Hofstaðir 2001

Framvinduskýrsla/Interim Report

Edited by Gavin Lucas

With Contributions by

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Fornleifastofnun Íslands
FS167-91019
Reykjavík 2001

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1. INTRODUCTION

AIMS & METHODS

In the seventh consecutive season of archaeological excavations at Hofstaðir in Mývatnssveit, further expansion to the areas under investigation was made, specifically the completed stripping of the area to the east and north of the longhouse so that in effect, the whole perimeter around the longhouse has now been exposed. The longhouse interior (Area AB) itself was cleaned of all remaining backfill and excavation proceeded on the floor layers and some of the internal features while in the structure to the north (Area C), chiefly the backfill was removed and extent of surviving in situ archaeology recorded. The eastern exterior side of the longhouse was de-turfed down to 1477 but no further progress was made this season, while the two structures in Area A (A4 and A5) were completed. In Area Z, the main open area was enlarged a little but otherwise work continued on excavating more graves and the chapel structure. Finally a small trench was cut in the far south of the homefield (Area X) in an attempt to locate a possible byre (Figure 1).

The methodology of excavation this year followed that of previous seasons, i.e. single context excavation and recording; as with the previous year, use was made of a mechanical excavator (JCB back-hoe with toothless bucket) to remove turf and topsoil in the new areas, and in the case of the interior of C, a large part of Bruun's backfill.

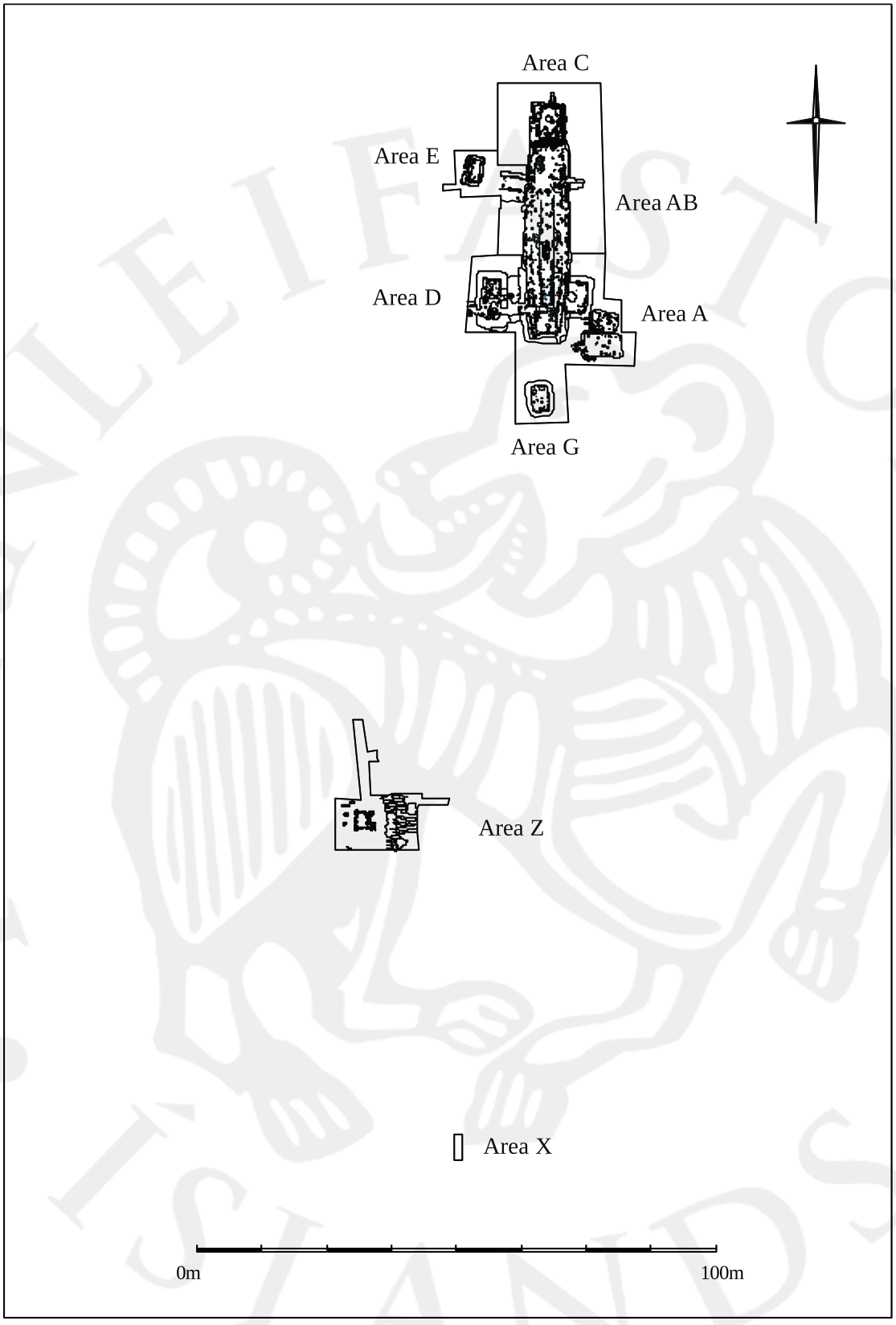
The work at Hofstaðir would not be possible without the involvement of a large number of people, both professionals and students, who provide their expertise and labour as part of an international team. Continuing its dual role as research excavation and fieldschool, the excavations were greatly aided by the co-operation of Christian Keller of the Viking and Medieval Centre in Oslo, who organised the intake of European students and Tom McGovern and Clayton Tinsley at Hunter College who together organised student involvement through CUNY. The number of students totalled 13 and are listed below by their affiliation: From Århus Universitet: Anne-Mette Mortensen, Dea Sidenius Guttman, Garry Keyes, Jeppe Brun Skovby. From Glasgow University: Alistair James Becket, Elsa Davidson, Catherine Hirst, Kevin Martin. From Oslo Universitet: Joanna Skozewska and Vicky Mikalsen. From the City University of New York: Eric Woodruff, Erik Seadale and Frank Feeley. In addition four affiliated students participated in the project: Ray Man Kwong from the Institute of Archaeology in London and Vicki Ewens from the University of Bradford, and Katarzyna Jankowska and Robert Zukowski from the Institute of Archaeology and Ethnography in Warsaw. The excavation team was also joined for a fortnight by the return of Sophia Perdikaris of Brooklyn College, CUNY, together with 7 students participating in a REU programme.

The fieldschool and excavation was run and supervised by the professional staff of the FSÍ including Oscar Aldred, Ragnar Edvardsson, Adolf Friðriksson, Garðar Guðmundson, Hildur Gestsdóttir, Elín Ósk Hreiðarsdóttir, Birna Lárusdóttir, Gavin Lucas, Karen Milek, Howell Roberts, Mjöll Snæsdóttir and Orri Vésteinsson, as well as by the attending academics Tom McGovern (New York), Sophia

Perdikaris (New York), Clayton Tinsley (New York), Christian Keller (Oslo), and Przemyzlaw Urbanczyk (Warsaw). Closely working with the project and contributing to the seminar schedules were Andy Dugmore (Edinburgh), Anthony Newton (Edinburgh), Ian Simpson (Stirling) and Amanda Thomson (Stirling), and as guest lecturers, Colleen Batey (Glasgow Museums), Árni Einarsson (Mývatn Research Station) and Niall Sharples (Cardiff). Bruno Berson of the University of Tours and Timothy Horsley of Bradford University both participated in the fieldwork as a part of their doctoral research projects.

The project was funded by grants from the Icelandic Research Council (Rannís), the NSF project *Landscapes of Settlement*, the NOS-H project *Vestnordisk byggeskik i vikingtid og middelalder* and the National Geographic Society. The fieldschool is also supported by the Icelandic government.

As before, the landowners of Hofstaðir, Ásmundur Jónsson and Guðmundur Jónsson, were generous in their support of the project, allowing access to facilities in the farm house and giving assistance in a variety of ways. In addition thanks are due to the headmaster and caretaker of Hafralækjarskóli where the expedition was lodged as well as the project cook, Jónína Arnarsdóttir.


Area C
Area E
Area AB
Area D
Area A
Area G
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Area X
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Figure 1. Site Plan showing Excavation Areas

2. EXCAVATION RESULTS

AREA AB

Ragnar Edvardsson and Howell Roberts

Introduction

During the 2000 season the backfill from Daniel Bruun's excavation was removed, exposing the larger part of the Skáli structure. The primary aim of the 2000 season was to understand the extent of his excavation and to assess the potential for further excavations. At the end of the 2000 season only small parts in the north had not been exposed. The undisturbed layers under Bruun´s backfill were not excavated except for a small area west of the fireplace and a small area towards the eastern wall (Roberts 2000).

The main aim of the 2001 season was to fully expose the whole longhouse and to conduct a full scale excavation on the undisturbed layers under Bruun´s backfill, with an emphasis on removing the floor layer which had been recorded the previous year [318]. It was decided to recover 100% of this layer for flotation. The best preserved archaeological deposits ran along the central axis of the house, extending ca. 8m to the south and 7 m to the north from the fire place. The deposits also extendend about 2 m east and west from the central axis. Along the east and west walls and in the north end, the archaeological deposits had been removed by Bruun's excavation. The truncation extended into the natural subsoil, leaving only a number of negative features such as pits, postholes and stakeholes.

The whole internal part of the longhouse was divided into 5 x 5 m grid squares along the central axis. All were excavated with the single context method and all layers that showed potential for further analysis were 100% recovered for flotation. The layer that had been identified as a floor in the 2000 season [318] was 100% recovered for flotation. This layer was also subsampled as micromorphology columns, taken on both sides of the fireplace, along the centerline at about 2 m intervals and as small loose samples for chemistry and magnetic susceptibility tests (Figure 2).

Excavation results

An extensive charcoal deposit [318] had been identified in 2000 around the stone built hearth and was interpreted as a floor (Figure 3). After the internal part of the longhouse had been cleaned the extent of this charcoal deposit became apparent. On top of this layer, a few patches of turf debris were identified [377], [376], [396], [400], [418], [420], [449], [450], [486], [718], and had to be removed before the charcoal layer could be excavated. These patches were probably remains of turf collapse from the walls and the roof, which had been removed by Daniel Bruun´s excavation.

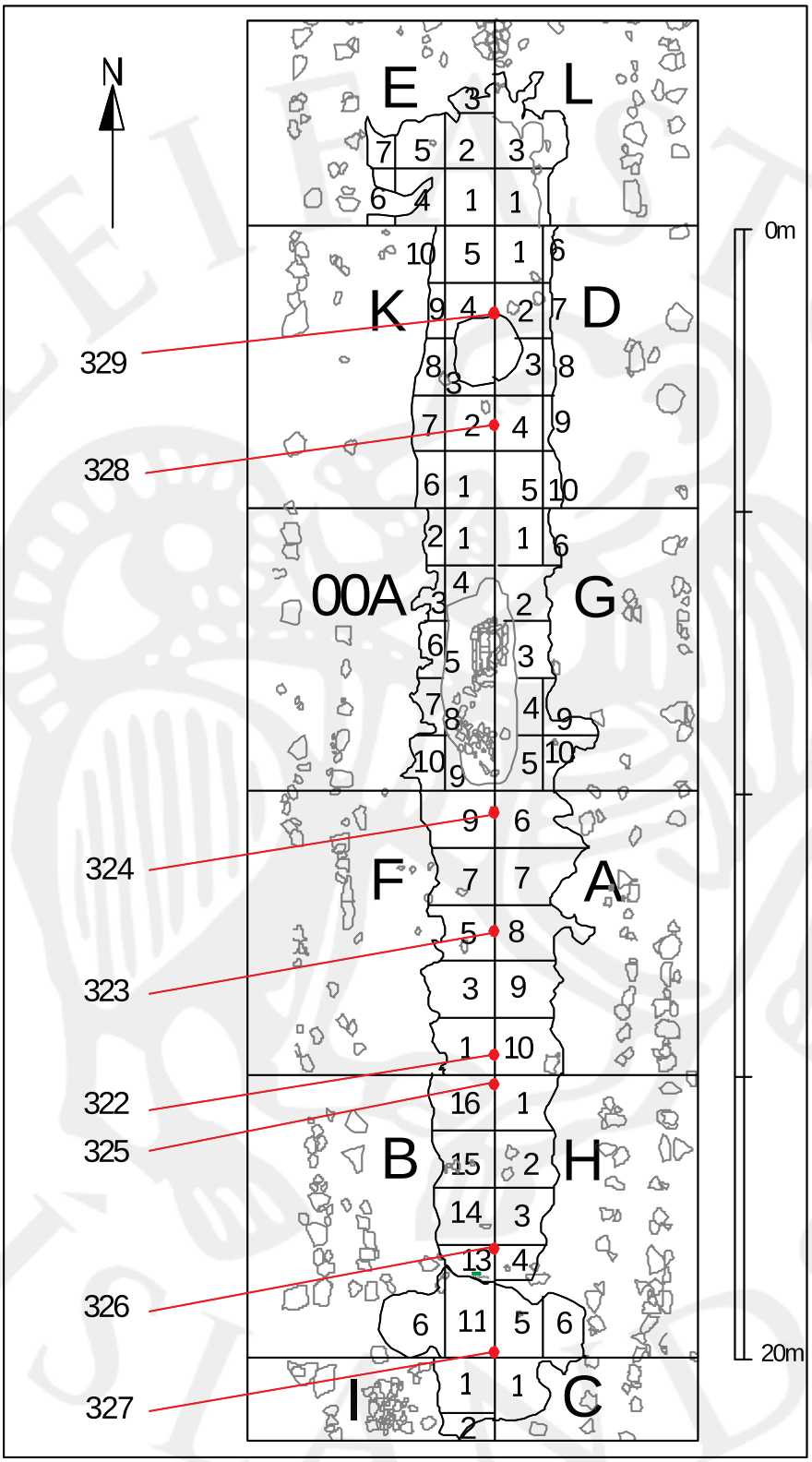
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Figure 2. Lower floor deposit within the skáli, showing the location of micromorphology samples and bulk sample grid squares

The extensive charcoal deposit could in some places be divided into two main layers but in other places it was difficult to distinguish between the floor layers. Where it was possible to distinguish between the layers, they were separated by thin lenses of turf, wood ash or peat ash. The upper floor deposit could only be positively identified by the entrance to D [378] and in the area north of the fireplace [561, [871], [878] where the floor deposits were divided by a peat ash layer [487], [560] and [723], [724]. It is likely that Bruun´s excavation removed the majority of the later floor. The earlier floor layer was a rich charcoal deposit, [380], [388], [389], [397], [399], [427], [415], [679], [721], [720], [796] black in colour, compact and was mixed with burned bones and peat ash. This layer extended about 12 m north and south from the main hearth and about 1- 2 m east and west. The thickness ranged from ca. 20 cm to 5 cm. Again this layer was 100% sampled for flotation.
It became clear after the removal of the charcoal layer around the fireplace that there had been at least three phases of building and rebuilding in and around the fireplace. The first phase was the excavation of a pit [470], south of the standing stone hearth. This pit was dug into the natural deposits. The fill of this pit had been removed by Daniel Bruun. The second phase was the excavation of another pit alongside the western face of the hearth [428], [429]. This pit is probably connected with the final phase, the stone hearth itself [374] and was made during the construction of the hearth.

At the end of the 2000 season the remains of another hearth had been idendified north of the main hearth. This was probably not in use at the same time as the larger hearth as it was covered by the thick charcoal layer [318]. The hearth was small, 80 x 60 cm in diameter and was filled with a mixed layer of peat ash and charcoal [480].

Before the dark charcoal layer could be removed in the area north of the fireplace, a number of features had to be excavated. Some of these features [468], [568], [569], [633], [634] [667], [734], [735], [823], [827] turned out to be only depressions in the floor, which had probably at one time been filled with earth to make the floor even. Other features [394], [401], [616], [632], [731-733], [759], [760] just north of the fireplace, turned out to be pits dug into the floor but it is difficult to speculate about their function. A number postholes [617], [618], [674], [722], [738-742], [841], [843], [845], [877-881], [894-898], [900-904] were identified and excavated in this area and more await excavation in the 2002 season. Many postholes [442-447], [552], [553], [672], [673], and stakeholes [430-441] were excavated along both eastern and western walls in the area south of the entrance to the longhouse and north of the fireplace.

Only small remains of cultural layers could be identified in the south end [384], [421], [423], [425]. The southern end of the structure is higher than the center and no clear remains of floors could be identified there. This suggests that the floor layers were either removed by Bruun´s excavation or that the floor had never extended into this area.

A number of postholes and stakeholes [626-631], [635-645], [668-671], [681-686], [691-699], [705], [706], [709-717], [725], [726], [743-758], [761], [724], [769-790], [795], [828], [830],

[831] [825], [826], [850], [851], [861-870], [882-884], [887-889], were identified south of the fireplace and all of them were cut into the natural. Few pits [687-690], [707], [798], [799-802] were also identified south of the fireplace. One of them was fairly large [624], [625] but its function was unclear as nearly all of its fill had been removed. Close to the entrance to D by the western wall Bruun had recorded a circular feature filled with charcoal. This feature [666] was excavated and contained mostly peat and wood ash and is probably remains of a small hearth. However, it was heavily truncated so it is difficult to be certain about its function.

One large posthole [494] was excavated in the center by the south gable. This posthole was 64cm in diameter and 20 cm deep. Around this central post smaller postholes [498], [499], [555], [556], [558], [559] were identified, probably associated with the larger post. Large postholes [763/762, 855-858] were also identified along the south eastern wall and excavated. The largest of these postholes [729,730] was close to the southeast corner of the structure and measured 39 x 54 cm. The area along the western wall still remains to be examined in detail.

Opposite the entrance to area D, by the eastern wall a group of stakeholes and postholes were discovered [587-596], [646-665], [803-808], [818-821]. These stakeholes and postholes were all regularly spaced which suggest that they all belong to the same wooden structure that once stood there. Nothing except the stakeholes and postholes were found that could give an idea what this structure had once been.

It became apparent, once the charcoal floor layer had been removed, that it was sitting in a large depression that extended from the entrance to area D to the exit from the structure on the northeastern wall. Unerneath the floor a number of postholes and stakeholes that cut into the subsoil were identified [492,493], [495], [497], [562], [563], [570-577], [581-586], [597-615]. Some of these were excavated in the 2001 season but a full investigation of these features wait for the 2002 season.

In the northern end of the structure Bruun´s excavation had also removed the upper cultural layers, cutting right into the natural subsoil. Along both the eastern and western walls regularly spaced postholes and numerous stakeholes [458-465, 471-478 and 482-485] were discovered. Close to the north western wall a large pit [496] was identified. This pit measured 3.20 m by 1. 35 m and 34 cm in depth. It is likely that it was formed when some stones, posts or a structure were removed.

Discussion

The 2001 season saw the beginning of the excavation of the undisturbed cultural layers in the longhouse. Bruun´s excavation in 1908 had removed most of the original deposits but leaving the layers undisturbed in the center of the structure. The main reason why the deposits were left more or less intact in the middle is because the internal area slopes towards the center and the bottom of Bruun´s trench did not follow this slope. The majority of the turf collapse from the walls and roof had

been removed by Bruun and turf debris could only be identified in small patches here and there within the longhouse.

The occupation layer layer was excavated with great care and 100% sampled for flotation. During the excavation two pendants of silver and bronze and some beads were discovered embedded in the layer. Later, during flotation, a bronze pin was also retreived. The discovery of these objects is the first artefactual evidence for the high status of Hofstaðir. The complete analysis of this layer has yet to be finished and will most likely give us greater understanding of the occupation of the building (Figure 4).

The absence of floor deposits in the north and south and along the eastern and western walls may be explained by Bruun´s truncation. However, he neither mentions floors in these areas on his plans nor in his report (Bruun, Jónsson 1909). The possibility that the floor never extended into these areas therefore remains.

The south end of the structure is higher than the center and there seems to be a division between the two parts by the entrance to area D. The floor deposit abrubtly ends where the raised south part begins. This indicates that the south end had a different function and the absence of floor may suggest that this part was rarely walked on or that this part of the building had a wooden floor.

No clear division could be identified in the north of the building. There is, however, an indication that the longhouse was further divided by the large central stone post pad, just south of the entrance to area E and the main entrance. This division will further be examined in the 2002 season.

Based on these facts the longhouse can be divided into three main areas: the south end as a raised platform, the central part for cooking and eating, and the north part which probably was reserved for industrial activity as the circular iron working pit in the north western part of the structure indicates (Friðriksson & Vésteinsson 1998). The actual central area can possibly by further divided into two areas. North of the fireplace more pits and negative features were found than south of it which might indicata a division of space.

A large number of negative features was also identified. The vast number of postholes lined up along the western and eastern walls clearly show that the building had an impressive timber structure. Similarly, a number of other negative features such as stakeholes and pits was excavated. Some of the stakeholes, like in the area opposite the entrance to D could be grouped together indicating furniture of some sort; others are harder to identify but are most likely either support for posts or other timber structures.

Figure 3. Plan of Skáli interior

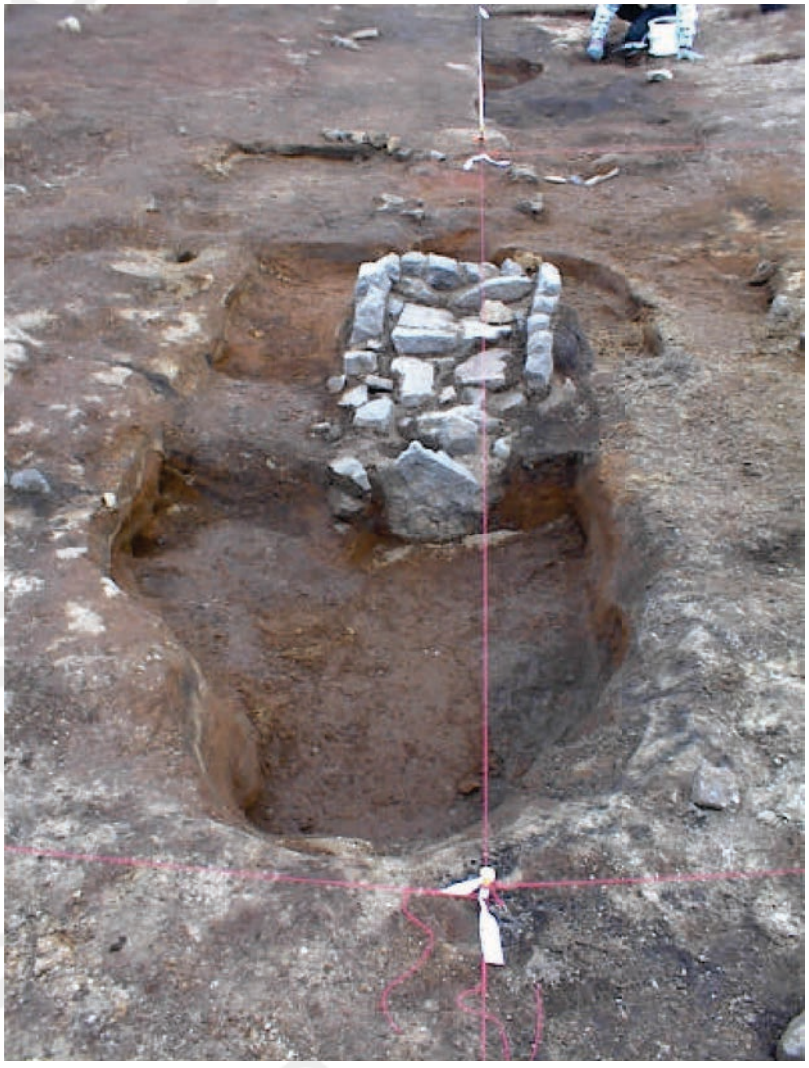

Plate I Skáli viewed from the south showing sampling of floor layers

Plate II Detail of hearth in skáli

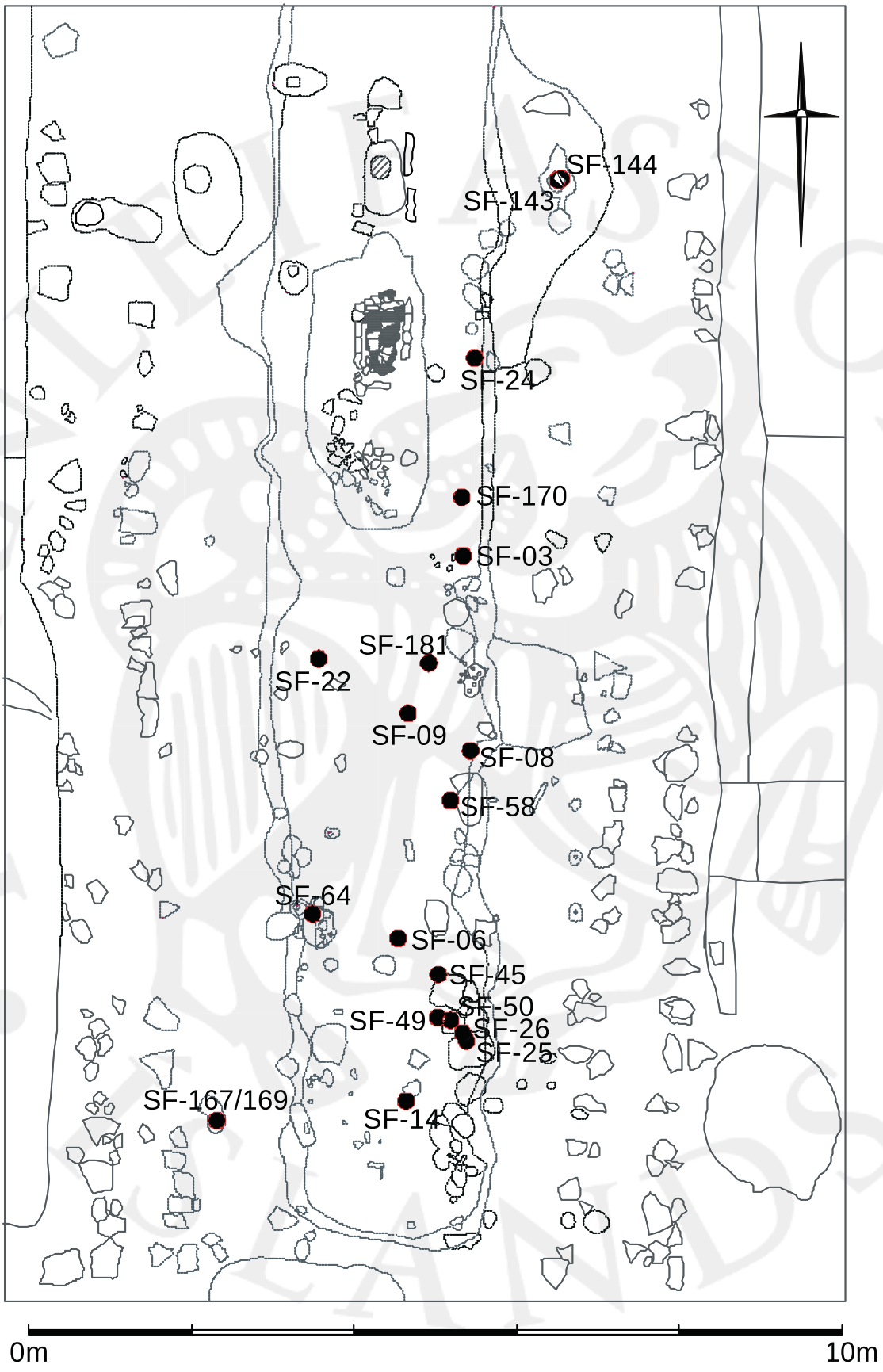

Figure 4. Distribution of finds in the southern part of the skáli

In the course of excavation a number of pits was excavated, most of them in the area just north of the fireplace. The largest was situated just north of the main fireplace and another in the northwestern corner of the building. Nothing was found in these pits that might give an idea what they were used for. However, both of them may have been dug to take down timber posts when the building was torn down.

Even though full identification and excavation of postholes, slots and stakeholes has not yet been made some conclusions can be drawn about the construction of the longhouse. The original interpretation of the two line of stones, along both eastern and western walls, is that they were supports for benches along the whole length of the building. In this area no floor layers have ever been detected. An alternative explanation is that the inner row of stones were supports for internal timber walls (panelling) which covered both walls from north to south. During the excavation few slots were identified by the inner row which might be remains of the timber panelling. This would put the benches in front of the inner row of stones extending all the way to the edge of the floor deposit. This explains the absence of floor deposits along the east and west walls. The space between the timber panelling and turf walls was empty or used for storage. There are written sources that mention a dark passage called *skot* betwen the turf walls and the benches. According to these sources a man could easily pass through them and at Hofstaðir the space between the two lines of stones is about 80 cm. This interpretation makes the internal part of the longhouse much narrower than previously thought.

Most of the 2001 season was spent on recovering the floor layer and it was not until the later stages that other features were excavated. The next stage of the excavation is to fully record and excavate all negative features within the longhouse. This will without a doubt give better understanding of the building itself and how it was constructed.

AREA A

Oscar Aldred

Structure A4

The 2001 season saw the continuation and completion in the excavation of the series of structures that were started in 1998. At the end of 2000, the latter phases of the collapse of structure A3/4 were left unexcavated. Though severely truncated by the later buildings in the west half by the 19th century silo and A1, the east half collapse and occupation layers remained.

The discussion concerning the number of structures associated with this area, became clearer during 2001. The chronological sequence of the structures was as follows: A4 (the viking structure), A1 (the 19th century sheephouse), and the 19th century silo. The evidence supporting the argument in the 2000 report, that the turf side walling, rather than being associated with a separate structure, was in fact part of the same one, was re-established in the excavation of the remainder of A4. The survival

of the walls in the form seen in 2000 - suggesting another structure A3, was due to truncation by the later 19th century sheep house, A1 and the collapse of the walls on the upper slope into and outside of A4. Excavation of the wall collapse [737] showed that the wall was connected with the earliest structure, A4.

A4 occupation

The construction of A4 shows a partly sunken and partly positive feature (Figure 5a). It measures 7.29m by 4.44m (internal space), the east end cut into the slope (1.18m deep) and the west end constructed from the 10th century ground surface. Upcast and turf were used in the construction of the west end. It has an east-west orientation, with a west entrance, 0.88m wide, which was a post-hole/beam-slot construction, extending 1.90m from the main body of A4. An upraised ridge around A4 defined the limit of the floors and the area where stone post-pads/post-holes/post-depressions were located. A slight depression was evident in the far eastern area of the structure (3m by 1.40m). The construction of A4, like A2 and A5, was a mix of stone post-pads and post-holes. No hearth was apparent in the un-truncated eastern half, but as suggested in the 2000 report this may have been located in the western half (Lucas 2000, 18).

Occupation deposits and features

The floors in the substantially complete east end, were composed of alternating and consecutive layers of “clean” charcoal rich layers, [565], [567], and dirty charcoal rich layers [564], [566]. There was much fine interleaving between the floors and in most places it was difficult to separate between them. The thickness of the floors ranged between 0.001m to 0.02m, and the extents were defined by a ridge around A4. Micromorphological samples from both the north and south facing sections across the remnant occupation deposits of A4 should indicate the nature of these deposits (content, compaction, separation etc.). The entrance deposit [890] was slightly more compacted than the other floor layers and was mixed with upcast and midden-like deposits, probably connected to the Area A midden sequence [848] *et al.*

Structural elements

There are two types of construction within A4, stone post-pads and post-holes. The post-holes, post-depressions and stone post-pads on the ridge around A4 belong to the same phase as the floor deposits, with construction earlier dominated by post-holes, and later by posts on stone post-pads. Within the internal space of A4 several post-holes demarcating a possible functional space, contained disturbed fills contemporary with the floors. An internal division in the east end corresponds to a depression seen in the northeastern quad.

The stone post-pads are located around the edges of A4 on the ridge. The OD heights suggest a load bearing structural element with a central dual-aligned post system resting on stones at the back-end (far east) of A4, 1.40m wide, with a corresponding dual-aligned post-hole/post-pad system, 1.45m wide, at the west end [927] and [912] or [915]. The height of the stones progressively decrease towards the entrance; the north and south alignments of stones show a consistent height

between 250.80 OD, with the east back-end 251.00 OD. The absence of stone post-pads in north-west area of A4 is explained by the later truncation and subsequent removal of internal features and deposits by the 19th century silo.

The entrance was constructed with post-holes and post-pads. Along its internal sides there are smaller post-holes, with corresponding larger post-holes/post-pads on the outside edges. The north and south sides nearest the turf walls of A4 exhibited beam-slot characteristics, in which there was a substantial post-hole [927], probably connected with the structural support post alignment (see above). Collapse in this area indicated the possible evidence of a turf lintel [736]. A line of stake-holes along the front of the entrance within the internal space of A4 indicated evidence of a stepping feature. A post at the west end of the north side of the entrance [920] suggests a tethering post, door post or an ornamental feature to the entrance – A5 has a similar feature ([905]).

A4 post-use

A complex sequence of collapse and truncation is apparent in the area A4 and later structures. This is mostly described in previous reports, however, the remaining collapse sequence excavated in the 2001 season consisted of a midden deposit [379] (same as [355]) turf debris, [364] turf debris, [371] re-deposited hearth or midden material mottled with turf collapse, and interleaved midden material [416] and [578], and primary turf collapses [451] and [479]. Also [481] was located exclusively around the edges and sealed the occupation deposits and features - it had formed from the collapse of the edges as a mix of upcast re-deposited wind blown material, stones and turf debris.

Structure A5

Work continued through the last layer [354] excavated in 2000, initially thought to be a floor connected with the occupation, but in fact post-use, of A5; micromorphological evidence suggests that [354] was part of the post-use as the layer did not yield any floor characteristics and contained deposits of degraded organic matter including sheep coprolite (Karen Milek *pers com.*). This also fits the spread of the layer which sealed many of the postholes connected with the structural elements of A5 (see later discussion). The layers below this contained characteristics more in common with floor layers connected with its occupation. The flotation of [354] and other floor-like deposits in A5 might support this interpretation.

The 2000 season encountered the majority of the post-use phase deposits within and around A5, and the discussion here describes its occupation and the remaining post-use deposits.

A5 occupation

The sunken feature measured 5.48m by 3.84m, with a depth of 2m cut into the east slope (Figure 5b). The structure is orientated east-west with a west entrance, in the form of a post-holed/beam slot porch-like extending 0.88m and 0.88m wide. Internally, a central depressed area was apparent where the floors resided.

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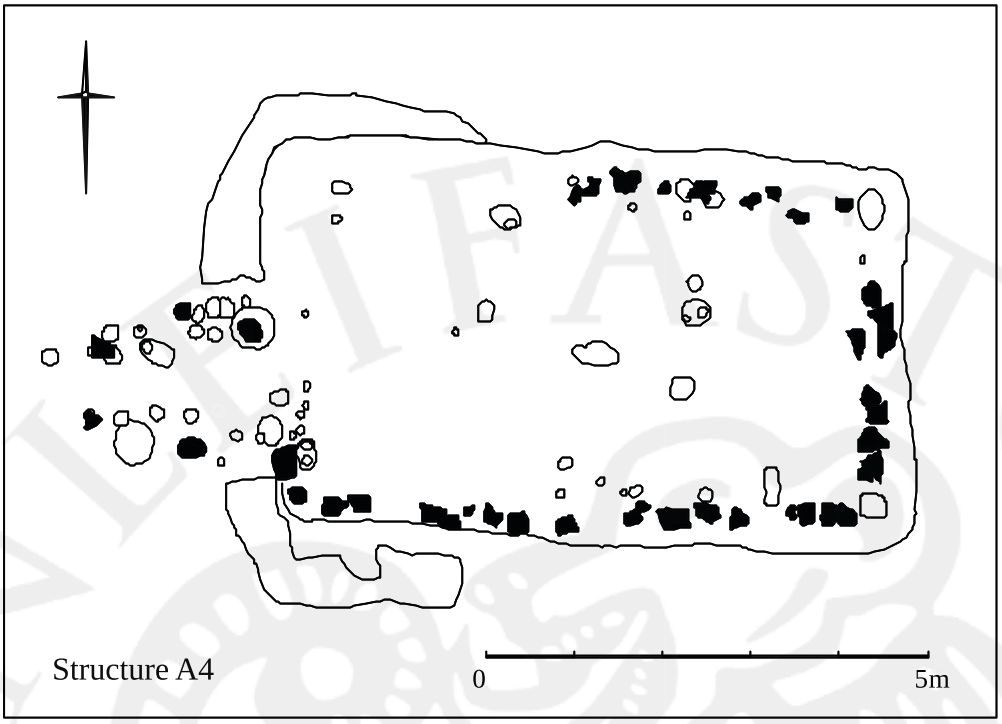


Figure 5a Structure A4

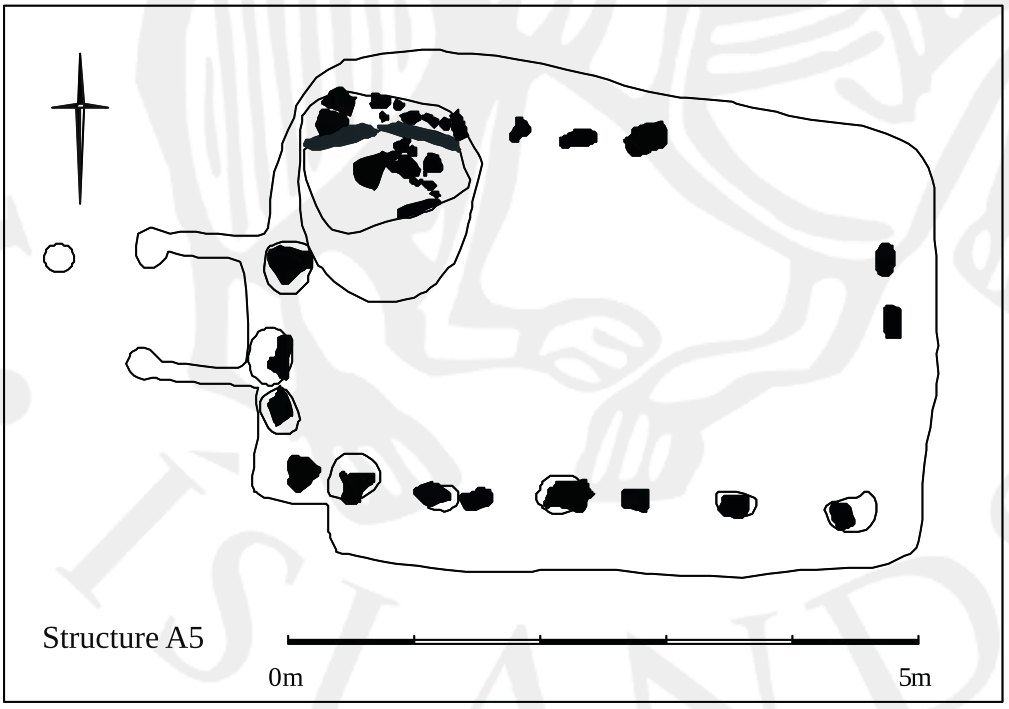


Figure 5b Structure A5

Plate III Structure A4, viewed from the east

Plate IV Structure A5, viewed from the east

Occupation deposits and features

The floors of A5 alternated between charcoal rich, ashy layers ([387], [391]) to "clean" charcoal rich layers ([381], [390], [392]). Apart from the charcoal inclusions the floors were clean of artefacts, though there was the occasional burnt bone fragment within the ash layers. The thickness of floors ranged from 0.001m to 0.05m, (there was much interleaving and differential thickness in varying areas of A5), and the extents of which were defined by the hollow in the central area of the structure. Closer analysis of the layers by micromorphology will determine the exact characteristics of the floors and two further samples were taken, besides the those taken in 2000, 110, 111 and 112. [391] contained characteristics that were in common with [764], the in situ hearth fill. The ash floors probably originate from redeposited material of the hearth or as a by-product of hearth production and its redistribution through taphonomic processes.

The hearth is located in the north-west corner of A5, 1.62m by 1.39m. It was constructed with the hearth sitting in a pit, with a stone base and two upright stones as a backing. The space between the two upright back stones and the edge of the hearth pit was in-filled with an earth and stone packing [824], in which a stone mould was found (SF 172). The hearth produced evidence of two *in situ* deposits [809] and [764] ([809] was sampled for floatation, [764] was sampled for micromorphology). The final use deposit, [764], contained, at the macro level, peat ash, charcoal and included small pieces of burnt bone. A slag base (SF 171) was found at the very base of the deposit between the two backing stones. It may have come from the packing of the hearth behind the back stones [824]. Several by-products of the hearth were found around it. [385] may have been connected with the disuse of A5, as being contemporary with [375], whereas [386] was contemporary with the floor sequence, or certainly the use of the hearth with a floor. The [381] floor, however, was formed when the hearth had been not been used.

Structural elements

The large number of post-holes, both part of the structural component and the internal features of A5, within a small structure present an initial problem of understanding the internal functional space, especially given that almost the entire north-west area is taken by the hearth [765].

There are two types of structural features: stone post-pads, and post-holes and depressions. The stone post-pads are located on the outside edge of the internal area of A5, defined by a ridge around the structure. The entrance has two stones that support a lintel, or acted as a threshold – the evidence of the stake-holes across the entrance suggests a step platform. The stones are placed at regular intervals *c.* 0.5m apart, and are flat types that would easily allow posts to rest on them. Connected with the stones are several post-depressions that further support the notion of post-pads being used to support the roof. The absence of stones on the north side of the structure probably relates to either collapse or disturbance of the pads or the removal of stones for use in other structures, such as A2 or A4.

The post-holes that exhibit a structural function are limited. Given that the structural features are probably connected with supporting the roof, from which the post-pads are evidence of, many of the

internal post-holes should be evidence of functions or furniture within the structure. However, some of more substantial post-holes were located within the central area of A5; [554], [680], [834]. The fills were disturbed, floor-like material, suggesting that the posts were removed post-occupation. The group of post-holes collectively within the pit feature [408], [410], [411] and [417] appear to lie underneath the floor sequence and may have been part of the construction of A5 (possibly, [408] may have been the previous location of the hearth). The remaining post-holes were shallow features, perhaps connected with the furniture of the structure, or possibly exaggerated in form by the heavy animal disturbance found along the sides and the base of A5.

A5 post-use

The immediate post-occupation phase is similar with respect to other structures, with the collapse sequences and midden-like material deposited within the structure. However, there seems to have been a phase of activity connected with the post-use of the structure that occurs before the collapse sequence. [354] contained organic matter (see above) and one further layer [375] bore a resemblance to [354]. Other material around the edges of A5 on the ridge [393] suggests some disturbance of the sides, perhaps during destruction/collapse of the structure. Other deposits around the hearth, [367] = [745] are also connected with this phase. Therefore there is a phase which occurred immediately after the structure was abandoned that included some deconstruction and possible removal of features, and the use of the structure by sheep. The collapse sequence is discussed in the 2000 report.

External deposits

Remnants of the collapse of A4 remained around the entrance area; [736] and [737]. The regularity of [736] suggested, initially, that it may have been part of a re-modelling or blocking forming a structural component of the A4. However, the deposits underneath and the post-hole/beam-slot entrance suggest that it may have fallen from above *en masse*, probably from the lintel. Likewise [737] is slippage from the A4 turf wall, [126]. Several layers of charcoal and ash rich and "sweet midden" sheet midden formed up against the wall of A4. The sheet midden around A4, sequence [848] = [873], [849] = [847], [928], [886] and [929], was concentrated within the south area immediately outside the entrance of A4. There appears to be a gap in the density of the sheet midden between what has been postulated as a possible additional entrance to the skáli and A4, demarcating two areas of sheet midden with similar characteristics.

The upcast deposit [891] on which the walls of A4 sat was partially sealed by the sheet midden around the south-west corner of A4.

The gully [214] and [314] seen in 2000 in the external and internal area of A2 that ran parallel to the skáli wall was evident under the sheet midden outside A4. The gully [908] had similar characteristics to the previously excavated parts, 0.40m wide, running north-south, except it continued past the hypothesised end wall of the skáli under the limits of excavation. This feature will benefit from further investigations to the north of A2 and south of A4.

Discussion

The midden sequence seen during excavation of A2, in the external deposits around A5 and the connecting layer [004] in Area G are crucial for being able to establish the event correlation between the different areas of the site. These deposits vary across different areas of the site. For example, reconstruction of the deposits excavated in 2000 suggested at least two to three isolated patches of similar material, one to the north of A2, another under and besides the west end of A5 (with a comparable deposit [354] that connects the sequence within the post-use of this structure) and prior to the construction of A2, and also another area outside A4. It is unfeasible to suggest that these are all the same deposit, especially given the suggestion in 1998 that the area between Areas D and G were two layers similar to one another, separated by turf debris. However, it is possible to suggest the broad contemporaneity between these similar deposits. For example, [290], a charcoal rich sheet midden deposit extends from the localised sheet midden under the walls of A2 across into the sheet midden outside A4. This may have a similar phasing to [004], though the sections between Area A and Area G should be investigated to confirm this. However, the [004] sequence rather than being one event is suggestively made up of several, each pertaining to the same phase of activity. For example, the [928], [886], [929] sequence in the area of sheet midden outside A4 is a more complex sheet midden than [004] but lies just c.5m from the pit house in Area G. The deposit [122] was not seen underneath the midden sequence and its reliability to related Areas A and G therefore needs to be re-evaluated again. It is likely that the sequence of events will be established within the relationships between the sheet middens and the structures and further investigations to the south of A4 and in the structure of the phasing in the site matrix.

Discussion

The continued excavation of the structures and external area of Area A established several basic facts about the sequence and phasing within this area (arranged in chronological order), along with suggested further work:

The earliest feature is the gully that runs north-south from the north to the south edge of excavation; 21.1m in length. The feature is enigmatic and not much more is known from this season, except that it continues beyond the length of the skáli and is not quite parallel to it. It could still possibly be the impression of an earlier skáli but perhaps not part of the skáli construction architecture. Further work both north and south of the existing Area A and continued excavation in the skáli itself should help to establish this.

The establishment of the construction sequence between structures A4 and A5 was not firmly established by this season's work However, the relationship that was established in 2000 still stands, that A4 was the first structure with A5 following. Interestingly, several architectural features are shared by both structures, the porch, "tethering" post, post-pads and postholes. The clarity is hampered by the lack of connecting deposits at higher levels in the matrix, mainly due to the truncation of A4 by A1 and the silo. Further post-excavation analysis should firm up this theory. The

sheet midden formed during both the occupation, and the destruction and collapse of the structures A4 and A5. There is no evidence that suggests that the structures were constructed after the midden was formed, but it is unlikely that this evidence would survive as A4 and A5 are partially constructed into the slope and therefore the ground surface. However, the evidence strongly suggests that the sheet midden formed after they were constructed. Collapse of A4 outside the structure shows that the midden lapped up against the walls and to some degree flowed into the structures (see A4). There are several phases of midden material, and within discrete parts of Area A. Further work, both excavation of selected sections that remain and post-excavation analysis should establish the important chronology of this area that could be used to connect different parts of the site to one another, establishing broad structural comtemporaneity, or not, and the phase sequence. For example Area G to Area A and to the skáli (Area A/B).

Structure A2, excavated in 2000, was constructed after the formation of the midden and later than the skáli main construction. It was established that the upcast of A5 was sealed by the turf wall of A2 in 2000, and the continued excavation of the midden next to the south wall of A2 suggested continued midden deposits after the construction of A2. Further post-excavation analysis will confirm this.

AREA C

Gavin Lucas

Area C, defined after Bruun as the stone structure on the northern end of the skáli was completely opened up for the first time this season (Figure 6). A trial trench had been cut up against the external northern edge of the structure in 2000 to seek evidence of dating and structural sequence, where it was found that the stone structure would seem to date sometime between 1158 and 1477 but overlies an earlier turf structure, predating 1158 - and therefore contemporary with the later phases of the Viking settlement. This season, the turf/topsoil was removed by machine and Bruun's backfill by hand to expose the limits of his trenching and extant archaeology. Apart from a pedestal of deposits projecting from the southern wall and patches of floor material, the only surviving archaeology was that which had been cut into the natural - chiefly a central pit and various postholes and other indeterminate small features. Moreover, much of the external stratigraphy had been truncated too as Bruun trenched both inside and outside the walls, the major exception being along the back, northern side where fortuitously as it now seems, the 2000 sondage was placed. Nevertheless, enough was preserved to construct a broad sequence although it leaves some of the internal cut features, somewhat floating.

19th Century Stables

The latest features in the area lay to the west of the structure and consisted of a peatash dump [424] over demolition material [452] from a 19th century turf structure, levelled into a (possibly cut) hollow. Ironwork, small fragments of refined industrial whitewares and glass bottles as well as animal bone and decayed wood were associated with this feature, and given its date and the known presence of

stables on this area at this time, this may well relate to the abandonment and demolition of these stables. The location of this dump with respect to a clear disturbance of the northwest corner of the stone structure (hereafter C1) may not be coincidental and would seem to precede Bruun's arrival. No evidence was found for an in situ structure in the area however, and Bruun may well have removed any such traces, especially if the stables were positioned directly within the ruin.

Cultivation Marks

In the northwest corner of the area a series of ridges and furrows [491] were recorded, arranged in a linear fashion northeast-southwest, and slightly curving around the main structure. These were most certainly sealed by the 1477 tephra, possibly also the 1300, but this awaits confirmation; tephra samples were taken by Anthony Newton and results are expected in 2002. These ridges and furrows varied in amplitude of 0.2-0.5m with an average depth of 0.1m and ran for at most 4m within the limits of excavation, although they continued north beyond the edge of the trench.

Structure C1

The stone structure Bruun identified and designated C on his plan has almost lost all of its associated deposits after his excavation. Nevertheless, the basal row of large stones are much as he depicted them; the structure is 6m by 8m (external), with the stones' outer faces laid fairly flush giving a straight edge. The stones are large, in some cases up to 1m across, and laid in two rows with soil/turf core although much of the inner row on the south and most of the western wall have clearly been truncated, probably prior to Bruun (see 19th century stables, above). An entrance occurs on the western side at the south end, marked by two massive upright slabs. Bruun cut down to the base of these stones which would not have been stable unless their associated ground surface had not been higher indicating the floor level was much higher. Related to this, Bruun left a projecting pedestal of stratigraphy on the southern wall over which were flat laid lavastones; it seems most probable that the flagstones on the pedestal mark the original floor level of this structure which for whatever reason, Bruun left upstanding. Elsewhere he went through the floor level of C1 removing all traces of it, down to the lower floor of C2 (see below).

Apart from the main stones and the flagstones mentioned, the only other deposit associated with C2 seems to be an upcast layer [794] extant along the northern external edge. It is this layer which at present, provides the primary dating of the structure, and is sandwiched between the 1477 and another, as yet unidentified tephra, (possibly 1300 tephra).

Structure C2

Thin patches of floor survived over the base of C2 - it is difficult to know how substantial this floor was since Bruun's cut goes down to natural in most places, and there has also probably been some trampling during his excavation making it hard to sometimes distinguish the base of his backfill from *in situ* floor. However, patches of an ash floor did survive in places [728]. This floor was at most 5mm thick and much thinner than the remnant floor found preserved beneath the pedestal which was upto 20mm thick. The sequence of deposits represented in the pedestal left by Bruun offer the best

indication of the nature of infilling and abandonment of the earlier turf structure C2 - assuming this is what they represent. Beneath the stone flags assumed to be the floor of C1, the uppermost deposit [817] appeared to be turf collapse, beneath which lay a mixed layer of turf debris and ash lenses [829]. More turf collapse occurred under this [840], beneath which lay the remnants of a possible floor surface of decomposed hay and ash [859] about 20mm thick. A depression or cut feature [885] lay in the centre of the small area of floor preserved, with similar floor deposit at its base [860]. Beneath the floor lay an upcast layer of redeposited natural [875] which marks the base of the sequence, as undisturbed natural lay beneath this. This sequence would suggest that C1 was subject to gradual decay and collapse, with partial dumping of ashes into the ruin, i.e. use of the ruin as a midden - a practice observed with other abandoned structures from the site.

A number of possible postholes were exposed in the course of cleaning, but these await full investigation. The only internal feature was a regular-shaped pit found in the centre of the structure, 1.1m square and 0.2m deep [892]. There were some irregularities in its cut, due to burrowing but also possibly by the removal of stones, where the fill was distinctly different [838]. A number of stones were found lying flat on top of the feature, which Bruun had also noted. Beneath these stones lay a mixed deposit of upcast and ashes which filled the pit [874/839] and which may be disturbed floor material. Certainly the fill did not suggest a hearth, which was one of the interpretations for this feature. It remains a little enigmatic, however, given there is no real stratigraphic link to C2, its age remains ambiguous. Certainly the alignment of the pit is completely skew to either C1 or C2, while one of the clearer postholes also in the structure is on the same alignment. It is possible this pit is in fact the base of another very large posthole cut through from the surface and perhaps associated with the stables. If so, it would also explain the nature of its fill (disturbed floor and upcast from C2) and the stones (packing).

Determining the age of C2 is not straightforward given the extent of Bruun's truncation. Nevertheless, a number of details do provide some clues. First, the main stones walls of C1 lie over a turf wall which is probably the wall for C2. It makes no sense to put stones on turf, but rather the other way around, so the turf wall beneath the stones C1 were probably still visible marking out the ruin of C2 and utilised as a platform for C1. They have therefore probably also suffered truncation from a foundation trench for the stones of C1. This turf wall associated with C2 appears to abut against the skáli wall suggesting that C2 is later than the skáli, though not necessarily post-dating its abandonment. Intact external turf collapse deposits around C2, although having no direct contact with the turf walls, do have a relationship to aeolian deposits which contain tephra horizons. Most of these remain to be excavated but one, [580], was shown to be sealed by aeolian layers containing the 1158 tephra [579], and given its spatial extent, this turf collapse would seem to be from the structure C2. By inference then, C2 would date to the Viking period and although later than the skáli, the skáli was almost certainly still standing and in use when C2 was constructed, and may even have outlived C2, if one assumes it to be the source of the ashes dumped into the ruin of C2.

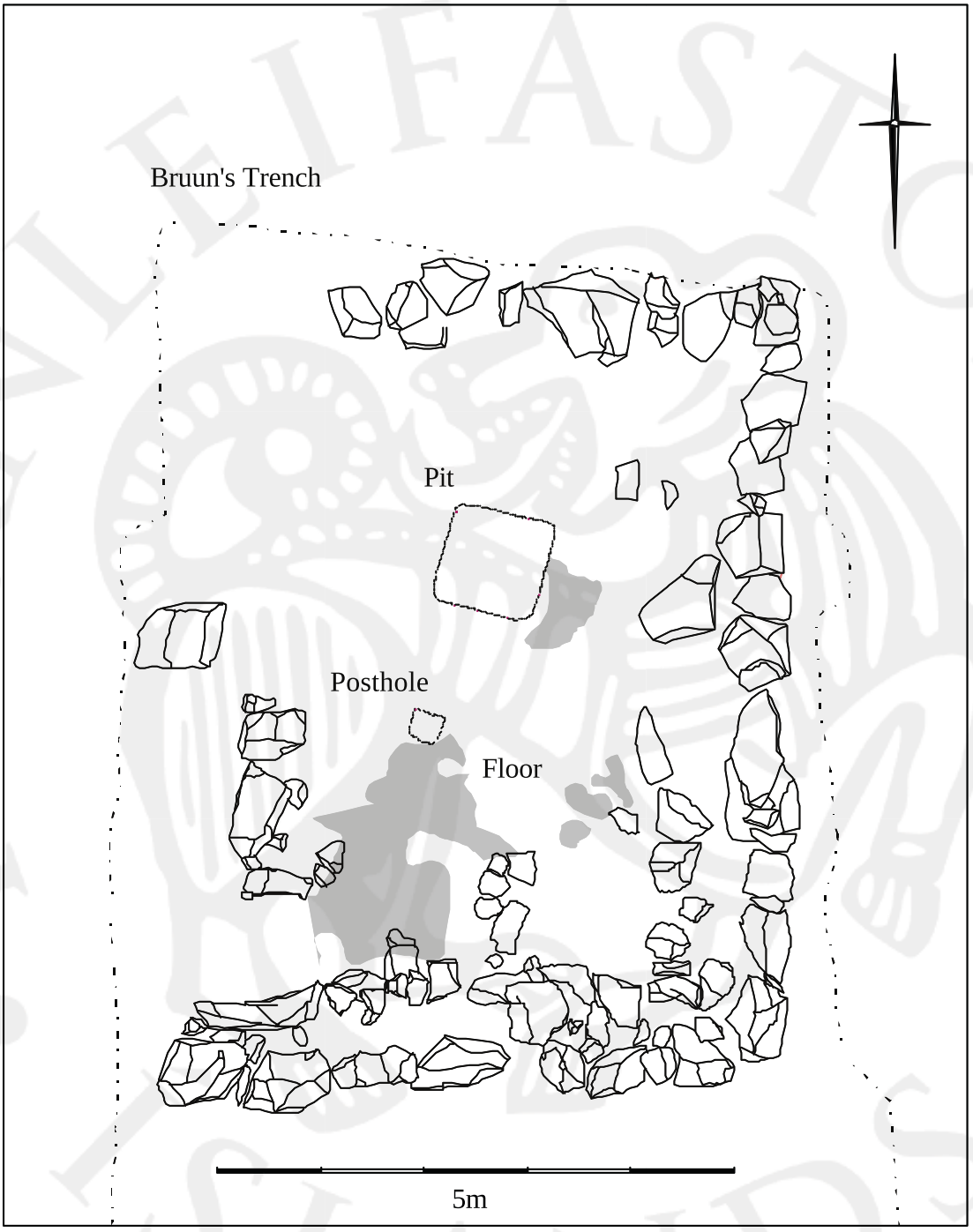


Figure 6. Structure C

Plate V Detail of the interior of Structure C, viewed from the north

Plate VI Structure Z

AREA Z

Hildur Gestsdóttir

Introduction

The two objectives of the 2001 season in Area Z were to continue the excavation of both Structure Z2 uncovered during the 2000 season and the graves in the eastern part of the cemetery (Figure 7).

One context belonging to the later Structure Z1 was removed during the 2001 season, [1624], a dark reddish brown very organic turf layer containing wood remains, 20cm thick, which covered an area approximately 0.5x0.7m east of the north-eastern corner of Structure Z2. This probably represents the remains of the roof collapse of Structure Z1.

Structure Z2

This earlier structure is orientated east-west, and has the same alignment as the majority of graves exposed so far (Figure 7b). Its dimensions are 6x3.4 m, and it appears at this stage to have been constructed mainly of timber. At the western end of the structure there are two postholes or post pads [1635] (57x31cm, 10cm deep) and [1637] (60x39cm, 25cm deep), 1.2m apart. Both postholes were filled with a light brown silty soil, [1612] and [1636] respectively, with large amounts of charcoal inclusions, which were sampled. At the base of [1637] there was a flat stone, 26cm in diameter, a post pad. Fragments of a volcanic rock slab were found within the fill of cut [1635], although these did not clearly represent post pads. Two large stones mark the eastern and northern border of the posthole, probably representing supports for the post.

These postholes mark the entrance to Z2, leading to a porch, which at this stage appears to be slightly sunken or cut into the ground. A layer of turf debris, [1642], 3cm thick was removed from the south-western end of the porch, extending beyond the limit of the structure. This was found to be sealing three layers of turf collapse, probably representing the roof of the structure. These were removed from the porch during the 2001 season. The uppermost one [1643], 6cm thick covered the entire porch area, respecting the line of stones marking the western border of the nave. It overlay a much smaller turf collapse layer [1651], 3cm thick, which covered an area 1.8x2m, extending between the main entrance into the porch, and the entrance from the porch to the nave. The third layer, [1658], 3cm thick covered an area 40x60cm by the entrance into the chapel. All three turf collapse layers consisted of mottled reddish brown turf debris, and are quite possibly all part of the same event of roof collapse.

Context [1651] sealed a trampled layer, containing wood and charcoal remains [1654], possibly representing the remains of a floor. The layer was 1.5cm thick and covered an area 1.16x0.88m in the centre of the porch, extending between the entrance into the chapel and the entrance from the porch into the nave.

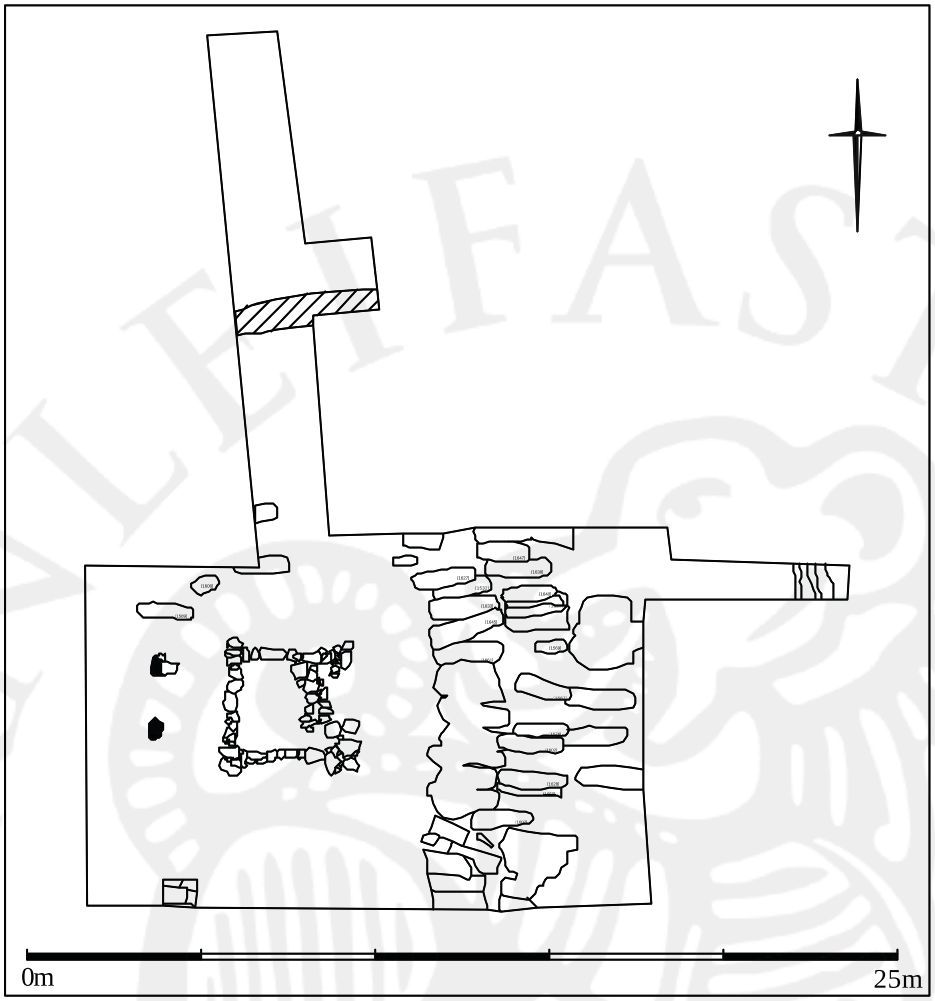


Figure 7a Area Z Churchyard

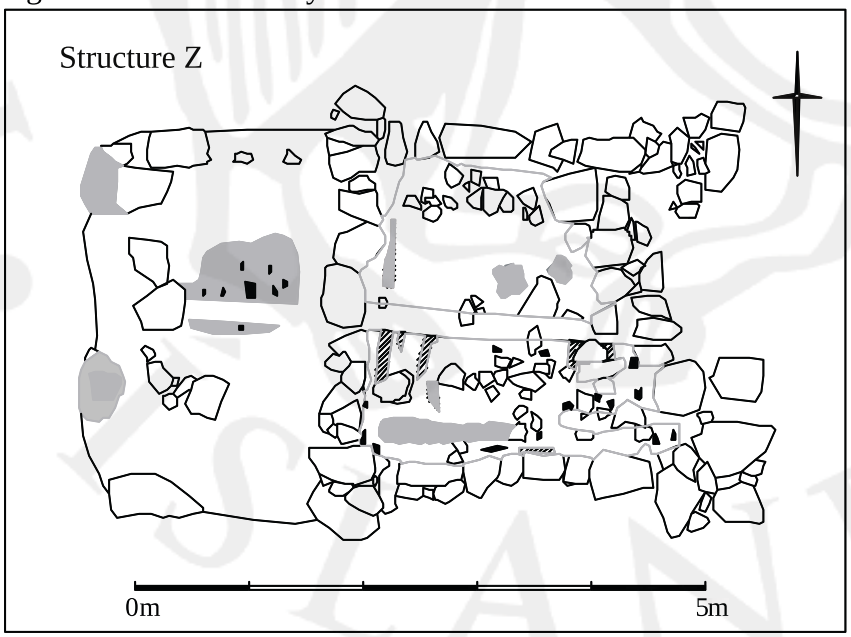


Figure 7b Structure Z (Chapel)

A flat stone slab indicates where the entrance into the nave would have been. The nave measures 3.6x3.4m, with stone foundations supporting a probable wooden structure. Turf collapse, [1603], a 6cm thick reddish brown disturbed turf layer with quantities of iron nails and remains of wood, probably representing the collapsed roof, sealed the uppermost floor-level of the chapel [1629], a dark brown, fine silty layer, 2cm thick. This appears to have been a wooden floor, and timber remains, orientated north-south were preserved, in particular in the western end of the nave. This floor layer sealed most of the nave, and the portion connecting the entrance into the chapel, and the entrance into the main body of the chapel. There has been some damage to the eastern end of the chapel, possibly due to the construction of the later Structure Z1, so the exact location of the eastern gable is not clear. However, the north-eastern corner of the chapel was paved with flat stone slabs (an area 2.5x0.8m, orientated north-south) leaving a gap, 1.2x0.5m, in the south-eastern corner into which the floor layer extended. There is a linear break in the floor, 0.3m wide orientated east-west, running parallel to, 0.3m north of, the southern wall, and into the gap in the south-eastern corner. One interpretation of this, is that the altar would have stood on the paved area in the northeast corner, and that only one bench was within the church, along the southern wall, due to the small size of the chapel.

These uppermost floor layers of the chapel have been removed, and in both cases they sealed further turf debris layers and patches of possible floors, indicating that there are several phases to Structure Z2 or that it overlays an earlier structure. Inside the nave this consisted of [1632] a reddish brown turf debris layer containing flecks of white tephra, 4cm thick, covering an area approximately 0.4x0.8m in the northwest corner of the nave, and [1634] a trampled greyish brown layer containing turf and timber fragments, 2cm thick , and covering an area 1.8x2m thick, basically the same area as [1629]. This probably represents an earlier floor of the chapel. These sealed layers of upcast containing the prehistoric H-3 tephra.

The floor in the porch area of Structure Z2 sealed two turf collapse layers, [1659], dark reddish brown turf debris, up to 10cm thick sealing an area 1.8x2m covering the central part of the porch. This sealed another turf debris layer, [1662], a fine greyish yellow layer, 2cm thick covering an area approximately 1x2m in the centre of the porch. Layer [1662] sealed further turf debris layers.

Also removed during the 2001 season was a layer of greyish brown turf debris [1626], 5cm thick, covering an area 0.5x1m just to the north of Structure Z2, respecting the wall of the chapel, probably representing collapse, and a small circular pit [1623], 28cm in diameter, 10cm deep, filled with a light yellowish brown silty soil, [1622]. This pit lay just north of the north-western corner of the nave, its function is unknown, although it may be a posthole, although probably not associated with the chapel structure itself.

Unfortunately the levelling carried out in the 1960's has removed most of the tephra sequence in the area, in particular over the chapel itself, so dating Structure Z2 has proved difficult. However, two fragments of probably the same vessel were found underneath the latest floor [1629] of the chapel. These belong to a redware jug, 13th or 14th century in date, probably Danish or Dutch in origin. At

this stage of the excavation it is clear that there are either more than one construction phases of this structure, or that it is built on top of an older structure.

Cemetery

To date 51 possible graves have been identified in the cemetery. Of these sixteen have been excavated, one during the 1999 field season, five in 2000, and 10 in 2001. This count does not include the four grave shaped cuts excavated so far which did not contain any burials.

Excavation in the cemetery continued to concentrate on the eastern part (Figure 7a). The north-eastern section, between Trench Ztii and the eastern limit of the site, was extended 0.9m to the north, to include the entire extent of a grave [1627] in which part of the skull had been exposed at the end of the 2000 season. A total of five new graves were exposed in this area.

A total of 10 graves were excavated during the 2001 season, [1627]=SK007, [1628]=SK008, [1633]=SK009, [1638]=SK010, [1640]=SK011, [1645]=SK012, [1650]=SK013, [1647]=SK014, [1657]=SK015 and [1661]=SK016. All were located in the eastern part of the cemetery. All the graves were orientated west-east, following the same alignment as Structure Z2. The grave cuts were all sub-rectangular in shape, averaging at 0.5x1.9m in diameter and about 0.5m deep. The edges were in most cases near vertical, in some case undercut or collapsed in, with a flat base. All the graves were filled with upcast material removed from the grave cut, very fine mottled light brown silt with flecks of disturbed prehistoric tephra, both Hverfjall and the white H-3. Also included in the fills, particularly near the top were blocks of turf, probably the turf removed before the grave was cut, which was then included in the fill. The fills were, given in the same order as the grave cuts above, [1519], [1625], [1520], [1631], [1639], [1644], [1641], [1646], [1656] and [1660].

Two intercutting cuts were excavated in the north-eastern corner of the excavation area. Both were sub-rectangular, orientated east-west. The upper one, [1649], was 0.8x1.8m, 39cm deep with basically vertical sides and a flat base and was filled with very fine mottled light brown silt with flecks of disturbed prehistoric tephra, both Hverfjall and the white H-3 [1648], very similar to the grave fills excavated. Its cut [1653], 0.4x1.6m, 24cm deep with vertical sides and a flat base. This cut had two separate fills, although they consisted of very similar material, the same mottled upcast with prehistoric tephra filling the graves, the upper one, [1652] was a mid-yellowish brown, where as the lower one, [1655] was a more greyish brown. All three fills, [1649], [1652] and [1655] contained large amounts of disarticulated human bone, which during post-excavation were seen to be the remains of one individual, which was given the number SK017. It is not clear what the function of these cuts are, but it is likely that [1653] was the original grave cut for SK017, which was at a later date truncated by [1649], which may have originally been cut as a grave, but not used once it was clear that it truncated this earlier burial.

Most of the individuals excavated during the 2001 season had been buried supine, with the head towards the east, with the arms parallel to the body and the hands resting on or near the pelvis,

although SK008 had the lower right arm across the waist. The legs were in most cases extended parallel to each other, with the feet side by side or resting on top of one another. The only exception was SK013, who had been buried lying on the right side, with both arms straight on the right hand side, hands by the pelvis, and legs slightly bent to the right. It is possible that the positioning of the body is due to it rolling while being lowered into the grave, rather than being deliberately placed in this position. Six of the skeletons excavated had been buried in a coffin (SK007, SK008, SK010, SK013, SK015 and SK016). These were in all cases simple rectangular wooden structures, with no more than one coffin nail in each corner. A block of turf had been placed under the head of SK007, forming a pillow of sorts. Due to the poor preservation of the wood around the head, it was not possible to see if it had been placed inside the coffin or not. In most cases all that remained of the wood was a shadow, although an attempt was made to sample the wood from grave [1627], to see if identification of the wood proved possible. Those individuals that were not placed within a coffin were in some cases not as neatly laid out as those that were, as the lack of coffin meant that the limbs were less restrained from movement while the body was being placed in the grave. Both SK009 and SK014 had their left arm underneath the body, and both legs of SK009 had slumped to the right. All the skeletons had very fine ash placed on the thoracic area, the amount varying quite a bit, from a small amount barely covering the sternum to the whole thoracic cage being covered. This ash was sampled and an attempt will be made to determine what it consists of.

So far all but one of the adult skeletons excavated in the cemetery have proved to be female (the one exception being SK008). As most of the graves excavated so far have been on the north-eastern side of the cemetery it suggests that the burials were laid out according to gender, with men on the south side and women on the north side, a practise seen in other Icelandic cemeteries (e.g. Skeljastaðir in Þjórsárdalur). For more detail on the skeletons, see the human osteological report (this report).

It was possible to divide the eastern part of the cemetery into at least two phases. The earliest phase, Phase I, is represented by graves [1567], [1576], [1602] (excavated in 2000), [1628] and [1650]. Also included in this are two cuts excavated in 2000 which did not contain burials, [1569] and [1607]. These graves were cut shortly before the H-1477 tephra fell, early 15th century. Although some of the Phase I graves intercut each other, they are mostly quite spread, with up to 0.7m separating graves. These graves cut a layer of windblown debris, [1630], a loose medium reddish brown silty layer with small turf fragments and flecks of landnám and prehistoric H-3, tephra, up to 25cm thick. This layer covered the entire eastern end of the site, extending 3.6m west in the northern end of the site, and up to 6.3m in the southern end of the cemetery, corresponding with the edge marking the eastern part of the cemetery. It is likely that the graves exposed, and the two graves excavated during the 2000 season, [1589] and [1608], in the north-western part of the site also belong to this phase.

Layer [1630] sealed the earlier Phase II graves. These are represented by graves [1532] (excavated in 2000), [1627], [1633], [1638], [1640], [1645], [1647], [1657] and [1661], as well as all of the unexcavated graves in the eastern part of the cemetery. These graves are located both

east and west of the Phase I graves. The westernmost cluster, that closest to the chapel, are very tightly cut, each grave cutting or cut by its neighbour, but the easternmost graves are more spaced out, with up to 0.5m between each grave cut. There is as yet no direct dating evidence for the Phase II graves, apart from their association with the Phase I graves, but this phase appears to mark the most extensive period of use, at least of the eastern part of the cemetery.

Conclusion

The 2001 season at Hofstaðir revealed the remains of a chapel (Structure Z2), orientated east-west, measuring 3.4x6m It is entered from the west, the entrance marked by two post pads leading into a sunken porch, which in turn leads into the nave, which is marked by rectangular stone foundations, which probably would have supported a wooden structure. Turf collapse removed from within the structure suggests that the roof was constructed of turf, and wooden remains within a fine silty floor layer suggest that it had a wooden floor. The eastern end has been damaged, both by the construction of a later structure, Z1, and levelling of the area in the 1960's. It is however clear that the north-eastern corner of the chapel was paved with flat paving stones. The current interpretation of this is that the paved area marks where the altar stood. A gap in the floor along the southern wall of the chapel suggests that a bench may have run along that wall.

So far, 51 graves have been exposed in the cemetery, all of them orientated east-west, on basically the same alignment as the chapel. Sixteen of these have been excavated, 10 during the 2001 season. Half of the graves excavated so far have had simple wooden coffins. All of the skeletons have been buried supine with the hands resting on or near the pelvis and straight legs, apart from one individual who appears to lie on the right side. All the individuals excavated so far have had a fine ash placed on their chest.

The date for the period of use of the churchyard can at the moment only be gained from the boundary wall, excavated during the 2000 season and the latest graves excavated so far. The boundary wall is sealed by the H-1300 tephra, suggesting that it was constructed before 1300, probably in the 12th century, while the latest graves (Phase I) are sealed by the H-1477, with very little soil build-up between it and the grave cuts, suggesting that they can be dated to the early 15th century. There is still no clear date from the chapel itself, although the discovery of 13th/14th century ceramics under the roof collapse of the chapel may suggest a date for the structure. At the moment however, the period of use of the site as a cemetery seems to be between the 12th – early 15th century, although those dates are far from conclusive.

The main objectives of the next season at Hofstaðir will be to complete the excavation of Structure Z2 and to continue the excavation of the cemetery.

Trench Ztii

A 2 x 2m extension to trench Ztii was cut on its eastern side just on the outer edge of the presumed churchyard wall. This trench was part of an experiment in field methodology so the recording system

differed somewhat from that employed on the rest of the site. Nevertheless, the results of this investigation will be integrated into the main report. The results also confirm the findings from the main trench Ztii excavated in 2000, and merely add additional artefactual and environmental data. To repeat these findings: essentially, the churchyard wall was located (#27; = [1592]) and shown to be fairly straight, exhibiting only a slight curvature. Tephra horizons 1477 and 1300, though truncated at the point of contact, were clearly tipping down from the wall indicating its presence when the tephra fell. These tephras lay in aeolian silts (#16 and 21), while above them lay 19th century midden deposits (#10; = [1565]). This 19th century midden layer was quite disturbed and mixed in with the turf horizon, the disturbance due to bulldozing which levelled the farm mound. Beneath the aeolian layers, turf collapse (#28) occured which also abutted the wall face; it was of different type of turf to that in the wall, suggesting either it comes from elsewhere (the farmhouse) or that the upper section of the wall was of different construction. The boundary wall itself was constructed of strengur with an un-determined tephra band (possibly the 950). Beneath this turf collapse lay the extensive bright pink peatash layer at which point excavation stopped.

AREA X

Bruno Berson

Zooarchaeological study of the middens at Hofstaðir clearly indicates that it was a functional farm where farm animals were stalled, fed, milked, slaughtered and eaten. Different species were kept but the most common were cattle and sheep, following the common Icelandic pattern on Viking and medieval farms. Considering the cool climate and snow-heavy winters of the northern interior it is to be expected that at least some of the animals were sheltered indoors at Hofstaðir. Given the size of the main hall and the quantity of bones recovered from it and associated middens, one would expect one or more substantial buildings for housing livestock to be found in the vicinity. In 2001 an attempt was made to locate the byre associated with the Viking age skáli at Hofstaðir.

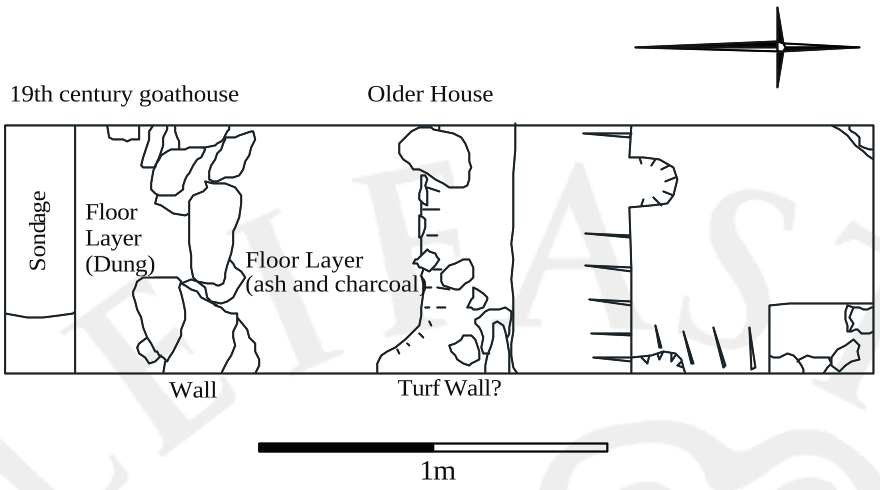
A study of all the byres excavated in Iceland[1] has revealed teat their location vis-a-vis the dwellings follow a sistinct pattern. They are as a rule situated within a radius of 100m from the dwelling, located on a slope. The common shape is a long building with the entrance in the lower gable end. At Hofstaðir an optimal byre location is difficult to pinpoint. The slope on the eastern side of the Viking age buildings is too steep to build a structure. Above this slope there is a flatter shelf which represents a suitable locations for a byre – reminiscent in many ways of the location of the byre in Lundur in Lundarreykjadalur – but a careful surface inspection has so far not reveled any traces of structures in this area. The homefield on the west side of the structures is quite big and was levelled in the mid 20th century so most of the structures have disappeared or are damaged. Nevertheless it is

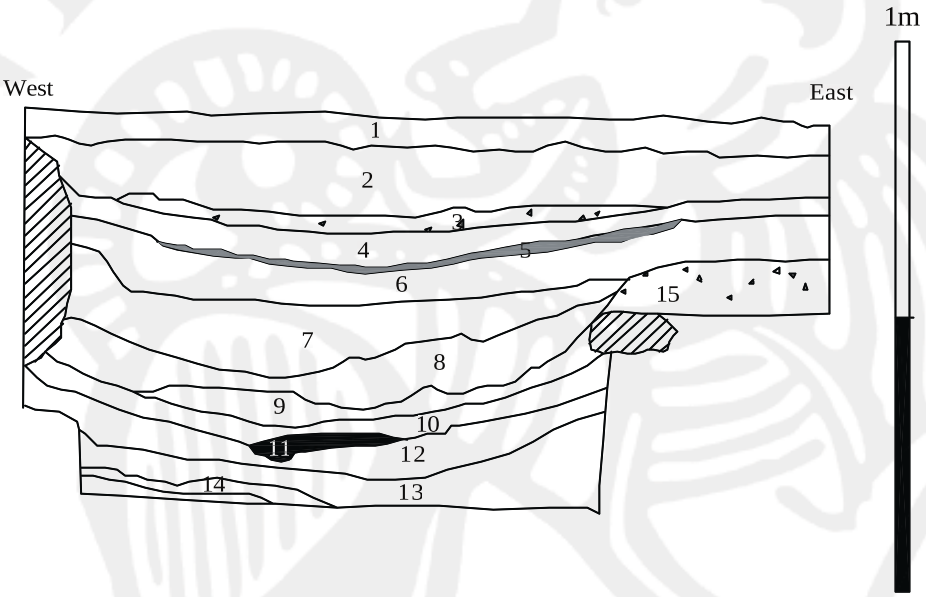
[1] Bruno Berson, in press: « A Contribution to the Study of Medieval Icelandic Farms: the Byre », *Archaeologia Islandica* 2, Reykjavík (2002).

still possible to see two mounds in the field. One is the site of the medieval and modern farm, where the excavation of the church and graveyard is being carried out. The other one is where the sheephouse *Göthus* used to stand, torn down and levelled after the middle of the 20th century. Another locations are possible, particularily the break of the slope to the west of the Viking age site and the slightly higher area called *Gerði*, north of the Viking age site, where there was a large number of animal stalls in modern times. Considering this wide range of possible locations it was decided to try first the most substantial archaeological feauture, the small mound of *Göthús*, in the southern part of the old home-field.

A geophysical survey made by Timothy Horsley showed the exact position of the building. A trench 5m x 1.5m, following a north-south axis (Figure 8a), was placed over a wall detected by the geophysical survey, thus including the inside and the outside of the structure. The excavation of the trial trench confirmed the presence of the 19th-20th century *Göthús* in the southern part of the trench. The floor layer is about 20cm under the present ground surface and is made mainly of dung. This house had been built on top of an earlier one, as at about 70cm under the surface another floor made of charcoal and ash was observed. This structure had turf walls but they have been very badly damaged by the levelling of the home field. There is no real evidence to date this older house but the quantity of a blueish tephra – possibly from a 14th century eruption, results of analysis pending – contained in the turf debris would indicate a late medieval structure or a modern one. The western profile (Figure 8, lower section) shows that these structures were built in a cut. It is visible between the layer 7, 8 and the layer 9. The stratigraphy shown in the northern profile (Figure 8, upper section) is mainly part of the filling of this cut. The ground was cut down to the natural and at the bottom a layer of charcoal was found. This sunken structure is sealed by a grey tephra from the 18th century. There is little to indicate the purpose of this cut.

The trial trench showed that the modern house known as the *Göthús* was built on top of an older building. This structure could be from the late medieval period or later, but nothing was found to suggest evidence of Viking age buildings at this location.


19th century goathouse
Older House
Sondage
Floor Layer (Dung)
Floor Layer (ash and charcoal)
Wall
Turf Wall?
1m


1m
West
East
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4
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8
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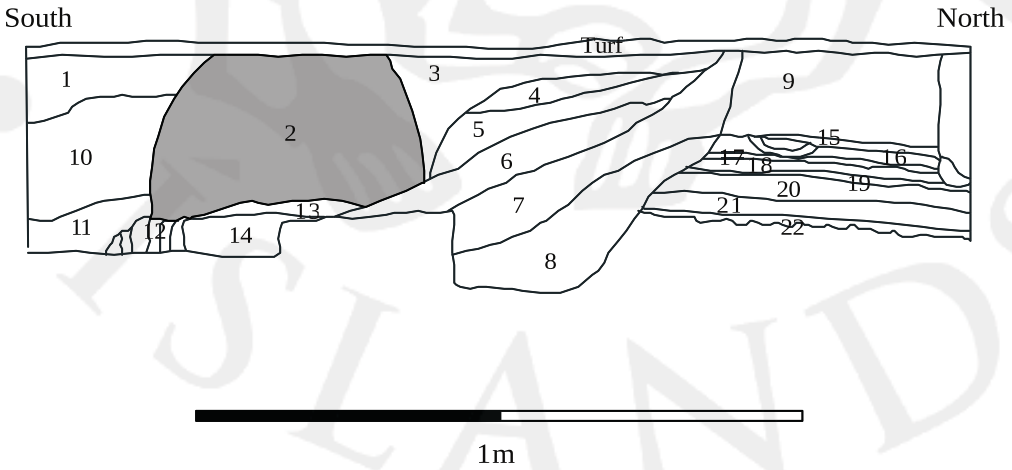
14


South
North
Turf
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1m

Figure 8 Area X Trench plan and sections

3. ANALYSIS OF THE HUMAN SKELETAL REMAINS

Hildur Gestsdóttir

INTRODUCTION

As the excavation of the cemetery is still in progress, the analysis carried out on the human skeletal remains was minimal, with only the age and sex of each skeleton fully recorded. A more detailed report will follow the full excavation of the cemetery.

METHODOLOGY

The sexing of the skeleton was based, where preservation allowed, on sexually diagnostic characteristics of the cranium and pelvis (see for example Schwartz, 1995 and Buikstra & Ubelaker D, 1994) and measurements of the width of several articular surfaces compared to standards presented by Bass (1995) and Brothwell (1981).

Age at death was determined using as many of the following methods as preservation of each skeleton allowed. The Suchey-Brooks system for age determination from the os pubis (Brooks & Suchey, 1990); the auricular surface ageing method devised by Lovejoy *et al*. (1985); ectocranial suture closure (Meindl & Lovejoy, 1985) and the state of fusion of the secondary ossification centres (see for example Schwartz, 1995).

The calculations of the living stature of the skeletons were based on measurements of the right femur and tibia compared to standards devised by Trotter (Trotter & Gleser, 1958).

Although no specific attempt was made to record palaeopathological changes, those changes noted during processing of the skeletal remains were briefly recorded and will be reported here. The summary figures include all the skeletons excavated so far in the Hofstaðir cemetery. For descriptions of the palaeopathological changes recorded on skeletons excavated during the 1999 and 2000 season, see the 2000 excavation report. It must be noted that all these figures are likely to change once the detailed analysis of the skeletal remains is carried out.

RESULTS

The results of the ageing, sexing and stature, as well as the grading of the preservation of the skeletons is presented in the table below.

In addition to the skeleton excavated in the cemetery, a human tooth was found in Area A/B, context [492], small find 143. This was the crown of an adult lower 3rd molar, side unknown. The age at death was probably between 30-40 years.

Skeleton	Sex	Age	Stature	Preservation	Year excavated
SK001	Female	MA	163.1 ± 1.6cm	Good (75-90%)	1999
SK002	Female	MA	160 ± 1.1cm	Good (75-90%)	2000
SK003	Female	MA	168.3 ± 2.1cm	Good (75-90%)	2000
SK004	Female	OMA	163.6 ± 1.4cm	Good (75-90%)	2000
SK005	Female	YA	160.2 ± 1.7cm	Excellent (>90%)	2000
SK006	Unknown	Neo	N/A	Bad (<30%)	2000
SK007	Female	OMA	156.8 ± 0.5cm	Fair (50-75%)	2001
SK008	Male	OMA	172.8 ± 2cm	Good (75-90%)	2001
SK009	Female	YMA	161.7 ± 1cm	Fair (50-75%)	2001
SK010	Female	MA	162.4 ± 3.2cm	Good (75-90%)	2001
SK011	Female	OMA	163.6 ± 3.1cm	Excellent (>90%)	2001
SK012	Female	OMA	164.7 ± 2.7cm	Fair (50-75%)	2001
SK013	Female	OMA	161.6 ± 2cm	Good (75-90%)	2001
SK014	Female	OMA	162.8 ± 0.9cm	Good (75-90%)	2001
SK015	Female	MA	158cm	Good (75-90%)	2001
SK016	Female	YA	?	Fair (50-75%)	2001
SK017	Female	YA	157 ± 1.1cm	Good (75-90%)	2001

Neo: Neonate, 0-1years
YA: Young adult, 18-25 years
YMA: Younger middle adult, 25-35 years
OMA: Older middle adult, 35-45 years
MA: Mature adult, +45 years

Palaeopathology

What follows is a brief summary of the palaeopathological changes noted on the skeletons excavated during the 2001 season at Hofstaðir. As already stated, no specific attempt was made to record palaeopathological changes, but a note was made of those changes observed during cleaning and basic recording. Each section is concluded by a number showing the total number of adult individuals excavated so far at Hofstaðir affected (the neonatal skeleton, SK006, is not included due to poor preservation).

Nutritional disease
No changes associated with nutritional disease were recorded on the skeletons excavated during the 2001 season.

Cribra orbitalia 1/16
Infectious disease
Two cases of non-specific infectious disease were noted. SK009, a younger middle adult female had well healed new bone formation on the shaft of both femora, tibia and the left fibula. The healed nature of this new bone suggests that the infectious process that caused it probably occurred during childhood. SK011, a older middle adult female, also showed new bone formation, on the proximal

third of the shaft of the left tibia. In this case the new bone was not healed, suggesting that the disease process was active at the time of death. The fact that the new bone formation is not bilateral, could suggest that its aetiology was traumatic rather than infectious.

Infectious disease 5/16

Trauma

Five individuals show evidence of possible fractures, in most cases affecting the vertebral column. In many cases it is difficult to determine whether or not the deformity is caused by a fracture without the aid of an X-ray.

Two individuals have fused vertebrae possibly resulting from fractures, although no clear fracture lines are visible, with the fusion occurring along the processes rather than the bodies. These are SK008, a older middle adult male, with the 9^{th} & 10^{th} thoracic vertebrae fused, and SK015, a mature female, with the fusion occurring between the 4^{th} – 6^{th} and 9^{th} & 10^{th} thoracic vertebrae. In addition SK015 has a possible fracture of the right femoral neck, with slight lateral displacement of the head. All these fractures are well healed, and in the case of SK015, are quite possibly the same traumatic event.

One more individual displays possible trauma to the spine. SK013, a older middle adult female has some deformity of the end of the spinous process of the 4^{th} – 9^{th} thoracic vertebrae, possibly healed fractures. The same individual has a possible well healed fracture to the medial end of the left clavicle, and a well healed fracture of the left ulna, midshaft, showing no displacement, but some angulation. Again, these may all represent the same traumatic event.

SK010, a mature female, has a possible fracture of the distal articular surface of the right radius, and of the distal end of the shaft of one of the 1^{st} hand phalanges. In all cases the fractures are well healed, indicating that they are long standing, and in both cases may represent the same traumatic event (see also section on occupational stress indicators).

SK012, a older middle adult female, has a possible fracture of the right mandibular head, and the left triquetral and trapezium are fused, possibly the result of a fracture.

Three individuals show new bone formations probably associated with soft tissue trauma. SK013, a older middle adult female, has a bony spur on the anteromedial surface of the distal end of the humerus. SK012, a older middle adult female, has a abnormal bone growth on the right upper 1^{st} phalange, and SK011, a older middle adult female has a abnormal bone growth on the distal end of the 1^{st} proximal phalange of the right foot.

Total fractures 9/16

*Thoracic vertebrae (fusion) 3/16

*Foot/ankle 3/16

*Hand/wrist 2/16

*TMJ 1/10
*Cervical vertebrae (fusion) 1/16
*Lumbar vertebrae (compression) 1/16
*Rib 1/16
*Clavicle 1/16
*Radius 1/16
*Ulna 1/16
*Femur 1/16
*Fibula 1/16
Sharp instrument trauma 1/16
Osteochondritis dissicans 1/16
Soft tissue damage 7/16

Joint disease
Spinal joint disease
Two individuals were recorded as having Schmorl´s nodes on the inferior and superior surfaces of the vertebral bodies. These are formed by pressure on the bodies of the vertebrae due to degeneration of the intervertebral discs (Roberts and Manchester, 1995). The two cases are SK011, a older middle adult female with the 10th thoracic – 4th lumbar vertebrae affected, and SK017, a young adult female, with the 6th & 7th thoracic vertebrae affected.

Osteoarthritis of the C vertebrae 1/16
Schmorl's nodes 6/16

Other joint disease
Two individuals are recorded as having osteoarthritis in other parts of the body. SK010, a mature female has osteoarthritis of the right wrist, between the trapezium and the trapezoid, and of the right hip and ankle (between the tibia and the talus), while SK015, also a mature female has calcified cartilage of the ribs, possibly associated with joint disease, as well as osteoarthritis of the left shoulder, with the formation of a pseudo-arthrosis on the scapula, severe arthritis of both wrists, with the 1st metacarpal, trapezium, scaphoid and trapezoid affected in both cases, and bilateral osteoarthritis of the hip.

Osteoarthritis of the hip 5/16
Osteoarthritis of the hand/wrist 3/16
Osteoarthritis of the feet/ankle 1/16
Osteoarthritis of the shoulder 1/16
Other osteoarthritis 2/16

Occupational stress indicators

Five skeletons were noted as having sesemoid bone formation in the feet, in most cases bilateral, indicating repeated stress. These were SK008, a older middle adult male, SK011 and SK013, older middle adult females and SK010 and SK015, mature females. One individual, SK014, a older middle adult female, had sesemoid bone formation in the hands.

Two individuals were noted as having spondylolysis, or fracture of the neural arch of the vertebrae, usually associated with repeated stress of bending and lifting (Roberts & Manchester, 1995). SK011, a older middle adult female has complete spondylolysis of the 3rd lumbar vertebrae, and the left inferior process of the 5th lumbar vertebrae completely fractured with no fusion of the process. SK010, a mature female has spondylolysis of the 5th lumbar vertebrae (see also section on trauma).

Sesemoid bone, feet 6/16
Sesemoid bone, hands, 2/16
Spondylolysis 3/16
Shoulder joint pseudo-arthrosis 3/16
Neoplasm
One individual, SK015, a mature female had a calcified cyst, 8cm in diameter in the pelvic cavity. This probably represents a benign soft tissue neoplastic growth which has produced a bony reaction. Such cases are extremely rare palaeopathologically.

Neoplasm 2/16
Congenital disease
One individual, SK017, a young adult female, has spina bifida occulta, an opening of the spinal canal of the sacrum, a congenital defect which does not produce any symptoms (Roberts & Manchester, 1995).

Spina bifida occulta 1/16
Non-specific stress indicators
No non-specific stress indicators were recorded on the skeletons excavated during the 2001 season at Hofstaðir.

Enamel hypoplasia 3/16
Dental disease
SK010, a mature adult female and SK013, an older middle adult female had medium to severe calculus, in particular on the molars.

Calculus 6/16

4. THE FINDS

Natascha Mehler

The archaeological investigations at Hofstaðir in 2001 revealed a total amount of 565 artefacts dating from the Viking period to modern times. The objects are registered with 239 numbers, most of them already given in an interim finds catalogue at the site during the excavations. All finds were cleaned, dried, registered in the excavations database and finally stored in four boxes divided by the Areas they were found in. Conservation is only requested for a few objects (like the whale bone artefact HST 01-026) and will be carried out by conservator Jannie Ebsen in spring 2002.

Material	Sum	Find categories
Metal	381	Nails, slag, knife fragments, bolts, rivets, straps, other
Ceramic	107	Pottery, clay pipe fragment
Glass	18	Modern glass, beads
Stone	34	Whetstones, spindle whorls, vessel fragments, mould, unworked stones
Bone/Tooth	8	Unworked and worked bone, one human tooth
Other	17	Amber, ash, wood, organic and unknown material

Table 1: Find categories sorted by sum and material, 565 in total.

Artefacts were recovered in Areas A/B, A2, A4, A5, C and Z. Some modern objects were found in the test trenches Area X (the goat house, carried out by Bruno Berson) and Ztii (inside the farm mound Z, carried out by Gavin Lucas).

VIKING PERIOD

52 % of all artefacts (a total amount of 294) were found in Viking age contexts dating to the late 10th and early 11th century. The finds are of various character: most objects are remains of building structures or furnishing like nails, rivets and clench bolts. Others are of domestic purpose such as knife fragments, part of tools, fragments of a quern stone and a vessel, spindle whorls, a mould and many pieces of slag. These objects are both proof and indication of different crafts carried out at Hofstaðir during this period: iron-smithing and metal work, spinning wool and maybe even the production of glass beads. Few items are personal belongings like dress ornaments and individual jewelry often found in viking burials: glass and amber beads, pendants of copper alloy and silver and a ringed pin of copper alloy.

Area A/B

The majority of finds from the Viking period, 252 in total, were recovered in contexts accompanying the Skáli. 214 of those (85,3 %) are made of iron or iron slag. They are mainly of domestic and structural character. Five complete nails were excavated, all of various size ranging from 1.9 cm to 7.7 cm in length (HST 01-005, HST 01-017, HST 01-018, HST 01-073 and HST 01-115). Many other fragments are parts of nails such as nail heads and stems (for example HST 01-147 and HST 01-215). Three roves of different sizes indicate also the use of clench bolts for joining overlapping timbers: HST 01-013 (2.5 cm × 3.4 cm), HST 01-028 (1.8 cm × 1.8 cm) and HST 01-029 (1.2 cm × 1.2 cm). HST 01-004 and HST 01-029 could be the remains of two iron brackets used to fasten timber, although it is also possible that these items could be fragments of strike-a-lights. Other construction remains are iron fittings such as HST 01-048, 7.0 cm long and slightly bent at one side, and HST 01-020 and HST 01-82, both fragments of flat iron sheets. Three different hooks were found, ranging from 1.4 cm (HST 01-076) to 3.5 cm (HST 01-030, two samples). Tool fragments are represented by HST 01-024, most likely a complete but rather small iron chisel, only 6.7 cm long. As a metal working tool it would have been too short to cut hot iron, but could have been used for working wood or non-ferrous metal. HST 01-080 seems to be part of another tool yet unidentified. The 7.1 cm long object looks like a punch. HST 01-117 seems to be the remains of a small sickle due to its bent blade. Other Viking age sickles from Iceland are known from burials such as Daðastaðir.[2] HST 01-016 is the fragment of a rather thin knife blade. HST 01-075 is an iron ring with a diameter of 3.8 cm, broken into three pieces, which could be part of a chain or horse equipment. HST 01-023 seems to be the rounded bent end of a small scissors.

21 unworked stones and stone artefacts were found in Area A/B. Stone types include steatite, schist, obsidian, flint, quartz, sandstone and a yet unknown rock-like formation. Only the pieces of greenish obsidian (HST 01-031), quartz (HST 01-192, HST 01-169 and HST 01-157) and red sandstone (HST 01-169) are indigenous to Iceland, all others are imported. All of the indigenous stones appear to be unworked. HST 01-063 is a fragment of worked grey flint. Three objects are made of steatite. HST 01-061 is the rim sherd of a rather large round vessel with an upright rim, an opening diameter of ca. 18 cm and a rectangular shaped handle knob. The fragment is undecorated, the inside shows scratch marks, the outside is sooty. The stone type contains rather large inclusions of golden mica. The fragment was found in context 002 and belongs with confidence to the same vessel as the steatite body sherd HST 01-065 found in context 1629 in Area Z. Two complete steatite spindle whorls were found: HST 01-002 is secondarily burnt and broken due to fire exposure. Its lower side is flat, the upper side rounded, the outer diameter is 4.7 cm, the central conical hole measuring 1.1 cm. The present weight is 38 g, thus similar to the spindle whorls HST 99-263 and HST 99-264 found in the excavation season of 1999.[3] It does not seem to be a re-used vessel fragment. HST 01-003 is a complete small coarsly made spindle whorl with a diameter of 2.5 cm, a conical hole of 1.0 cm and a weight of 12 g (see plate XIII). The whorl is flat on top and underneath, the edges are

[2] Kristján Eldjárn/Adolf Friðriksson 2000, 406 f.

[3] Bredenberg 1999, 98 f.

rounded (see Forster, this Report).[4] One side is slightly sooty. Similar spindle whorls are found in many Viking sites in northern Europe such as Haithabu.[5]

Seven fragments of whetstones – six of them made of schist – were recovered from the skáli, the largest with a size of 14.0 cm and a weight of 293 g (HST 01-025). Both ends are broken, the cross section is rectangular shaped, the surfaces are worked (see plate VII). Due to its size the fragment could be a piece of raw material. All schist fragments found in Area A/B are of a light grey and fine type, presumably from the same yet unknown place of origin. Four whetstone fragments belong most likely to pendants: HST 01-006, HST 01-060, HST 01-062 and HST 01-064. HST 01-167 is a complete but broken whetstone, 12.5 cm long and square shaped in cross section. The form is slightly bone-shaped and thinnest in the middle. All whetstone fragments are without eye. HST 01-014 is the fragment of a whetstone of unknown gray stone type with cut marks on one side.

During the excavations two fragments of mineralogical material were suspected to be the remains of a crucible made of clay (HST 01-069 and HST 01-144). Their form indicates that they are part of a vessel wall. The material is gray with white and dark inclusions, the outer surface is covered with a thin layer of clear to slightly greenish glaze. Both pieces were analyzed by Prof. Sigurður Steinþórsson at the University of Iceland (*Háskola Íslands*) who came to the conclusion that the fragments are not of clay but of coarse sandstone that has transformed into a rock. The external glaze is thus due to quartz inclusions that have melted because of fire exposure. The rock is not indigenous to Iceland. The question remains if these fragments are really part of a small vessel.

The investigations at Hofstaðir in 2001 also revealed a complete ringed pin of copper alloy (HST 01-181) (see plate VIII). This dress ornament is of fine quality and exceptional condition and was found in the floor of the skáli. The pin's length is 5.8 cm (without ring), the tip is slightly bent and the outer diameter of the ring is 1.6 cm. Stud and ring are decorated: the facette shaped stud bears a moulded square on both sides with most likely a twin-link inside. Every side of the ring is ornated with four cut marks arranged in three groups. The ringed pin belongs to the group of plain-ringed polyhedral-headed pins made in Ireland, dating to the 10th and 11th century.[6] Those pins have widely been traded in the Viking world where their appearance is mainly limited to the trading and settlement routes of the Hiberno-Norsemen to the West as far as Newfoundland. Only few of those ringed pins are found in Scandinavia.[7]

Twenty other ringed pins of bronze have been found in Iceland so far, amongst those the type of plain-ringed polyhedral-headed pins is clearly dominating.[8] Ringed pins were used both by men and women to fasten the upper clothing to the dress beneath, often supported by threads fastened around

[4] See type A in Bredenberg 1999, 99.
[5] Resi 1979, 76 ff.
[6] Fanning 1990, 144.
[7] Fanning 1990, 133 and 143 ff.; Fanning 1994, 34.
[8] Fanning 1990, 144 ff.; Kristján Eldjárn/Adolf Friðriksson 2000, 375 ff.

the ring and the tip of the pin. Smaller ringed pins, like the one found at Hofstaðir, were probably used daily. A similar example was found at Tjornuvik on the Faroe Islands.[9]

In 1998 the excavations at Hofstaðir revealed a short bronze pin with a facette shaped head (HST 98-058).[10] The pin is complete and only 2.0 cm long. The socket through the head is rather small and it is most likely that this pin was attached to a brooch rather than to a ring. The decoration on both sides of the head is poorly made. Since no comparative pin is known so far, this pin could have been made in Iceland.

Other ornaments are represented by two trapezoid pendants found in the skáli. HST 01-008 is a complete pendant of silver in surprisingly good condition (see plate IX). The pendant is of trapezoid and flat shape with a total length of 3.9 cm. The round eye indicates that the pendant originally was attached to another part of jewelry like a brooch or a bracelet. One surface is decorated with thin and rough incisions of a cross, which may be seen as reflecting both Christian and Pagan symbolism. Each side of this double symbol is faced with an additional line. The ambiguous symbol, indicating that both religions coexisted at the same time, does thus fit well with the dating of the Skáli to the late 10th and early 11th century. Other trapezoid pendants of silver are not known from Iceland, and comparative material fom abroad has not ben identified yet. HST 01-009 is another trapezoid pendant, similar in shape (see plate IX). The material is most likely copper alloy, although metal analysis is recommended. This pendant is 2.5 cm long and considerably smaller than the other one (HST 01-008), the broader side is slightly damaged. No signs of decoration are visible. Although both pendants were found rather close together, the difference in size and shape makes it unlikely that they once belonged to the same set or brooch.

Trapezoid pendants of copper alloy are mainly known from Finno-Scandinavia, Russia and the East Balticum. In Sami sacrificial sites dated to ca. 1000-1350 they appear in small groups connected by a ring. They are also found further south in Norway in graves in Tröndelag of the late Viking age/early middle ages. In this case the pendants are attached on bracelets together with beads and other pendants.[11] The trapezoid copper alloy pendant found in the late 10th and early 11th century skáli at Hofstaðir is thus in agreement with this dating. Two very similar artefacts are known from Iceland. In 1894, an eroded Viking burial at Vað in East Iceland revealed three trapezoid pendants of copper alloy attached by chains to a disc brooch.[12] The stylistic connection of these pendants to the Baltic Area was pointed out by Haakon Shetelig already in 1939 and again in 1994 by Vilhjálmur Örn Vilhjálmsson.[13] Another undecorated trapezoid pendant of copper alloy was excavated at Skeljastaðir in 1939, but first published half a century later in connection of the re-evaluation of

[9] Fanning 1990. 159 ff.
[10] McGovern 1998, 64. The original number is HST 98-133, which is also published in Kristján Eldjárn/Adolf Friðriksson 2000, 377.
[11] Zachrisson 1997, 207 f.
[12] Kristján Eldjárn/Adolf Friðriksson 2000, 368 and 586.
[13] Shetelig 1939, 14; Vilhjálmur Örn Vilhjálmsson 1994, 78 f.

settlement history of Þjórsárdalur. In this case the pendant - together with other artefacts - was taken as evidence of dating the farm to after 1104, not taking into consideration that these pendants also appear in the late viking age.[14]

Other personal belongings or ornaments are represented by five glass beads and a bead of amber (see plate X). The red amber bead HST 01-058 is half complete and has an outer diameter of 1.7 cm. This bead type is rather common in the Viking world and other examples are known from Iceland. Its uneven shape is similar to the amber beads found for example in the burials at Reykjasel.[15] All five glass beads are of different shape and color. HST 01-022 is complete, in rather good condition and made of clear glass. The shape is round (0.7 cm diameter) with a small central hole. The damaged bead HST 01-045 with the diameter of 1.2 cm has a yellowish core surrounded by grayish to whitish corroded glass. HST 01-051 is a worn but complete bead of yellow color with a surviving diameter of 0.7 cm and a rather large central hole. HST 01-055 is complete and of dark blue color with a diameter of 0.8 cm and a central hole of 0.4 cm diameter (no figure). HST 01-170 is a half bead of green color with a diameter of 1.0 cm. The outer surface is corroded. A more detailed analysis of the beads found at Hofstaðir will be undertaken by Elín Hreiðarsdóttir.

Area A/B revealed also a large fragment of worked whalebone (HST 01-026) (see plate XI). The bone is board-shaped, no decoration is visible. Two sides are intact, the others broken. The object is in average condition. The purpose of this object is unknown. Since it is worked it could be a half finished product.

Area A

Only two finds were retrieved from the Viking age contexts in Structure A2. Both are pieces of corroded iron which at present state remain unidentified.

The viking age layers of Structure A4 revealed 33 finds in total. Most of them are pieces of slag (see fig. 9). The few other iron artefacts include the rove of a clench bolt (HST 01-209), the fragmented blade of a small knife (HST 01-226) and a piece of iron fitting (HST 01-077). Furthermore samples of a light gray ash deposit were collected (HST 01-130), containing fragments of burnt bone and charcoal. HST 01-210 is a small piece of a thin copper alloy sheet of unknown purpose. Several finds retrieved in Structure A5 are proofs of the process of iron smithing. Eleven objects – mainly slag – are clearly of metal working character. Most of the total slag amount found at Hofstaðir was recovered in this area, already previously interpreted as a smithy. Iron slag has also been found in other areas. In those cases corresponding structures are missing and the pieces could also be re-deposited (see fig. 9). Two large pieces are most likely parts of a bloom base (HST 01-010 and HST 01-159). HST 01-145 could be part of a small iron knife or a small tool, with a rather thin and short blade of 2.7 cm length. HST 01-001 is a spatula shaped object of corroded iron. HST 01-172

[14] Vilhjálmur Örn Vilhjálmsson 1989, 82 f.
[15] Kristján Eldjárn/Adolf Friðriksson 2000, 217.

is a large piece of gray basalt with a long rectangular deepening of 7.7 cm length on one surface. The stones edges are unworked. This object could be interpreted as mould for small metal bars (see plate XII).

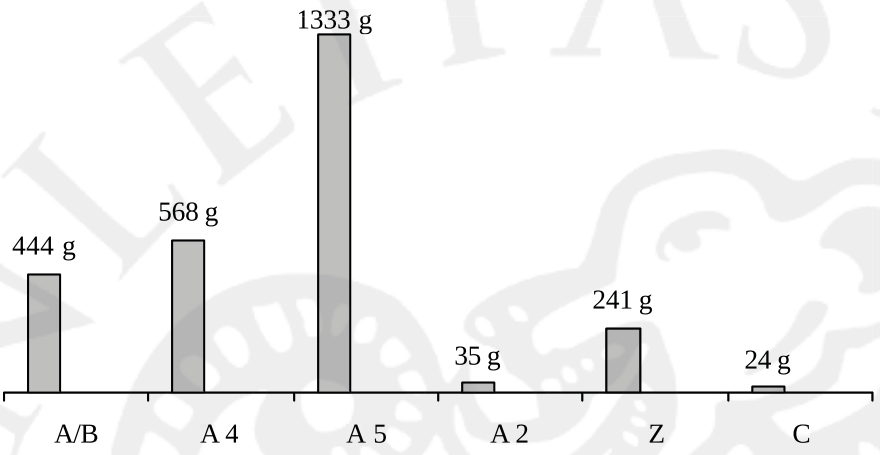

Figure 9 Distribution of slag by areas and weight (N=2645 g).

THE MIDDLE AGES

Medieval occupation at Hofstaðir took place in an area south of the Viking age farm. A number of finds were retrieved from the medieval church and the church yard situated in a medieval farm mound. On the basis of stratigraphy 65 artefacts can be dated to the middle ages. One object was found in a medieval context but is clearly a re-deposited viking age artefact (the steatite vessel fragment HST 01-065, see below).

Area Z

The excavations in the farm mound and church (Area Z) revealed a total amount of 98 finds, 65 of them can be dated to the middle ages from their stratigraphic context. Again, most of the finds are of structural character. At least 17 complete nails and nail fragments were found, most of them used for coffins. The complete nails are of various size and type, some of them still have remains of wood attached to them: the length differs from 2.0 cm (HST 01-093) to 3.7 cm (HST 01-106). Some have bent ends like HST 01-101 and HST 01-099. Five nails are of the same type ranging in size from 3.4 to 3.7 cm with rectangular heads and rectangular cross sections (HST 01-084 (three nails), HST 01-088 and HST 01-094). Some coffins at the churchyard were constructed of overlapping timbers held in place by clench bolts of 1.7 cm to 2.0 cm length. Two of those are recorded under HST 01-227, HST 01-162 is the fragment of a small rove of another clench bolt. The use of clench

bolts for coffins is also known in England and Scandinavia since the 9th century.[16] HST 01-107 is a 5.4 cm long iron strip with inward bent edges, very similar to HST 01-004 and HST 01-029 found in Area A/B. Also in this case the object could be a metal bracket or a strike-a-light. One small hook with a length of 2.0 cm was found (HST 01-105), other iron objects include parts of straps (for example HST 01-086 and HST 01-100). Three artefacts are made of copper alloy: HST 01-083, HST 01-085 and HST 01-180 are thin metal sheets, two of them most likely belonging together. Their purpose is not known, but they could be part of a copper alloy vessel. In addition to these metal items also four pieces of slag were found in Area Z (for example HST 01-133 and HST 01-134) (see also fig. 9). At present state they appear to be re-deposited rather than indicating smithing activity.

Seven stone artefacts were found in the medieval occupation layers of Area Z. Despite the fact that those were found in church and cemetery contexts all of them are of domestic character and very likely re-deposited objects from the medieval farm or even the Viking age skáli further north. HST 01-066, HST 01-152 and HST 01-179 are four fragments of different whetstones. The last one is rather large, trapezoid in cross section and broken on both ends. HST 01-152 is a 4.8 cm long fragment of a bar shaped whetstone made of fine gray schist containing mica. Other stone objects include the body sherd of a bowl-shaped steatite vessel (HST 01-065). The stone type contains large inclusions of golden mica, the outer surface is sooty and the inside bears scratch marks. This sherd clearly belongs to the same vessel as the rim sherd HST 01-061 found in the Viking occupation layers of Area A/B (see plate XIII and also Forster, this Report.). Two of the stone artefacts are of indigenous stone types: HST 01-154 is a worked piece of black obsidian, most likely used for making fire; HST 01-059 is the quarter fragment of a quernstone made of dark gray porous basalt. The approximate diameter is ca. 38 cm.

Area Z revealed also two fragments of medieval pottery (see plate XIV). Despite the fact of them being loose finds the sherds can with confidence be dated to the 13th or 14th century. The redware body sherds (HST 01-068 and HST 01-178) are of fine, sandy and red fabric and external green to yellowish lead glaze. The inside is unglazed. Both clearly belong to the same vessel which can be identified as a jug. Due to the fragmentation it can only be assumed that the sherds are part of a so-called high decorated jug common in northern Europe during the 13th and 14th century. According to fabric, glaze and form the vessel's origin is most likely in the area of the Netherlands, Denmark and northern Germany. The fabric does resemble the so-called Aardenburg Ware produced in coastal Flandern, but the often appearing slip beneath the glaze is missing at the fragments found at Hofstaðir. Not much 13th and 14th century pottery has been found in Iceland and most of those

[16] Ottaway 1992, 618.

excavated fragments are of proto-stoneware or stoneware rather than earthenware. A body sherd of similar fabric was found at the Alþingi site in Reykjavík identified as Dutch/Belgian earthenware dating to the 13th and 14th century.[17] Since the sherds were found in Area Z it can be suggested that the jug was used in the church. If so, it would be the first recovered example of an earthenware vessel used for church services like the storage of holy water. All other known medieval and post-medieval pottery sherds found in Icelandic church sites are fragments of stoneware jugs. The use of high quality or pretty ceramic vessels for holy water in medieval and post-medieval Iceland has been pointed out earlier.[18]

POST-MEDIEVAL AND MODERN PERIOD

Three areas at Hofstaðir revealed post-medieval and modern finds: Area Ztii, Area X and Area C. A few modern objects were also recovered from the Viking age skáli Area A/B, found in the top covering layers.

Area Zii

During the excavations of a small test trench called Ztii in the medieval farm mound 29 objects were found. Most of those fragmented artefacts were retrieved from the upper post-medieval layers, but some could be older like the knife fragment HST 01-204 and the 8.5 cm long fragment of a whetstone (HST 01-197). The oldest pottery found in this area is a base sherd of a redware tripod with a complete leg. The fabric is bright red, the inside covered with thick greenish to brownish lead glaze, the outside is sooty. The pot's leg is rather short and sturdy. The sherd belongs to a tripod type widely used in Northern Europe during a rather long time span. Due to that the sherd can only be dated to the late 16th to 18th century. Redware tripods can often be found also in Iceland. They originate mainly in southern Scandinavia, the Netherlands or northern Germany and were imported during times of the Danish Trade Monopoly.[19] Modern finds from Area Ztii include clear window glass (HST 01-201 and HST 01-207), a fragment of an iron pipe (HST 01-208) and 12 sherds of modern whiteware (HST 01-206 and HST 01-198).

Area X

Another small test trench was opened south of the skáli close to the ruins of an animal stall of late medieval and modern date. Four objects were recovered. HST 01-211 is the orange glazed rim sherd of a redware plate or bowl originating in southern Scandinavia or northern Germany. The fragment can be dated to the late 17th to 19th century. HST 01-212 is a body sherd of modern whiteware. HST 01-213 is a complete iron nail, 4.7 cm long with a rectangular head. HST 01-214 is a complete belt buckle with a double loop frame of copper alloy.

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[17] Mehler 2000, 82 (Vol. I) and 20 (Vol. II), Tafel 17.2 e.

[18] Guðrún Sveinbjarnardóttir 1996, 99 and 101 f.; Mehler 2000, 125 f. (Vol. I).

[19] Mehler 2000, 132 (Vol. I).

Area C

The excavations in Area C revealed 138 finds in total. All datable objects are modern and mostly of structural character: 21 complete nail or nail fragments are recorded under HST 01-123, all of them found in context 452 which contained also a number of other modern finds. The nails are very similar, long and slim, and most likely from the same structure. In the same context were also found fragments of clear window glass (HST 01-132 and HST 01-193), 22 pieces of modern iron sheets and straps (HST 01-125 and HST 01-126), a modern iron hook and an iron disc (HST 01-127), a piece of a modern spoon bowl (HST 01-129) and 53 sherds of modern whiteware (HST 01-072). HST 01-131 is a worked artefact of a mammal long bone, also found in context 452. The object is cylindrical shaped and without decoration (see plate XV). Its purpose is yet unknown and the age is uncertain. The extraordinary good condition suggests that the object is rather young. HST 01-070 is a stem fragment of a clay pipe without marks or decoration. A few pieces of slag were also found in this Area (see fig. 9), which could be re-deposited from the viking age structures. Two small pieces of iron slag or even glass slag are recorded under HST 01-187. Further analysis of those is suggested in order to find out whether a production of glass beads has been taken place at Hofstaðir.

Area A/B

Area A/B also produced three modern finds: two body sherds of modern whiteware and one body sherd of modern stoneware found in the cleaning horizon 002.

CONCLUSION

The excavations at Hofstaðir in the summer of 2001 revealed several important finds from the Viking period. Especially the dress ornaments like the ringed pin and the trapezoid pendants are unique due to both form and condition, and the silver pendant is in addition remarkable because of its religious symbolism. These artefacts indicate a rather high social status of the Viking age inhabitants at Hofstaðir. Precious items like these are mainly known from Viking burials and hardly found at settlement sites in Iceland. Due to both structures and finds like slag and bloom bases it is clear that iron smithing has taken place in Area A 5. The appearance of suspected glass slag also indicates the production of glass beads at the site. An analysis of those slag fragments is therefore suggested. Conservation is required for the whale bone board, the ringed pin needs mechanical cleaning and stabilization by a specialist. Further investigation is advised for the iron objects in order to find out about architectural structures and furnishings in the skáli.

Plate VII Whetstone fragment HST 01-025.

Plate VIII The ringed pin of bronze found in the Skáli (HST 01-181).

Plate IX Silver pendant HST 01-008 (left) and copper alloy (?) pendant HST 01-009 (right).

Plate X Five of the beads found at Hofstaðir. On top the amber bead (HST 01-058), middle left HST 01-022, middle right HST 01-051, below left HST 01-045, below right HST 01-170

Plate XI The whalebone board found in Area A/B (HST 01-026).

Plate XII Basalt mould found in Area A 5 (HST 01-172).

Plate XIII Steatite objects: left vessel fragment HST 01-065 (Area Z), right spindle whorl HST 01-003 (Area A/B).

Plate XIV Medieval redware found in Area Z: HST 01-178 left, HST 01-068 right.

Plate XV Bone artefact found in Area C (HST 01-131).

5. A PRELIMINARY REPORT ON THE SOAPSTONE ARTEFACTS

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BACKGROUND

Soapstone, or steatite is an exotic material that was imported into Iceland. Probably the most prolific producer of soapstone goods in the Viking and Norse periods was Norway, where approximately eighty soapstone outcrops show evidence for ancient workings (Resi 1979, Fig. 116, p118 & p144-145). In addition, outcrops in the Shetland Isles were being worked in later prehistory (see Forster and Bond, forthcoming, Buttler 1984, Bray 1994), and the Norse probably utilised similar outcrops in Greenland (e.g. see Lynnerup 2000, 292-293).

Despite a number of detailed investigations, the provenance of soapstone artefacts has proved problematic (see Allen et al. 1975, 1978, Moffat and Buttler, 1986, Truncer et al. 1998, Bray 1994, Alfsen and Christie 1979), though recent work on Shetlandic artefacts seems to be making progress (Jones, pers. comm.). Furthermore, current studies of soapstone vessel morphology have highlighted distinctions in form and manufacturing techniques between Norwegian and Shetlandic artefacts, which may aid provenance studies in the future (Forster and Bond, forthcoming).

In Iceland, the presence of soapstone artefacts in Viking and Norse period assemblages is relatively common (Vésteinsson 2000, 169). However, very little work has been carried out on Icelandic soapstone artefacts since Kristian Eldjarn's assessment of the National Museum collection (Eldjárn, 1950). Though the museum has some complete and near complete vessels and other artefacts, recent studies of excavated assemblages indicate that well-preserved finds are rare on settlement sites (Forster, in prep.). For example, of the numerous vessel fragments recovered from excavations in Reykjavik, only 50% were sufficiently well preserved to allow assignment to a particular vessel form. Such poor preservation seems to result from the re-use of vessel fragments, rather than from post-depositional effects, leaving small worn fragments as the majority of the assemblage (see Forster, in prep.). Such observations may eventually shed some light on the extent and organisation of the sopastone trade within Iceland. The high level of reworking recorded may imply that either access to soapstone artefacts was differential across the region (Vésteinsson 2000, 169), or that the trade itself was extremely limited.

THE SOAPSTONE ASSEMBLAGE

To date, ten soapstone finds have been recovered from excavations at Hofstaðir by Mývatn. Six of the artefacts are spindle whorls, one is a bead or whorl and the remaining three are vessel fragments. The preservation of the artefacts is good, with no small indeterminate fragments recovered as yet.

Whorl and Beads

In total, six whorls and one whorl/bead have been recovered from Hofstaðir, two of which were probably made from vessel fragments. The majority of the objects have domed profiles, one whorl was hipped and the bead oval. Whorls recovered from excavations in 1996 and 1999 have been discussed previously by Bredenberg (1999, 99) who compared the artefacts to the typological sequence developed for whorls from medieval Bryggen, Bergen (see Øye 1988). Bryggen types A, D and F were found to be comparable with the Hofstaðir whorls, representing domed, hipped and oval profiles respectively. Though Bryggen itself was dated to the C12th - C15th AD, Viking period whorls showed a similar typology, though with greater numbers of domed whorls (Bryggen type A).

A detailed study of textile production at 16-22 Coppergate in York also allowed a typological sequence for whorls to be developed. The York whorls were classified according to the type and relative size of each face. Four forms were established: York A1 whorls have one flat face and A2 have two flat faces, one substantially larger than the other. York B whorls have two flat faces with equivalent diameters and C whorls have no flat faces (Walton Rogers 1997, 1736). York A whorls were more common in the earlier part of the site sequence, dated from the mid-9th to the end of the 10th centuries AD (ibid. 1737, Fig. 805).

The predominance of York-type A whorls in the Hofstaðir assemblage perhaps suggests that they date from the Viking period settlement on the site. This hypothesis is tentatively supported by evidence from the Bryggen excavations, though more confident interpretation based on so few artefacts could be misleading. However, it is clear that whorl forms throughout the North Atlantic region in the Early Medieval period appear quite standard, such that the Hofstaðir whorls are readily comparable to whorls from sites in both Northern England and Norway.

Vessel Fragments

The three vessel fragments all appear to be from the same vessel. Two of the fragments conjoin at one edge, and the third shows extremely similar use-wear and manufacture. The estimated diameter around the rim of the vessel is approximately 220mm, if the vessel was circular. The walls were slightly flared and the base most likely to have been slightly flattened. The rim fragment has a lug on the external surface, a feature which is not uncommon in Viking and Norse period vessels. Sooting and residue on the external surfaces, and patches of soot on the internal surface would indicate that the vessel has been used for heating, probably as a cooking vessel. Internal scouring marks, caused by cleaning the vessel with an abrasive material, are relatively deep and perhaps indicate a long use-life.

The dating of the vessel is difficult to determine from its morphology, and would have to be based on stratigraphic evidence. Circular, round-bottomed vessels were common throughout the Viking and early Medieval periods and the addition of lugs, though not frequent, is not specific to any particular period. The three fragments together do allow a reasonable reconstruction of the vessel, which would seem to be well-manufactured. The quality of manufacture may be an indication that the vessel is of Norse origin, and recent work both on soapstone vessels (see Forster, in prep.) and ceramics (Mehler 2000, 130-131) has demonstrated a strong Norwegian link with imported goods of the Medieval period.

Whilst the soapstone assemblages from other excavations of a similar period (such as Reykjavík and Sveigakot) were mainly composed of small, indiscriminate fragments, the Hofstaðir finds are in reasonable condition. Whether this is a result of the type of site or the type of deposits can only really be assessed once more finds are recovered.

6. GEOARCHAEOLOGICAL SAMPLING REPORT

Karen B. Milek

INTRODUCTION

Since 1992, the archaeological excavations at Hofstaðir have included extensive sampling of on- and off-site soils and sediments. The types of samples taken include undisturbed blocks for thin section analysis (micromorphology), as well as bulk samples and undisturbed blocks for chemical, magnetic susceptibility, lipid, mineralogical, phytolith, plant macrofossil, diatom and/or pollen analysis, depending on the type of deposit, and the questions being asked about it. In thin section, it is possible to assess the mineralogy, structure and texture of soils and sediments, as well as the orientation and distribution of any bones, shells, artefacts, coprolites, phytoliths, diatoms, ash crystals, pollen, charcoal or plant remains that may be present. In addition, it is possible to observe a number of compounds that may include iron, manganese, phosphorus, carbonates, organic matter and clay minerals, the mobility of which can be linked to various soil formation processes, human activities and environmental conditions. Micromorphological analysis has therefore been used as the principal means of studying soil formation and erosion processes in the vicinity of Hofstaðir, assessing the degree of anthropogenic amendment of the infield, determining the composition of complex archaeological sediments, such as middens and floors, and of assessing both cultural and natural site formation processes. The micromorphology samples taken in 2001 are listed in Appendix 4.

In the case of internal floor deposits, where the the spatial distributions of chemical and magnetic signatures, organic matter, bones and artefacts are key to understanding the organisation of activity areas within buildings, a policy of 100% bulk sampling on a 0.5-1 m^2 grid has been adopted. From each grid square 200 ml subsamples are collected for chemical and magnetic analysis, while the rest of the floor deposit is floated and wet sieved for the recovery of plant macrofossils, faunal remains and microrefuse. Midden deposits and the fills of pits and post-holes are also bulk sampled for flotation and wet sieving, primarily for the recovery of plant macrofossils, and, in the case of midden deposits, for the recovery of fine bones (e.g. fish). Sediments from the skulls, thoracic and pelvic cavities of the skeletons excavated in Area Z were bulk sampled for entomological and parasite analyses, and the fine ash deposits placed on the thoracic area of the skeletons were sampled for the identification of the ash (see the complete sample list in Appendix 4). This report concerns the geoarchaeological analysis of floor sediments only. The processing and analysis of bulk samples for various types of organic remains will be conducted by other researchers: plant macrofossil analysis by Garðar Guðmundsson, entomological analysis by Professor Paul Buckland (University of Sheffield) and parasite analysis by Dr. Andrew Jones (University of Bradford).

Area AB: Skáli

The lower occupation deposit within the skáli, a black, compact, charcoal-rich deposit containing burnt bones and some patches of peat ash, was excavated in alternate 5 m squares in order to expose it in section along the central north-south axis of the building, and along five short east-west sections. The floor deposit in grid square 00A (context [318]) had already been sampled in 2000 where it was exposed in section on the edge of a truncation made by Bruun around the central hearth in 1908 (see Milek 2000a). In 2001, the remainder of the lower floor deposit (contexts numbered 380, 388, 389, 397, 399, 427 and 415, depending on the grid square) was sampled; undisturbed blocks for micromorphological analysis were taken using 7x5x4 cm Kubiena tins at intervals along the central axis of the building, and the rest of the floor deposit was 100% bulk sampled on a 1 m grid (Figure 2); see Appendix 4 for list of bulk samples and micromorphology samples). The remarkable size of the skáli and the extent of the floor deposits inside of it present an interesting question. Was the interior of the skáli one large, multi-functional room, or were there internal divisions in the use of space, either separated by partition walls, or conceptually understood? Even though the floor deposit appears to have been partially truncated by Bruun on the eastern and western edges of the skáli, the detailed analysis of the preserved floor deposits – their composition, and the distribution of organic matter, elemental signatures and magnetic properties inside of them – should provide an indication of how activity areas in this very large building were spatially organised.

Area A: Structure A4

The sequence of floor deposits preserved in the eastern end of the structure (contexts 564, 565, 566, 567) were exposed in section along an east-west baulk, from which three micromorphology samples were removed. The dark grey, charcoal-rich layers [564] and [565] were divided into four quarters for the purposes of 100% bulk sampling, and layer [566], which was largely restricted to the northern part of the building, was divided into half for this purpose. Charcoal-rich floor deposits are a common feature at Hofstaðir, and have usually been associated with buildings that contain a hearth, and were thought to have had a domestic function. The function of A4 remains unclear, however, since no hearth has been preserved in the eastern part of the building (if it did exist, it was truncated by later buildings in the western half of the structure). The analysis of the composition and compaction of the occupation deposits within A4 will permit the distinction of trampled surfaces, and will contribute to the interpretation of the function of the building – whether it did indeed have a domestic function, and whether this function changed over time.

Area A: Structure A5

The floor sequence in Structure A5 had been partially exposed in 2000, and three micromorphology samples had been taken from the north-south and east-west baulks placed through the central axes

of the building (see Milek 2000a). Preliminary analysis of these samples revealed that the uppermost floor deposit in the structure (context 354) was predominantly composed of partially decomposed plant matter, and it was even possible to distinguish a whole, untrampled sheep coprolite. It would therefore appear that in its final phase, this structure was reused as a sheephouse, although this function may have been fairly temporary. It is hoped that the elemental composition of this layer, which was divided into 8 sampling squares for 100% bulk sampling in 2000, will help to confirm this interpretation (analysis not yet carried out). In 2001, three additional micromorphology samples were taken from the floor deposits within A5, and the remaining floor contexts (375, 385, 381, 387, 390, 391, 392) were bulk sampled. One of these (context 375) was divided into seven sampling squares for the purpose of bulk sampling, in order to permit the spatial analysis of the contents, chemical signatures and magnetic properties of the floor. The analysis of the primary floors in Structure A5, which contained variable amounts of charcoal and ash, but were otherwise lacking artefacts, will contribute to an understanding of the function of the building, as well as the identification of trampled surfaces. If the structure had a primarily domestic function, it remains to be determined if the activities and living conditions in this small structure differed significantly from those in the skáli.

Area C: Structure C2

Two samples were taken from within Structure C, from the small plinth of deposits left in situ by Bruun against the south side of the interior; these deposits comprised turf collapse and floor layers associated with the earlier Structure C2.

Area X: 19th-Century Sheephouse

The trench excavated south-west of Area Z, through what was once a 19th-century sheephouse, exposed a deep sequence of deposits thought to represent the floors of the structure. These deposits closely resembled the floor deposits in an early 20th-century sheephouse previously sampled by the author at the site of Þverá (Milek 1999), which proved to consist of alternating layers of hay and sheep dung. Two micromorphology samples were taken from the east-facing section of this trench, in order to supplement the growing ethno-archaeological reference collection of the author.

ANALYTICAL METHODS

Micromorphology

The micromorphology samples will be manufactured at the McBurney Geoarchaeology Laboratory at the University of Cambridge. They will be dried using acetone replacement of water, impregnated with a crystic polyester resin, and thin sectioned following the method described by Murphy (1986).

Thin sections will first be studied under a light box at a scale of 1:1 and will then be analysed using petrological microscopes at magnifications ranging from x4 to x400 under plane polarised light, oblique incident light, and ultra-violet light, and between crossed polarisors. Digital image capture and analysis may be used in addition to standard descriptions, all of which will conform to the internationally accepted terminology in Bullock et al. (1985). In addition, electron microprobe analysis may be conducted on some uncoverslipped thin sections in order to clarify the elemental composition of features that proved difficult to identify by thin section analysis alone.

The interpretation of thin sections will be aided by reference to the experimental and ethnoarchaeological materials collected by the author and other researchers, and by the accumulated experience of other soil scientists who have been applying micromorphological techniques to archaeological questions (e.g. Courty et al. 1989). The goals of micromorphological analysis will be: 1) to confirm that the presumed floor deposits have indeed been trampled and that their formation can therefore be attributed to the activities that took place within the buildings during their use; 2) to determine the precise composition of the floor deposits and the degree to which their composition changed over time; this will contribute to an interpretation of how space within the buildings was organised and used; 3) to detect any physical or chemical alterations to the original floor sediments, which could provide information about environmental conditions and human activities within and around the buildings during and after their use.

Magnetic and Chemical Analyses

The preparation of the sediment samples, as well as most of the chemical and magnetic analyses, will be conducted at the Department of Geography at the University of Cambridge. The sediment samples will be air-dried for one week, after which they will be pulverised using a mortar and pestle, and sieved in order to remove constituents over 2 mm in size. The samples will then be split and analysed for a number of properties, including loss-on-ignition, magnetic susceptibility, electrical conductivity and pH. Multi-element analysis using inductively coupled plasma – atomic emission spectroscopy will be carried out by ALS Chemex, a company based in Mississauga, Ontario, Canada. Information about each of these methods, and the information they provide, will be briefly outlined below.

Loss-on-Ignition

Approximately 5 g of sediment will be measured into crucibles of known weight, and will then be heated for at least two hours to 105ºC to ensure that they are completely dry. They will then be ignited for at least six hours to 400ºC, 550ºC, and 900ºC consecutively. The weight loss recorded after these three periods of ignition, divided by the oven-dry weight of each sample, will give a close proxy measurement for the percentage of organic matter, microcharcoal, and the carbonate content

respectively. These properties will then be plotted on the plans of the buildings in order study their spatial patterning.

Concentrations of organic matter in a floor deposit are likely to represent areas in which plant matter or animal excrement accumulated and decomposed *in situ*. It is extremely valuable to test this property using loss-on-ignition, because even partially decomposed organic matter cannot be recovered by flotation. Since Icelandic soils do not naturally contain calcium carbonate, any concentrations of carbonate in the sediments from Hofstaðir are likely to be derived from wood ash. The properties tested by loss-on-ignition can therefore give some indication of activity area patterning, and can be used as a framework for understanding the chemical properties of the floor deposits, as determined by other techniques.

Magnetic Susceptibility

Dry sediment will be placed into 10 cm^3 plastic pots, weighed, and measured using a Bartington magnetic susceptibility meter in order to obtain the mass specific magnetic susceptibility of each sample. This property, which is a measure of the ability of the sediment to be magnetised when it is placed in a magnetic field, will then be plotted on the plans of the buildings in order to investigate spatial distributions. Enhanced magnetic susceptibility on archaeological sites is usually due to burning, which can cause iron to be reduced to magnetite, which can then be re-oxidized to the ferrimagnetic form of iron oxide, maghaemite. The distribution of high magnetic susceptibility readings is therefore usually associated with hearths. However, high magnetic susceptibility readings elsewhere in the structure could also represent *in situ* burning outside of the main hearth, or the movement of sediment away from the hearth to other locations within the building. When the distribution of magnetic susceptibility readings on the floor of a Viking Period building in the Outer Hebrides was analysed, and found to sharply fall off along a straight line, the excavators interpreted this pattern as indicating the presence of an internal partition wall, which prevented the spread of hearth debris through trampling or sweeping (Smith et al. 2001). Ethnoarchaeological research by the author has also shown that in more recent times, hearth debris was intentionally spread around turf buildings as a means of maintaining the floors when they become wet or worn, or when noxious odours needed to be absorbed (Milek 2000b). The spatial patterning of magnetic susceptibility on the floors of the structures therefore has the potential to provide information about the presence of small subsidiary hearths, internal partition walls, or methods of maintaining a salubrious environment within the buildings.

Electrical Conductivity and pH

10 ml of sediment will be placed in 50 ml plastic pots, and mixed with 25 ml de-ionised water. They will then be tested for electrical conductivity and pH using electronic meters. Electrical conductivity measures the ability of the soil solution to conduct electricity, and is used as a proxy for the quantity of soluble nutrients, salts, or ions in the soil. These might include phosphate, magnesium, calcium,

nitrogen, or sulfur, but it is not possible to identify which nutrients are present without conducting further chemical analyses (see below). By plotting electrical conductivity readings on the plans of the buildings, and studying distribution patterns, it will be possible to detect any activity areas containing enhanced levels of nutrients. pH is defined on the basis of the hydrogen ion activity in the soil solution, and is used as a measure of the acidity or alkalinity of the sediment. The spatial distribution of pH readings can provide information about the concentration of humic acids resulting from the decay of organic matter, and if there are vast differences in the pH across a floor deposit, it can be used to explain the variable preservation of bone, shell and calcareous ash.

Multi-Element Analysis (ICP-AES)

5 g of sediment will be sent to AMS Chemex, Canada, for multi-element characterisation by inductively coupled plasma – atomic emission spectroscopy (ICP-AES). The elements in the sample will be dissolved using a nitric acid – aqua regia digestion system, and the resulting solution will be heated to a temperature of 8000ºC, which excites all of the elements in the sediment and causes them to emit light at their characteristic wavelengths. This light will then be collected by an atomic emission spectrometer, which diffracts the light, resolves it into a spectrum of its constituent wavelengths, measures the intensity of each wavelength, and converts it to an elemental concentration by comparing it to calibrated standards.

The 34 elements quantified by ICP-AES will be plotted on the plans of the structures in order to determine their spatial distribution. Concentrations of elements in certain parts of the house will not only indicate the location of activity areas, but will also provide information about what those activities might have been. Concentrations of phosphorus, for instance, indicates the location of *in situ* decomposed organic matter, and very high concentrations of phosphorus can pinpoint the location of accumulated animal excrement, such as might occur in a byre or stabling area. Potassium is present in high concentrations in wood ash, and high potassium readings can help to identify where this material had been deposited, even if it has been decalcified, and is somewhat difficult to identify in the field, as may occur in acidic conditions. Since Icelandic soils generally lack calcium carbonate, high concentrations of calcium in the floor may be taken to indicate the location of calcareous ash, bone or shell deposition and dissolution.

CONCLUSION

The sediment samples taken from the occupation deposits within the skáli and Structures A4, A5 and C2 at Hofstaðir are expected to make an important contribution to the interpretation of the buildings and an understanding of how space was organised and used inside of them. Micromorphological analysis already conducted on the floor deposits in Structure D1 at Hofstaðir has contributed to the understanding of how the use of the building changed over time (from a domestic structure to a hay barn), and the micromorphological analysis of sediments within Structure E2, supplemented by electron microprobe analysis and lipid analysis, has permitted the identification

of this structure as a privy. An intensive sampling programme, which integrated micromorphology sampling with bulk sampling on a 50 cm^2 grid, was also conducted on the floor deposits in Structure G in 2000 (analysis still in progress). Viewed as a whole, the remarkable number and variety of buildings at Hofstaðir will make a tremendous contribution to our understanding of the organisation and functioning of Viking Period farms, and the sedimentary analyses that are providing insights into how the buildings were used have an integral role in the interpretation of the farmstead.

7. REPORT ON TEPHROCHRONOLOGICAL AND LANDSCAPE CHANGE FIELDWORK 2001

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OBJECTIVES

The fieldwork carried out in 2001 built on the work carried out during the previous year and had two main objectives:

1. to establish a robust tephrochronological framework for the area. This will enable precise dating of archaeological deposits, correlations between archaeological contexts and sites and correlation between the archaeology and surround landscape.
2. to investigate landscape change in the area around Mývatn which has occurred since the area was settled.

These two objectives are interlinked. Whilst tephra layers provide a valuable means of dating archaeological remains, the stratigraphy close to human settlement is often disturbed and incomplete. In order to place the tephra layers in their correct stratigraphic position, it is essential that the tephrastratigraphy of the area is understood. This requires the examination of soil profiles away from the archaeology, where the sediment is less disturbed and a complete record of tephra deposition can be found. As tephra records can vary over quite short distances, it is also essential to examine as many profiles as possible. As a result, a large number of soil profiles need to be examined to establish a regional tephrochronological framework. This also provides a representative selection of sites which used to study landscape change. The thickness of soil between dated tephra layers allows accumulation rates to be calculated and variations in landscape stability can be inferred.

Priorities for the 2001 fieldwork were to establish the identity of the Landnám tephra, which has been used elsewhere in Iceland to date the earliest settlement, and that of the white presumed 12th century tephra. In the Mývatn area the period around Landnám is represented by a sequence of olive green and black tephras. At present there is no geochemical evidence to show which one is the Landnám Tephra. In the south of Iceland this mainly basaltic tephra is quite distinctive and is often accompanied by a pale coloured silicic tephra. This pale layer is not present in the north-west. The Landnám Tephra also often contains white crystals which in the past have been used to differentiate it from other Veiðivötn tephra layers.

In general most soil profiles were logged down to either the Hekla 3 or Hekla 4 tephra layers. Particular attention was paid to the presence or absence of root casts, evidence of frost heaving,

discontinuous tephra layers, soil colour and texture and the dip of layers. All of this data will be used to give an insight into landscape stability and vegetation cover. Tephra samples will be analysed in the coming months and at present all field identifications of tephra layers await confirmation by geochemical analysis. Many of the soil profiles also had magnetic measurements taken by Dr Martin Kirbride and Donald Ashburn.

Over thirty tephra profiles were examined, logged and sampled in four main areas. Most of these profiles are shown in Figure 9:

1. A reference profile was dug in Bárðardalur (SVR2 in Figure 10). This profile is further west and south of the other profiles and contained a detailed historical sequence. Field observation suggests that the distinctive white tephra layers from the Öræfajökull 1362, Hekla 1158 and 1104 eruptions are present, as well other tephra layers from Katla, Veiðivötn and Hekla. Samples were taken of all of these tephra layers and those which comprise the Landnám sequence. This profile will prove to be crucial at tying together the tephrastratigraphy for this area.

2. The second area was around the Hrísheimar area. A preliminary excavation by Clayton Tinsley was carried out on a midden and 8 soil profiles in the immediate area were examined. These provide a valuable record of both tephra deposition and soil accumulation rates. Two white early historical tephra layers were identified, the upper one probably being the Öræfajökull 1362 tephra.

3. Tephra sequences within the archaeological site at Sveigakot were also re-examined and fresh samples of the Landnám sequence of tephras taken. Profiles south of Sveigakot at Sellandagróf and Oddastaðir were also dug. The Oddastaðir tephra layers in particular had excellent historical tephra records, including the Landnám sequence.

4. Soil profiles both on the high ground above Hofstaðir and also within the archaeology were also examined. Again tephra samples were taken and these will be analysed to allow the site to be accurately correlated to Sveigakót and other the soil profiles.

The priority for the coming months is to analyse tephra samples which will help identify the Landnám tephra, the presumed 12th century Hekla tephra and other historical tephras. This will allow precise dates to be applied to both archaeological deposits and soil profiles throughout the area. Using these data, together with those collected in 2000, we will be able to correlate deposits and investigate the spatial variation of landscape change, including patterns and rates of erosion and deposition. These results will determine the fieldwork which is carried out during the summer of 2002.

8. APPENDICES

1. LIST OF CONTEXTS

Context number	Area	Context Type	Brief Description
376	A/B	Layer	Turf debris
377	A/B	Layer	Turf debris
378	A/B	Layer	Floor
380	A/B	Layer	Floor
384	A/B	Layer	Peat ash
388	A/B	Layer	Floor
389	A/B	Layer	Peat ash / floor
394	A/B	Fill	Mixed
395	A/B	Layer	
396	A/B	Deposit	Fill of depression?
399	A/B	Layer	Floor
400	A/B	Layer	Turf debris
401	A/B	Cut	Postpit
413	A/B	Layer	Turf debris
414	A/B	Layer	Floor
415	A/B	Layer	Floor
418	A/B	Layer	Turf debris
419	A/B	Layer	Floor
420	A/B	Layer	Turf debris
421	A/B	Layer	Floor
422	A/B	Layer	Upcast
423	A/B	Layer	Floor
425	A/B	Layer	Wood ash
426	A/B	Fill	Mixed turf debris
427	A/B	Layer	Floor
428	A/B	Cut	Irregular
429	A/B	Fill	Mixed peat ash etc.
430	A/B	Fill	Stakehole
431	A/B	Cut	Stakehole
432	A/B	Fill	Stakehole
433	A/B	Cut	Stakehole
434	A/B	Fill	Stakehole
435	A/B	Cut	Stakehole
436	A/B	Fill	Stakehole
437	A/B	Cut	Stakehole
438	A/B	Fill	Stakehole
439	A/B	Cut	Stakehole
440	A/B	Fill	Stakehole
441	A/B	Cut	Stakehole
442	A/B	Fill	Posthole

Context number	Area	Context Type	Brief Description
443	A/B	Cut	Posthole
444	A/B	Fill	Posthole
445	A/B	Cut	Posthole
446	A/B	Fill	Posthole
447	A/B	Cut	Posthole
448	A/B	Layer	Wood ash
449	A/B	Layer	Turf debris
450	A/B	Layer	Mixed debris/floor
454	A/B	Layer	Wood ash
455	A/B	Layer	Upcast
456	A/B	Layer	Mixed ash/upcast
457	A/B	Layer	Unexcavated
458	A/B	Fill	Posthole
459	A/B	Fill	Posthole
460	A/B	Fill	Posthole
461	A/B	Fill	Posthole
462	A/B	Cut	Posthole
463	A/B	Cut	Posthole
464	A/B	Cut	Posthole
465	A/B	Cut	Posthole
466	A/B	Cut	Pit
467	A/B	Fill	Posthole
468	A/B	Layer/fill	Mixed ash/upcast
469	A/B	Depression	Possible posthole?
470	A/B	Fill	Lower fill of hearth
471	A/B	Fill	Stakehole
472	A/B	Fill	Posthole
473	A/B	Fill	Posthole
474	A/B	Fill	Posthole
475	A/B	Cut	Posthole
476	A/B	Cut	Posthole
477	A/B	Cut	Posthole
478	A/B	Cut	Stakehole
480	A/B	Fill	Charcoal rich
482	A/B	Fill	Postpit
483	A/B	Cut	Postpit
484	A/B	Fill	Posthole?
485	A/B	Cut	Posthole?
486	A/B	Layer	Mixed ash/charcoal
487	A/B	Layer	Peat ash
488	A/B	Fill	Shallow depression
489	A/B	Cut	Posthole
490	A/B	Fill	Posthole
492	A/B	Fill	Posthole
493	A/B	Cut	Posthole
494	A/B	Cut	Posthole

Context number	Area	Context Type	Brief Description
495	A/B	Fill	Posthole
496	A/B	Cut	Pit
497	A/B	Cut	Posthole
498	A/B	Cut	Posthole
499	A/B	Fill	Posthole
552	A/B	Fill	Posthole
553	A/B	Cut	Posthole
555	A/B	Cut	Posthole
556	A/B	Fill	Posthole
558	A/B	Cut	Posthole
559	A/B	Fill	Posthole
560	A/B	Layer	Wood ash
561	A/B	Layer	Floor
562	A/B	Fill	Posthole
563	A/B	Cut	Posthole
568	A/B	Fill	Stakehole?
569	A/B	Cut	Stakehole?
570	A/B	Fill	Stakehole
571	A/B	Cut	Stakehole
572	A/B	Fill	Stakehole?
573	A/B	Cut	Stakehole?
574	A/B	Fill	Stakehole?
575	A/B	Cut	Stakehole?
576	A/B	Fill	Stakehole?
577	A/B	Cut	Stakehole?
581	A/B	Fill	Stakehole?
582	A/B	Cut	Stakehole?
583	A/B	Fill	Stakehole
584	A/B	Cut	Stakehole
585	A/B	Fill	Stakehole
586	A/B	Cut	Stakehole
587	A/B	Fill	Posthole
588	A/B	Fill	Posthole
589	A/B	Fill	Posthole
590	A/B	Fill	Posthole
591	A/B	Fill	Posthole
592	A/B	Cut	Posthole
593	A/B	Cut	Posthole
594	A/B	Cut	Posthole
595	A/B	Cut	Posthole
596	A/B	Cut	Posthole
597	A/B	Fill	Posthole
598	A/B	Cut	Posthole
599	A/B	Fill	Posthole
600	A/B	Cut	Posthole
601	A/B	Fill	Posthole

Context number	Area	Context Type	Brief Description
602	A/B	Cut	Posthole
603	A/B	Fill	Posthole
604	A/B	Cut	Posthole
605	A/B	Fill	Posthole
606	A/B	Cut	Posthole
607	A/B	Fill	Posthole
608	A/B	Cut	Posthole
612	A/B	Fill	Posthole
613	A/B	Cut	Posthole
614	A/B	VOID	VOID
615	A/B	Fill	Posthole
616	A/B	Fill	Pit
617	A/B	Fill	Posthole
618	A/B	Cut	Posthole
624	A/B	Fill	Pit
625	A/B	Cut	Pit
626	A/B	Fill	Posthole
627	A/B	Cut	Posthole
628	A/B	Fill	Posthole
629	A/B	Cut	Posthole
630	A/B	Fill	Posthole
631	A/B	Cut	Posthole
632	A/B	Cut	Pit
633	A/B	Deposit	Posthole
634	A/B	Fill	Posthole
635	A/B	Fill	Posthole
636	A/B	Fill	Posthole
637	A/B	Fill	Posthole
638	A/B	Fill	Pit
641	A/B	Cut	Posthole
642	A/B	Layer	Mixed, dark
643	A/B	Fill	Posthole
644	A/B	VOID	VOID
645	A/B	Cut	Pit
646	A/B	Cut	Posthole
647	A/B	Fill	Posthole
648	A/B	Cut	Posthole
649	A/B	Fill	Posthole
650	A/B	Cut	Posthole
651	A/B	Fill	Posthole
652	A/B	Cut	Posthole
653	A/B	Fill	Posthole
654	A/B	Cut	Posthole
655	A/B	Fill	Posthole
656	A/B	Cut	Posthole
657	A/B	Fill	Posthole

Context number	Area	Context Type	Brief Description
658	A/B	Cut	Posthole
659	A/B	Fill	Posthole
660	A/B	Cut	Posthole
661	A/B	Fill	Posthole
662	A/B	Cut	Posthole
663	A/B	Fill	Posthole
664	A/B	Cut	Posthole
665	A/B	Fill	Posthole
666	A/B	Layer	Charcoal ash dump
667	A/B	Deposit	Compression fill
668	A/B	Fill	Posthole
669	A/B	Cut	Posthole
670	A/B	Fill	Posthole
671	A/B	Cut	Posthole
672	A/B	Fill	Posthole
673	A/B	Cut	Posthole
674	A/B	Fill	Pit
675	A/B	Fill	Posthole
676	A/B	Cut	Posthole
677	A/B	Fill	Posthole
678	A/B	Cut	Posthole
679	A/B	VOID	VOID
681	A/B	Fill	Posthole
682	A/B	Cut	Posthole
683	A/B	Fill	Posthole
684	A/B	Cut	Posthole
685	A/B	Fill	Posthole
686	A/B	Cut	Posthole
687	A/B	Fill	Stakehole
688	A/B	Cut	Stakehole
689	A/B	Fill	Stakehole/slot
690	A/B	Cut	Stakehole/slot
691	A/B	Fill	Posthole
692	A/B	Cut	Posthole
693	A/B	Fill	Posthole
694	A/B	Fill	Posthole?
695	A/B	Cut	Posthole?
696	A/B	Layer	Ash, charcoal dump
697	A/B	Fill	Posthole
698	A/B	Cut	Posthole
699	A/B	Fill	Posthole?
705	A/B	Fill	Posthole
706	A/B	Cut	Posthole
707	A/B	Fill	Pit
708	A/B	Fill	Posthole
709	A/B	Cut	Posthole

Context number	Area	Context Type	Brief Description
710	A/B	Fill	Linear
711	A/B	Fill	Linear
712	A/B	Fill	Posthole
713	A/B	Fill	Posthole
714	A/B	Cut	Posthole
715	A/B	Cut	Linear
716	A/B	Cut	Posthole
717	A/B	Fill	Posthole
718	A/B	Layer	Ash, bone, charcoal dump
720	A/B	Layer	Ash/Floor?
721	A/B	Layer	Floor
722	A/B	Cut	Posthole/Postpit
723	A/B	Layer	Ash
724	A/B	Cut	Posthole
725	A/B	Fill	Posthole
726	A/B	Cut	Posthole
729	A/B	Fill	Posthole
730	A/B	Cut	Posthole
731	A/B	Cut	Pit
732	A/B	Fill	Pit
733	A/B	Cut	Pit
734	A/B	Fill	Feature
735	A/B	Cut	Feature
738	A/B	Fill	Posthole
739	A/B	Cut	Posthole
740	A/B	Cut	Posthole
741	A/B	Fill	Posthole
742	A/B	Cut	Posthole
743	A/B	Fill	Stakehole
744	A/B	Cut	Stakehole
746	A/B	Fill	Posthole
748	A/B	Fill	Posthole
749	A/B	Cut/Fill	Stakehole
750	A/B	Cut/Fill	Stakehole
751	A/B	Cut/Fill	Stakehole
752	A/B	Cut/Fill	Stakehole
753	A/B	Cut/Fill	Stakehole
754	A/B	Cut/Fill	Stakehole
755	A/B	Cut/Fill	Stakehole
756	A/B	Cut/Fill	Stakehole
757	A/B	Cut/Fill	Stakehole
758	A/B	Cut/Fill	Stakehole
759	A/B	Fill	Posthole
760	A/B	Cut	Posthole
761	A/B	Fill	Posthole

Context number	Area	Context Type	Brief Description
762	A/B	Cut	Posthole
763	A/B	Fill	Posthole
766	A/B	Cut/Fill	Stakehole
769	A/B	Fill	Posthole
770	A/B	Cut	Posthole
771	A/B	Fill	Posthole
772	A/B	Cut	Posthole
773	A/B	Fill	Posthole
774	A/B	Cut	Posthole
775	A/B	Fill	Posthole
776	A/B	Cut	Posthole
777	A/B	Fill	Stakehole group
778	A/B	Cut	Stakehole group
779	A/B	Fill	Posthole
780	A/B	Cut	Posthole
781	A/B	Fill	Stakehole
782	A/B	Cut	Stakehole
783	A/B	Fill	Posthole
784	A/B	Cut	Posthole
785	A/B	Fill	Stakehole
786	A/B	Cut	Stakehole
787	A/B	Fill	Stakehole
788	A/B	Cut	Stakehole
789	A/B	Fill	Stakehole
790	A/B	Cut	Stakehole
791	A/B	Fill	Posthole
792	A/B	Cut	Posthole
795	A/B	Cut	Posthole
796	A/B	Layer	Floor
798	A/B	Fill	Posthole
799	A/B	Fill	Posthole
800	A/B	Cut	Posthole
801	A/B	Fill	Posthole
802	A/B	Cut	Posthole
803	A/B	Fill	Posthole
804	A/B	Cut	Posthole
805	A/B	Fill	Posthole
806	A/B	Cut	Posthole
807	A/B	Fill	Posthole
808	A/B	Cut	Posthole
815	A/B	Layer	Ash, charcoal
816	A/B	Layer	Gravel, turf debris
818	A/B	Fill	Posthole
819	A/B	Cut	Posthole
820	A/B	Fill	Posthole
821	A/B	Cut	Posthole

Context number	Area	Context Type	Brief Description
823	A/B	Fill	Pit?
825	A/B	Fill	Stakehole
826	A/B	Cut	Stakehole
827	A/B	Cut	Pit?
828	A/B	Fill	Stakehole
830	A/B	Fill	Posthole
831	A/B	Cut	Posthole
841	A/B	Fill	Posthole?
843	A/B	Fill	Posthole?
845	A/B	Fill	Partition?
850	A/B	Fill	Posthole
851	A/B	Cut	Posthole
852	A/B	Layer	Wood ash
853	A/B	Layer	Peat ash
855	A/B	Cut	Posthole
856	A/B	Fill	Posthole
857	A/B	Cut	Posthole
858	A/B	Fill	Posthole
861	A/B	Fill	Posthole
862	A/B	Fill	Posthole
863	A/B	Fill	Posthole
864	A/B	Fill	Posthole
865	A/B	Fill	Posthole
866	A/B	Cut/Fill	Stakehole/plank
867	A/B	Cut/Fill	Stakehole/plank
868	A/B	Cut	Posthole
869	A/B	Cut	Posthole
870	A/B	Cut	Posthole
871	A/B	Layer	Ash/charcoal
872	A/B	Deposit	Ash/charcoal/gravel
876	A/B	Deposit	Turf debris?
877	A/B	Fill	Posthole?
878	A/B	Cut	Posthole?
879	A/B	Fill	Posthole?
880	A/B	Cut	Posthole?
881	A/B	Fill	Posthole
882	A/B	Cut/Fill	Stakehole
883	A/B	Fill	Posthole
884	A/B	Cut	Posthole
887	A/B	Cut	Posthole
888	A/B	Fill	Posthole
889	A/B	Cut/Fill	Stakehole
894	A/B	Fill	Posthole
895	A/B	Fill	Posthole
896	A/B	Fill	Posthole
897	A/B	Fill	Posthole

Context number	Area	Context Type	Brief Description
898	A/B	Fill	Posthole
899	A/B	Layer	Ash/charcoal/turf debris
900	A/B	Fill	Posthole
901	A/B	Fill	Posthole
902	A/B	Fill	Posthole
903	A/B	Layer	Ash, turf
904	A/B	Fill	Posthole
930	A/B	Cut	Posthole

375	A5	Layer	Floor/disuse
379	A4	Layer	
381	A5	Layer	Floor
382	A5	Cut/fill	Stakehole
383	A5	Cut/fill	Posthole
385	A5	Layer	Disuse
386	A5	Layer	Disuse
387	A5	Layer	Occupation
390	A5	Layer	Floor
391	A5	Layer	Floor
392	A5	Layer	Floor
393	A5	Layer	Collapse
402	A5	Cut/fill	Posthole
403	A5	Cut/fill	Posthole
404	A5	Cut/fill	Posthole
405	A5	Cut/fill	Posthole
406	A5	Cut/fill	Posthole
407	A5	Cut/fill	Posthole
408	A5	Cut/fill	Posthole
409	A5	Cut/fill	Posthole
410	A5	Cut/fill	Posthole
411	A5	Cut/fill	Posthole
412	A5	Cut/fill	Posthole/group
416	A4	Layer	Midden dump
417	A5	Cut/fill	Posthole
451	A4	Layer	Mixed turf/upcast
479	A4	Layer	Turf debris
481	A4	Layer	Turf debris/aeolian?
554	A5	Cut/fill	Posthole
557	A5	Cut/fill	Posthole
564	A4	Layer	Floor?
565	A4	Layer	Floor
566	A4	Layer	Floor
567	A4	Layer	Floor
578	A4	Layer	Turf debris
609	A5	Fill	Postpad

Context number	Area	Context Type	Brief Description
610	A5	Fill	Posthole
611	A5	Cut	Posthole
619	A5	Cut/Fill	Posthole?
620	A5	Cut/Fill	Posthole
621	A5	Cut/Fill	Beam slot?
622	A5	Cut/Fill	Posthole?
623	A5	Cut/Fill	Feature group
639	A5	Cut/Fill	Stakehole group
640	A5	Cut/Fill	Stakehole group
680	A5	Cut/Fill	Posthole
736	A	Layer	Turf collapse
737	A	Layer	Turf collapse
745	A5	Layer	Hearth
764	A5	Fill	Hearth
765	A5	Cut	Hearth
767	A4	Cut/fill	Posthole
768	A4	Cut/fill	Stakehole group
793	A4	Cut/fill	Posthole
797	A4	Cut/fill	Posthole
809	A5	Fill	Hearth
810	A4	Cut/fill	Stakehole
811	A4	Cut/fill	Postpad
812	A4	Cut/fill	Posthole
813	A4	Cut/fill	Posthole?
814	A4	Cut/fill	Feature group
824	A5	Fill	Hearth
832	A5	Cut/fill	Posthole
833	A5	Cut/fill	Posthole
834	A5	Cut/fill	Posthole
835	A5	Cut/fill	Posthole/postpad
836	A5	Cut/fill	Stakehole group
837	A5	Cut/fill	Feature group
847	A	Layer	Midden
848	A	Layer	Midden
849	A	Layer	Midden
873	A	Layer	Midden
886	A	Layer	Midden
890	A4	Layer	Floor?
891	A4	Layer	Upcast
893	A4	Cut/fill	Posthole
905	A5	Cut/fill	Posthole
906	A5	Cut/fill	Posthole
907	A5	Cut/fill	Posthole
908	A	Cut/fill	Linear
909	A	Layer	Aeolian
910	A	Layer	LNL

Context number	Area	Context Type	Brief Description
911	A4	Cut/fill	Stakehole group
912	A4	Cut/fill	Postpad
913	A4	Cut/fill	Posthole
914	A4	Cut/fill	Posthole
915	A4	Cut/fill	Posthole
916	A4	Cut/fill	Postpad
917	A4	Cut/fill	Posthole group
918	A4	Cut/fill	Posthole
919	A4	Cut/fill	Posthole
920	A4	Cut/fill	Posthole
921	A4	Cut/fill	Posthole
922	A4	Cut/fill	Posthole
923	A4	Cut/fill	Posthole
924	A4	Cut/fill	Posthole
925	A4	Cut/fill	Posthole/stakehole
926	A4	Cut/fill	Beam slot?
927	A4	Cut/fill	Posthole
928	A	Layer	Peat ash
929	A	Layer	Silt
398	C	Backfill	Bruun
424	C	Layer	Peat ash
452	C	Layer	Midden/debris
453	C	Layer	Enriched aeolian
491	C	Cut	Plough marks?
579	C	Layer	Aeolian
580	C	Layer	Turf debris/collapse
728	C	Layer	Floor
794	C	Layer	Upcast
817	C	Layer	Turf debris
822	C	Layer	Enriched aeolian
829	C	Layer	Turf debris
838	C	Fill	Fill of 892
839	C	Fill	Fill of 892
840	C	Layer	Mixed turf debris
859	C	Layer	Floor?
860	C	Layer	Floor?
874	C	Fill	Mixed backfill
875	C	Layer	Floor make-up
885	C	Cut	Pit?
892	C	Cut	Hearth
1622	Z	Fill	Posthole/Pit
1623	Z	Cut	Posthole/Pit
1624	Z	Layer	Turf debris
1625	Z	Fill	Grave

Context number	Area	Context Type	Brief Description
1626	Z	Layer	Turf debris
1627	Z	Cut	Grave
1628	Z	Cut	Grave
1629	Z	Layer	Floor
1630	Z	Layer	Mixed aeolian
1631	Z	Fill	Grave
1632	Z	Layer	Turf debris
1633	Z	Cut	Grave
1634	Z	Layer	Floor
1635	Z	Cut	Posthole/pit
1636	Z	Fill	Posthole/pit
1637	Z	Cut	Posthole/pit
1638	Z	Cut	Grave
1639	Z	Fill	Grave
1640	Z	Cut	Grave
1641	Z	Fill	Grave
1642	Z	Layer	Mixed
1643	Z	Layer	Turf debris
1644	Z	Fill	Grave
1645	Z	Cut	Grave
1646	Z	Fill	Grave
1647	Z	Cut	Grave
1648	Z	Fill	Grave?
1649	Z	Cut	Grave?
1650	Z	Cut	Grave
1651	Z	Layer	Turf debris
1652	Z	Fill	Pit
1653	Z	Cut	Pit
1654	Z	Layer	Floor
1655	Z	Fill	Pit
1656	Z	Fill	Grave
1657	Z	Cut	Grave
1658	Z	Layer	Turf debris
1659	Z	Layer	Turf debris
1660	Z	Fill	Grave
1661	Z	Cut	Grave
1662	Z	Layer	Turf
1603	Z	Layer	Turf debris
1519	Z	Fill	Grave
1520	Z	Fill	Grave

2. List of Finds

No	Area	Context	Material	Description
001	A 5	375	Metal	Iron, spatula or scraper? Broken, 1 fragment, 15 g
002	A/B	LF	Stone	Spindle whorl of steatite, complete but fragmented, 38 g
003	A/B	376	Stone	Spindle whorl of Steatite, complete, 12 g
004	A/B	LF	Metal	Bracket or strike-a-light of iron, broken, 22 g
005	A/B	377	Metal	Iron, 3 objects, and 1 piece of slag, 11 g
006	A/B	376	Stone	Whetstone, 1 fragment, 21 g
007	A/B	376	Metal	Iron, nail? 2 g
008	A/B	380	Metal	Silver pendant, complete, with cross & thors hammer, 2 g
009	A/B	380	Metal	Silver pendant, damaged, 1 g
010	A 5	387	Metal	Slag, bloom base from context 387, 1 fragment, 259 g
011	C	398	Ceramic	Whiteware, 19 fragments, 39 g
012	A 4	814	Metal	Slag, 1 piece, 4 g
013	A/B	388	Metal	Iron object, 3 g
014	A/B	388	Stone	Whetstone, 1 fragment, 38 g
015	A/B	388	Metal	Iron, maybe nail fragment, 5 g
016	A/B	388	Metal	Iron, part of knife blade, 7 g
017	A/B	388	Metal	Iron, nail, complete, 11 g
018	A/B	414	Metal	Iron, 1 nail and 1 object, 6 g
019	A/B	414	Metal	Iron, 1 fragment, 3 g
020	A/B	419	Metal	Iron, 4 fragments, 32 g
021	A/B	419	Metal	Iron, 1 fragment, 4 g
022	A/B	380	Glass	Bead, clear colour, complete, 1 g
023	A/B	380	Metal	Iron, 4 fragments, 4 g
024	A/B	419	Metal	Iron, chisel? Complete, 37 g
025	A/B	380	Stone	Whetstone, broken, 293 g
026	A/B	380	Bone	Whalebone, worked.
027	A/B	419	Metal	Iron, 1 object, 4 g
028	A/B	419	Metal	Iron, rove of a clench bolt, 5 g
029	A/B	380	Metal	Iron, 4 object: 2 slags, 1 sheet, 1 bracket, 21 g
030	A/B	380	Metal	Iron, 4 objects: 2 hooks, 2 straps, 12 g
031	A/B	376	Stone	Obsidian, 1 piece, 6 g
032	A/B	376	Glass	Bead or metal melting product? 0,5 g
033	A/B	419	Metal	Iron, part of knife? 1 fragment, 7 g
034	A/B	380	Metal	Iron, 1 object, 6 g
035	A/B	419	Metal	Iron, 1 fragment, 2 g
036	A/B	419	Metal	Iron, 1 object, 2 g
037	A/B	380	Metal	Iron, 1 object, 2 g
038	A/B	380	Metal	Iron, 1 object, 2 g
039	A/B	380	Metal	Iron, 1 small fragment, 1 g
040	A/B	380	Metal	Slag, 1 fragment, 1 g
041	A/B	380	Metal	Iron, 1 fragment, 3 g
042	A/B	380	Metal	Iron, 1 nail fragment? 2 g
043	A/B	380	Metal	Iron, 1 fragment, 1 g
044	A/B	380	Metal	Iron, nail fragment, 3 g
045	A/B	380	Glass	Bead, complete, damaged, 1 g

No	Area	Context	Material	Description
046	A/B	429	Metal	Iron, 1 fragment, 4 g
047	A/B	380	Metal	Slag, 2 fragments, 2 g
048	A/B	380	Metal	Iron, fitting, 2 fragments, 17 g
049	A/B	380	Stone	Stone, 1 piece, 2 g
050	A/B	380	Metal	Slag, 1 fragment, 1 g
051	A/B	419	Glass	Bead, complete, 1 g
052	A/B	448	Metal	Iron or slag, 1 piece, 49 g
053	A/B	454	Metal	Slag, 1 piece, 11 g
054	A/B	454	Metal	Slag? 1 piece, 10 g
055	A/B	457	Glass	Bead, complete, blue, 1 g
056	A	736	Metal	Iron, 2 small fragments, 1 g
057	A/B	457	Metal	Iron or slag, 1 fragment, 4 g
058	A/B	380	Amber	Bead or pendant, 1 fragment, 1 g
059	Z	1603	Stone	Quernstone fragment, 2200 g
060	A	001	Stone	Whetstone, 1 fragment, 13 g
061	A/B	002	Stone	Steatite, vessel fragment, 119 g
062	A	371	Stone	Whetstone, 1 fragment, 4 g
063	A/B	002	Stone	Flint, 1 fragment, 2 g
064	A/B	413	Stone	Whetstone, 1 fragment, 4 g
065	Z	1629	Stone	Steatite, vessel fragment, 156 g
066	Z	1624	Stone	Whetstone, 1 fragment, 16 g
067	A/B	002	Ceramic	Whiteware (2 frag.); Stoneware (1 frag.), 24 g
068	Z	LF	Ceramic	Redware, medieval, 1 fragment, 3 g
069	A/B	419	?	Crucible fragment? Or stone? 1 fragment, 2 g
070	C	424	Ceramic	Clay pipe, 1 stem fragment, 2 g
071	C	001	Ceramic	Whiteware, 3 fragments, 6 g
072	C	452	Ceramic	Whiteware , Stoneware, Redware, 59 fragments, 158 g
073	A/B	002	Metal	Iron, nail, complete, 5 g
074	C	398	Metal	Iron, 1 complete nail, 5 g
075	A/B	413	Metal	Iron, complete ring, broken, 6 g
076	A/B	413	Metal	Iron, 7 objects: nail, rove, others, 26 g
077	A 4	371	Metal	Iron object, 2 fragments, 10 g
078	A	416	Metal	Iron, 1 object, 2 g
079	A/B	413	Metal	Iron object, 14 g
080	A	LF	Metal	Iron, chisel or tool? 27 g
081	A/B	380	Metal	Iron, 1 nail fragment, 5 g
082	A/B	419	Metal	Iron objects, 4 fragments, 17 g
083	Z	1624	Metal	Copper alloy, flat sheet, 18 g
084	Z	1624	Metal	Iron: 3 complete nails, 1 fragment, 25 g
085	Z	LF	Metal	Copper alloy object, 5 g
086	Z	1603	Metal	Iron, 1 fragment, 11 g
087	Z	1603	Metal	Iron, 1 unknown object, 24 g
088	Z	1603	Metal	Iron nail, complete, 6 g
089	Z	1603	Metal	Iron, 1 fragment, 6 g
090	Z	1603	Metal	Iron, 7 objects: 2 nails, 1 slag, 2 straps, 2 objects, 32 g
091	Z	1603	Metal	Iron, 1 object, 2 g
092	Z	1603	Metal	Iron, 1 nail, 6 g
093	Z	1603	Metal	Iron, 1 complete nail, 7 g
094	Z	1603	Metal	Iron, 1 nail, 8 g

No	Area	Context	Material	Description
095	Z	1603	Metal	Iron, 1 nail, 8 g
096	Z	1603	Metal	Iron, 1 nail, 11 g
097	Z	1603	Metal	Iron, 1 fragment, 7 g
098	Z	1603	Metal	Iron, 1 fragment, 4 g
099	Z	1625	Metal	Iron, coffin nail, 6 g
100	Z	1632	Metal	Iron, 1 fragment, 6 g
101	Z	1629	Metal	Iron, coffin (?) nail, 6 g
102	Z	1629	Metal	Iron, 2 fragments, 3 g
103	Z	1629	Metal	Iron, 1 broken nail, 2 g
104	Z	1629	Metal	Iron, unknown object, 1 fragment, 6 g
105	Z	1629	Metal	Iron, small hook, 2 g
106	Z	1629	Metal	Iron, 1 nail, 8 g
107	Z	1629	Metal	Bracket or strike-a-light of iron, broken, 17 g
108	Z	1629	Metal	Iron, 1 fragment, 3 g
109	Z	1629	Metal	Iron, nail, 8 g
110	Z	1629	Metal	Iron, 1 nail, 5 g
111	Z	1629	Metal	Iron, 1 nail or fitting, 7 g
112	Z	1629	Metal	Iron, 1 nail or fitting, 8 g
113	Z	1629	Metal	Iron, 4 broken objects, 11 g
114	A	375	Metal	Iron, 1 fragment, 1 g
115	A/B	380	Metal	Iron, nail, complete, 3 g
116	A/B	380	Metal	Iron, 1 fragment, 6 g
117	A/B	380	Metal	Iron, 1 fragment of a sickle? 8 g
118	A/B	380	Metal	Iron, 1 object, 6 g
119	A/B	LF	Metal	Iron, 1 object, 19 g
120	A/B	419	Metal	Slag, 2 pieces, 1 g
121	A/B	425	Metal	Iron, 1 object, 2 g
122	C	001	Metal	Iron, 2 horseshoe fragments, 77 g
123	C	452	Metal	Iron, 21 nails and nail fragments, modern, 85 g
124	C	452	Metal	Iron, unknown modern object, 50 g
125	C	452	Metal	Iron straps, 6 fragments, 129 g
126	C	452	Metal	Iron sheets and strips, 16 fragments, 195 g
127	C	452	Metal	Iron, 1 disc and 1 hook, 40 g
128	C	452	Metal	Copper alloy, strap, 2 g
129	C	452	Metal	Tin or nickel? Fragment of a spoon bowl? 3 g
130	A 4	416	Clay?	Clay? 12 fragments, 104 g
131	C	452	Bone	Artefact, ring, broken, 10 g
132	C	452	Glass	6 fragments of window glass and 1 vessel, 22 g
133	Z	LF	Metal	Slag, cleaning from 1603, 1 large piece, 191 g
134	Z	1626	Metal	Slag, 2 fragments, 26 g
135	C	452	Metal	Slag, 5 fragments, 22 g
136	A/B	376	Metal	Iron, 1 small fragment, 3 g
137	A/B	380	Metal	Slag, 23 pieces, 80 g
138	A 4	416	Metal	Slag, 1 piece, 355 g
139	C	398	Metal	Slag, 6 large pieces, 896 g
140	A 5	393	Metal	Slag, bloom, 1 fragment, 41 g
141	A 4	371	Metal	Slag, 7 fragments, 46 g
142	A 5	387	Metal	Slag, 1 piece, 46 g
143	A/B	492	Bone	Human tooth, adult, 2 g

No	Area	Context	Material	Description
144	A/B	495	Stone	Crucible? 1 fragment, 2 g
145	A 5	343	Metal	Iron, 1 fragment, maybe knife blade? 3 g
146	A/B	487	Metal	Iron, maybe part of knife blade? 5 g
147	A/B	487	Metal	Iron, nail head, 14 g
148	A/B	487	Metal	Slag, 1 fragment, 1 g
149	A/B	561	Metal	Slag, 2 small fragments, 1 g
150	C	580	Metal	Iron, knife blade, 1 fragment, 4 g
152	Z	1643	Stone	Whetstone, 1 fragment, 17 g
153	Z	1643	Metal	Iron, 2 fragments, 14 g
154	Z	1659	Stone	Obsidian, 1 piece, 4 g
155	A/B	718	Metal	Iron and slag, 3 fragments, 3 g
156	A/B	718	Metal	Iron object, maybe nail head, 12 g
157	A/B	723	Stone	Polished quartz, 3 g
158	A/B	713	Metal	Iron, nail head? 2 g
159	A 5	393	Metal	Slag, bloom base, 1 large piece, 1080 g
160	A/B	721	Metal	Iron, 1 fragment, 8 g
162	Z	1662	Metal	Iron, 1 fragment of a rove, 3 g
166	A/B	799	Metal	Iron, 2 fragments, 5 g
167	A/B	791	Stone	Whetstone, complete but broken, 81 g
169	A/B	791	Stone	1 Sandstone, 1 Quartz, 62 g
170	A/B	LF	Glass	Bead fragment, green, 1 g
171	A 5	809	Metal	Slag, base between back slabs and hearth, 448 g
172	A 5	824	Stone	Basalt, stone mould? 1 large piece, 1911 g
173	A/B	779	Metal	Iron object, 4 g
175	Z	1634	Metal	Iron, 1 fragment, 3 g
176	Z	1634	Metal	Iron, 1 fragment, 6 g
177	Z	1634	Metal	Iron, 1 part of a nail, 2 g
178	Z	1634	Ceramic	Redware, medieval, 1 fragment, 5 g
179	Z	1603	Stone	Whetstone? 2 fragments, 146 g
180	Z	1603	Metal	Iron, 3 objects: 1 nail, 1 sheet, 1 slag, 11 g
181	A/B	380	Metal	Copper alloy, Ringed pin, sample 33 A 7, 7 g
182	A 5	367	Metal	Slag, 1 large piece, 542 g
183	A	LF	Ceramic	Whiteware, 4 frag,ements, 16 g
184	A/B	612	Metal	Iron, maybe part of a small bolt, 8 g
185	A/B	479	Wood	Wood, 1 fragment, unworked, 1 g
186	A/B	613	Metal	Iron slag, 3 fragments, 56 g
187	C	LF	Glass?	Glass slag? 2 fragments, 2 g
188	A/B	858	Metal	Slag, 1 fragment, 22 g
189	A 4	848	Metal	Slag, 3 fragments, 149 g
190	A 4	451	Metal	Slag, 1 piece, 15 g
191	C	452	Metal	Iron nail, complete, 6 g
192	A/B	718	Stone	Quartz, 3 pieces, unworked, 35 g
193	C	452	Glass	Window glass, 1 fragment, modern, 1 g
194	A 2	290	Metal	Slag, 1 piece, 35 g
195	A/B	415	Metal	Slag or iron object, 1 fragment, 60 g
196	A/B	853	Metal	Slag, 1 fragment, 7 g
197	Zii		Stone	Whetstone, 1 fragment, 40 g
198	Zii		Ceramic	Whiteware, modern, 2 fragments, 15 g
199	Zii		Glass	Vessel, 1 body sherd, green, 3 g

No	Area	Context	Material	Description
200	Zii		Ceramic	Redware, 1 base sherd with leg, tripot, 29 g
201	Zii		Glass	Window, 1 fragment, clear colour, 2 g
202	Zii		Stone	Burnt stone, unworked, 1 piece, 55 g
203	Zii		Stone	Piece of Basalt with a hole, 237 g
204	Zii		Metal	Iron, knife, broken, 2 fragments, 16 g
205	Zii		Bone	Bone, 5 fragments, unworked, 3 g
206	Zii		Ceramic	Whiteware, modern, 10 fragments, 27 g
207	Zii		Glass	Window glass, 2 pieces, modern, clear, 6 g
208	Zii		Metal	Iron, 1 piece of a modern pipe, 62 g
209	A 4	416	Metal	Iron, 2 objects, 10 g
210	A 4	416	Metal	Co-alloy sheet, 1 fragment, 2 g
211	Tr.B1		Ceramic	Redware, 1 rim sherd, 5 g
212	Tr.B1		Ceramic	Whiteware, modern, 1 body sherd, 3 g
213	Tr.B1		Metal	Iron, 1 nail, complete, 8 g
214	Tr.B1		Metal	Co-alloy, 1 complete belt buckle, 5 g
215	A/B	796	Metal	Iron, part of nail, 2 g
216	A/B	779	Metal	Iron, 1 small fragment, 1 g
217	A/B	775	Metal	Iron, 2 small fragments, 3 g
218	A/B	853	Metal	Iron or slag, 7 small fragments, 6 g
219	A/B	LF	Metal	Iron or slag, 3 fragments, 20 g
220	Z	1641	Metal	Slag, 1 fragment, 23 g
221	A/B	380	Unknown	Organic material, 2 fragments, leather or wood?
222	A/B	455	Metal	Slag? 2 pieces, 6 g
223	A/B	638	Metal	Iron, 1 fragment, 2 g
224	A/B	468	Metal	Slag, 3 pieces, 7 g
225	Zii		Metal	Iron, 1 fragment, 3 g
226	A 4	564	Metal	Iron, fragment of a knife, 5 g
227	Z	1631	Metal	Iron, 2 clench bolts used as coffin nails; 18 g
228	A	736	Metal	Slag, 1 piece, 1 g
229	A/B	798	Metal	Slag, 3 pieces, 6 g
230	A	736	Metal	Iron, 1 fragment, 9 g
231	A 2	250	Metal	Iron, 1 fragment, 4 g
232	A/B	721	Metal	Iron, 1 fragment, 3 g
233	A/B	853	Metal	Iron, 1 fragment, 7 g
234	A/B	853	Metal	Slag, 1 piece, 9 g
235	A/B	707	Metal	Iron, 1 fragment, 3 g
236	A/B	723	Metal	Slag, 4 pieces, 23 g
237	A/B	LF	Metal	Slag, 46 small pieces, 65 g
238	A/B	617	Metal	Slag, 8 pieces, 63 g
239	A/B	838	Metal	Slag, 1 piece; iron, 1 fragment, 10 g

3. List of Animal Bone

Sample no	Area	Context	Number of bags/buckets
1	C	398	9
2		002	2
3	A4	371	2
4	A4	416	2
5	A4	849	1
6	A4	848	1
7	A4	737	1
8	A4	451	2
9	A4	564	1
10	A4	566	1
11	A4	797	1
12	A4	917	1
13	A4	923	1
14	A5	375	1
15	A5	386	1
16	A5	403	1
17	A5	408	1
18	A5	554	1
19	A5	886	1
20	C	001	3
21	C	579	1
22	C	over728	1
23	C	874	1
24	C	838	2
25	C	838-839	2
26	C	839	2
27	A/B	002	2
28	A/B	380	1
29	A/B	252	1
30	A/B	376	1
31	A/B	377	1
32	A/B	396	1
33	A/B	414	1
34	A/B	426	1
35	A/B	425	1
36	A/B	448	1
37	A/B	455	1
38	A/B	454	1
39	A/B	490	1
40	A/B	591	1
41	A/B	659	1
42	A/B	666	1
43	A/B	717	1

Sample no	Area	Context	Number of bags/buckets
44	A/B	729	1
45	A/B	738	1
46	A/B	763	1
47	A/B	709	1
48	A/B	803	1
49	A/B	807	1
50	A/B	U/S	1
51	C	452	5
52			
52	A/B	653	1
53	A4	479	1
54	A/B	495	1
55	-	791	1
56	-	580	1
57	Z	1519	1
58	Z	1520	2
59	Z	1625	1
60	Z	1630	2
61	Z	1639	1
62	Z	1641	1
63	Z	1646	1
64	Z	1648	1
65	Z	1655	1
66	Z	U/S	1
67	Góthús	Bruno1	1
68	Góthús	Bruno2	1
69	Ztii	#3	1
70	Ztii	#10	3
71	Ztii	#21	1
72	Ztii	#28	1

4. List of Samples

Sample no	Area	Context	Grid Sq(s)/Location	Number of bags/buckets	Description/Comm/Info
1	A5	375	228/483_a	1 Bucket	Floor layer.
2	A5	375	228/483_b	1 Bucket	Floor layer.
3	A5	375	228/483_e	1 Bucket	Floor layer.
4	A5	375	228/483_f	1 Bucket	Floor layer.
5	Z	1519	189/386	1 Bucket	Coffin wood SK7
6	A/B	378	?	1 Bucket (1 of 4)	Floor layer. Sub-sample for chem.
7	A/B	378	B6	1 Bucket (1 of 2)	Floor layer. Sub-sample for chem.
8	A/B	378	B6	1 Bucket (2 of 2)	Floor layer. Sub-sample for chem.
9	A4	371	228/478	1 Bucket	Collapsed organic material
10	A/B	378	B6	1 Bucket (2 of 4)	Floor layer. Sub-sample for chem.
11	A/B	378	B11?	1 Bucket (3 of 4)	Floor layer. Sub-sample for chem.
12	A/B	378	B11?	1 Bucket (4 of 4)	Floor layer. Sub-sample for chem.
13	A/B	380	A8	1 Bucket (1 of 2)	Floor layer. Sub-sample for chem.
14	A/B	380	A8	1 Bucket (2 of 2)	Floor layer. Sub-sample for chem.
15	A5	375	228/483_g	1 Bucket	Floor layer.
16	A5	375	228/483_c	1 Bucket	Floor layer.
17	A/B	380	A6	1 Bucket (1 of 8)	Floor layer. Sub-sample for chem.
18	A/B	380	A6	1 Bucket (2 of 8)	Floor layer. Sub-sample for chem.
19	A/B	380	A6	1 Bucket (3 of 8)	Floor layer. Sub-sample for chem.
20	A/B	380	A6	1 Bucket (4 of 8)	Floor layer. Sub-sample for chem.
21	A/B	380	A6	1 Bucket (5 of 8)	Floor layer. Sub-sample for chem.
22	A/B	380	A6	1 Bucket (6 of 8)	Floor layer. Sub-sample for chem.
23	A/B	380	A6	1 Bucket (7 of 8)	Floor layer. Sub-sample for chem.
24	A/B	380	A6	1 Bucket (8 of 8)	Floor layer. Sub-sample for chem.
25	A/B	380	495/493?	1 Bucket (1 of 7)	Floor layer. Sub-sample for chem.
26	A/B	380	495/493?	1 Bucket (2 of 7)	Floor layer. Sub-sample for chem.
27	A/B	380	495/493?	1 Bucket (3 of 7)	Floor layer. Sub-sample for chem.
28	A/B	380	495/493?	1 Bucket (4 of 7)	Floor layer. Sub-sample for chem.
29	A/B	380	495/493?	1 Bucket (5 of 7)	Floor layer. Sub-sample for chem.
30	A/B	380	495/493?	1 Bucket (6 of 7)	Floor layer. Sub-sample for chem.
31	A/B	380	495/493?	1 Bucket (7 of 7)	Floor layer. Sub-sample for chem.
32	A5	385	228/483	1 Bucket	Floor layer and hearth debris
33	A/B	380	A7	1 Bucket (1 of 7)	Floor layer. Sub-sample for chem.
34	A/B	380	A7	1 Bucket (2 of 7)	Floor layer. Sub-sample for chem.
35	A5	381	228/483	1 Bucket	Floor layer.
36	A/B	380	A7	1 Bucket (3 of 7)	Floor layer. Sub-sample for chem.
37	A/B	380	A7	1 Bucket (4 of 7)	Floor layer. Sub-sample for chem.
38	A/B	380	A7	1 Bucket (5 of 7)	Floor layer. Sub-sample for chem.
39	A/B	380	A7	1 Bucket (6 of 7)	Floor layer. Sub-sample for chem.
40	A/B	380	A7	1 Bucket (7 of 7)	Floor layer. Sub-sample for chem.
41	A5	386	228/483	1 Bucket	Hearth material, ash and charcoal
42	A5	387	226/483_NE	1 Bucket (1 of 2)	Floor layer.

Sample no	Area	Context	Grid Sq(s)/Location	Number of bags/buckets	Description/Comm/Info
43	A5	387	226/483_NW	1 Bucket (2 of 2)	Floor layer.
44	A/B	389	B6_220/495	1 Bucket (1 of 4)	Floor layer. Sub-sample for chem.
45	A/B	380	A9_(492/491?)	1 Bucket (1 of 7)	Floor layer. Sub-sample for chem.
46	A/B	380	A9	1 Bucket (2 of 7)	Floor layer. Sub-sample for chem.
47	A/B	380	A9	1 Bucket (3 of 7)	Floor layer. Sub-sample for chem.
48	A/B	380	A9	1 Bucket (4 of 7)	Floor layer. Sub-sample for chem.
49	A/B	380	A9	1 Bucket (5 of 7)	Floor layer. Sub-sample for chem.
50	A/B	380	A9	1 Bucket (6 of 7)	Floor layer. Sub-sample for chem.
51	A/B	380	A9	1 Bucket (7 of 7)	Floor layer. Sub-sample for chem.
52	A/B	380	A10	1 Bucket (1 of 6)	Floor layer. Sub-sample for chem.
53	A/B	380	A10	1 Bucket (2 of 6)	Floor layer. Sub-sample for chem.
54	A/B	380	A10	1 Bucket (3 of 6)	Floor layer. Sub-sample for chem.
55	A/B	380	A10	1 Bucket (4 of 6)	Floor layer. Sub-sample for chem.
56	A/B	380	A10	1 Bucket (5 of 6)	Floor layer. Sub-sample for chem.
57	A/B	380	A10	1 Bucket (6 of 6)	Floor layer. Sub-sample for chem.
58		VOID		VOID	VOID
59	A/B	389	B6_220/495	1 Bucket (2 of 4)	Floor layer. Sub-sample for chem.
60	A/B	389	B6_220/495	1 Bucket (3 of 4)	Floor layer. Sub-sample for chem.
61	A/B	389	B6_220/495	1 Bucket (4 of 4)	Floor layer. Sub-sample for chem.
62	A/B	389	B11_220/495	1 Bucket (1 of 2)	Floor layer. Sub-sample for chem.
63	A/B	389	B11_220/495	1 Bucket (2 of 2)	Floor layer. Sub-sample for chem.
64	A/B	388	B16_220/495	1 Bucket (1 of 9)	Floor layer. Sub-sample for chem.
65	A/B	388	B16_220/495	1 Bucket (2 of 9)	Floor layer. Sub-sample for chem.
66	A/B	388	B16_220/495	1 Bucket (3 of 9)	Floor layer. Sub-sample for chem.
67	A/B	388	B16_220/495	1 Bucket (4 of 9)	Floor layer. Sub-sample for chem.
68	A/B	388	B16_220/495	1 Bucket (5 of 9)	Floor layer. Sub-sample for chem.
69	A/B	388	B16_220/495	1 Bucket (6 of 9)	Floor layer. Sub-sample for chem.
70	A/B	388	B16_220/495	1 Bucket (7 of 9)	Floor layer. Sub-sample for chem.
71	A/B	388	B16_220/495	1 Bucket (8 of 9)	Floor layer. Sub-sample for chem.
72	A/B	388	B16_220/495	1 Bucket (9 of 9)	Floor layer. Sub-sample for chem.
73	A/B	394	220/?	1 Bucket	Pit fill
74	A/B	397	C1_220/485	1 Bucket (1 of 5)	Floor layer. Sub-sample for chem.
75	A/B	397	C1_220/485	1 Bucket (2 of 5)	Floor layer. Sub-sample for chem.
76	A/B	397	C1_220/485	1 Bucket (3 of 5)	Floor layer. Sub-sample for chem.
77	A/B	397	C1_220/485	1 Bucket (4 of 5)	Floor layer. Sub-sample for chem.
78	A/B	397	C1_220/485	1 Bucket (5 of 5)	Floor layer. Sub-sample for chem.
79	Z	1519	189/386	1 Bag	From skull, SK7
80	Z	1519	189/386	1 Bag	Ash, SK7
81	A5	404	226/483	1 Bag	Posthole
82	A5	405	226/483	1 Bag	Posthole
83	A5	406	226/483	1 Bag	Posthole
84	A5	407	226/483	1 Bag	Posthole
85	A5	410	226/483	1 Bag	Posthole
86	A5	411	226/483	1 Bag	Posthole
87	Z	?	189/386	1 Bag	Pelvic cavity, SK7

Sample no	Area	Context	Grid Sq(s)/Location	Number of bags/buckets	Description/Comm/Info
88	Z	?	189/386	1 Bag	Thoracic cavity, SK7
89	Z	?	189/386	1 Bag	Metal? SK7
90	Z	1625	189/381	1 Bag	From skull, SK8
91	Z	1625	189/381	1 Bag	Ash, SK8
92	Z	1625	189/381	1 Bag	Thoracic cavity, SK8
93	Z	1625	189/381	1 Bag	Pelvic cavity, SK8
94	A/B	389	B11	8 Buckets (?)	Floor layer. Sub-sample for chem.
95	A/B	414	E1_220/505	2 Buckets	Floor layer. Sub-sample for chem.
96	A/B	388	B15	1 Bucket (1 of 5)	Floor layer. Sub-sample for chem.
97	A/B	388	B15	1 Bucket (2 of 5)	Floor layer. Sub-sample for chem.
98	A/B	388	B15	1 Bucket (3 of 5)	Floor layer. Sub-sample for chem.
99	A/B	388	B15	1 Bucket (4 of 5)	Floor layer. Sub-sample for chem.
100	A/B	388	B15	1 Bucket (5 of 5)	Floor layer. Sub-sample for chem.
101	A/B	397	C1	1 Bucket (1 of 5)	Floor layer. Sub-sample for chem.
102	A/B	397	C1	1 Bucket (2 of 5)	Floor layer. Sub-sample for chem.
103	A/B	397	C1	1 Bucket (3 of 5)	Floor layer. Sub-sample for chem.
104	A/B	397	C1	1 Bucket (4 of 5)	Floor layer. Sub-sample for chem.
105	A/B	397	C1	1 Bucket (5 of 5)	Floor layer. Sub-sample for chem.
106	A/B	396	B13	1 Bucket	Fill. See drawing 24
107	Z	1629		2 Buckets	Floor layer.
108	A/B	388	B13	3 Buckets	Floor layer. Sub-sample for chem.
109	A/B	388	B14	1 Bucket (1 of 11)	Floor layer. Sub-sample for chem.
110	A/B	388	B14	1 Bucket (2 of 11)	Floor layer. Sub-sample for chem.
111	A/B	388	B14	1 Bucket (3 of 11)	Floor layer. Sub-sample for chem.
112	A/B	388	B14	1 Bucket (4 of 11)	Floor layer. Sub-sample for chem.
113	A/B	388	B14	1 Bucket (5 of 11)	Floor layer. Sub-sample for chem.
114	A/B	388	B14	1 Bucket (6 of 11)	Floor layer. Sub-sample for chem.
115	A/B	388	B14	1 Bucket (7 of 11)	Floor layer. Sub-sample for chem.
116	A/B	388	B14	1 Bucket (8 of 11)	Floor layer. Sub-sample for chem.
117	A/B	388	B14	1 Bucket (9 of 11)	Floor layer. Sub-sample for chem.
118	A/B	388	B14	1 Bucket (10 of 11)	Floor layer. Sub-sample for chem.
119	A/B	388	B14	1 Bucket (11 of 11)	Floor layer. Sub-sample for chem.
120		VOID	VOID	VOID	VOID
121	A/B	414	E2	1 Bucket	Floor layer. Sub-sample for chem.
122	A/B	414	E3	1 Bucket	Floor layer. Sub-sample for chem.
123	A/B	414	E4	1 Bucket	Floor layer. Sub-sample for chem.
124	A/B	414	E5	1 Bucket	Floor layer. Sub-sample for chem.
125	A/B	414	E6	1 Bucket	Floor layer. Sub-sample for chem.
126	A/B	414	E7	1 Bucket	Floor layer. Sub-sample for chem.
127	A/B	415	D5	1 Bucket (1 of 7)	Floor layer. Sub-sample for chem.
128	A/B	415	D5	1 Bucket (2 of 7)	Floor layer. Sub-sample for chem.
129	A/B	415	D5	1 Bucket (3 of 7)	Floor layer. Sub-sample for chem.
130	A/B	415	D5	1 Bucket (4 of 7)	Floor layer. Sub-sample for chem.
131	A/B	415	D5	1 Bucket (5 of 7)	Floor layer. Sub-sample for chem.
132	A/B	415	D5	1 Bucket (6 of 7)	Floor layer. Sub-sample for chem.

Sample no	Area	Context	Grid Sq(s)/Location	Number of bags/buckets	Description/Comm/Info
133	A/B	415	D5	1 Bucket (7 of 7)	Floor layer. Sub-sample for chem.
134	A/B	415	D6	1 Bucket (half)	Floor layer. Sub-sample for chem.
135	A/B	415	D4	1 Bucket (1 of 3)	Floor layer. Sub-sample for chem.
136	A/B	415	D4	1 Bucket (2 of 3)	Floor layer. Sub-sample for chem.
137	A/B	415	D4	1 Bucket (3 of 3)	Floor layer. Sub-sample for chem.
138	A/B	415	D1	1 Bucket (1 of 4)	Floor layer. Sub-sample for chem.
139	A/B	415	D1	1 Bucket (2 of 4)	Floor layer. Sub-sample for chem.
140	A/B	415	D1	1 Bucket (3 of 4)	Floor layer. Sub-sample for chem.
141	A/B	415	D1	1 Bucket (4 of 4)	Floor layer. Sub-sample for chem.
142	A5	408	220/483	1 Bucket	Pit fill
143	A5	417	220/483	1 Bucket	Posthole fill
144	A/B	415	D7	1 Bucket	Floor layer. Sub-sample for chem.
145	A/B	415	D8	1 Bucket	Floor layer. Sub-sample for chem.
146	A/B	415	D9	1 Bucket	Floor layer. Sub-sample for chem.
147	A/B	415	D2	1 Bucket (1 of 3)	Floor layer. Sub-sample for chem.
148	A/B	415	D2	1 Bucket (2 of 3)	Floor layer. Sub-sample for chem.
149	A/B	415	D2	1 Bucket (3 of 3)	Floor layer. Sub-sample for chem.
150	A/B	415	D3	1 Bucket	Floor layer. Sub-sample for chem.
151	A4	416	228/478	1 Bucket	Dumped deposit
152	A4	416	228/478	1 Bucket	Dumped deposit
153	A/B	380	F9	1 Bucket (1 of 6)	Floor layer. Sub-sample for chem.
154	A/B	380	F9	1 Bucket (2 of 6)	Floor layer. Sub-sample for chem.
155	A/B	380	F9	1 Bucket (3 of 6)	Floor layer. Sub-sample for chem.
156	A/B	380	F9	1 Bucket (4 of 6)	Floor layer. Sub-sample for chem.
157	A/B	380	F9	1 Bucket (5 of 6)	Floor layer. Sub-sample for chem.
158	A/B	380	F9	1 Bucket (6 of 6)	Floor layer. Sub-sample for chem.
159	A/B	421	I1	1 Bucket (1 of 8)	Floor layer. Sub-sample for chem.
160	A/B	421	I1	1 Bucket (2 of 8)	Floor layer. Sub-sample for chem.
161	A/B	421	I1	1 Bucket (3 of 8)	Floor layer. Sub-sample for chem.
162	A/B	421	I1	1 Bucket (4 of 8)	Floor layer. Sub-sample for chem.
163	A/B	421	I1	1 Bucket (5 of 8)	Floor layer. Sub-sample for chem.
164	A/B	421	I1	1 Bucket (6 of 8)	Floor layer. Sub-sample for chem.
165	A/B	421	I1	1 Bucket (7 of 8)	Floor layer. Sub-sample for chem.
166	A/B	421	I1	1 Bucket (8 of 8)	Floor layer. Sub-sample for chem.
167	A/B	380	F5	1 Bucket (2 of 6)	Floor layer. Sub-sample for chem.
168	A/B	380	F5	1 Bucket (3 of 6)	Floor layer. Sub-sample for chem.
169	A/B	380	F5	1 Bucket (4 of 6)	Floor layer. Sub-sample for chem.
170	A/B	380	F5	1 Bucket (5 of 6)	Floor layer. Sub-sample for chem.
171	A/B	380	F5	1 Bucket (6 of 6)	Floor layer. Sub-sample for chem.
172	A/B	380	F7	1 Bucket (1 of 6)	Floor layer. Sub-sample for chem.
173	A/B	380	F7	1 Bucket (2 of 6)	Floor layer. Sub-sample for chem.
174	A/B	380	F7	1 Bucket (3 of 6)	Floor layer. Sub-sample for chem.
175	A/B	380	F7	1 Bucket (4 of 6)	Floor layer. Sub-sample for chem.
176	A/B	380	F7	1 Bucket (5 of 6)	Floor layer. Sub-sample for chem.
177	A/B	380	F7	1 Bucket (6 of 6)	Floor layer. Sub-sample for chem.

Sample no	Area	Context	Grid Sq(s)/Location	Number of bags/buckets	Description/Comm/Info
178	A/B	380	F1	1 Bucket (1 of 6)	Floor layer. Sub-sample for chem.
179	A/B	380	F1	1 Bucket (2 of 6)	Floor layer. Sub-sample for chem.
180	A/B	380	F1	1 Bucket (3 of 6)	Floor layer. Sub-sample for chem.
181	A/B	380	F1	1 Bucket (4 of 6)	Floor layer. Sub-sample for chem.
182	A/B	380	F1	1 Bucket (5 of 6)	Floor layer. Sub-sample for chem.
183	A/B	380	F1	1 Bucket (6 of 6)	Floor layer. Sub-sample for chem.
184	A/B	380	F3	1 Bucket (1 of 6)	Floor layer. Sub-sample for chem.
185	A/B	380	F3	1 Bucket (2 of 6)	Floor layer. Sub-sample for chem.
42	Z	1625	189/381	1 Bucket	Coffin wood. SK8
186	A/B	380	F3	1 Bucket (3 of 6)	Floor layer. Sub-sample for chem.
187	A/B	380	F3	1 Bucket (4 of 6)	Floor layer. Sub-sample for chem.
188	A/B	380	F3	1 Bucket (5 of 6)	Floor layer. Sub-sample for chem.
189	A/B	380	F3	1 Bucket (6 of 6)	Floor layer. Sub-sample for chem.
166	A/B	380	F5	1 Bucket (1 of 6)	Floor layer. Sub-sample for chem.
190	A/B	450	?1	1 Bucket	Floor layer. Sub-sample for chem.
191	Z				Wood sample from posthole
192	Z				Wood sample from posthole
193	Z				Charcoal from posthole
194	Z				
195	A/B	448	H6	1 Bucket (1 of 3)	Greyish ash layer (?RE-NUMBERED? -251)
196	A/B	448	H6	1 Bucket (2 of 3)	Greyish ash layer (?RE-NUMBERED? -252)
197	A/B	448	H6	1 Bucket (3 of 3)	Greyish ash layer (?RE-NUMBERED? -250)
198	Z	1520		1 Bag	Cranial, SK9
199	Z	1520		1 Bag	Thoracic, SK9
200	A/B	380	H1	1 Bucket (1 of 6)	Floor layer. Sub-sample for chem.
201	A/B	380	H1	1 Bucket (2 of 6)	Floor layer. Sub-sample for chem.
202	A/B	380	H1	1 Bucket (3 of 6)	Floor layer. Sub-sample for chem.
203	A/B	380	H1	1 Bucket (4 of 6)	Floor layer. Sub-sample for chem.
204	A/B	380	H1	1 Bucket (5 of 6)	Floor layer. Sub-sample for chem.
205	A/B	380	H1	1 Bucket (6 of 6)	Floor layer. Sub-sample for chem.
206	A/B	380	H2	1 Bucket (1 of 5)	Floor layer. Sub-sample for chem.
207	A/B	380	H2	1 Bucket (2 of 5)	Floor layer. Sub-sample for chem.
208	A/B	380	H2	1 Bucket (3 of 5)	Floor layer. Sub-sample for chem.
209	A/B	380	H2	1 Bucket (4 of 5)	Floor layer. Sub-sample for chem.
210	A/B	380	H2	1 Bucket (5 of 5)	Floor layer. Sub-sample for chem.
212	A/B	419	G5	1 Bucket (2 of 4)	Floor layer. Sub-sample for chem.
213	A/B	419	G5	1 Bucket (3 of 4)	Floor layer. Sub-sample for chem.
214	A/B	419	G5	1 Bucket (4 of 4)	Floor layer. Sub-sample for chem.
211	A/B	419	G5	1 Bucket (1 of 4)	Floor layer. Sub-sample for chem.
216	A/B	380	H4	1 Bucket (2 of 2)	Floor layer. Sub-sample for chem.
217	A/B	427	H6	1 Bucket (1 of 2)	Floor layer. Sub-sample for chem.
218	A/B	427	H5	1 Bucket (1 of 3)	Floor layer. Sub-sample for chem.
219	A/B	427	H5	1 Bucket (2 of 3)	Floor layer. Sub-sample for chem.
220	A/B	427	H5	1 Bucket (3 of 3)	Floor layer. Sub-sample for chem.
221	A/B	419	G10	1 Bucket (1 of 2)	Floor layer. Sub-sample for chem.

Sample no	Area	Context	Grid Sq(s)/Location	Number of bags/buckets	Description/Comm/Info
222	A/B	419	G10	1 Bucket (2 of 2)	Floor layer. Sub-sample for chem.
223	A/B	419	G4	1 Bucket (1 of 3)	Floor layer. Sub-sample for chem.
224	A/B	419	G4	1 Bucket (2 of 3)	Floor layer. Sub-sample for chem.
225	A/B	419	G4	1 Bucket (3 of 3)	Floor layer. Sub-sample for chem.
226	A/B	419	G1	1 Bucket (1 of 6)	Floor layer. Sub-sample for chem.
227	A/B	419	G1	1 Bucket (2 of 6)	Floor layer. Sub-sample for chem.
228	A/B	419	G1	1 Bucket (3 of 6)	Floor layer. Sub-sample for chem.
229	A/B	419	G1	1 Bucket (4 of 6)	Floor layer. Sub-sample for chem.
230	A/B	419	G1	1 Bucket (5 of 6)	Floor layer. Sub-sample for chem.
231	A/B	419	G9	1 Bucket	Floor layer. Sub-sample for chem.
232	A/B	419	G6	1 Bucket	Floor layer. Sub-sample for chem.
233	A/B	419	G2	1 Bucket (1 of 4)	Floor layer. Sub-sample for chem.
234	A/B	419	G2	1 Bucket (2 of 4)	Floor layer. Sub-sample for chem.
235	A/B	419	G2	1 Bucket (3 of 4)	Floor layer. Sub-sample for chem.
236	A/B	419	G2	1 Bucket (4 of 4)	Floor layer. Sub-sample for chem.
237	A/B	419	G1	1 Bucket (6 of 6)	Floor layer. Sub-sample for chem.
238	A/B	419	G3	1 Bucket (1 of 2)	Floor layer. Sub-sample for chem.
239	A/B	419	G3	1 Bucket (2 of 2)	Floor layer. Sub-sample for chem.
215	A/B	380	H4	1 Bucket (1 of 2)	Floor layer. Sub-sample for chem.
238	A/B	455		1 Bucket	"Out cast" (upcast?) under 380
239	A/B	455		1 Bucket	"Out cast" (upcast?) under 380
240	A/B	455		1 Bucket	"Out cast" (upcast?) under 380
241	A/B	455		1 Bucket	"Out cast" (upcast?) under 380
242	Z	1520	189/386	1 Bag	Pelvic cavity, SK9
243	A/B	380	H3	1 Bucket (1 of 6)	Floor layer. Sub-sample for chem.
244	A/B	380	H3	1 Bucket (2 of 6)	Floor layer. Sub-sample for chem.
245	A/B	380	H3	1 Bucket (3 of 6)	Floor layer. Sub-sample for chem.
246	A/B	380	H3	1 Bucket (4 of 6)	Floor layer. Sub-sample for chem.
247	A/B	380	H3	1 Bucket (5 of 6)	Floor layer. Sub-sample for chem.
248	A/B	380	H3	1 Bucket (6 of 6)	Floor layer. Sub-sample for chem.
249	A/B	380	H4	1 Bucket	Floor layer. Sub-sample for chem.
250	A/B	448	H6	1 Bucket (3 of 3)	Greyish layer, S part of grid H (EQUALS 197?)
251	A/B	448	H6	1 Bucket (1 of 3)	Greyish layer, S part of grid H (EQUALS 195?)
252	A/B	448	H6	1 Bucket (2 of 3)	Greyish layer, S part of grid H (EQUALS 196?)
253	A/B	427	H6	1 Bucket (2 of 2)	Floor layer. Sub-sample for chem.
254		?	?	?	Void?
255		?	?	?	Void?
256	A/B	492	G	1 Bag	Posthole fill
257	A/B	415	D1	1 Bucket (1 of 2)	Floor layer. Sub-sample for chem.
258	A/B	415	D1	1 Bucket (2 of 2)	Floor layer. Sub-sample for chem.
259	A/B	415	D	1 Bucket (1 of 2)	Floor layer. Sub-sample for chem.
260	A/B	415	D	1 Bucket (2 of 2)	Floor layer. Sub-sample for chem.

Sample no	Area	Context	Grid Sq(s)/Location	Number of bags/buckets	Description/Comm/Info
261	A/B	495		1 Bucket	Floor layer. Sub-sample for chem.
262	A5	554	227/483	1 Bucket	Floor layer. Sub-sample for chem.
263	Z	1639	189/386	1 Bag	Pelvic, SK11
264	Z	1639	189/386	1 Bag	Thoracic, SK11
265	Z	1639	189/386	1 Bag	Under skull, SK11
266	A/B	495	G	1 Bucket	Posthole fill
267	A/B	562	G	1 Bucket	Posthole fill
268	A/B	560	D	1 Bucket (1 of 2)	Wood ash layer
269	A/B	560	D	1 Bucket (2 of 2)	Wood ash layer
270	A4	578	226/478	1 Bucket	Mottled dump
271	A/B	561	220/500	1 Bucket	Thin floor layer
272	A/B	607	220/495	1 Bucket	Poss. posthole fill
273	A/B	612		1 Bucket	Fill of (fire) pit
274	A/B	?		1 Bag	Posthole fill
275	A/B	601		1 Bag	Posthole fill
276	A/B	626		1 Bag	Posthole fill
277	A/B	?		?	? Void
278	A/B	?		?	? Void
279	A/B	616	220/500	1 Bag	Pit fill
280	A/B	616	220/500	1 Bucket	Pit fill
281	A/B	618	220/505	1 Bucket	Posthole fil
282	A/B	638		1 Bucket	Posthole fil
283	A/B	634	220/500	1 Bag	Posthole fil
284	A/B	634	220/500	1 Bag	Posthole fil
285	Z	1644	189/381	1 Bag	Thoracic
286	Z	1644	189/381	1 Bag	Cranial
287	Z	1644	189/381	1 Bag	Pelvic
288	A5	557	226/483	1 Bag	Posthole SW quad
289	A5	619	226/483	1 Bag	Posthole SW quad
290	A5	621	226/483	1 Bag	Posthole SW quad
291	A5	620	226/483	1 Bag	Posthole SW quad
292	A5	609	226/483	1 Bag	Posthole SW quad
293	A5	639	226/483	2 Bags	a)N.most, b)S. - See plan 28
294	A/B	642	220/500	1 Bag	Dark, mixed deposit
293	A/B	485	220/505	1 Bucket (1 of 3)	Posthole fill
294	A/B	485	220/505	1 Bucket (2 of 3)	Posthole fill
295	A/B	485	220/505	1 Bucket (3 of 3)	Posthole fill
296	A/B	687	220/505	1 Bag	Stakehole fill - 100%
297	A4	564	NE/E	1 Bucket	1st floor layer
298	A4	564	SE/E	1 Bucket	1st floor layer
299	A4	564	NE/W	1 Bucket	1st floor layer
300	A4	564	SE/W	1 Bucket	1st floor layer
301	A4	564-566	SE/E	1 Bucket	Floor layer.
302	A4	564-566	SE/E	1 Bucket	Floor layer.
303	A4	564-566	SE/W	1 Bucket	Floor layer.

Sample no	Area	Context	Grid Sq(s)/Location	Number of bags/buckets	Description/Comm/Info
304	A4	564-566	SE/W	1 Bucket	Floor layer.
305	A4	564-566	NE/E	1 Bucket	Floor layer.
306	A4	564-566	NE/E	1 Bucket	Floor layer.
307	A4	564-566	NE/E	1 Bucket	Floor layer.
308	A4	564-566	NE/W	1 Bucket	Floor layer.
309	A4	564-566	NE/W	1 Bucket	Floor layer.
310	A/B	708	220/490	1 Bag (1 of 3)	Posthole fill
311	A/B	708	220/490	1 Bag (2 of 3)	Posthole fill
312	A/B	708	220/490	1 Bag (3 of 3)	Posthole fill
313	Z	1629	179/386	1 Bag	Wood (from floor?)
314	A4	566	NE/W	1 Bucket (1 of 2)	Floor layer. Charcoal, burnt bone
315	A4	566	NE/W	1 Bucket (2 of 2)	Floor layer. Charcoal, burnt bone
316	A4	566	NE/E	1 Bucket	Floor layer. Charcoal, burnt bone
317	A/B	718	220/490	1 Bucket (1 of 4)	Lots of animal bone
318	A/B	718	220/490	1 Bucket (2 of 4)	Lots of animal bone
319	A/B	718	220/490	1 Bucket (3 of 4)	Lots of animal bone
320	A/B	718	220/490	1 Bucket (4 of 4)	Lots of animal bone
321	A/B	674		1 Bucket	Pit fill - 25%
322	A/B	380	220/490	1 Tin	Micromorph A1
323	A/B	380	220/490	1 Tin	Micromorph A2
324	A/B	380	220/490	1 Tin	Micromorph A3
325	A/B	380=388	220/485	1 Tin	Micromorph B1
326	A/B	380=388	220/485	1 Tin	Micromorph B2
327	A/B	378+389	220/485	1 Tin	Micromorph B3
328	A/B	415	220/500	1 Tin	Micromorph D1
329	A/B	415	220/500	1 Tin	Micromorph D2
330	A/B	415	220/500	1 Tin	Micromorph D3 (Not shown on section drawing!)
331	A/B	729		1 Bucket	Posthole fill
332	C	728	220/520	3 Buckets	Floor layer.
333	A5	764	226/483	1 Bucket	Hearth fill
334	Z	1656	189/386	1/2 bag	Under torso
335	Z	1656	189/386	1/2 bag	Pelvic cavity
336	Z	1656	189/386	1/2 bag	Under skull
337	A/B	721	?	1 Bucket	Floor layer. Sub-sample for chem.
338	A/B	721	?	1 Bucket	Floor layer. Sub-sample for chem.
339	A/B	721	?	1 Bucket	Floor layer. Sub-sample for chem.
340	A/B	721	?	1 Bucket	Floor layer. Sub-sample for chem.
341	A/B	734	215/500	1 Bucket	Posthole fill
342	A4	793	226/478	1 Bag	Posthole fill
343	A4	797	226/478	1 Bag	Posthole fill
344	A5	764	226/483	1 Tin	Micromorph - hearth
345	A/B	805	220/480	1 Bucket	Posthole fill
346	A4	810	229/478	1 Bag	Posthole fill
347	A4	811	229/478	1 Bag	Posthole fill

Sample no	Area	Context	Grid Sq(s)/Location	Number of bags/buckets	Description/Comm/Info
348	A/B	825	220/495	1 Bag	Posthole fill
349	A4	Multi		1 Tin	Micromorph. S-section A4
350	A4	Multi		1 Tin	Micromorph. S-section A4
351	C	Multi		1 Tin	Micromorph
352	Z	SK16	189/386	1/2 bag	Under skull
353	Z	SK16	189/386	1/2 bag	Pelvic cavity
354	Z	SK16	189/386	1/2 bag	Under torso
355	A/B	796	K1_215/500	1 Bucket (1 of 2)	Floor layer. Sub-sample for chem.
356	A/B	796	K1_215/500	1 Bucket (2 of 2)	Floor layer. Sub-sample for chem.
357	A/B	721	220/505	1 Bucket (2 of ?)	Floor layer. Sub-sample for chem.
358	A/B	721	220/505	1 Bucket (2 of ?)	Floor layer. Sub-sample for chem.
345	A4	767	226/478	1 Bag	Posthole fill
359	A5	809	226/483	1 Bag	Hearth - basal/"clean fill"
360	A5	390+	226/483		Floor layer. SW quad
361	A5	390+	226/483		Floor layer. NW quad
362	A5	832	226/483	1 Bag	Posthole. SW quad
363	A5	833	226/483	1 Bag	Posthole. NW quad
364	C	838/839	220/520	2 Buckets	Backfill of hearth area
365	A/B	796	K5	1 Bucket (1 of 6)	Floor layer. Sub-sample for chem.
366	A/B	796	K5	1 Bucket (2 of 6)	Floor layer. Sub-sample for chem.
367	A/B	796	K5	1 Bucket (3 of 6)	Floor layer. Sub-sample for chem.
368	A/B	796	K5	1 Bucket (4 of 6)	Floor layer. Sub-sample for chem.
369	A/B	796	K5	1 Bucket (5 of 6)	Floor layer. Sub-sample for chem.
370	A/B	796	K5	1 Bucket (6 of 6)	Floor layer. Sub-sample for chem.
371	A/B	796	K4	1 Bucket (1 of 4)	Floor layer. Sub-sample for chem.
372	A/B	796	K4	1 Bucket (2 of 4)	Floor layer. Sub-sample for chem.
373	A/B	796	K4	1 Bucket (3 of 4)	Floor layer. Sub-sample for chem.
374	A/B	796	K4	1 Bucket (4 of 4)	Floor layer. Sub-sample for chem.
375	A/B	796	K2	1 Bucket (1 of 3)	Floor layer. Sub-sample for chem.
376	A/B	796	K2	1 Bucket (2 of 3)	Floor layer. Sub-sample for chem.
377	A/B	796	K2	1 Bucket (3 of 3)	Floor layer. Sub-sample for chem.
378	A	849		1 Bucket	Midden / turf
379	A/B	796	K6	1 Bucket	Floor layer. Sub-sample for chem.
380	A/B	796	K7	1 Bucket	Floor layer. Sub-sample for chem.
381	A/B	850	220/495	1 Bucket	Floor layer. Sub-sample for chem.
382	A/B	796	K3	1 Bucket (1 of 3)	Floor layer. Sub-sample for chem.
383	A/B	796	K3	1 Bucket (2 of 3)	Floor layer. Sub-sample for chem.
384	A/B	796	K3	1 Bucket (3 of 3)	Floor layer. Sub-sample for chem.
385	C	Multi		1 Tin	Micromorph?- "section through flooring plinth"
386	A/B	850	220/495		Posthole fill
387	A/B	852	215/500	1 Bucket	Wood ash layer
388	C	859	220/515	1 Bucket	
389	A/B	872	215/500		Ash, charcoal, gravel
390	A4	Multi	229/478	1 Tin	Micromorph

Sample no	Area	Context	Grid Sq(s)/Location	Number of bags/buckets	Description/Comm/Info
391	A/B	871	K4_215/500	1 Bucket	Floor layer, under 796. Sub-sample for chem.
392	A/B	796	215/500	1 Bucket (1 of 3)	Floor layer. Sub-sample for chem.
393	A/B	796	215/500	1 Bucket (2 of 3)	Floor layer. Sub-sample for chem.
394	A/B	796	215/500	1 Bucket (3 of 3)	Floor layer. Sub-sample for chem.
395	C	839	220/520	1 Bucket	Backfill of hearth
396	C	860	220/515	1 Bucket	Floor layer?
397	A4	886	226/478	1 Bucket	Midden. V.black
398	A4	890	226/478	1 Bucket	Entrance
399	A5	Multi	226/483	1 Tin	Micromorph. E facing section
400	A5	Multi	226/483	1 Tin	Micromorph. W facing section
401	A5	Multi	226/483	1 Tin	Micromorph. S facing section
402	A5	?	226/483	1 Bucket	Posthole fill
403	A/B	796	K4	1 Bucket (1 of 3)	Floor layer. Sub-sample for chem.
404	A/B	796	K4	1 Bucket (2 of 3)	Floor layer. Sub-sample for chem.
405	A/B	796	K4	1 Bucket (3 of 3)	Floor layer. Sub-sample for chem.
407	A/B	853	K4	1 Bucket (1 of 2)	Peat ash
408	A/B	853	K4	1 Bucket (2 of 2)	Peat ash
409	A/B	?	L2	1 Bucket (1 of 2)	Floor layer. Sub-sample for chem.
410	A/B	?	L2	1 Bucket (1 of 2)	Floor layer. Sub-sample for chem.
411	Z	SK9		1 Bag	Inside skull - soil
412	Z	SK11		1 Bag	Ash from torso
413	Z	SK ?		1 Bag	Ash from torso
414	Z	SK13		1 Bag	Thorax - soil
415	Z	SK13		1 Bag	Skull - soil
416	Z	SK13		1 Bag	Pelvis - soil
417	Z	SK13		1 Bag	Ash - Thorax
418	Z	SK10		1 Bag	Inside skull - soil
419	Z	SK14		1 Bag	Under skull
420	Z	SK14		1 Bag	Thorax - soil
421	Z	SK14		1 Bag	Pelvis - soil
422	Z	SK16		1 Bag	Inside skull - soil
423	Z	1631		1 Bag	Skull
424	Z	1631		1 Bag	Pelvis

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