired posts, was about (or slightly less than) half the total width of house. Mainly found in Pre-Roman and Early Roman Iron Age (5th century BC—2nd century AD) and are much less common in Late Roman Iron Age (late 2nd century AD—4th century AD) See Göthberg 2000, p91; Wikborg & Onsten-Molander 2007, p114–115).

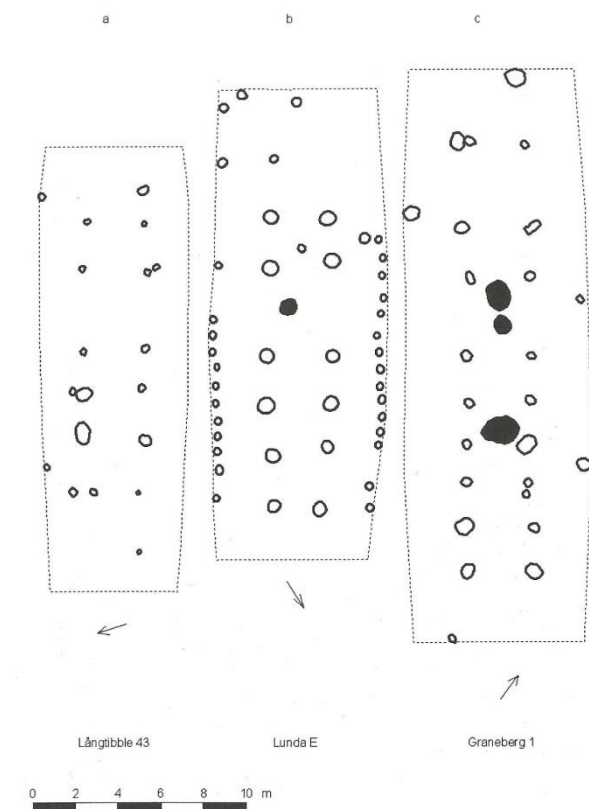


Figure 3. Examples of houses with balanced construction (Göthberg 2000, fig. 9).

Underbalanced construction (*underbalanserad konstruktion*): used of plans of three-aisled halls. The central aisle (or nave), defined by longitudinal rows of paired posts, was about on third of the total width of house. This type first appears sporadically in the Early Roman Iron Age (1st or 2nd century AD), becoming more prevalent from the Late Roman Iron Age (late 2nd century AD onwards).

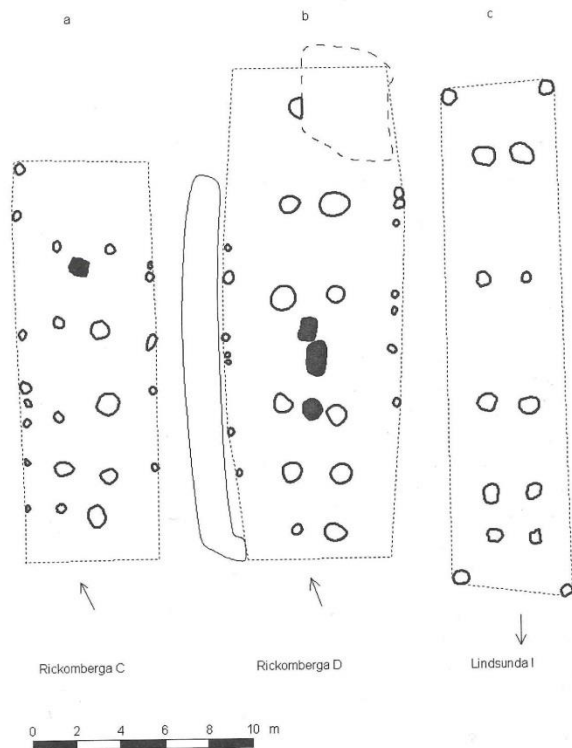


Figure 4. Examples of houses with underbalanced construction (Göthberg 2000, fig. 21).

Hall (*hall*): rectangular three-aisled building, usually of a single long room, with or without hearth. The term is often combined with the adjective ‘feasting’, ‘festive’, ‘banqueting’ or ‘assembly’ to indicate its status. Not primarily a dwelling, although sometimes the building is divided into two rooms by a transverse partition, so that one of the rooms could be used as a dwelling, the other the place of assembly.

House (*hus*): used here of any building, not necessarily used as a dwelling.

Log house (*timmerbyggnad*): used of unaisled buildings. One-roomed, rectangular, structures defined by stone sills on which lay horizontal logs notched (lashed) together at the corners. The Swedish *timmerbyggnad* may also be translated as ‘blockhouse’ or ‘lashed’ constructions.

SFB: Sunken-floored building

Trestle (*bock*): interior frame of three-aisled building comprising a pair of upright posts connected by a tie-beam.

Results

In all, 373 archaeological features from Terraces I and III and the area between them were digitized. The vast majority were post-holes, but some hearths, pits, ditches and stone pavings were also included.



Figure 5. Outline plan of the features on Terraces I, III and the area between them. The only stones included here are those which made up part of a structure. The features are set against the Helgö Project's co-ordinates.

| Type | Quantity |
|-----------------------|----------|
| Post-hole | 285 |
| Pit | 19 |
| Ditch | 4 |
| Hearth | 18 |
| Oven | 1 |
| Burnt clay & charcoal | 5 |
| Stone paving | 32 |

Figure 6. Table of the different features on Terraces I, III and the intervening area.

Ditches were noted in connection with the houses. On both terraces they belonged to an early building phase (House 1 on Terrace I and Houses 12, 14 and 17 on Terrace III). All were found on the side of the houses which face onto the upper part of the slope. As the ditches had a rather irregular shape and variable depth, and lay outside the strip where the house walls must have been, they were probably drainage ditches, although they could have been the remains of eaves drips. In the later building phases they were overlain by stone pavings, with hearths built into some of them. In addition, there was a ditch with irregular outline along one side of House 10, probably a drain or eaves drip.

Hearths were discovered on both terraces, with those on Terrace I concentrated at its western end, outside Houses 1–4 and close to House 5. They therefore seem mainly to have been outdoor features. In the eastern part, the hearths seem to be inside Houses 1–4 but only one can be directly attributed to a house (House 4) as it lay on its central axis. So there too, most of the hearths were outside and not necessarily contemporary with the houses. There were two big hearths in the area between the terraces, far away from any house. On Terrace III there was a hearth on the central axis of House 15. One of the others lay in the eastern part of the terrace, with the others on the terrace edge and sometimes in the ditches. Therefore, many of them may have been in use at the same time as the big houses (14–17), particularly after the north drain went out of use. On the other hand, they may date from the phase after the big houses.

Pits and *stone pavings* were scattered over both terraces.

A total of nineteen houses or structures were distinguished. Houses 1–6 were on Terrace I, Houses 7–11 on the intervening area, and Houses 12–19 on Terrace III. The feature numbers used in the descriptions given below are those found in the Helgö publications.

Descriptions

Terrace I

House 1, three-aisled, type B5

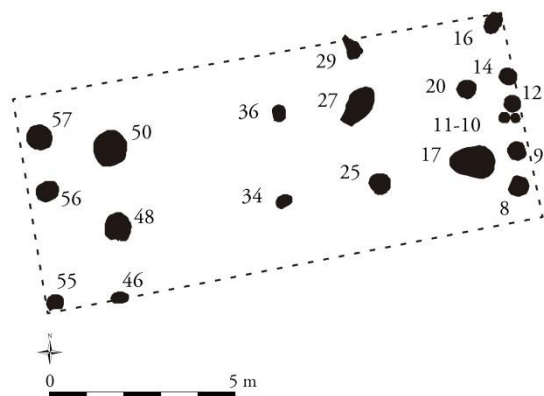


Figure 7. House 1, scale 1:200.

Constructional details consisted of 8 roof-supporting posts and 13 wall and gable posts. Dimensions **13.5 x 5.6m**. Interior structure of 8 posts in 4 pairs. Underbalanced, three-aisled and divided into two areas.

Finds: bone (including F2075); 2 gold foils and glass (F1186, in A48); a crucible and loom weight (F2075); pottery (F2075, F2320).

Eight of the 24 features displayed relationships:

A8 cut ditch.

A9 cut ditch.

A13 was cut by A12.

A17 cut A18 pit.

A27 lay beneath stone paving (A20126).

A29 cut A28.

A48 was cut by A47 in House 2.

A50 was cut by A49 in House 4.

House 1 was contemporary with ditch and was older than Houses 2 and 4.

House 2, three-aisled, type B2

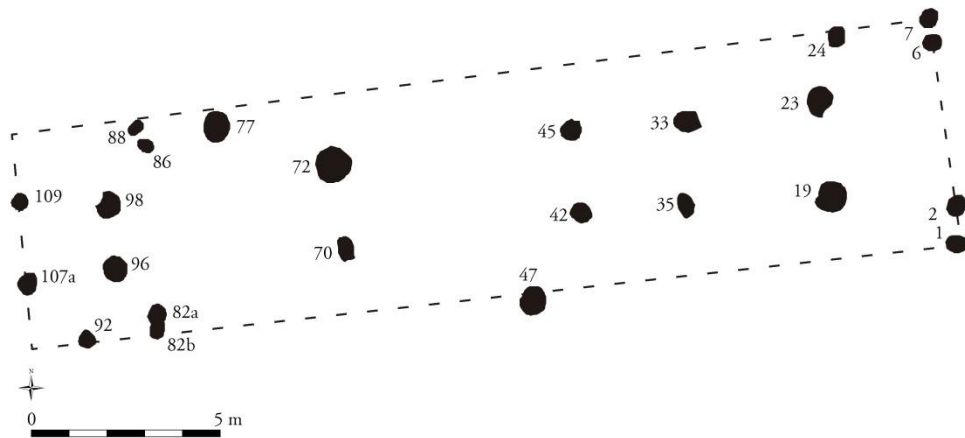


Figure 8. House 2, scale 1:200.

Constructional details consisted of 10 roof-supporting posts and 7 wall and gable posts. Dimensions **25 x c.6m**. Internal structure of 10 posts in 5 pairs. Underbalanced, three-aisled and divided into two areas.

Finds: bone (six F numbers); bronze padlock (F2352); crucible (F2351); loom weight (F2354).

15 of the 22 features displayed relationships:

- A1 lay beneath ditch.
- A2 lay above ditch.
- A6 lay beneath ditch and was cut by A7.
- A7 cut A6.
- A23 was cut by A22.
- A33 was cut by A32 in House 4.
- A42 cut (?) A41 pit.
- A45 cut A44 hearth.
- A47 cut A48 in House 1.
- A82a was cut by A82b.
- A92 was cut by A93 in House 4.
- A96 was cut by A97 in House 4.
- A107b cut (?) A107a in House 3.

House 2 was later than House 1 and older than House 4.

House 3, three-aisled, type B1

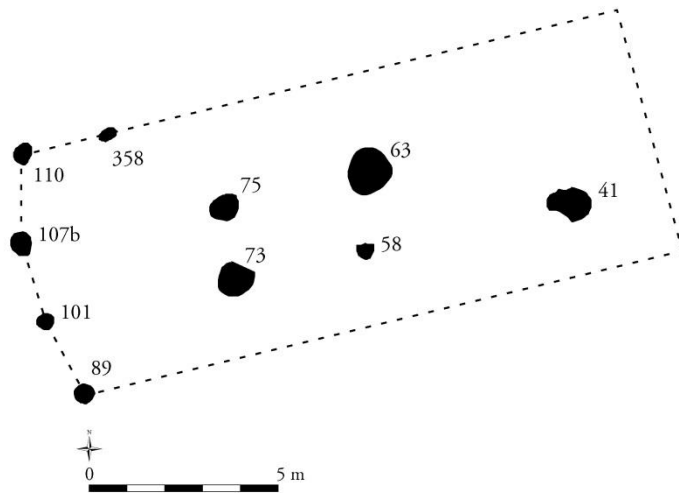


Figure 9. House 3, scale 1:200.

Constructional details consisted of 5 roof-supporting posts and 5 wall and gable posts. Dimensions **<15 x 6.54m**. Interior structure of at least 7 posts in 4 pairs. The missing post-hole possibly damaged by hearth A44. Underbalanced and three-aisled, single room.

Finds: bone (4 groups incl. F2134); whetstone; pottery (F2077, 2133, 2134); slag.

5 of the 10 features displayed relationships:

A41 was cut by A40.

A58 was cut by A59–61.

A73 was cut by A74 in House 4.

A75 cut (?) A76 in House 4.

A107a cut (?) A107b in House 2.

House 3 was older than House 4 and possibly later than House 2.

House 4, three-aisled, type B1

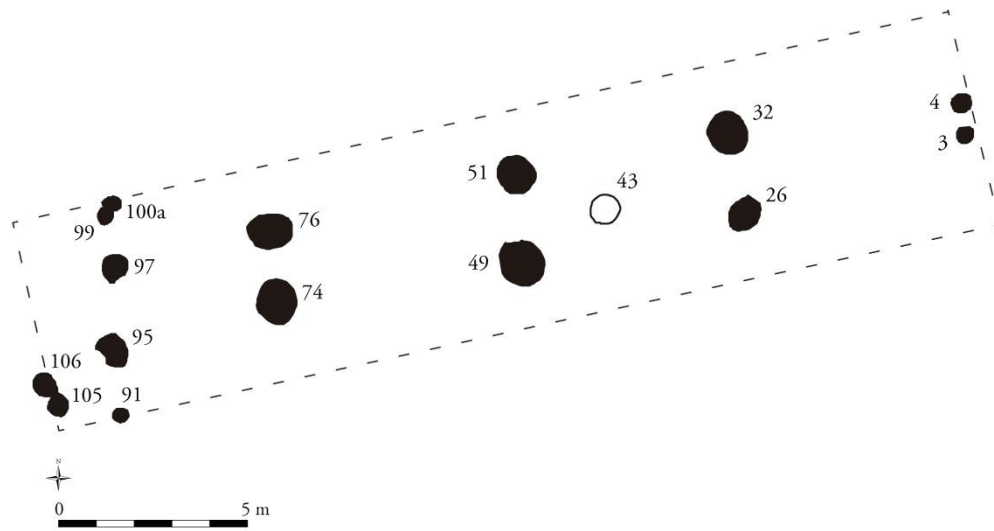


Figure 10. House 4, scale 1:200.

Constructional details consisted of 8 roof-supporting posts and 7 wall and gable posts. Dimensions **25 x 5.7m**. Inner construction of 8 posts in 4 pairs. Underbalanced and three-aisled, single room.

Finds: bone (4 groups incl. F2136); pottery (F3126, 2317); quern stone; whetstone (F2136); slag.

A charcoal sample from A76 with ¹⁴C date.

9 of 15 features displayed relationships:

A3 cut ditch.

A4 cut ditch.

A26 lay under a layer with burnt clay & charcoal.

A32 cut A33 in House 2.

A49 cut A50 in House 1.

A74 cut A73 in House 3.

A97 cut A96 in House 2 & A85.

A99 cut A98 in House 2 and was cut by A100a in House 4.

House 4 was later than Houses 1, 2, & 3.

House 5, unaisled, type D1b

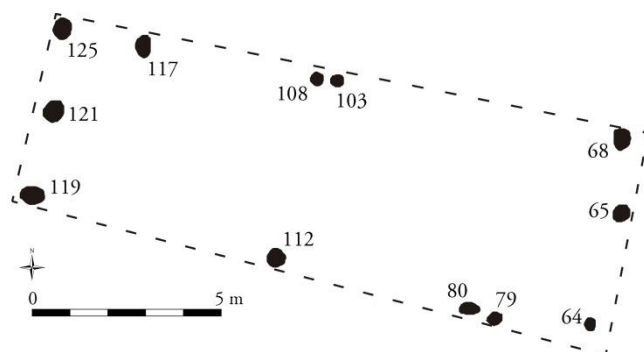


Figure 11. House 5, scale 1:200.

Constructional details consisted of 12 wall and gable posts. Dimensions **15 x 5m**. Roof carried by 12 posts, 3 in each gable and 3 in long walls. Some posts may be missing.

Finds: bone incl. vertebrae (3 groups, F22295); crucible (F2178); pottery (F2108); spindle whorl (F2295); charcoal sample from A79 with ¹⁴C date.

3 of 12 features displayed relationships:

A68 was cut by A66.

A117 lay under stone-paving (A20174).

A257 lay under stone-paving (A20174).

House 5 was earlier than/contemporary with stone paving A20174.

House 6, unaisled, type D2

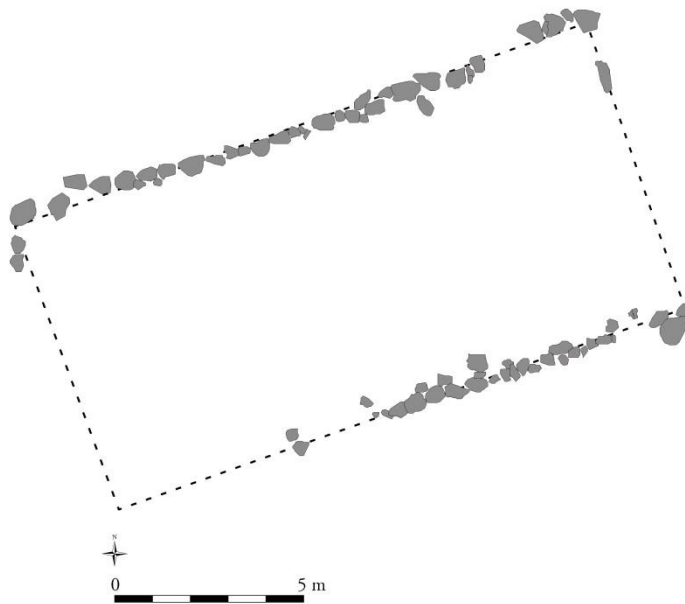


Figure 12. House 6, scale 1:200.

N and S sides of House 6 were part of stone edging of Terrace I, and a few stones in E and W short sides suggest walls connected them. The N & S stone edgings parallel **and 7.5m** apart, **16.4m** long on N side. On S side it is **8.5m**, possibly **11m** if an isolated stone in the ditch is included.

The structure cannot have been contemporary with House 5 as the two houses overlapped.

Area between Terraces I and III
House 7, three-aisled, type B5

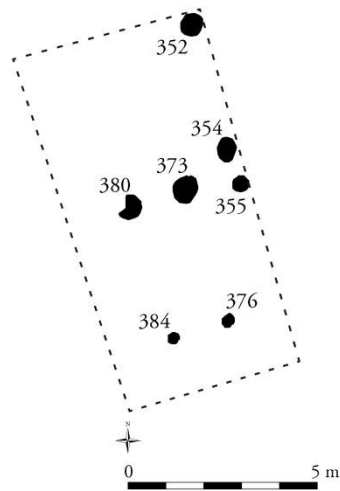


Figure 13. House 7, scale 1:200.

Constructional details consisted of 4 internal post-holes and 3 for long wall and gable. Dimensions **c.8m x 4.5m**. Internal roof-supporting posts in two pairs, 1.5m apart. Total span 3.6m. Underbalanced. N pair post-holes rather shallow, 4 with stone lining.

Only 1 of the 7 features displayed relationship:

A380 was cut by A381 in House 8.

House 7 was earlier than House 8.

House 8, with corner posts, type D5

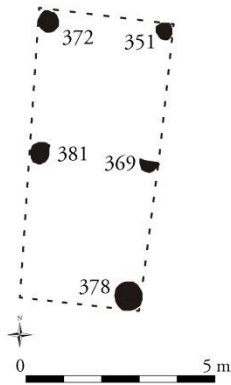


Figure 14. House 8, scale 1:200.

Roof carried on wall posts, 5 post-holes remaining, 1 destroyed by pit A390. Dimensions **7m x 3m**. Rectangular house with corner posts, type D5. All post-holes except that in NW were fairly large, and all except NW one were lined with stones.

1 of 5 features displayed relationships:

A381 cut by A380 in House 7.

House 8 was later than House 7.

House 9, SFB, type Dg

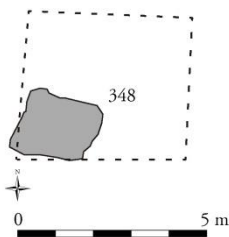


Figure 15. House 9, scale 1:200.

Dimensions **4.4 x 3.8m**, dug into slope. Oven in SW corner. No post-holes. Overlain by stone paving connected to Terrace I.

House 10, unaisled with sills, type D2

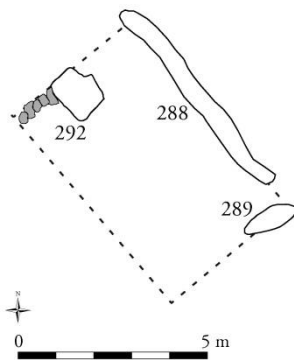


Figure 16. House 10, scale 1:200.

Structure consisted of a few disparate parts. Overall dimensions **6m x 3.5m**. Clearest feature was ditch A288 in NE, **5.9m** long, may have been eavesdrip or drain as it was rather sinuous. Also, stone row in NW, **1.5m** long, possibly a short sill. Pit A292 with charcoal in bottom was remains of hearth, lying next to N wall.

House 11, with corner posts, type D5

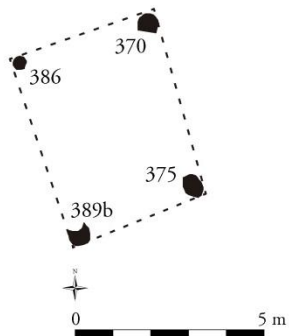


Figure 17. House 11, scale 1:200.

Constructional details consisted of post-holes for 4 roof-supporting corner posts, **4.8 x 3.2–3.5m** rectangle. All post-holes were stone-lined. The 2 southern post-holes lay in dug-away part of slope and were covered with layer of red clay.

1 of 4 features displayed relationship:

A389 cut A389b, not shown on plan.

Impossible to tell whether A370 lay over or under A369 in House 8.

House 11 was older than House 7, as the layer of red clay covered postholes in House 11, and was older than postholes from House 7 and 8.

Terrace III
House 12, three-aisled, type A1

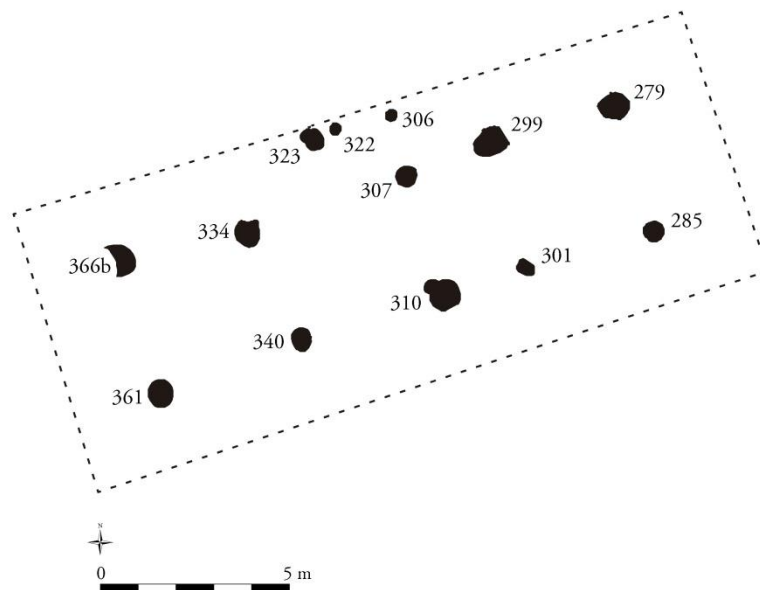


Figure 18. House 12, scale 1:200.

Constructional details consisted of 10 roof-supporting post-holes & 3 in N wall. Total length of house **c.18m x c.7m**. 10 post-holes in 5 pairs **3.2–3.6m** wide. Longitudinal distance between post-holes **2.3–4m**. All but 2 post-holes were stone-lined. Balanced, three-aisled, type A1.

2 of 13 features displayed relationships:

A366b was cut by A366 in House 16.

A334 was cut by A333.

House 12 was older than House 16.

House 13, three-aisled, type A3

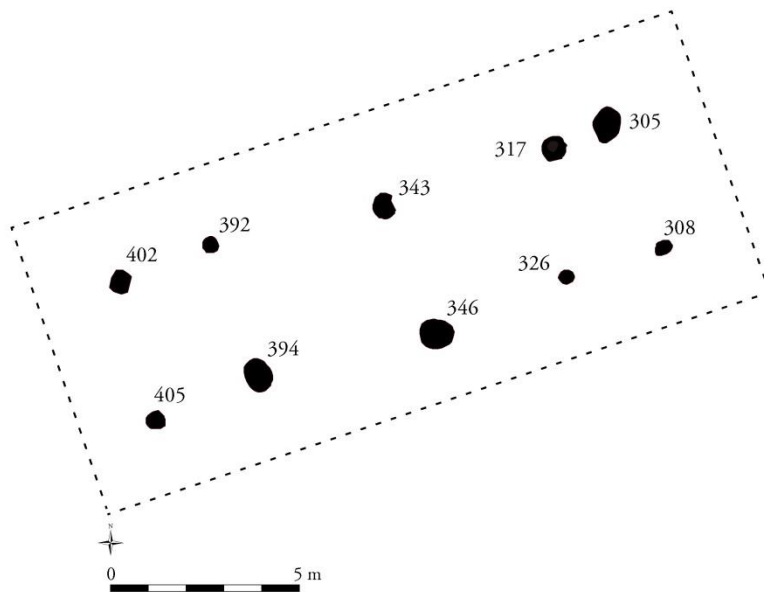


Figure 19. House 13, scale 1:200.

Constructional details consisted of 10 post-holes in 5 pairs, one post-hole extremely small. Total length of house **c.18m x c.7m**. Probably balanced, three-aisled, type A3 (Göthberg 2000, p39). Width of paired post-holes **3.6 – 3.7m**, longitudinal distance between them **1.5 – 4.7m**. 5 post-holes were stone-lined.

3 of 10 features displayed relationships:

- A402 was cut by A403 in House 17.
- A403 lay **under/over** A401 in House 14.
- A343 was cut by A342 in House 18.
- A317 was cut by A314 in House 16.

The house was older than Houses 16, 17 and 18.

House 14, three-aisled, type B3

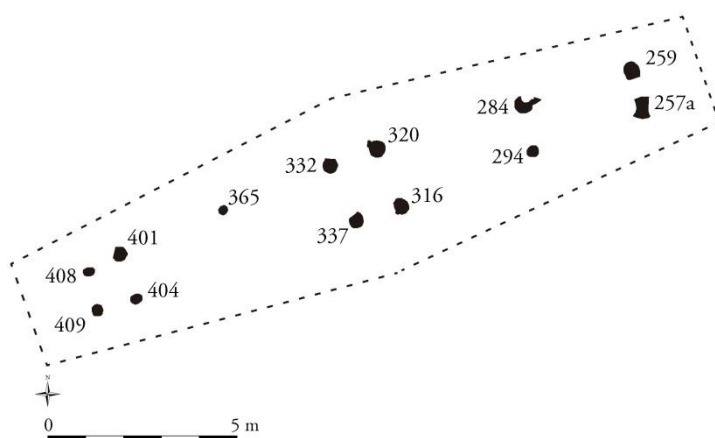


Figure 20. House 14, scale 1:250.

Constructional details consisted of 13 post-holes for roof-supporting posts, in 6 pairs plus one single. Width of pairs **1.5–2.5m**. No sign of walls or gables. Total length of house **28m**. Probably convex in plan, up to **7.5m** wide. Three-aisled, underbalanced, type B3 (Göthberg 2000, p62–79). In centre of house 2 pairs of post-holes close together, cf. House 16. Immediately east of them was area with longest longitudinal distance, also cf. House 16, but it differs in being ended in west end by another area with 2 pairs post-holes close together. Post-holes were considerably bigger and deeper in the central and eastern parts, smaller and shallower in west. This may be the reason why one pair was incomplete. Most of the post-holes were stone-lined, particularly in the central and eastern parts. A quern stone was found in one post-hole in the centre.

8 of 13 features displayed relationships:

- A401 lay either over or under A402 in House 13.
- A337 cut A336 in House 17.
- A332 lay over or under A330 in House 16.
- A316 cut A315 in House 17.
- A320 lay over or under A321 in House 17 and A318 in House 15.
- A284 was cut by A283.
- A257 lay over or under A257b in House 15.
- A259 lay over or under A260.

House 14 was later than House 17.

House 15, three-aisled, type B3

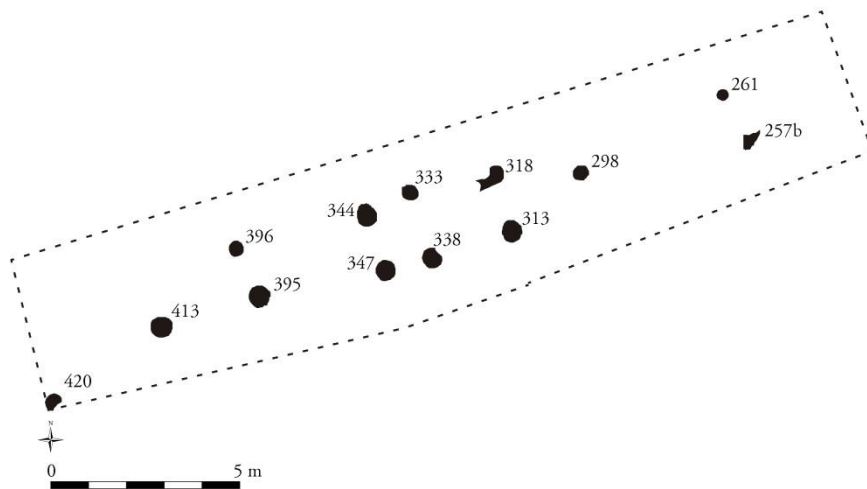


Figure 21. House 15, scale 1:250.

Constructional details consisted of 12 internal post-holes and one in gable. Total length **c.35m**, width **c.7m**. 11 posts in 6 pairs and a single central post. Underbalanced. Width between posts **2.1-2.6m**, somewhat wider in central part, suggesting a slightly convex shape. Longitudinal distance **2-10m**, longest being in eastern part. Like House 17, there was a central post in the longest longitudinal span in east. Possible gable post at west end. All but two internal post-holes were large and stone-lined.

Of the 14 features 8 displayed relationships:

A420 was cut by A419 in House 16.

A413 was cut by A414 in House 16 and lay over or under A410.

A338 lay over or under A336 in House 17.

A313 cut A315 in House 17.

A316 was cut by A319 in House 16 and lay over or under A320 in House 14.

A298 cut A297 in House 17.

A257b lay over or under A257 in House 14 and A256 in House 17.

House 15 was earlier than House 16 and later than Houses 12 and 17.

House 16, three-aisled, type B3

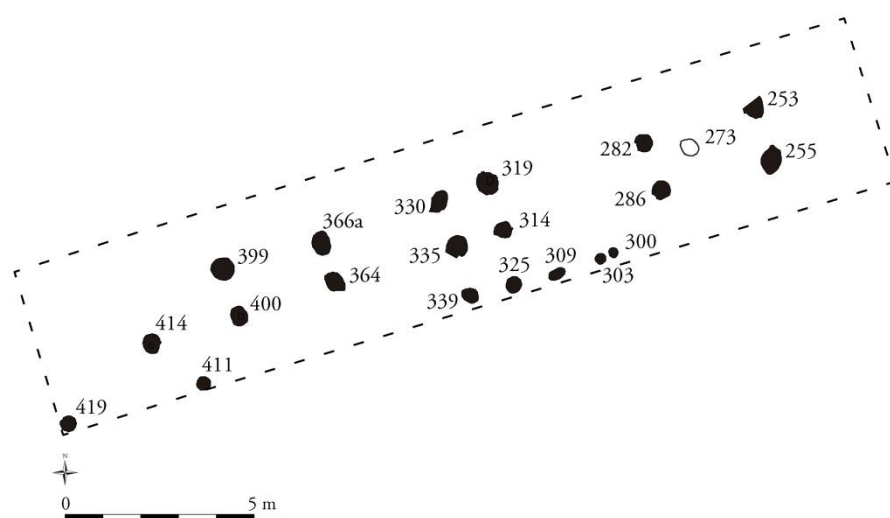


Figure 22. House 16, scale 1:250.

Constructional details consisted of 15 post-holes for roof-supporting posts and 7 for wall- and gable-posts. Probable length of house **34m**, width **6.0–6.5m**. 7 pairs of posts in straight line. Three-aisled, underbalanced, type B3 (Göthberg 2000, p62–79). Width of post-pairs **1.8–2.2m**. Longitudinal distance between pairs **2.0–6.5m**. Section with shortest longitudinal distance was in middle of house, longest distance was to east. Possible gable post in west. Hearth in the east may have belonged to this house. The post-holes were substantial and stone-lined, with one exception (A399). Quern stones found in five post-holes.

12 of the 20 features displayed relationships:

- A319 cut A420 in House 15.
- A414 cut A413 in House 15.
- A364 cut AA363 in House 17.
- A366 cut A367 in House 17 and A366b in House 12.
- A335 cut A336 in House 17.
- A330 cut A331 in House 17 and lay over or under A332 in House 14.
- A314 cut A317 in House 13 and A315 in House 17.
- A319 cut A318 in House 15 and A321 in House 17, and lay over or under A320 in House 14.
- A309 lay over or under A310 in House 12.
- A282 cut A281 and lay over or under A284 in House 14, and A279 in House 12.
- A255 lay over or under A257b in House 15.
- A253 lay over or under A254 in House 17.

House 16 was later than Houses 13, 12, 15, 17.

House 17, three-aisled, type B3

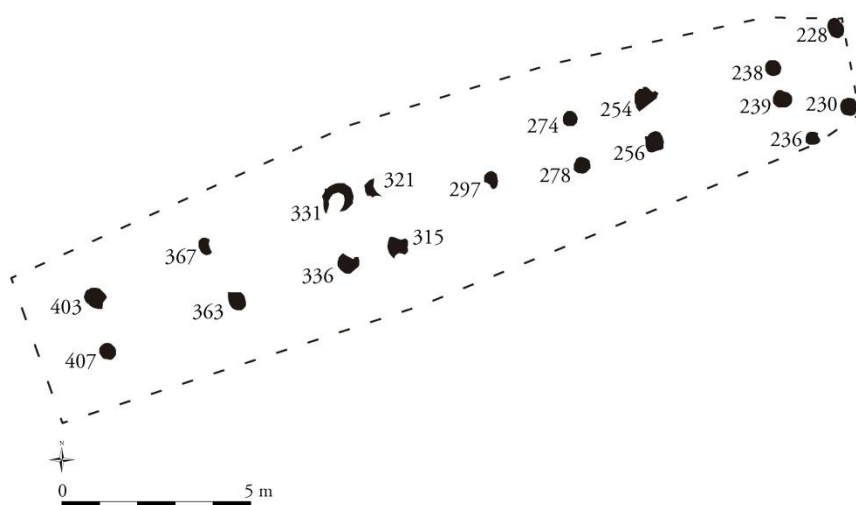


Figure 23. House 17, scale 1:250.

Constructional details consisted of 15 post-holes for roof-supporting posts and 3 for gable and wall. Total length up to **c.35m** and width probably up to **7.5m**. Post-holes in 7 pairs and single post in central axis, all giving a slightly convex shape. Three-aisled, underbalanced, type B3 (Göthberg 2000, p62–79). Width of pairs **1.4–2.6m**, longitudinal distance **2.1–8m**. Shortest longitudinal distance in centre, longest to east, cf. Houses 15 and 16. Central post. East part orientated slightly differently from west. Gable posts in east showing that houses ended at end of North Ditch. All but two post-holes were stone-lined. Quern stones in three post-holes.

12 of the 18 features displayed relationships:

A403 cut A402 in House 13.

A363 was cut by A364 in House 16.

A367 was cut by A366 in House 16.

A366 was cut by A335 in House 16 and A337 in House 14, and lay over or under A338 in House 15.

A331 was cut by A330 in House 16.

A315 was cut by A313 in House 15, A314 in House 16 and A316 in House 14.

A321 was cut by A319 and lay over or under A320 in House 14.

A297 was cut by A298 in House 15 and cut A296.

A274 cut A275.

A254 lay over or under A253 in House 16.

A256 lay over or under A257b in House 15.

A236 was cut by A235 in House 19.

House 17 was later than House 13 and earlier than Houses 14, 15, 16, 19.

House 18, small three-aisled, type B5

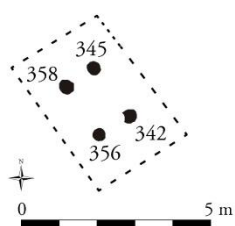


Figure 24. House 18, scale 1:200.

Constructional details consisted of 4 post-holes in 2 pairs, dimensions probably **c.7m x 4m** but may have extended further north outside excavated area. Three-aisled, underbalanced and type B5. Width of pairs 1.4m, longitudinal distance **2.5m**. Post-holes were small and shallower than in other houses, one with stone lining.

1 of the 4 features displayed relationship:

A342 cut A343 in House 13.

House 18 was later than House 13.

House 19, unaisled, type D1a

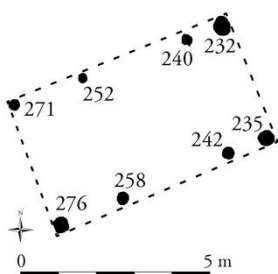


Figure 25. House 19, scale 1:200.

Constructional details consisted of 8 post-holes, 4 in each long wall, arranged in pairs. **9m x 5m**. Unaisled and of type D1a. Post-holes fairly large, all but 2 stone-lined.

2 of the 8 features displayed relationships:

A276 cut A277.

A235 cut A236 in House 17.

House 19 was later than House 17.

Dating

Both terraces may be dated through ^{14}C and artefacts. There are four ^{14}C dates for the area between the terraces.

Terrace I

Two ^{14}C dates:

House 4, A76 (post-hole) = Late Roman Iron Age/Migration riation Period (1705±70BP/St-1122)

House 1, A79 (post-hole) = Migration riation Period/Vendel P (1505±85BP/St-1121; see *Excavations* III, fig. 69). As the dates were based on samples from the fill of the post-holes, and as the stratigraphy was complicated, it is uncertain whether the dates relate to the features or to previous activities on the site.

House 1 also had post-holes containing gold foils: Vendel Period for them and for the house. Viking Age finds on the terrace can also date House 5 (*Excavations* III, p133–136).

Artefactual dating must be compared with ^{14}C and stratigraphy. The gold foils are dated considerably later than the ^{14}C result for the post-hole in House 4, and House 4 is stratigraphically later than House 1. This could be explained if the post-hole had been cut through charcoal, remains of earlier activity on Terrace I, a possibility supported by stratigraphic evidence showing that some features were earlier than House 1. This could be the same for House 5 for its method of construction suggests that it is later than Houses 1–4 although no stratigraphic relationship could be established.

Terrace III and area between

Two ^{14}C datings:

House 16, A314 = Early Roman Iron Age (1805±70BP/St-1125; see *Excavations* III, fig. 69). As the stratigraphical conditions of the post-hole were complicated, and as its fill contained ‘odd fragments of charcoal’ (*Excavations* II, p28), it is not certain whether the charcoal came from a post-hole in the building or was redeposited. In either case it indicates activity on Terrace. A sample taken from charcoal at the bottom of pit A292 in House 10 gave a ^{14}C date: 1065±85 BP/St-1126 (Viking Age; see *Excavations* III fig. 69). As there were very few features in the surroundings, the date probably reflects activity associated with the building.

Building methods can also give rough idea of date. Houses 12 and 13 had a balanced roof-construction, separating them from the other three-aisled houses which were underbalanced (see Glossary above). Houses with balanced roof-construction primarily belongs to Pre-roman Iron Age and Roman Iron Age. Underbalanced houses belongs to Roman Iron Age and Migration Period (Göthberg 2000, p91; Göthberg 2007, p406; Wikborg & Onsten-Molander 2007, p114-115). Singe-aisled houses are often thought to belong to the Viking Age, but some small houses of this type belongs to the Migration Period (Göthberg 2007, p406-407). The larger singe-

aisled houses on Terrace I and III can for this reason probably be dated to the Viking Age or later periods (Göthberg 2000, p81-86).

Building Group 2: general

In *Excavations III*, 139 finds from Terraces I and III are attributed to Late Roman Iron Age – Viking, but the emphasis for BG2 as a whole is Migration and Vendel Period (*Excavations III*, p151). The earliest objects are Early Roman Iron Age but as they often have purely Roman origins it is difficult to decide whether they should be a pointer to the date of activities on the site (*Excavations III*, p152–156). Artefacts and a single ¹⁴C date indicate Viking Age occupation, at least on Terrace I and the eastern part of the intervening area, that is, around House 10 and south of House 19.

Taken together, the ¹⁴C dates and the dates of imported and native artefacts indicate that occupation began in BG2 at the latest during the Late Roman Iron Age. Each source of evidence differs slightly. Artefacts suggest a high point during the Migration and Vendel Periods (Lamm 1988, p91–93) whereas the ¹⁴C dates place the emphasis in the Migration Period, ceasing at the beginning of Vendel Period but starting again in the Viking Age (*Excavations VIII*, p22–24).

Comparison with earlier interpretations

Many of the interpretations presented in this report are new, while some agree with the original observations. This is true of one of the small houses in the area between the terraces (F&G House 9) which was interpreted as a sunken floored building (SFB) even though it had posts for neither roof nor gable. Another structure was interpreted as an SFB because it was partially dug into the slope. It is comparable to F&G House 11 which had corner posts. At Helgö there were SFBs with posts in the corners, but more often they were in the middle of each short side, for example in BG1 (Reisborg 1994, p28–31). In the present case, the design of the roof-bearing construction influenced the interpretation, particularly as only one end of the house was dug into the slope.

In the west part of Terrace I, F&G House 5 has the same orientation as (old) IB but is considerably narrower and shorter. Furthermore, House 5 was of a completely different construction with wall posts instead of a sill for a timber wall (*Excavations III*, p127). Old IA equates to F&G House 6, which may have been of sill construction. The orientation is more or less the same as the earlier post-built houses.

In the east part of Terrace I, Herschend proposed two and Kaufmann four medium-sized three-aisled houses. Herschend's 'hall' and Kaufmann's House 1A are most similar to F&G House 4, with the greatest difference being in the design of the gables. Kaufmann suggested drawn-out corners with gable posts; Herschend agreed with that arrangement at the east end but suggests four post-holes for the west gable. The present study, however, shows that the post-holes supposedly in Herschend's east gable were actually for roof or wall posts in other houses. The east gable in F&G House 4 is simply marked by two small post-holes, with its west gable shown by four

post-holes, but with a corner post a little further west. This may be from a repair or extension.

There is some similarity between Herschend's 'second' building and F&G House 1, but what Herschend thought were roof-supporting posts have here been interpreted as both roof-supporting posts and wall posts for F&G House 1. There is no correlation between Kaufmann's 1B, C and D and F&G Houses 1, 2, 3 and 4.

On Terrace III Kaufmann distinguished two fairly large houses: 3A = 28m long, 3B = 37m long and a small building interpreted as a granary or store (*Rotenberg*). None of her buildings equates with F&G's Houses 14–17 and 19. The post-holes which Kaufmann thought made up 3C are part of F&G Houses 15 and 17. Finally, the difference between these and the interpretations in the field must be noted. The house on Terrace III was originally thought to be 43m long, its dimensions based on the length of the North Ditch which was considered to be a wall trench. Both Kaufmann's and F&G's interpretations indicate rather shorter buildings, 35–37m long. The difference is because these authors considered the ditch to have been for drainage, thus situated a little way outside the house, and that it had no direct connection with the gables.

In summary, only a few of the earlier interpretations agree with F&G's. The exceptions are House 4 on Terrace I and a few small houses in the area between the terraces.

Figure 26 is an attempt to apply the typology of buildings in Uppland (Göthberg 2000; Schütz & Frölund 2007) to Helgö. The table shows that only a few of the large three-aisled houses were of balanced or overbalanced construction (A1–3). Most were underbalanced (B1–3). There were also some smaller three-aisled houses (B5) and other small houses (D5, Dg). There were also some larger houses with roof-supporting walls (D1, D2). The building construction generally conforms to the types common in the Mälaren area during the first millennium AD.

| Type | A1 | A3 | | |
|----------|----|----|--|--|
| Quantity | 1 | 1 | | |

| Type | B1 | B2 | B3 | B5 |
|----------|----|----|----|----|
| Quantity | 2 | 1 | 4 | 3 |

| Type | D1 | D2 | D5 | Dg |
|----------|----|----|----|----|
| Quantity | 2 | 2 | 2 | 1 |

Figure 26. Table showing the distribution of houses by type and sub-type.

Building construction and function

The houses on the two terraces and the intervening area differ in size, construction and shape. The smallest examples are very variable and include corner-post houses, small three-aisled buildings, and SFBs. Most of them stood in the area between the

terraces, with a single one on Terrace III. The three-aisled houses were mostly of 'average' size (15–30m long) with houses more than 30m long only on Terrace III. There were also unaisled houses on both terraces. The housing stock was basically the same as that found on other settlement sites in the Mälaren area during the first millennium AD (Göthberg 2000; Wikborg & Onsten-Molander 2007).

The largest houses on Terrace III (Houses 15, 16 and 17) are unusual, in that houses of that length are generally of balanced construction and date from the Roman Iron Age (Fagerlund 2007). Houses of this size, but of underbalanced type and dating from Roman Iron Age to Vendel Period are therefore rather out of the ordinary (Göthberg 2007).

Houses 14–17 on Terrace III show certain differences in size, shape and orientation, but have some characteristics in common, for example the groupings of four massive post-holes in the central area. This arrangement has also been found in houses dating from the Roman Iron Age and Migration Period in, for example, Hälsingland where the posts are thought to have supported granaries (Liedgren 1992, p135). They also have equivalents in the Mälaren area, where there are sometimes two such arrangements in the same house (eg. Skäggesta House V; Göthberg *et al.* 1996, p64; Göthberg 2000, p73–75). The presence of two groups of four post-holes demands another interpretation, that is, the building was not a granary but a house with several entrance rooms/ vestibules. This could have been the case in all the four houses at Helgö. Their positioning and superimposition indicate that they were unusually bound to that particular site.

The grouping of posts may also have marked a functional boundary in the houses, between a room in the west end where there was variable positioning of posts, and a room in the east where they were less regular. The west end may have been used as a dwelling or for aspects of the domestic economy, even though there was no hearth. In the eastern end of each of these long houses, the longitudinal distances between the aisle posts were at their greatest, and there were also central post-holes. This suggests that the eastern areas were large open rooms; underlined by the fact that the only hearth (A273) associated with the houses lay in that part of House 16. Unusually, four gold foils were discovered in the occupation layer in and near its east end, suggesting its function as an assembly hall. Halls were usually free-standing buildings, but could be a specific part of a building (Herschend 1993, p290).

The more usual location of a hall, in a separate building, is exemplified by the houses on Terrace I. Houses 1–4 displayed the greatest variability in size and construction, particularly Houses 1 and 2. On the other hand, Houses 3 and 4 were similar in character by having long longitudinal spans, making an open room, with a hearth on the central axis of House 4. That house has previously been interpreted as a hall (Herschend 1995), based on its construction and the wealth of artefacts in the occupation layer: gold foils, glass and weapons (*Excavations III*, p129–136). Gold foils were also found in a post-hole in House 1. For these reasons, Houses 3 and 4 are thought to be halls, with House 1 a possibility and House 2 more uncertain.

Houses 5 and 19 are unaisled with post-holes in their walls, and House 10 has stone sills supporting its walls. These house types are believed to be late in date.

Some houses on Terrace I were originally interpreted as log houses because of the stone-lined edges of the terrace or stone sills (*Excavations III*, p127; Holmqvist 1976, p38). A house with post-holes, stone sills and discolouration from possible

wooden sills was found in BG2 Terrace V (*Excavations III*, p6–8; Göthberg 2015, fig. 6). The presence of post-holes together with stone sills suggests that the buildings were of timber-framed construction rather than log houses.

The most convincing stone sills belonged to F&G's House 6. There are parallels to its construction and size, at Hässelby in Spånga, for example, where there was one house with stone sills and 17x8m in size. Artefacts and surrounding features enabled it to be dated to the Viking Age (Biörnstad 1966, p44). There is also House 21 at Sanda in Fresta parish, which stood on a stone-edged terrace of similar size to Helgö and Hässelby, and had post-holes and a ditch; it was interpreted as a Viking Age hall (Åqvist 2006). Other Viking Age/Medieval settlements such as Pollista also had houses with mixed constructional elements such as ditches, stone sills, and post-holes, which together could indicate timber-framing (Hållans & Svensson 1999, p27). That construction has also been noted in medieval towns such as Sigtuna and Uppsala (Petersson 1991, p39; Elfwendahl 1994, p57).

Although the house construction is generally similar, there are some differences, notably in size. Unaisled building, either with wall posts or sills, were usually 10–15m long and 4–6m wide (see Göthberg 2000, p81–86). F&G's Houses 5 and 19 fall within this group. Unaisled houses with larger dimensions, particularly widths of 7–8m, are fairly uncommon although Hässelby and Sanda have a few examples.

The character of the settlement.

The first occupation, of Roman Iron Age date, showed an everyday character with three-aisled houses and corner-post buildings. It became more unusual during Late Roman Iron Age–Vendel Period, with SFBs and large three-aisled houses, each with a big open room at the east end which could serve as a hall. After that, probably during the Vendel Period, the settlement changed again, with halls becoming separate buildings (on Terrace I) and no 'everyday' occupation on either Terrace I or III, although it may have been present on other terraces in BG2, such as Terrace V where houses from this period have been identified (Arrhenius *et al.* 1961b; Holmqvist 1970a; Kaufmann 1995; Göthberg 2015). Building Groups 1 or 4 may also have had 'everyday' functions (Reisborg 1994). The SFBs found in the area between the Terraces I and III, and also on Terrace II (Reisborg 2004), represent a building type completely different from the three-aisled buildings, and they also served a different function. The final, probably Viking Age, occupation with unaisled houses on both terraces is associated with finds of special character such as the Buddha statuette and Arabic silver coins on Terrace I and amulet rings and Thor's-hammer rings close to Terrace III (Lundström 1970a, p135; Lamm & Clarke in press).

Relative and absolute chronology

Stratigraphy and building types show that there were many different phases of settlement on the two terraces and the intervening area. Stratigraphic relationships, particularly cuts and superimpositions, enable the relative chronology of the three areas to be established, but how they relate to each other is a more open question.

Terrace I

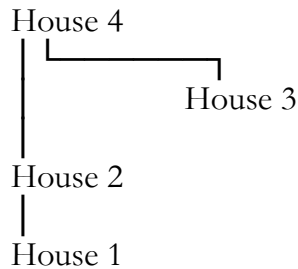


Figure 27 Stratigraphy of houses on Terrace I.

Stratigraphy indicates that there were activities on Terrace I before House 1, which was the earliest building. Post-holes in House 1 were cut by their counterparts in House 2, which was consequently later. The post-holes also showed that House 2 was earlier than House 4 which, for the same reason, was later than House 3. The connection between Houses 2 and 3 is unclear, but House 3 may have been later than House 2.

Area between Terraces I and III

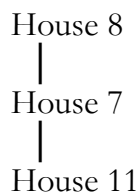


Figure 28 Stratigraphy of houses in intervening area.

The features in this area included a group of post-holes from which at least three houses could be reconstructed. House 11, with four corner-posts belonged to the group of earliest buildings on the site, as its southern post-holes were covered by a layer of red clay and were cut by other post-holes. It was probably replaced by the three-aisled House 7 which had the same orientation. More post-holes were found in the area of the two houses, following their west walls and in some cases reflecting their orientation through being rectangular or oval in plan. They could have been the result of rebuilding, or may indicate the presence of earlier buildings.

Stratigraphically, corner-post House 8 was later than House 7. Its orientation diverged from that of Houses 7 and 11, but it was parallel with House 9 (SFB) suggesting that that was also from the later phase. House 9, however, was covered by a stone paving, possibly a path or ramp up to Terrace I.

Terrace III

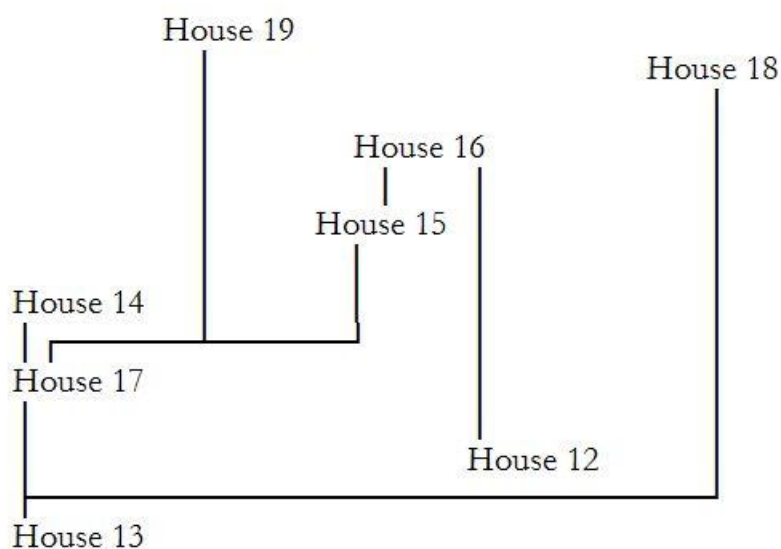


Fig. 29 Stratigraphy of houses on Terrace III

House 13 was a three-aisled house of balanced construction and therefore attributable to the earliest building phase, probably older than the South Ditch as it does not fit into the area defined by it. House 13 was replaced by House 12 which had the same construction and was of similar size but lay within the boundary provided by the South Ditch, with which it was probably connected.

The third building phase consisted of the very long House 17 which was stratigraphically later than House 13 but earlier than many of the other aisled houses, and conformed to the length of the North Ditch. Stratigraphy shows that it was earlier than the probable fourth building phase represented by House 14, which had the same orientation was markedly convex in outline.

House 15 was stratigraphically later than House 17. Its relationship with House 14 cannot be established but its orientation, slightly divergent from both Houses 17 and 14, suggests that it was later than House 14, and therefore the fifth building phase. The sixth phase consisted of House 16 which had the same orientation as House 15 and was stratigraphically the latest of the large houses.

The next (seventh) phase was made up of the small House 18 which, because of its position and orientation, cannot have been contemporary with any of the other six aisled houses. Its north end was outside the excavation area so its dimensions are not exact. The unaisled House 19 on the east end of Terrace III may have also belonged to this phase, indicating that the settlement then was of a completely different character from what had gone before.

Overall conclusions

Typology suggests that the earliest settlement consisted of Houses 12 and 13 on Terrace III, and perhaps also House 11 in the intervening area. The occupation can be attributed to the Roman Iron Age, possibly its early part.

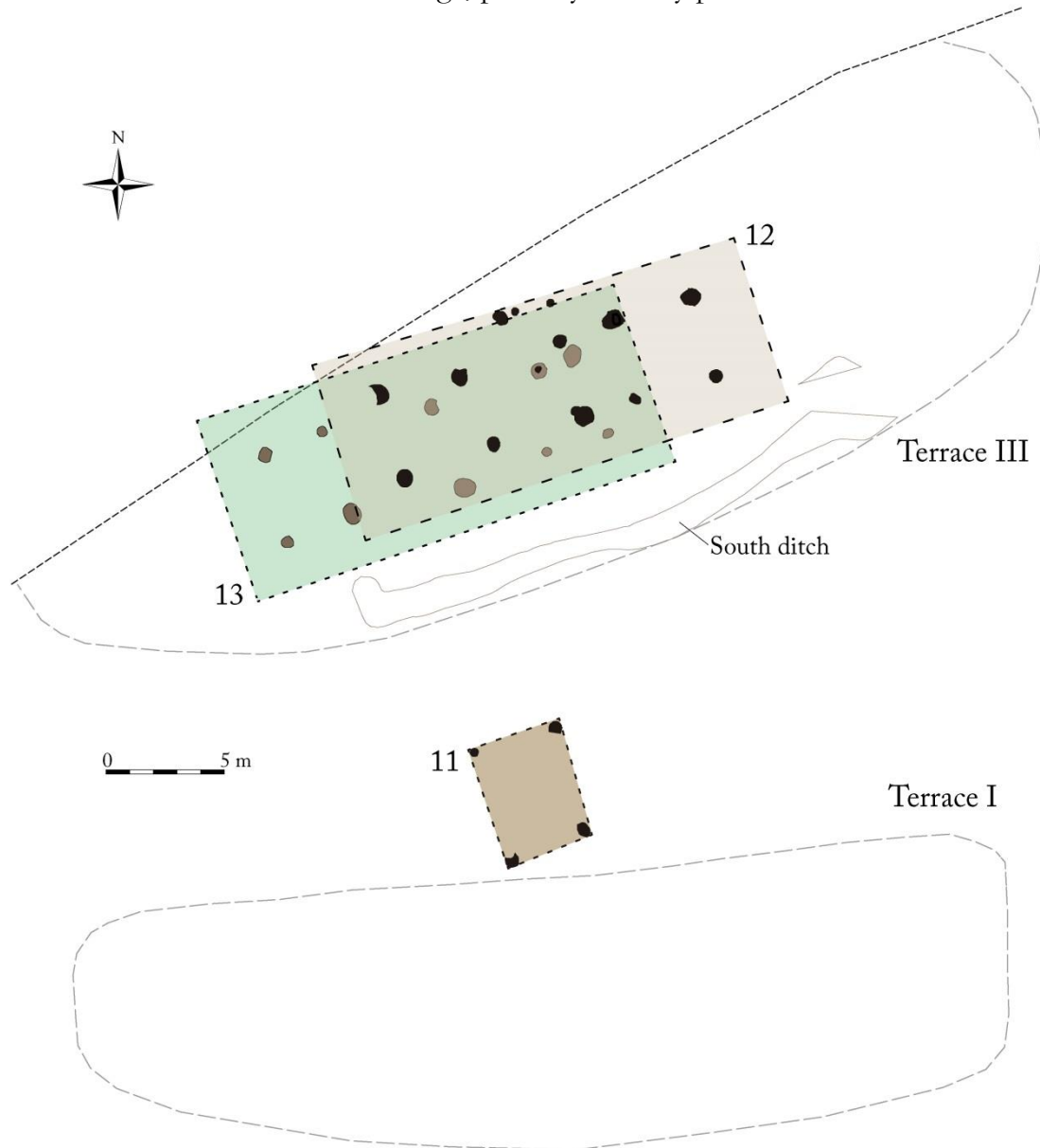


Figure 30. The earliest occupation, from the Roman Iron Age, consisted of Houses 12 and 13 on Terrace III, and perhaps also House 11 in the area to the south. The correspondence between House 12 and the South Ditch suggest contemporaneity.

Then followed the sequence of Houses 14–17 on Terrace III with associated Houses 7, 8 and 9 to the south. The large houses date from Late Roman Iron Age/Migration Period, possibly also Vendel Period. The North Ditch and also the stone barrier were probably of the same date.

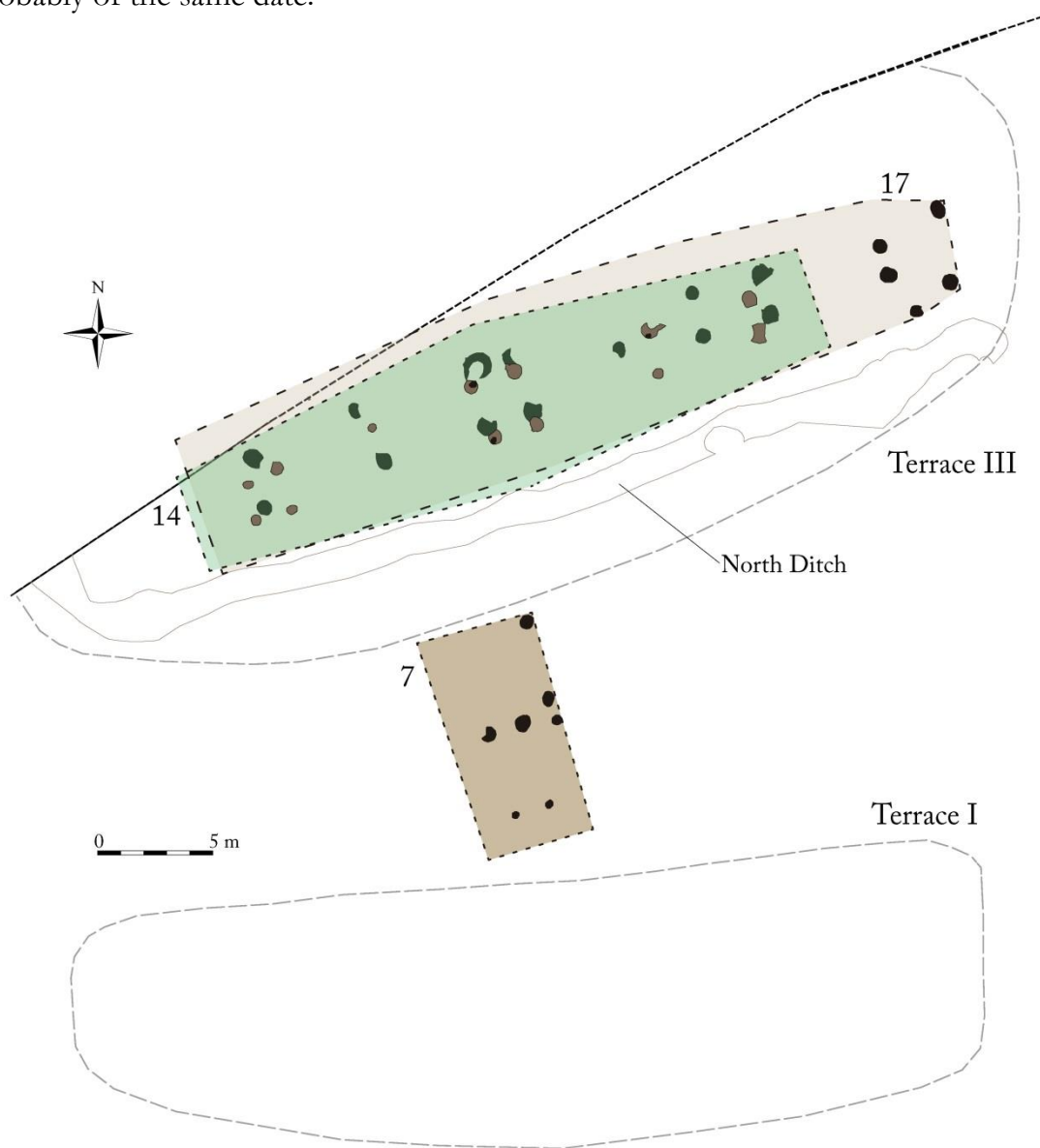


Figure 31. Late Roman Iron Age/Migration Period occupation is represented by Houses 14 and 17 on Terrace III and probably House 7 on the area to the south. The correspondence between Houses 14 and 17 and the North Ditch suggest contemporaneity.

The latest of the large houses (15 and 16) may have been contemporary with Houses 1 and 2 on Terrace I. The gold foils found in post-holes in House 1 suggest that the house was in use during the Vendel Period. The orientation of House 8 and 9 on the intervening area may indicate that they were of the same building phase as the houses on both Terraces I and III. Other things which may have influenced the establishment of the houses on Terrace I is the stone barrier which delimited the south side of Terrace III and must have blocked access between the terraces. There were also light stone pavings around Houses 7 and 8, perhaps part of an attempt to level out the slope.

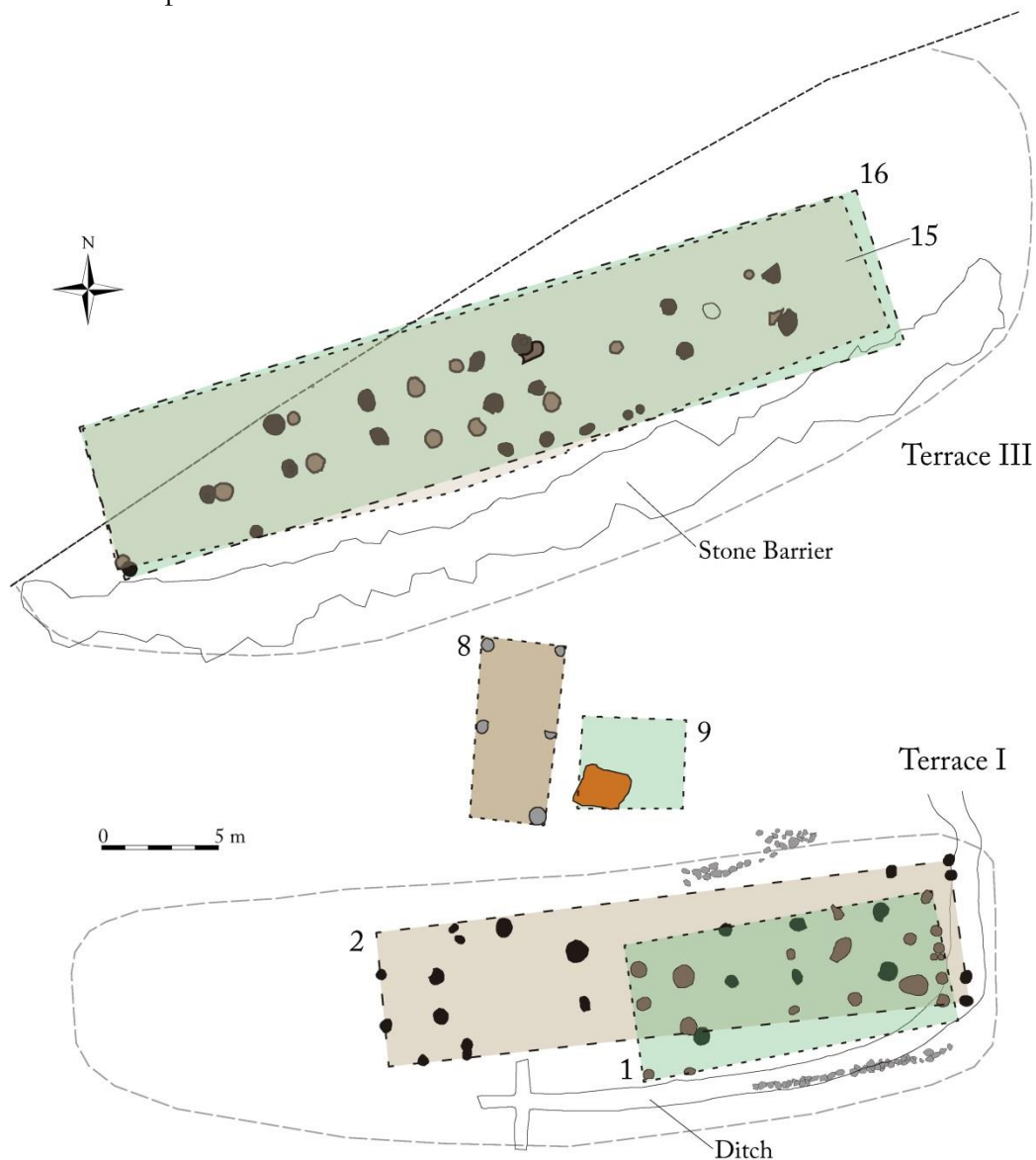


Figure 32. Houses 1 and 2 on Terrace I, House 15 and 16 on Terrace III and possibly Houses 8 and 9 on the intervening area all date from the Migration to Vendel Periods. The ditch on Terrace I was associated with House 1, and perhaps the stone rows with House 2. On Terrace III a stone barrier replaced the North Ditch.

Houses 3 and 4 on Terrace I were probably later than the large houses on Terrace III, but contemporary with House 18. In this phase there was a great change in the extent and character of Terrace III's settlement and activities.

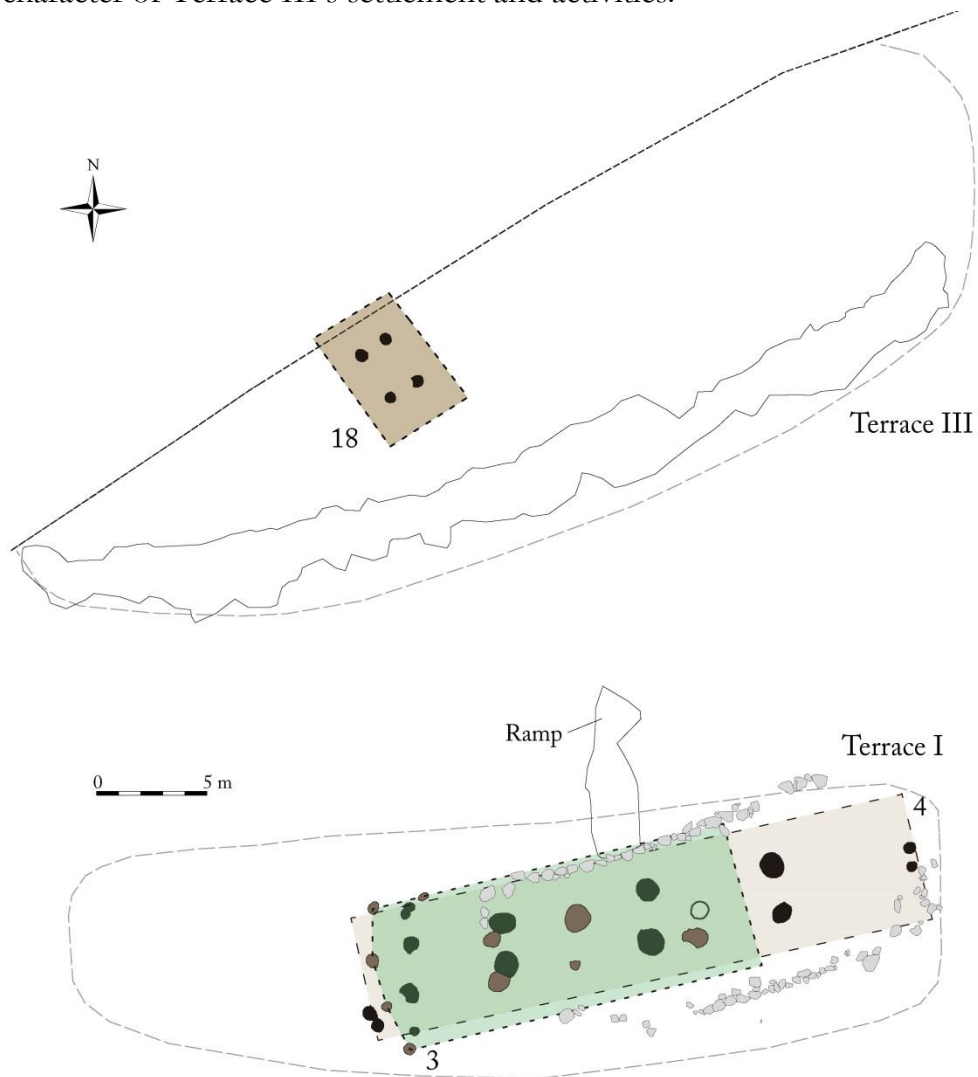


Figure 33. Vendel Period occupation is represented by Houses 3 and 4 on Terrace I and probably House 18 on Terrace III. There was a hearth in House 4.

The latest occupation on the two terraces was made up of unaisled houses of varying sizes. House 19 on Terrace III belonged to this phase, and House 18 may have belonged with it, rather than dating from the previous phase. House 5 on Terrace I had a totally different position and orientation from the earlier houses. Some Arabic coins and other Viking Age objects suggest its date. House 6 on the east part of the terrace cannot have been in existence at the same time as House 5. House 10 in the intervening area was probably timber-framed on wooden and stone sills. It was ¹⁴C dated to the Viking Age.

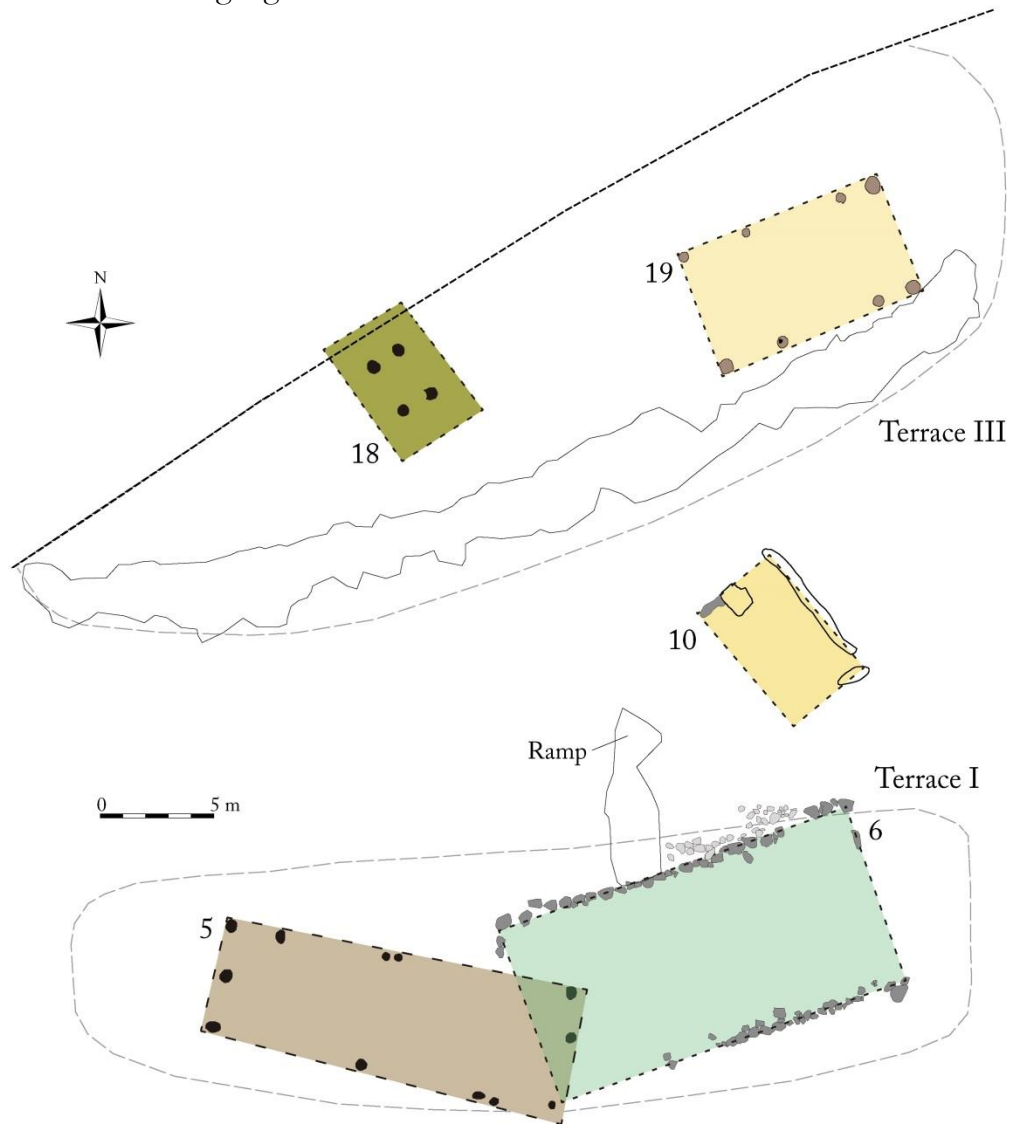


Figure 34. Houses 5 and 6 on Terrace I were probably of Viking Age to Medieval date, together with House 19 and possibly House 10 on Terrace III and House 18 on the intervening area.

Evaluation

There is a great deal of documentation from the Helgö Project. The present study has concentrated on the features and layers recorded there. This may therefore be the place to bring together the difficulties involved in the analysis of old excavations, and indicate the conditions that influenced the analysis.

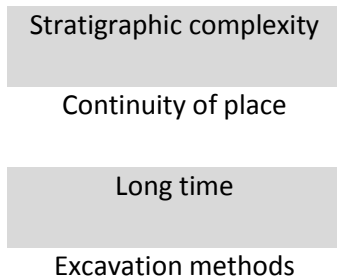


Figure 35. Factors that influenced the archaeological investigation.

The stratigraphic conditions on and between Terrace I and Terrace III were very complicated for a number of reasons. We have had to deal with the debris from many different activities, which had accumulated over a long period of time (>500 years?) and confined to a limited area. The remains from these activities influenced, contaminated, damaged and overlay each other.

One important question is whether the standards of excavation in the middle of the 1950s were able to convert material remains into archaeological evidence (cf. Säfvestad 1995). This is wide-ranging question which cannot be considered in detail here, but it is an important thing to think about. The excavation methods which were in use then are very significant for this question, for it must be remembered that at that time Swedish archaeologists had little knowledge of, or experience in, investigating complex remains from early settlements (cf. Säfvestad 1995).

Today we would think it appropriate to employ stratigraphic methods of excavation and documentation, but then the excavation of occupation layers involved digging in squares and in spits. Features were emptied of one half of their fill and a section drawing made of the remaining half. In addition, the sections were often left in the wrong place, making the relationship between layers and features difficult to establish. Most of the finds were recorded in squares and spits, making it difficult to associate finds with buildings, and also with features. And we must wonder, and why, there was a change from digging in spits to digging features.

Concluding summary

Uppland museum has carried out a study of Terraces I and III in Building Group 2 at Helgö, Ekerö parish. The study was based on the documentation and publications of the excavations from 1954 to 1959 (*Excavations I–III*. 1960–4) and involved digitizing the plans and processing and analysing the features on the two terraces. The aim was to see whether it was possible to extract building plans from the very numerous features on the terraces and in the area between them.

The results have been as follows:

Nineteen buildings have been identified: six on Terrace I, eight on Terrace III and five on the area between. On Terrace I there were post-built houses (four aisled and one unaisled), and one ‘sill house’. On Terrace III there were post-built house (seven aisled and one unaisled). On the area between there were smaller houses including corner-post houses, small aisled houses and one SFB.

The earliest occupation (Roman Iron Age) was on Terrace III (Houses 12 and 13) and the area between the terraces (House 11), with the shape and size of the buildings suggesting that the settlement was fairly normal for the period. In the Late Roman Iron Age–Migration Period and possibly also (early) Vendel Period, the settlement was dominated by four big buildings (Houses 14–17) which were 30–35m long and of a rather unusual character. The eastern end of each building seems to have been a large open room, possibly serving as a hall. Occupation did not begin on Terrace I until the Migration Period, first perhaps as a working area with hearths etc. It came into full use during the Vendel Period, with some buildings which could be interpreted as halls on account of their construction and the finds associated with them – such as gold foils, glass, weapons etc. It is noteworthy that by this time the occupation on Terrace III had either changed character, now with smaller buildings, or had ceased. Both the terraces and the area between them were still occupied in the Viking Age, but less intensively than previously. More recent work has shown that there were houses on Terraces V and VI during the Roman Iron Age, the Vendel period and the Viking Age (Göthberg 2015).



Administrative information

| | |
|-------------------------------|------------------------------------------|
| Site: | Helgö-Bona, 4:1 and other properties |
| Monument: | Ekerö 119:7 |
| Co-ordinates: | Helgö Project's local co-ordinate system |
| Surveying: | Helgö Project's local system for height |
| Project team: | Per Frölund, Hans Göthberg |
| Uppland museum project number | 8334 |

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Appendix 1. List of digitized features

A= archaeological feature, L= littera, T= terrace number (I-III= area between terraces).

| A | L | Typ | T | A | L | Typ | T | A | L | Typ | T |
|----|---|--------------|---|-----|---|-------------|-----|-----|---|----------|-----|
| 1 | | Stolphål | I | 109 | | Stolphål | I | 319 | | Stolphål | III |
| 2 | | Stolphål | I | 110 | | Stolphål | I | 320 | | Stolphål | III |
| 3 | | Stolphål | I | 111 | | Lager | I | 321 | | Stolphål | III |
| 4 | | Stolphål | I | 112 | | Stolphål | I | 322 | | Stolphål | III |
| 5 | | Nedgrävning | I | 113 | | Härd | I | 323 | | Stolphål | III |
| 6 | | Stolphål | I | 114 | | Härd | I | 324 | | Stolphål | III |
| 7 | | Stolphål | I | 115 | | Nedgrävning | I | 325 | | Stolphål | III |
| 8 | | Stolphål | I | 116 | | Stolphål | I | 326 | | Stolphål | III |
| 9 | | Stolphål | I | 117 | | Stolphål | I | 327 | | Stolphål | III |
| 10 | | Stolphål | I | 118 | | Härd | I | 328 | | Stolphål | III |
| 11 | | Stolphål | I | 119 | | Stolphål | I | 330 | | Stolphål | III |
| 12 | | Stolphål | I | 120 | | Stolphål | I | 331 | | Stolphål | III |
| 13 | | Stolphål | I | 121 | | Stolphål | I | 332 | | Stolphål | III |
| 14 | | Stolphål | I | 122 | | Härd | I | 333 | | Stolphål | III |
| 15 | | Stolphål | I | 123 | | Härd | I | 334 | | Stolphål | III |
| 16 | | Stolphål | I | 124 | | Nedgrävning | I | 335 | | Stolphål | III |
| 17 | | Stolphål | I | 125 | | Stolphål | I | 336 | | Stolphål | III |
| 18 | | Nedgrävning | I | 126 | | Stolphål | I | 337 | | Stolphål | III |
| 19 | | Stolphål | I | 127 | | Härd | I | 338 | | Stolphål | III |
| 20 | | Stolphål | I | 210 | | Härd | III | 339 | | Stolphål | III |
| 21 | | Härd | I | 228 | | Stolphål | III | 340 | | Stolphål | III |
| 22 | | Stolfärgning | I | 229 | | Stolphål | III | 341 | | Härd | III |
| 22 | | Stolphål | I | 230 | | Stolphål | III | 342 | | Stolphål | III |
| 23 | | Stolphål | I | 231 | | Stolphål | III | 343 | | Stolphål | III |
| 24 | | Stolphål | I | 232 | | Stolphål | III | 344 | | Stolphål | III |

| A | L | Typ | T | A | L | Typ | T | A | L | Typ | T |
|----|---|---------------|---|-----|---|--------------|-------|-----|---|----------|-------|
| 25 | | Stolphål | I | 233 | | Mörkfärgning | III | 345 | | Stolphål | III |
| 26 | | Stolphål | I | 234 | | Stolphål | III | 346 | | Stolphål | III |
| 27 | | Stolphål | I | 235 | | Stolphål | III | 347 | | Stolphål | III |
| 28 | | Stolphål | I | 236 | | Stolphål | III | 348 | | Ugn | I-III |
| 29 | | Stolphål | I | 237 | | Stolphål | III | 349 | | Stolphål | I-III |
| 30 | | Br lera & kol | I | 238 | | Stolphål | III | 350 | | Stolphål | I-III |
| 31 | | Br lera & kol | I | 239 | | Stolphål | III | 351 | | Stolphål | I-III |
| 32 | | Br lera & kol | I | 240 | | Stolphål | III | 352 | | Stolphål | I-III |
| 32 | | Stolphål | I | 241 | | Stolphål | III | 352 | b | Stolphål | I-III |
| 33 | | Stolphål | I | 242 | | Stolphål | III | 353 | | Stolphål | I-III |
| 34 | | Stolphål | I | 243 | | Nedgrävning | I-III | 354 | | Stolphål | I-III |
| 35 | | Stolphål | I | 244 | | Stolphål | III | 355 | | Stolphål | I-III |
| 36 | | Stolphål | I | 245 | | Stolphål | III | 356 | | Stolphål | III |
| 37 | | Stolphål | I | 246 | | Stolphål | III | 357 | | Stolphål | III |
| 38 | | Br lera & kol | I | 247 | | Stolphål | III | 358 | | Stolphål | III |
| 39 | | Br lera & kol | I | 248 | | Stolphål | III | 359 | | Stolphål | III |
| 40 | | Stolphål | I | 249 | | Stolphål | III | 360 | | Stolphål | III |
| 41 | | Nedgrävning | I | 249 | | Nedgrävning | III | 361 | | Stolphål | III |
| 42 | | Stolphål | I | 250 | | Stolphål | III | 362 | | Stolphål | III |
| 43 | | Härd | I | 251 | | Stolphål | III | 363 | | Stolphål | III |
| 44 | | Härd | I | 252 | | Stolphål | III | 364 | | Stolphål | III |
| 45 | | Stolphål | I | 253 | | Stolphål | III | 365 | | Stolphål | III |
| 46 | | Stolphål | I | 254 | | Stolphål | III | 366 | b | Stolphål | III |
| 47 | | Stolphål | I | 255 | | Stolphål | III | 366 | | Stolphål | III |
| 48 | | Stolphål | I | 256 | | Stolphål | III | 367 | | Stolphål | III |
| 49 | | Stolphål | I | 257 | b | Stolphål | III | 368 | | Stolphål | III |
| 50 | | Stolphål | I | 257 | | Stolphål | III | 369 | | Stolphål | I-III |
| 51 | | Stolphål | I | 258 | | Stolphål | III | 370 | | Stolphål | I-III |
| 52 | | Stolphål | I | 259 | | Stolphål | III | 371 | | Stolphål | I-III |
| 54 | | Härd | I | 260 | | Stolphål | III | 372 | | Stolphål | I-III |

| A | L | Typ | T | A | L | Typ | T | A | L | Typ | T |
|-------|---|-------------|---|-----|---|-------------|-------|-----|---|-------------|-------|
| 55 | | Stolphål | I | 261 | | Stolphål | III | 373 | | Stolphål | I-III |
| 56 | | Stolphål | I | 262 | | Nedgrävning | III | 374 | | Stolphål | I-III |
| 57 | | Stolphål | I | 263 | | Stolphål | III | 375 | | Stolphål | I-III |
| 58 | | Stolphål | I | 264 | | Stolphål | III | 376 | | Stolphål | I-III |
| 59,61 | | Stolphål | I | 265 | | Stolphål | III | 377 | | Stolphål | I-III |
| 60 | | Stolphål | I | 269 | | Stolphål | III | 378 | | Stolphål | I-III |
| 62 | | Stolphål | I | 270 | | Stolphål | III | 379 | | Stolphål | I-III |
| 63 | | Stolphål | I | 271 | | Stolphål | III | 380 | | Stolphål | I-III |
| 64 | | Stolphål | I | 272 | | Stolphål | III | 381 | | Stolphål | I-III |
| 65 | | Stolphål | I | 273 | | Härd | III | 382 | | Stolphål | I-III |
| 66 | | Stolphål | I | 274 | | Stolphål | III | 383 | | Stolphål | I-III |
| 68 | | Stolphål | I | 275 | | Stolphål | III | 384 | | Stolphål | I-III |
| 69 | | Stolphål | I | 276 | | Stolphål | III | 385 | | Stolphål | I-III |
| 70 | | Stolphål | I | 277 | | Stolphål | III | 386 | | Stolphål | I-III |
| 71 | | Stolphål | I | 278 | | Stolphål | III | 387 | | Stolphål | I-III |
| 72 | | Stolphål | I | 279 | | Stolphål | III | 388 | | Stolphål | I-III |
| 73 | | Stolphål | I | 280 | | Stolphål | III | 388 | b | Stolphål | I-III |
| 74 | | Stolphål | I | 281 | | Stolphål | III | 389 | | Stolphål | I-III |
| 75 | | Nedgrävning | I | 282 | | Stolphål | III | 389 | b | Stolphål | I-III |
| 76 | | Nedgrävning | I | 283 | | Stolphål | III | 390 | | Nedgrävning | I-III |
| 77 | | Nedgrävning | I | 284 | | Stolphål | III | 391 | | Nedgrävning | III |
| 78 | | Stolphål | I | 285 | | Stolphål | III | 392 | | Stolphål | III |
| 79 | | Stolphål | I | 286 | | Stolphål | III | 393 | | Stolphål | III |
| 80 | | Nedgrävning | I | 287 | | Härd | III | 394 | | Stolphål | III |
| 81 | | Stolphål | I | 288 | | Ränna | I-III | 395 | | Stolphål | III |
| 82 | a | Stolphål | I | 289 | | Nedgrävning | I-III | 396 | | Stolphål | III |
| 82 | b | Stolphål | I | 290 | | Nedgrävning | I-III | 397 | | Stolphål | III |
| 83 | | Stolphål | I | 292 | | Nedgrävning | I-III | 398 | | Nedgrävning | III |
| 84 | | Stolphål | I | 293 | | Stolphål | III | 399 | | Stolphål | III |
| 85 | | Stolphål | I | 294 | | Stolphål | III | 400 | | Stolphål | III |

| A | L | Typ | T | A | L | Typ | T | A | L | Typ | T |
|-----|---|----------|---|-----|---|----------|-----|-----|---|----------|-------|
| 86 | | Stolphål | I | 295 | | Stolphål | III | 401 | | Stolphål | III |
| 87 | | Stolphål | I | 296 | | Stolphål | III | 402 | | Stolphål | III |
| 88 | | Stolphål | I | 297 | | Stolphål | III | 403 | | Stolphål | III |
| 89 | | Stolphål | I | 298 | | Stolphål | III | 404 | | Stolphål | III |
| 90 | | Stolphål | I | 299 | | Stolphål | III | 405 | | Stolphål | III |
| 91 | | Stolphål | I | 300 | | Stolphål | III | 406 | | Stolphål | III |
| 92 | | Stolphål | I | 301 | | Stolphål | III | 407 | | Stolphål | III |
| 93 | | Stolphål | I | 302 | | Stolphål | III | 408 | | Stolphål | III |
| 94 | | Stolphål | I | 303 | | Stolphål | III | 409 | | Stolphål | III |
| 95 | | Stolphål | I | 304 | | Stolphål | III | 410 | | Stolphål | III |
| 96 | | Stolphål | I | 305 | | Stolphål | III | 411 | | Stolphål | III |
| 97 | | Stolphål | I | 306 | | Stolphål | III | 412 | | Stolphål | III |
| 98 | | Stolphål | I | 307 | | Stolphål | III | 413 | | Stolphål | III |
| 99 | | Stolphål | I | 308 | | Stolphål | III | 414 | | Stolphål | III |
| 100 | a | Stolphål | I | 309 | | Stolphål | III | 415 | | Hård | III |
| 101 | | Stolphål | I | 310 | | Stolphål | III | 416 | | Hård | III |
| 102 | | Stolphål | I | 311 | | Stolphål | III | 417 | | Stolphål | III |
| 103 | | Stolphål | I | 312 | | Stolphål | III | 418 | | Stolphål | III |
| 104 | | Stolphål | I | 313 | | Stolphål | III | 419 | | Stolphål | III |
| 105 | | Stolphål | I | 314 | | Stolphål | III | 420 | | Stolphål | III |
| 106 | | Stolphål | I | 315 | | Stolphål | III | 421 | | Stolphål | III |
| 107 | a | Stolphål | I | 316 | | Stolphål | III | 422 | | Stolphål | III |
| 107 | b | Stolphål | I | 317 | | Stolphål | III | 423 | | Hård | I-III |
| 108 | | Stolphål | I | 318 | | Stolphål | III | 424 | | Hård | I-III |