MINJASAFNIÐ Á AKUREYRI
AKUREYRI MUSEUM

Excavations at Gásir 2004: An Interim Report

H.M.Roberts (ed)
With Guðrún Alda Gísladóttir, Ramona Harrison, and Orri Vésteinsson

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Bárugötu 3
101 Reykjavík

Sími: 551 1033
Fax: 551 1047
Netfang: fsi@instarch.is

Excavations at Gásir 2004 – An Interim Report

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FORNLEIFASTOFNUN
ÍSLANDS

Excavations at Gásir 2004 – An Interim Report.

H. M. Roberts, Fornleifastofnun Íslands

Summary

Fornleifastofnun Íslands, on behalf of Minjasafnið á Akureyri, carried out a research excavation at Gásir, Eyjafjörður, for 10 weeks between June 28th and September 3rd 2004.

Excavation in 2004 was the 4th season of a projected 6 year project. Work this year focused on a new excavation area encompassing the church and churchyard (Area B) as well as continued work within the main cluster of booths (Area A). In total some 1050m² have now been excavated in part or in whole (circa 600m² in Area A, and circa 450m² in Area B).

Clement weather throughout the summer contributed to a very successful season, with unprecedented numbers of layers being defined and excavated. Within Area A an additional 650 layers or features were fully recorded and excavated, contributing to a current total of circa 1750 excavated units. In addition, 114 layers or features were recorded and excavated in Area B. As in previous years all layers were recorded individually and excavated in strict stratigraphic sequence.

Area A

Work this year continued within the area opened in 2003 – a cluster of linked sunken rooms or booths, all believed to date to the late C14th. These rooms were seen to have been rebuilt, repaired or re-modelled on multiple separate occasions, in good accordance with the interpretation of these structures as seasonal shelters. A great

number of individual occupation surfaces or floors have been excavated, together with many temporary hearths, interspersed by a complex sequence of temporary abandonment deposits. Several of these rooms have now been excavated down to their primary construction events, in the process revealing numerous large pits, postholes and re-modelling events. Work in 2005 is expected to continue within this area, which will additionally be expanded by up to 10m westwards.

Artefacts recovered this year include further pieces of rare medieval pottery, iron objects, bronze objects, whetstone fragments, baking plates, a steatite line sinker, leather, whalebone, and other organic materials. Of particular note are the exceptionally well preserved remains of several leather shoes (currently undergoing conservation) and a small weight or insiglia of bronze.

Area B

In area B an approx. 465 m2 area was opened up inside the circular earthwork that demarcates the churchyard on the surface. In addition a 4 m long trench was excavated through the churchyard wall on its north western side.

It is expected that the excavation of the church structure and related deposits inside the cemetery will start anew and be completed in 2006. The area will also be extended over the churchyard wall in two places: in the eastern end where there is a gap in the wall and where the main entrance to the yard is believed to have been with possible stone-lined steps, and in the eastern end where a cluster of sub-rectangular stones suggests there may be a separate structure, perhaps a bell tower.

Aims and Methods

The excavation team was led by Howell Roberts (Area A) and Orri Vésteinsson (Area B), and numbered between 7 and 14 staff, totalling 96 person weeks of dedicated excavation time.

The archaeological aims in 2004 were;
- to continue the excavation of Area A, in particular the second large group of earthworks (begun in 2003) and representing a number of rooms or booths forming complex sunken featured buildings.
- to begin the excavation of a large open area (Area B) comprising the church and churchyard at Gásir.

Excavation methodology.

As before, the excavation methodology adopted was one of single context planning, within a large and contiguous open area. This was supplemented by conventional and digital photography, and a targeted programme of environmental sampling.

Artefacts were recovered by single context, and special finds located in 3 dimensions using a total station theodolite. All faunal remains were hand recovered and retained for further study. Deposits with a high density of faunal remains were additionally dry sieved to aid recovery.

Subsequent post–excavation work included the cleaning and registering of all artefacts, the digitising of all excavation plans, and the ongoing analysis of the site stratigraphy and chronology.

Acknowledgements

Excavation at Gásir in 2004 was made possible by generous grants from Ríkissjóður and the Kristnihátíðarsjóður. We are most grateful for this support and for the support and co-operation of a large number of individuals and institutions.

The site was excavated by Howell Roberts, Orri Vésteinsson (HÍ), Oddgeir Hansson, James Taylor, Freya Sadarangani, Bruno Berson, Hrafnkell Hallmundsson, Jen Wooding, Louise Felding, Lilja Björk Pálsdóttir, Ramona Harrison (CUNY), Ágústa Edwald, Rúnar Leifsson, Antonia Thomas, Kathryn Blythe and Paul Clark.

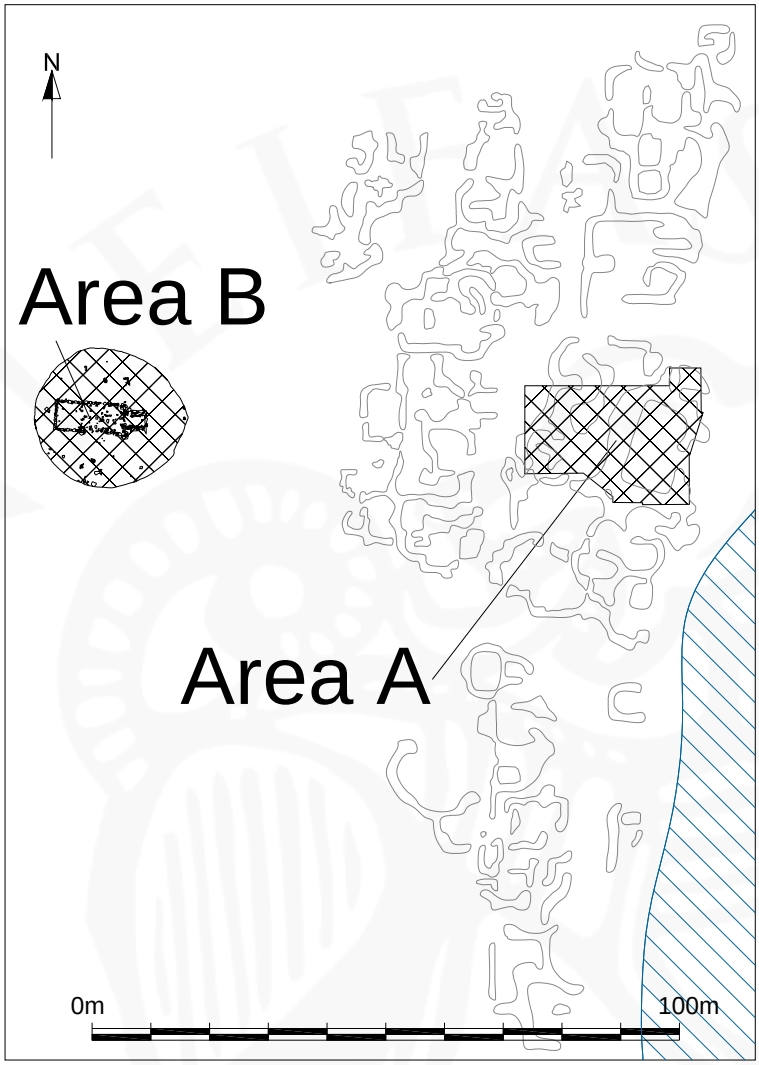
The project was administered for Fornleifastofnun Íslands by Ólöf Þorsteinsdóttir, and local liason was managed by Sædís Gunnarsdóttir of Fornleifastofnun Norðurlands.

The artefacts were processed by the author and described by Guðrún Alda Gísladóttir. Professor Thomas McGovern, and Ramona Harrison have continued their study of the faunal remains. Post-excavation analysis was carried out by H.M. Roberts and Orri Vésteinsson. Dagný Arnarsdóttir completed the digitising of drawings for Area B.

Our thanks are due to Guðrún Kristinsdóttir, the staff of Minjasafnið á Akureyri, and to the people of Akureyri and Eyjafjörður for their support and encouragement.

We would especially like to thank Friðrik Gylfi Traustason and Guðrún Björk Pétursdóttir, the farmers at Gásir, for their kindness and co-operation.

Results



Area A

Excavation in Area A in 2004 focused on the excavation of a number of interlinked sunken featured buildings, first excavated in 2003. During the 2003 season a great many re-use, abandonement and post abandonment deposits were excavated and described. In 2004 the emphasis progressed to the excavation of occupational layers, functional features and construction events. These newer features more closely represent the "primary" elements of this "version" of this building cluster. Nonetheless, it continued to be apparent that the current cluster of rooms are by no means the earliest remains at this location – all the current buildings have clearly been dug down through the remains of early occupation.

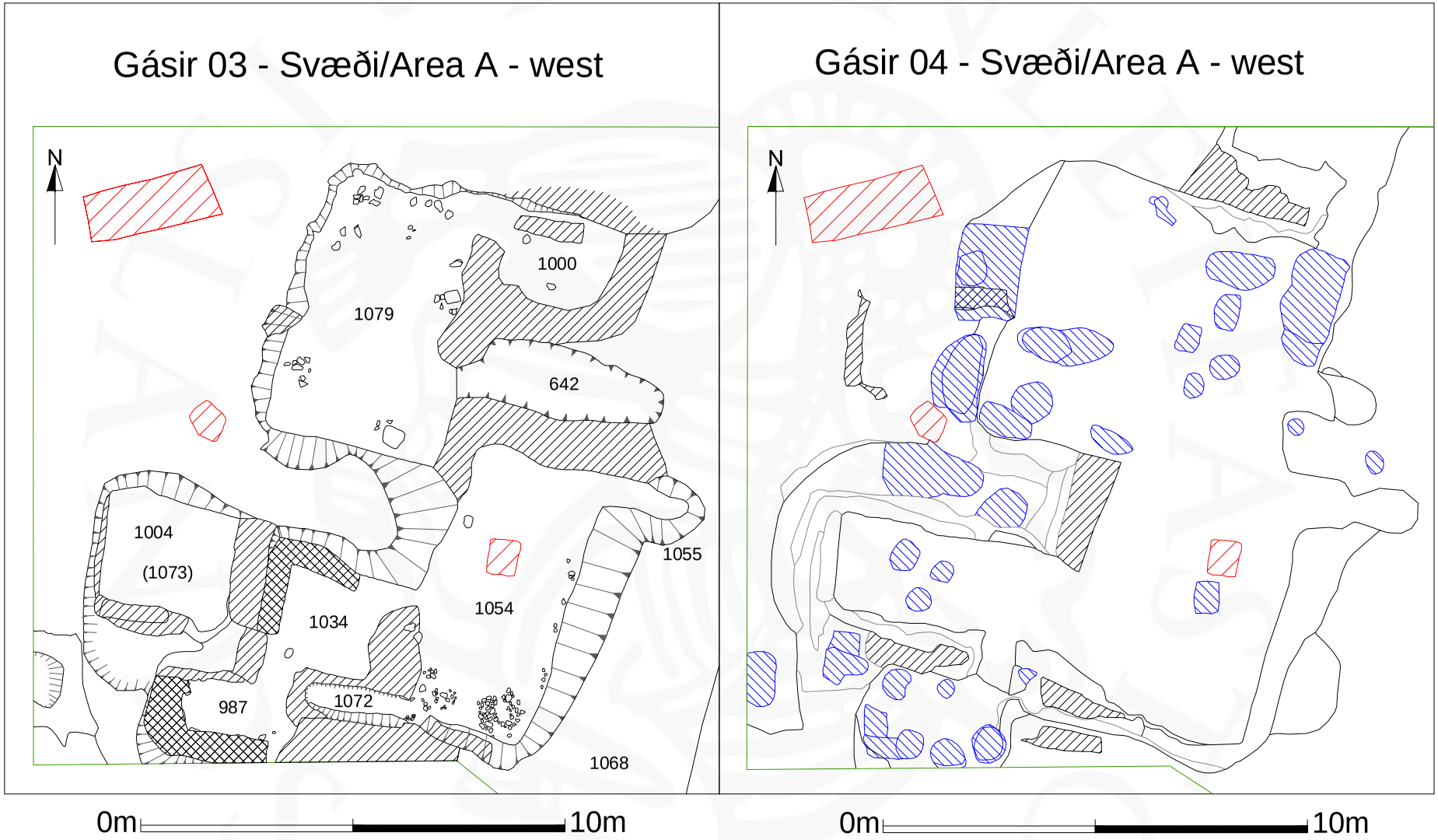


Figure 2 – Area A (west), Group 1758 at the end of excavation in 2003 and 2004.
Black hatching = turf construction, Blue = pit/posthole, Red = truncation

Excavation in 2004 therefore included much more evidence of excavated floor layers, temporary hearths, turf walls (or fragments thereof), and many new large and small pits and postholes (see Figure 2 below). The fundamental layout of the building cluster remains the same, but later partitions and amendments have now been removed, thus somewhat simplifying and opening out the apparent plan.

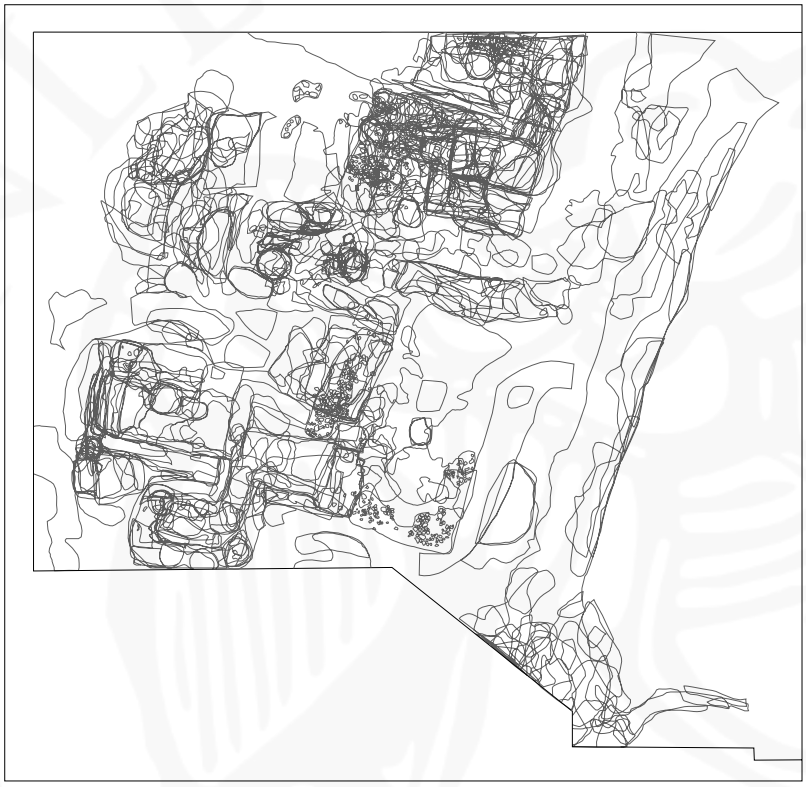


Figure 3 – Composite drawing of the c.650 layers and features excavated in 2004

For purposes of analysis, the exceptionally complex recorded remains may be assigned to a number of larger units or "groups". These groups may represent spatial, functional and temporal divisions, or a combination thereof. At the simplest level they may simply include the construction event or "cut" of a posthole together with the material filling it. At the most complex level a group (or "meta-group") may represent a major structural and/or temporal division, and may include any number of further groups, in a nested hierarchy.

At Gásir, the highest level of grouping indicates clusters of interlinked rooms. Group 1757 is the cluster of rooms in the eastern part of Area A, excavated by Daniel Bruun in 1907, and re-investigated in 2001-2002. Group 1758 is the cluster of rooms in the western part of Area A excavated in 2003 and 2004.

Group 1758 may be subdivided into a number of further higher level groupings, essentially representing spaces or "rooms". This level of groups are assigned the numbers 1054, 1068, 1079, 1759, 1760, 1761, 1762, and 1765. As may be seen

(Figure 4, below) these groups may overlap spatially, and other areas may not fall within one of the major groupings. Spatial overlaps are chiefly caused by modification through time, and omissions are shared or ambiguous areas between other groups. Additional groupings will undoubtedly become clearer as excavation and analysis progress.

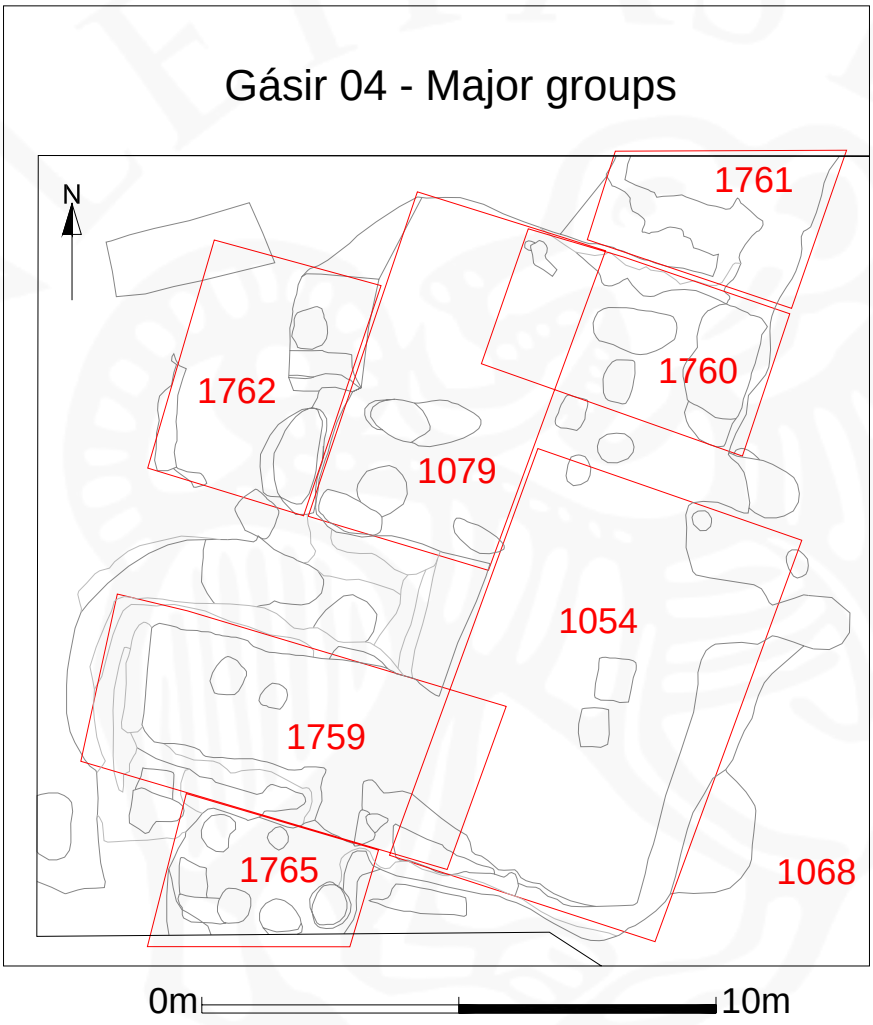


Figure 4 – Major groups

Excavation of these groups began in 2003, and excavation will continue in 2005. What follows should be regarded as a statement about work in progress – it should be read with reference to the 2003 report[1] and with a view to the amendments, corrections and additions that will inevitable follow further excavation.

[1] Roberts (ed) 2004

Group 1765

Group 1765 is a sunken feature building located at the southern limit of the excavation area. In total it measures circa 3.4m in length, up to 2.5m in width and 1.9m in depth.

The room encompassed by this group has seen several phases of activity, and includes further major groups 921 and 987 excavated in 2003. Excavation in 2004 included the removal of turf bench 1310[2], the excavation of the construction cut for this bench (1440) , and excavation of numerous floors layers and features from an earlier phase of occupation – group 1766.

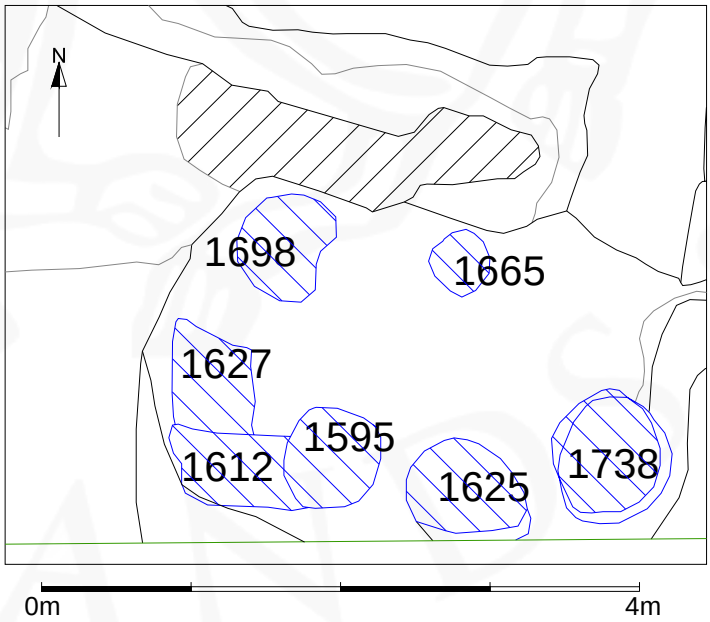
Group 1766

This group represents the earliest occupation excavated to date within room 1765. It lies beneath groups 987 and 921.

Sub groups:- 1596 (cut 1595), 1613 (cut 1612), 1666 (cut 1665), 1699 (cut 1698), 1739 (cut 1738), 1754 (cut 1625), 1755 (cut 1627)

Additional contexts:- 1560, 1562, 1565, 1566, 1577, 1583, 1585, 1634, 1637, 1643, 1648, 1650, 1657, 1674, 1677, 1700, 1710

Figure 5 – Cut features within Group 1766



[2] See Plate 10, page 22, Roberts 2004

Activity within the room at this time seems to be focused on a series of small sub-round and sub-square pits at the southern edge of the room (groups 1596, 1613, 1754 and 1755). The function of these features remains uncertain, but samples have been taken for further analysis. Features 1738 and 1698 are temporary hearths – filled with deposits of peat ash and charcoal. Feature 1665 (group 1666) is interpreted as a posthole, likely to be supporting a tented roof. The central area of group 1766 exhibits a very complex sequence of extremely thin (as little as 2mm) laminated, compacted floor layers – these are variously composed of compact charcoal rich layers, peat ash rich layers, and mixed compacted debris. Excavation of these layers will continue in 2005. Where truncated by pitting an additional 15-20cms (at least) of complex occupation deposits are visible. This sequence of floors has been targeted for micromorphological sampling, and a standing baulk of intact deposits has been retained for that purpose.

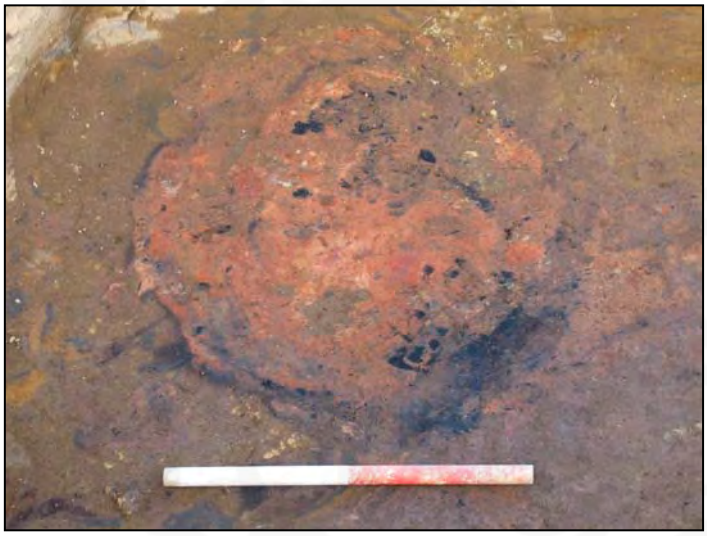


Plate 1 - Hearth 1698 prior to excavation.

Looking northwest
Scale is 50cms

Group 1759

Group 1759 is a large sunken building located towards the southwest corner of the excavation area, and north of group 1766. At its maximum extent Group 1759 measured up to 8.4m in length, 3.3m in width and up to 1.7m in depth. This meta-group contains several other major groupings, including groups 1004[3], 1073[4] and

[3] Roberts 2004, page 19
[4] Op cit page 20

1034[5] excavated in 2003. Groups 1073 and 1034 represent the latter enlargement of this space and its division into two smaller rooms.

The remains of shorter version of this space were excavated in 2004, being bounded by structural cuts 1344 (at the north), 1606 (at the south), 1645 and 1718 (at the west). The total area enclosed by these cuts, representing the shorter single room version of Group 1759, now measures some 6.2m in length (see figure 6, below).

Excavation within this group in 2004 occasioned the removal of a number of turf constructions. These included turf walls 1485 and 1486 at the southern limit of group 1073, and turf bench 1477 at the west. The latter features were characterised by bright red orange turves, quite thin and flat, but rather smaller than typical *strengur* turf, being at most 80cms in length. They appear to represent a broadly contemporary process of construction. Dividing groups 1034 and 1073 there had been a low turf wall (1178) and a turf bench (1197) – these were typified by a more mixed purple/yellow/grey/ brown/red turf, and upon excavation were seen to have been built together.

Plate 2 - Room 1073 prior to the removal of walls 1485-6 (right), bench 1477 (bottom) and wall 1178 (top). Looking east.

[5] Op cit page 17

Wall 1178 was constructed from irregular small trapezoidal turfs, in a matrix of loose yellow brown silt. This is seen as an irregular or perhaps temporary construction, or at least it does not conform to the highest standards of turf constrution

Plate 3 - Construction detail of wall 1178 (turves in section), during excavation. Looking east.

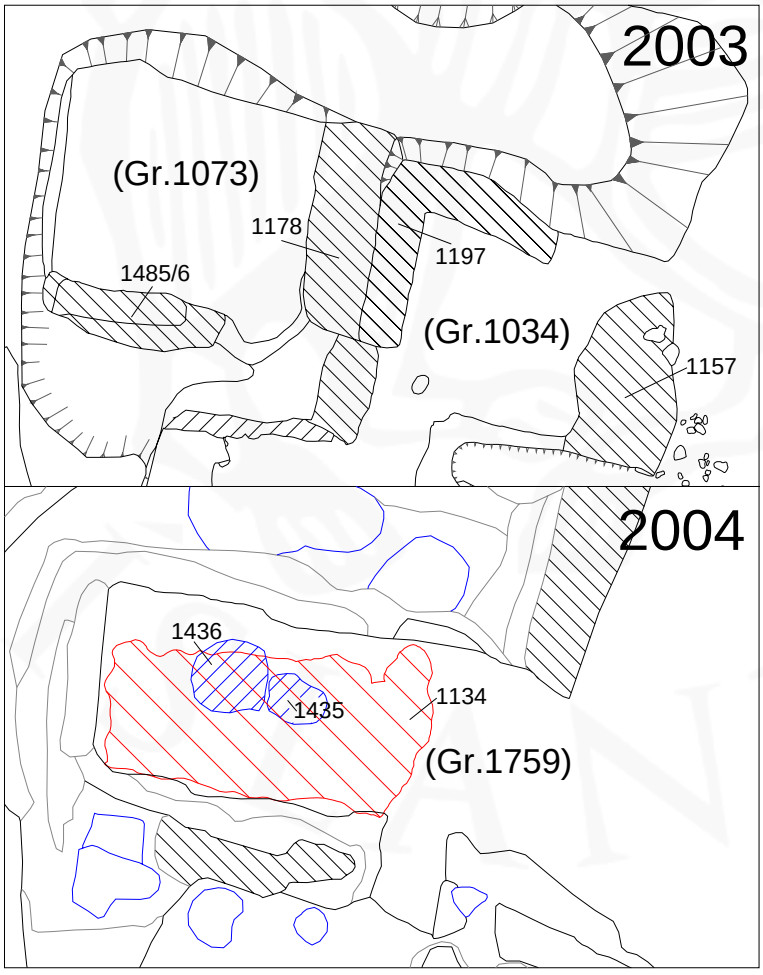


Figure 6 – Group 1759 in 2003 and 2004

Plate 4 – Detail of wall 1157, looking west.

The eastern limit of Group 1034 was formed from another small irregular turf wall - context 1157. This wall exhibited evidence of trampling and/or erosion and did not survive well. Nonetheless, it did have a number of unusual contruction details. Unlike other walls at Gásir, wall 1157 included a significant quantity of rounded stones (up to 30cms) at its edges and bases and appeared to have been built with two "skins" of turf about a central fill of more mixed dumping. This wall forms the eastern boundary of group 1759 in its latter, longer version.

Correspondingly, major features of group 1759 in its earlier version include an extensive but thin compact floor surface (context 1134), and at least two earlier hearths or shallow fire pits (features 1435 and 1436) – see figure 6 above . Floor surface 1134 extended beneath the wall and bench 1178 and 1197, and therefore must represent an earlier phase of occupation. Further excavation within group 1759 revealed a sequence of minor occupation and abandonment events, wholly consistent with a process of seasonal occupation.

Group 1054

Group 1054 is a large sub-rectangular room at the southeastern corner of group 1758. Numerous post abandonment layers within this room were excavated in 2003[6], along with several thin floor deposits and a number of temporary hearths. Further excavation of this group in 2004 revealed a larger version of this space, extending somewhat further to the north and west.

[6] Roberts 2004, Page 13

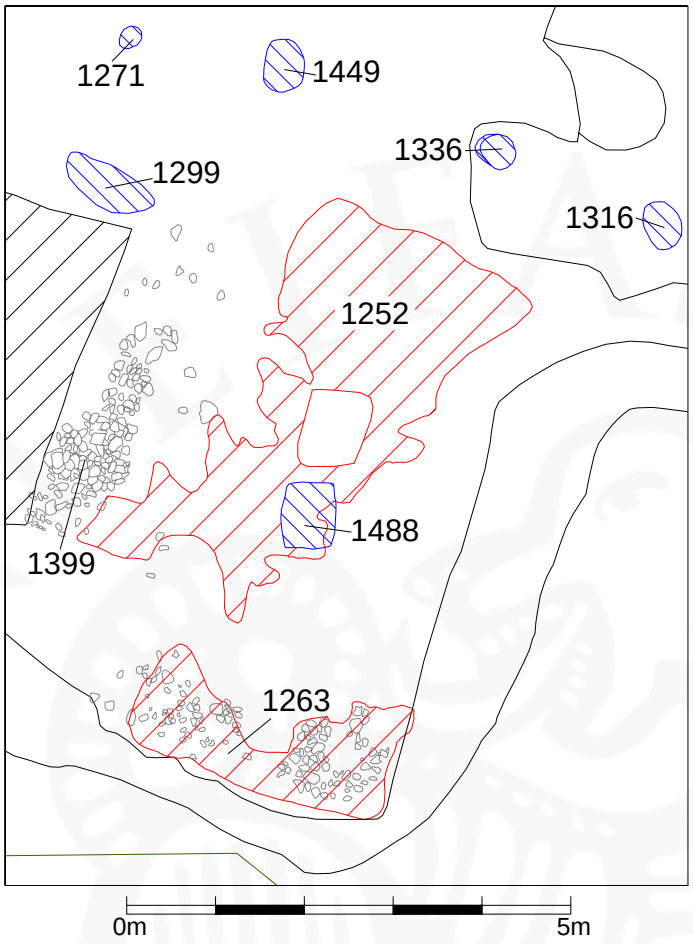


Figure 7 – Major features of group 1054.

In this earlier version of group 1054 the total extent of the room is circa 8.1m x 4.8m. It is apparently delimited by a row of posts at the north (features 1271, 1449, 1336, and 1316), a substantial cut at the south and east (feature 1541), and by a turf wall at the west (wall 1742).

Significant internal deposits include layer 1252, a thin and patchy floor deposit, and stone layers 1263 and 1399. The stone layers do not seem to function as floors – they appear much too uneven and irregular – layer 1263 may serve as a foundation or base for a series of temporary hearths (excavated in 2003). At the centre of group 1054 was a small, deep sub-square pit (feature 1488). At its base, feature 1488 contained charcoal and stone – it is interpreted as a fire pit.

Plate 5 – Feature 1488, from the south. Scale 50cms

The later version of this room (as at end of excavation in 2003) was somewhat smaller - having been additionally demarcated by various low turf deposits around the northern and western limits, and by a small turf wall at the southwest corner (turf wall 1157 - see above).

Group 1079

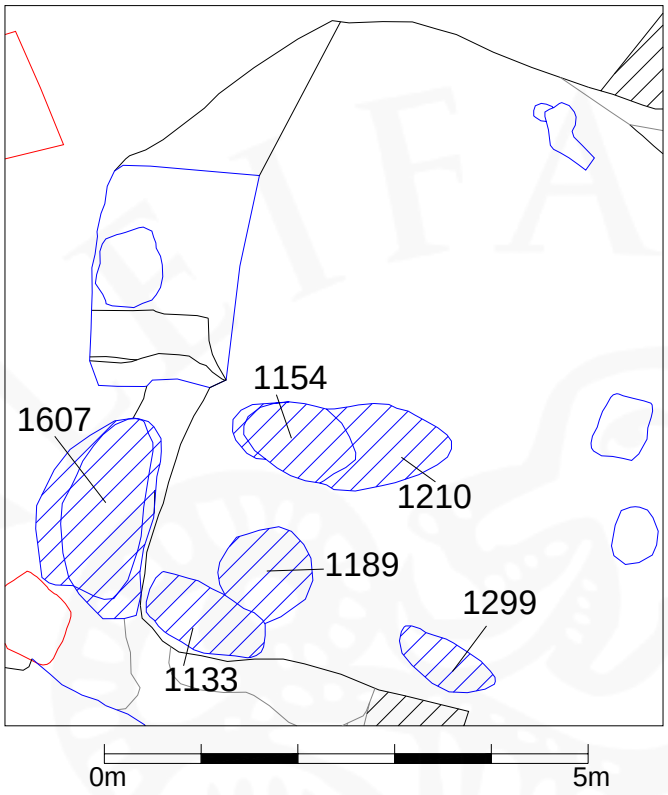


Figure 8 –Features within Group 1079, excavated in 2004.

Excavation within group 1079 focused on the southern half of the area. This earlier phase of activity is seemingly limited to the southern part of this room, and had been sealed by groups 1008, 1009 and 1010[7].

After the removal of post abandonment deposits in 2003, further excavation revealed complex occupation surfaces and a number of large pits (see figure 8).

Plate 6 – Context 1184, fill of feature 1189. Seen from above, north is up, scale 50cms.

Multiple floors deposits were variously composed of compact charcoal rich, peat ash rich and organic "greasy" deposits. Several patches of localised burning were noted, most clearly the circular shallow fire pits or hearths 1189 (illustrated) and 1169 (directly above 1189, not illustrated). Feature 1154/1210 was a deep (60cms) elongated pit dug in at least two phases, and with a complex sequence of fills – the function of this feature is unclear, but it may be for the storage of some organic

[7] Roberts 2004, Page 8

product. Feature 1133 in the southwestern corner of the room was similarly deep but presented few indications of purpose. Feature 1299 appears to be structural in nature – a modified post setting. All of the above features were seen to truncate earlier complex layers of archaeology, and as yet none of these features shows any sterile material at the base.

Plate 7 – Detail of Feature 1133. Looking south, scale 50cms. Note the complexity of deposition revealed in profile.

Feature 1607 may be considered as either a part of this room, or perhaps as belonging to the adjacent group 1762 (see below). Nonetheless, this large sub-oval pit , cut from the higher level surrounding group 1079, appear oriented for access from the lower occupation level, being notably angled towards the east. This feature was filled with a mixed deposit of turf and turf debris and is interpreted as a dry storage feature.

Group 1762

Group 1762 is a new grouping of abandonment layers and some cut features western most within the area of excavation. It is seen to be earlier in date than the construction of at least group 1079 – as the construction cut for that sunken building appears to truncate those features that have so far come to light. The full extent and nature of this group has yet to come to light, and further excavation will be carried out here in 2005.

To date, a few major features have already been excavated (see figure 9 below) – these include the large feature 1721, and a smaller pit at its base, 1736.

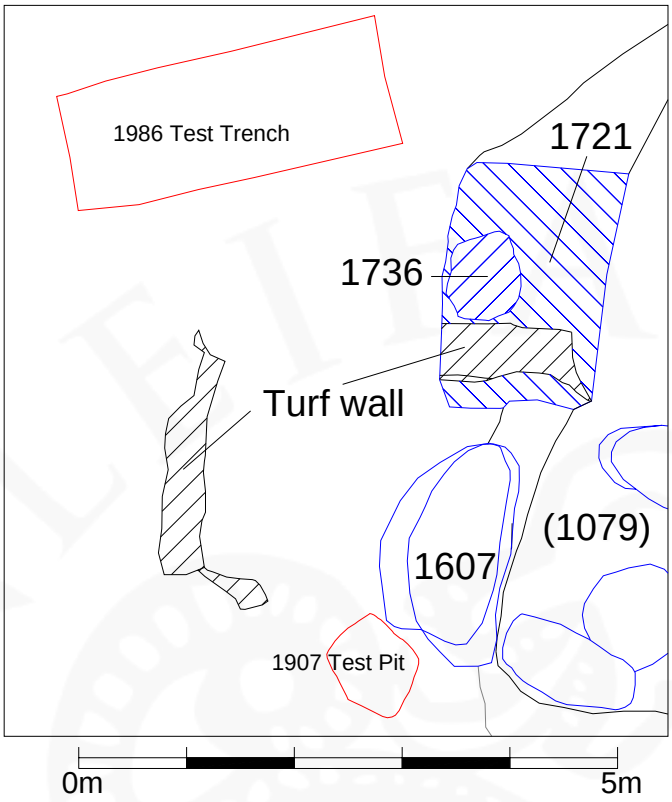


Figure 9 – Details of group 1762.

Feature 1721 appears to represent the remains of a small sunken featured building, subsequently cut perhaps in half by the construction of group 1079. This feature measures some 2.3m from north to south, survives to 1.5m from east to west, and is up to 1.4m in depth.

Plate 8 – SFB 1721 after excavation. Looking west, scale 2m – note the turf construction to the right.

At the base of feature 1721 was a sub-square pit (1736). Towards the southern limit of feature 1721 was an earlier wall fragment, perhaps being used as a bench or perhaps working surface. This turf wall fragment may be associated with an as yet unexcavated turf wall discovered to the south and west (see figure 9).

Although the above features are amongst the oldest excavated to date, they remain clearly stratigraphically above a blue grey tephra horizon (H-1300) apparent to the west, and visible across the area.

Group 1760

Located to the east of group 1079 and to the north of group 1054 were the remains of a further room, group 1760 exhibiting multiple episodes of construction, use and abandonment.

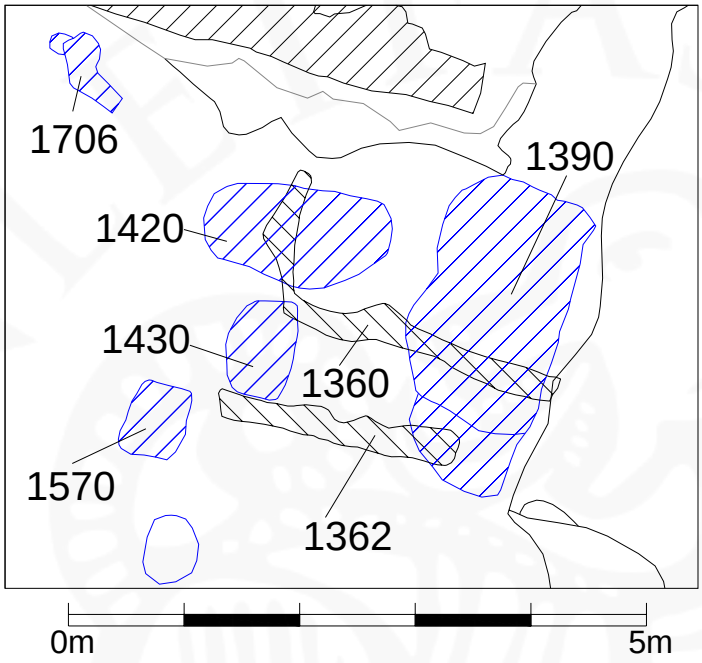


Figure 10 – Details of Group 1760

Several distinct phases of use may be noted within Group 1760. Excavated in 2003 were a few general post abandonment deposits allocated the group number 1000. In 2004 a further group of abandonment and ephemeral re-use layers were removed (group 1120), revealing a sequence of occupation events (group 1385) including floor layers associated with two wall fragments defining a small room some 2.5m in length by 1.9m in width. The wall fragments, 1360 and 1362, were thin skins of turf strips, containing a mixed fill of upcast material – and as such again represent a non-typical use of turf as a building material.

The removal of these walls revealed a somewhat larger space, bordered by a posthole (1706) at the northwest, and the large pit 1390 to the south and east. In total this earlier larger version of group 1760 measured some 4.9m in length by 3.3m in width. Excavation in this room brought to light a sequence of large storage or waste pits – features 1390, 1420, 1430 and 1570.

Plate 9 – (Left) Feature 1430 (vertical, scale 50cms).

Plate 10 – (Right) Feature 1570 (facing west) scale 50cms

Group 1761

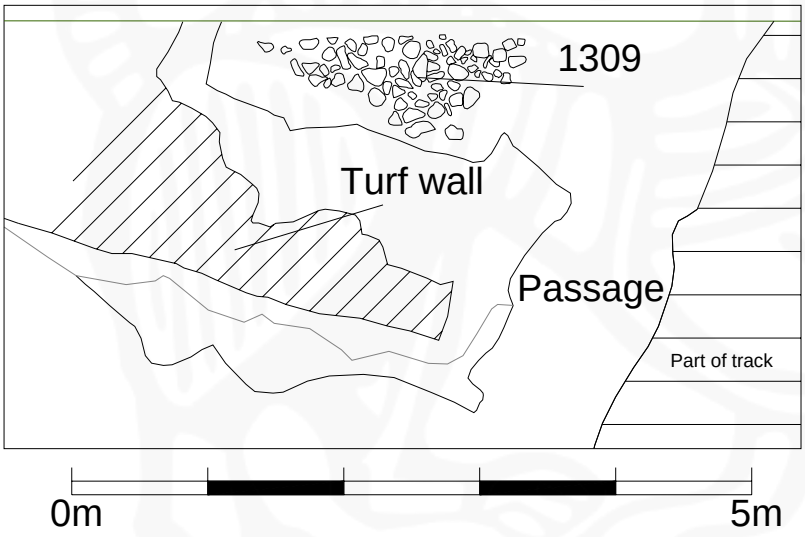


Figure 11 – Detail of group 1761.

Group 1761 was located at the northern limit of the excavation, and forms only a part of a room or booth clearly extending to the north. Like most other rooms at Gásir this group shows a hybrid construction – being dug down at the east and west, whilst defined by a turf wall at the south. Group 1761 was connected to group 1760 by means of a connecting passage (see figure 11) and prior to the digging of pit feature 1390 (see figure 10) these two groups seemingly shared contiguous floor surfaces. Within the main body of this room an irregular stone surface was excavated (layer 1390). The occupation phase of this room had been sealed by numerous disuse layers (Group 1239).

Group 1068

Continuing from work in 2003[8], two further groups of track layers were excavated in 2004 – group 1763 (at the south) and group 1764 (at the north). Further excavation of these layers will continue in 2005.

Once again, the track layers proved rich in artefactual material, especially bone – track layers 1273, 1280, 1283, 1358, 1363, 1365 and 1376 were all seen to be unusually rich in bone. This appears to indicate a substantial refuse component in the development of the track.

Plate 11 - Recording underway in the churchyard, Area B

[8] Roberts 2004. Page 24

Area B

Orri Vésteinsson

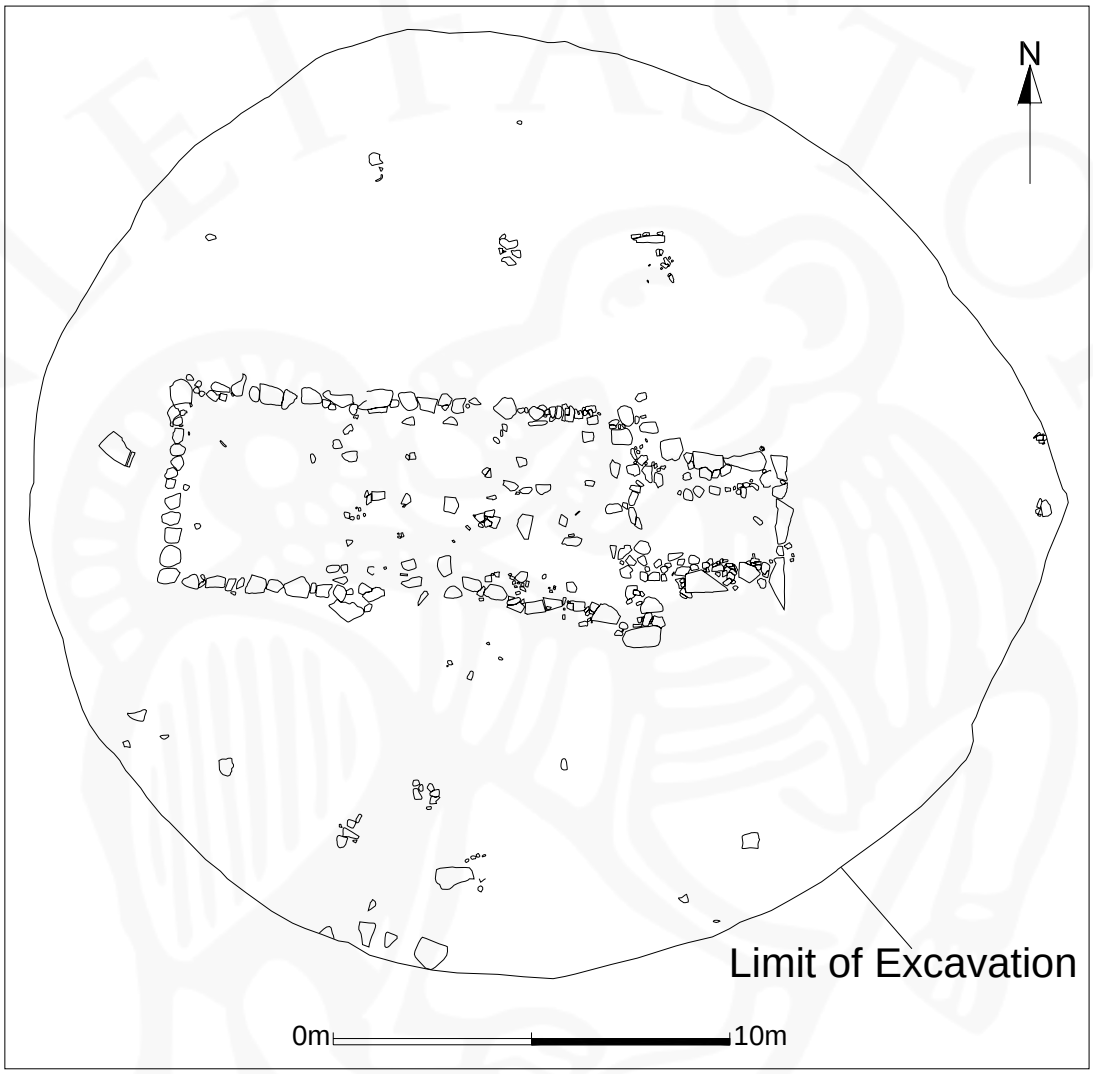


Figure 12 – Area B, the church at Gásir

Excavation revealed the stone foundations of a church, 16,5 m long and 5 m wide. At the eastern end it had a narrower chancel (4 m long, 3.5 m wide) and the western section seems to be a narthex with a lower roof than the central nave. In the eastern and western ends of the structure the cultural layers had been severely truncated by earlier excavation in 1907 but the middle portion seems to have been left largely undamaged. Excavation focused on the area around the church inside the churchyard wall, revealing a number of deposits and features relating to activity in the churchyard contemporary with the church. No burials have so far been found but considerable

evidence for metalworking, sulphur processing and cooking. Also a surprising number of well preserved textiles were recovered.

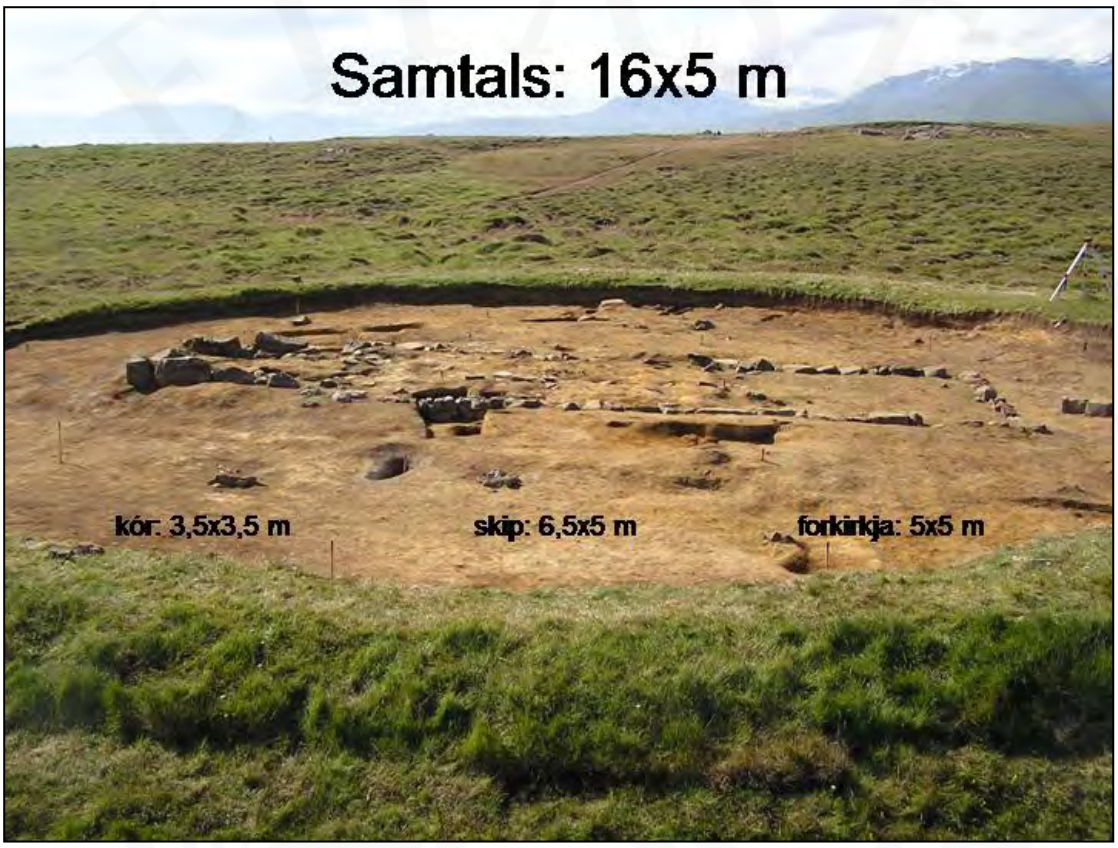


Plate 12 – Divisions of the church. Looking south

The church postdates the H-1300 tephra and shows little or no signs of repair or rebuilding suggesting a short period of use, possibly only a few decades. The cemetery wall postdates a ditch and a midden deposit suggesting that this area was the scene of some activity prior to the construction of the church. The excavation revealed that the eastern part of the churchyard is an artificial platform made from loose earth. The chancel of the church is also built on a constructed pedestal, suggesting considerable investment in the church and its surroundings.

Plate 13 - Overview of the church, looking east.

Finds Summary

Guðrún Alda Gísladóttir

The excavation season of 2004 at Gásir, recovered a total of 199 objects, recorded under 190 finds units (see finds register). The total object count does not include unworked animal bones, though registered in the finds list (finds nos. *36-184*, total 148 finds nos.). The faunal remains have been analysed by a team from CUNY and are dealt with elsewhere (see Harrison, below).

All finds were cleaned, dried, repacked and registered in the excavation database. Conservation work is concluded by the National Museum.

Table 1 - Find categories, sorted by material sum:

Material	**Sum**	**%**	**Find categories**
Bone, unworked	x	x	13.8 kg of unworked animal bones
Bone	5	3	Burnt bone (2), worked whalebone (3)
Textile	4	2	Twine (1), Wool? (3)
Leather	11	6	Indet (5), Offcut (3), Shoe (3)
Copper alloy	31	15	Object (21), Rivet/rove (7), Strap end (1), Vessel rim (1), Weight (1)
Iron	112	56	Blade (2), Buckle (1), Hook (1), Loop (1), Nail (17), Object (23), Slag (64), Staple (1), Tool (1)
Stone	23	11	Baking plate (4), Flake (7), Net sinker (1), Pebbles (5) Whetstone (6),
Glass	1	(0)	Glass? or water-worn pebble ? (1)
Ceramic	9	5	Vessels (9)
Sulphur	3	2	2,3 kg, 3 finds
Total	**199**	**100**	

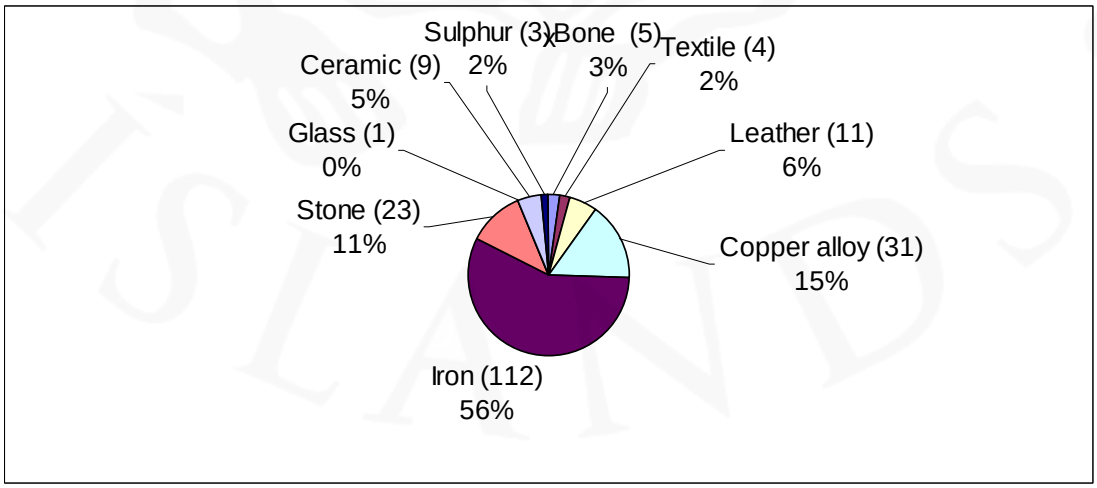


Figure 1. Percentages by Material groups .

Bone
There are three pieces of worked whalebone under two finds numbers. Finds (*04-189, 04-190*) have been cut or sawed at the edges but their function is not determined.

Textile
Four textile finds, under three finds numbers come from this year excavation. Find (*04-196*) is a twine (string) of two twisted threads. Find (*04-197*) is two pieces of what seems to be woven material (wool?), but needs cleaning and conservation before further analysis. Find (*04-188*) is being treated by conservators and awaits further analysis. The twine (*04-197*) was found while cleaning in context [001].
It is tempting to think that the textile indicates local manufacture rather than foreign imports. This may be clarified after further conservation and analysis.

Leather
Eleven leather objects were retrieved by exacavation. Of those two (*04-8, 04-191*) were found while cleaning in context [001]. Of the other leather objects two are small fragments (*04-191, 04-195*) and five are offcuts (*04-185, 04-186, 04-187, 04-193, 04-194*). One find (*04-8*) is a shoe sole and three (*04-11, 04-12, 04-192*) are shoe fragments. The shoes are currently in conservation and await complete analysis but at this stage it is clear that shoes (*04-11, 04-12*) were made by the "turnshoe" method, both have seams on the inside, and shoe (*04-12*) also has a heel-piece. Shoe (*04-11*) is probably a low leash shoe (right foot). It has a pair of holes which the leash has been put through around the ankle. Shoe (*04-12*) is probably a high leash shoe, clearly from the left foot, and has an edge band. Both the shoes have distinct medieval forms and are very likely to be imported.

Figure 2. Leather shoe (*04-11*).

Figure 3. Leather shoe (*04-12*)

Copper alloys and lead
Cpper alloy objects retrieved in 2004 totalled 31 under 20 find numbers. Of those four (*04-20, 04-26, 04-27, 04- 228*) were found while cleaning in context [001].
Eleven of the objects are small plates or fragments and six are small simple nails and roves. Of particular interest is a small weight (*04-13*). It is "pear-shaped" with a

small head, and the main belly is rounded. Flattened areas at each side of the belly have scored decoration or markings. It weights 14.9 g.

In 1986 a previous copper alloy weight was found during test excavation at Gásir. It may be dated to the late 12th -13th century.[1] These two objects must be considered as indicative of the known trading activity at Gásir.

Figure 4. Weight (*04-13*). Both sides.

Iron

In total 112 iron objects were retrieved under 102 finds numbers. Of those, six (*04-1*, *04-2*, *04-9*, *04-22*, *04-31*, *04-262*) were found while cleaning in context [001]. Of those remaining numbers 64 are slag weighing 1.56 kg. in total They may be seen as indicating metal working on site. Most of the objects that can be analysed at this stage are structural fittings (nails and a staple), but also knife blades (*04-3*, *04-31*) and possibly a buckle (*04-4*). Interesting is find (*04-22*), a thick iron ring, 67 mm at the widest and 28 mm thick, and tool? (*04-252*) a broken object, partly hollow at one end, which could have been mounted upon a wooden handle. The iron finds are very corroded and many misshapen, most of the type identified as 'object´ are currently unidentifiable iron lumps that will require x-ray study before further analysis.

Figure 5. Iron ring (*04-22*)

[1] Steuer, Heiko. "Appendix 6. Das Gewicht aus Gásir.", 48.

Stone

The stone objects include six whetstones of schist (*04-30, 04-205 -209*) and four baking plates fragments of schist (*04-203, 04-204, 04-210, 04-216*). One find (*04-5*) is probably a net sinker made of steatite. The object is split in half, flat and has originally been oval in shape. A drilled hole is at the centre of the broader end.

All the latterly mentioned finds above are of imported stone, and all may be most likely of Norwegian origin.[2] Other stone finds are flakes of various stone material: jasper, obsidian and quartz, that can all be found in Iceland, but are all have been imported to the site itself. Finds (*04-211 -215*) and even obsidian fragment (*04-217*) could have be brought to site as strike-a-light. The function of six micaceous unworked quartz pebbles (*04-218, 04-220 -224*) is unclear, but similar bright or white small rounded manuports are not uncommon at archaelogical sites in Iceland. It is possible that they may have utilised as gaming or counting tokens.

Figure 6. Whetstones (*04*-30, *04*-205, *04*-209), Net sinker (*04*-5), Baking plate (204).

Glass

One probable glass object was found, (*04-219*). It is similar to finds (*03-054* and *03-055*) from excavation 2003, short irregular rods of dark brown glasslike material with a water worn matt surface. This find (*04-219*) could possibly be of natural origin, possibly a water worn volcanic glass fragment. This finds awaits further analysis.[3]

[2] See for example: Batey, Colleen. "Gásir 2003. Preliminary Finds Assesment.", 52.
[3] See also discussion of glass material from Gásir: Roberts, H.M. "Appendix 5. "Glass" from Gásir 03.", 93.

Ceramics

Figure 7 Finds (*04-198*) and (*04-200*). Base fragment (*04-21*).

In total nine ceramics fragments were found. Of those three (*04-19, 04-21, 04-25*) were found in cleaning context [001]. Finds (*04-7* and *04-25*) are redwares, probably of the so called ”Grimston” type produced in eastern england and dating to the 13-14th centuries. Both sherds, especially (*04-025*) exhibit the characteristic green lead glaze. The sherds belong to two different vessels. Finds (*04-200, 04-201*) are stoneware sherds from two different vessels (jugs?). They are of germanic origin. Find (*04-21*) is probably from the Rhine area (Rhenish), a frilled base (footring) of proto-stoneware, dateing to 13th -15th century. Sherd (*04-198*) is blue and white glazed redware, possibly Maiolica, and possibly dutch. Finds (*04-019, 04-202*) are northern european/scandinavian redware fragments, and (*04-199*) is a possible crucible fragement.[4]

Sulphur

As previous years a sulphur was found at the site, 2.3 kg., finds (*04-225 -227*). Previously it has been suggested that sulphur has been extracted elsewhere (for example Mývatnssveit) and brought to Gásir and exported.[5] The presence of both slag and the sulphur are suggestive of industrial activity at Gásir on some considerable scale.

[4] Further discussion on pottery from Gásir: Mehler, Natascha. "Medieval Ceramics from Gásir, 2002 and 2003.", 61-72.

[5] See: Adderley, Paul and others. "Appendix 2. Gásir and early sulphur trade in Northern Europe - analysis of processing practises and trade.", 59-60.

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Fornleifarannsókn á Gásum/Archaeological Research at Gásir, 2001. An Interim Report/Framvinduskýrsla (Report FS163-01071). Fornleifastofnun Íslands, Reykjavík 2002, 48-49.

Interim Report of faunal analysis from the 2004 Excavations at Gásir, Eyjafjörður, N Iceland

Ramona Harrison

CUNY Northern Science
and Education Center

NORSEC

CUNY Doctoral Program in Anthropology

Brooklyn College Zooarchaeology Laboratory

Hunter College Bioarchaeology Laboratory

May 15, 2005

Contact: nabo@voicenet.com

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Summary

Archaeological excavations at the site of Gásir near the modern city of Akureyri were started in 2002 and directed by Howell Roberts of *Fornleifastofnun Íslan*ds (Archaeological Institute Iceland, FSÍ) for *Minjasafnið á Akureyri* (Akureyri Museum). The ongoing project has produced a substantial amount of animal bones, which have been continuously analyzed at the CUNY Northern Science & Education Center laboratories as part of the North Atlantic Biocultural Organization cooperative effort, with funding provided by the UK Leverhulme Trust. Analysis of the 2004 zooarchaeological remains was carried out by Ramona Harrison and Tom McGovern. The 2004 excavations were part of a larger scale, long term project which aims to investigate the remains of the early trading center at Gásir, and to place the site in a regional and historical context. Excavation work at Gásir is to be continued and this report is thus only a working paper to be updated and replaced as more material becomes available for study.

Zooarchaeological data from the years 2002 through 2004 have been used for this report, offering a total NISP (Number of Identified Species) of **4,389** out of a TNF (Total Number of Fragments) of **11,118**. The species present include domestic cattle, sheep, goat, horse, and pig as well as seal, whale, bird and fish remains. The 2003 collection contained a walrus tooth (context 101), dog bones (contexts 655, 617, 684,730,756), and one gyrfalcon bone (context 756). The array of "unusual" bone has been increased with **2004**'s **gyrfalcon** femur (context 1632) and a very small and extremely curved tibia (1551) most likely belonging to a dog of **lap dog size**. Dog gnawing is visible on bones, and the 2004 excavation added 4 more dog elements (total of 7) as further evidence for the presence of the species (additional 2004 dog elements were found in contexts 1573 and 1476).

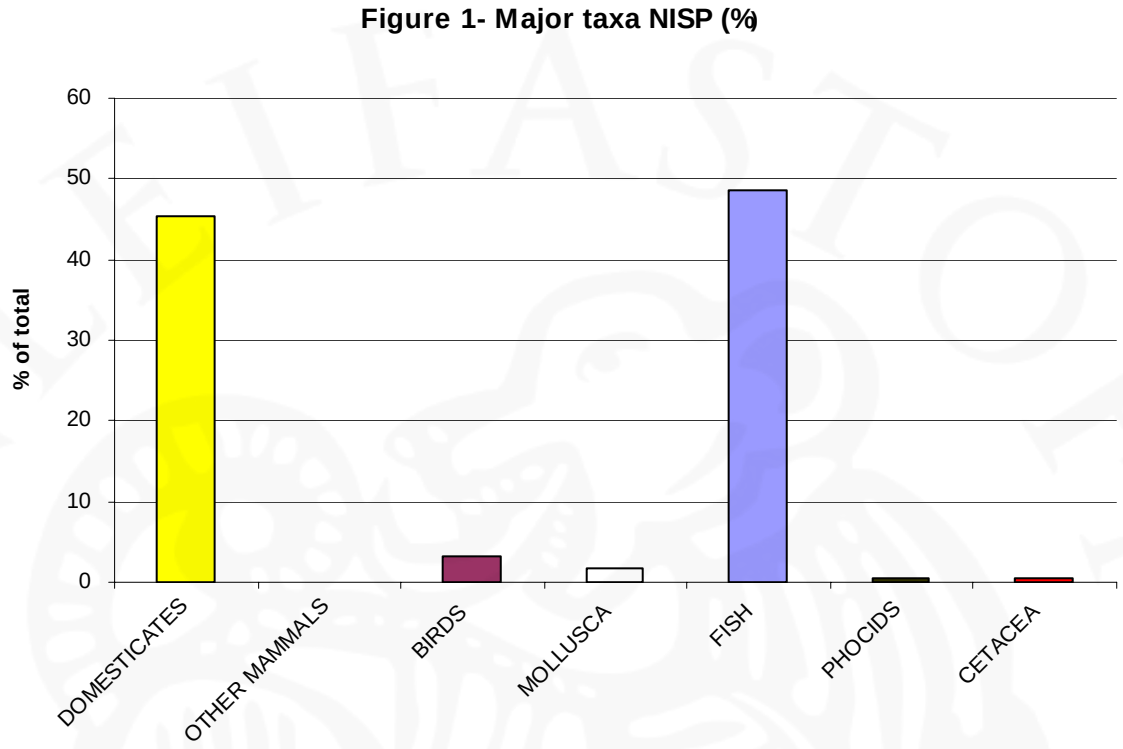
Cattle bone is very abundant, with a caprine/cattle ratio of about 1.93 caprine bone for every cattle bone (vs. ca 20 caprine per cattle bone in contemporary small rural sites). The high percentage of cattle bone is similar to very high status late medieval sites in S Iceland (Viðey and Bessastaðir being most similar), with a majority of the faunal remains butchered at an age suggesting consumption of high quality "prime

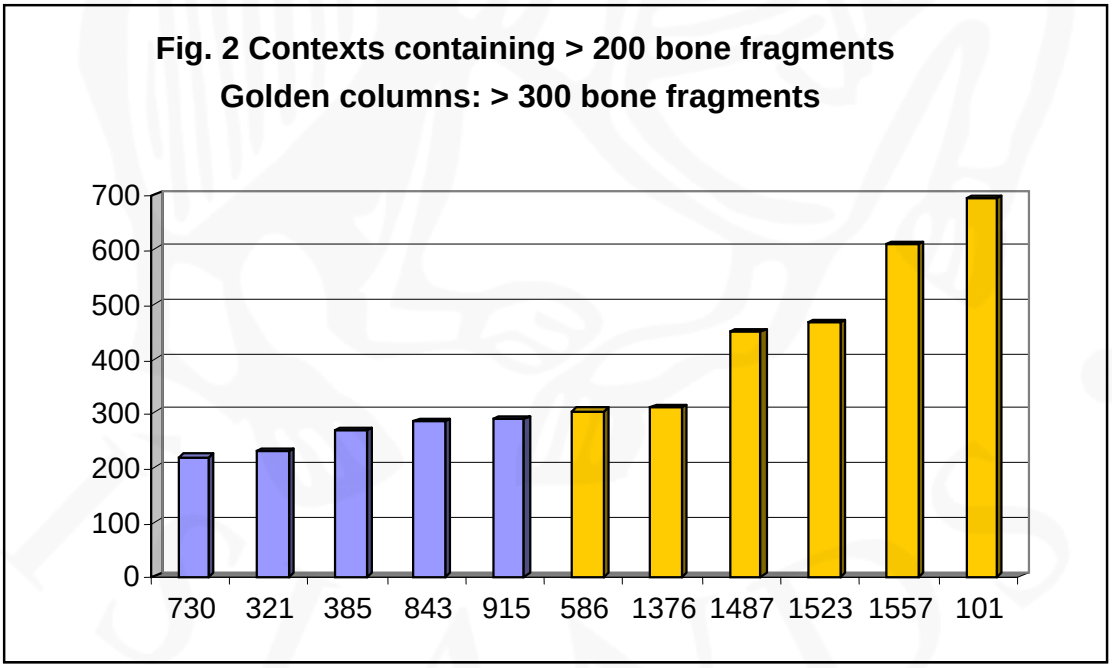
age" meat. The presence of pig remains should be mentioned, since by late medieval times, Icelandic pigs are in general no longer present in the faunal assemblages. Identified Fish species make up 42.62 % of the total speciated archaeofauna, domestic mammal bones being the next most common taxa with 42.13%. The total percentage of Fish species is 52.26 %, but since there are a lot of spine fragments that appear to come from articulated fins, it seems more reasonable to use the Identified Fish number for inter-family comparisons. While the domestic mammals amount to about 42% of the faunal assemblage, the total amount of fish fragments present in the Gásir 2002-2004 collection adds up to about 52%. Fish bone preservation is not very good and only a part of the elements was usable for analysis, which brings us back to a number of ca. 42. of analyzed fish element remains.

The **fish remains** analyzed in 2003 were almost completely postcranial, with hardly any thoracic vertebrae present. In 2004, the number of skull and thoracic fragments has increased slightly; the nature of this will be discussed later in this report. The pattern of predominantly postcranial minus thoracic elements suggests that the occupants were consuming some form of preserved fish rather than whole fresh fish. However, one Cod urohyal (context 1557) showed what may be a hole from a hook and thus could be a sign for fishing activity going on at Gásir, but is a pattern radically different from known medieval fishing stations. This would also explain the added skull and thoracic elements.

Butchery patterns include typical late medieval Icelandic patterns, except for a puzzling shortage of characteristic biperforated sheep metapodials, which may indicate the presence of non-Icelandic consumers. Further research questions center on the nature of provisioning of the site, context-specific bone associations and activity areas, bone and horn craft working, possible indicators of multiethnic foodways, and indicators of social status system.

Fig. 1 - NISP categories





As the graph in Fig 2 indicates, the context producing the largest amount of bone fragments was 101 (2003). The bone/context yield has been increasing since initial excavation. In 2002, there was only one context (1) that yielded a number of bone

fragments above the minimum 300 mammal bone NISP (number of identified fragments + bones identified to a useful taxonomic level) threshold for full quantification recommended by the NABO Zooarchaeology Working Group (see golden columns). By 2004, six such contexts were analyzed. As can be seen from the last three years of faunal analysis, a larger amount of excavated remains provides a better idea of the total amount of animal remains initially present on site.

Overview of Species Present

Table 1 presents the 2002-2004 Gásir archaeofauna, grouped into 2002, 2003, and 2004 fauna. **NISP** (number of identified specimens) refers to all fragments that could be identified to a useful level. **TNF** is a count of all bone fragments (identifiable or not), **MTM** is "medium terrestrial mammal" (sheep-dog-pig sized), **LTM** is "large terrestrial mammal" (cattle-horse sized), **UNIM** or unidentified mammal are small fragments that cannot be identified beyond this broad category. As opposed to the 2002 yield, doge bones are present in the 2003 and 2004 collection, coinciding with characteristic canine tooth marks that are present on a number of bone fragments in the collection.

Table 1 Gásir 2002-2004	Aggregated Fragment Count			
Taxon	2002	2003	2004	total
Domestic Mammals				
Cattle (Bos taurus dom L)	255	296	66	617
Horse (Equus cab. dom L.)	5	5	2	12
Pig (Sus scrofa dom L.)	2	12	8	22
Dog (Canis fam. L)	present	3	4	7
Goat (Capra hircus dom L)	2	9	1	12
Sheep (Ovis aries dom L)	45	166	13	224
Caprine	296	487	163	946
total Caprine	343	662	177	1,182
total Domestic	605	978	257	1,840
Wild Mammals				
Harp Seal (Pagophilus groenl.)	0	4	1	5
Small seal	4	6	0	10
Seal species	5	2	8	15

total Seal	9	12	9	30
Small Cetacean	1	7	2	10
Large Cetacean	1	1	1	3
Whale species	0	8	4	12
total Whale	2	16	7	25
Arctic fox (Alopex lagopus)	0	4	0	4
Walrus (Odobenus rosmarus)	0	1	0	1
Birds				
Gyrfalcon (Falco rusticolus)	0	1	1	2
Mallard (Anas platyr.)	0	1	0	1
Eider duck (Somateria moll.)	0	26	3	29
Guillemot family (Uria speces)	1	8	5	14
Puffin (Fratercula arctica)	0	2	3	5
Fulmar (F. glacialis)	0	0	0	0
Gull species (Laurus sp.)	0	1	0	1
Razorbill (Alca torda)	0	2	1	3
Swan (Cygnus olor)	0	1	0	1
Bird species indeterminate	23	41	7	71
total Bird species	24	83	20	127
Fish				
Cod (Gadus morhua)	9	2	44	55
Haddock (Melanogr. aeglef.)	10	30	21	61
Pollack (Pollachius virens)	0	2	0	2
Atlantic Halibut (Hippoglossus. hipp)	0	3	0	3
Gadid sp	14	8	192	214
Fish species indeterminate	278	1,010	669	1,957
total Fish species	311	1,055	926	2,292
Mollusca				
Periwinkle (Litt. l.)	0	1	1	2
Clam (Mya sp.)	0	36	3	39
Moll. Species	0	0	28	28
total Moll. Species	0	36	32	69
total NISP	**951**	**2,186**	**1,252**	**4,389**

Large Terrestr. Mammal	188	354	108	650
Medium Terrestr. Mammal	493	592	353	1,438
Small Terrestr. Mammal	0	8	4	12
Unidentified Mammal Frag.	580	1,850	2,199	4,629
total TNF	**2,212**	**4,990**	**3,916**	**11,118**

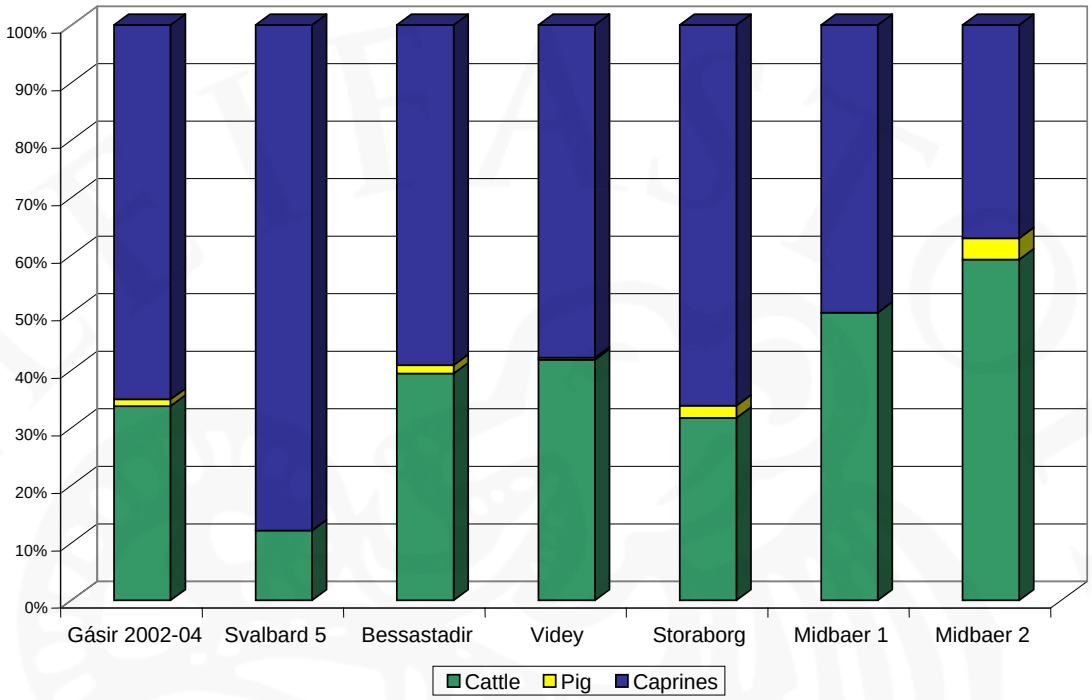
Domestic Mammals

Table 2 presents the relative Percentage of the domestic mammals for 2002, 2003, and 2004 contexts. There is an overall decrease in cattle bone vs. caprine bone. The total ratio emerging from three years of excavation: caprine/cattle = 1.93 (1.82 in 2003) which can be reasonably rounded to a ca. 2:1 ratio of caprine to cattle. The latest sheep/goat ratio is now 19.93, consistently indicating that goats were a minor portion of the collective caprine category.

Table 2 Gásir 2002 - 2004	Relative %			
Domestic Mammals				
Taxon	2002	2003	2004	2002-2004
Cattle (Bos taurus)	40.87	30.27	24.91	33.39
Horse (Equus caballus)	3.85	1.23	0.75	0.65
Pig (Sus scrofa)	0	0.51	3.02	1.19
Dog (Canis familiaris)	0.32	0.31	1.51	0.38
Sheep (Ovis aries)	7.21	16.97	7.92	12.55
Goat (Capra hircus)	0.32	0.92	0.38	0.65
Caprine	47.44	49.8	61.51	51.19

A clear trend in all contexts is an abundance of cattle bone (most contexts have at least a few fragments) with a ratio of 1.93 caprines per 1 cattle bone. This high ratio of cattle to caprines can be compared to other late medieval (14th – early 16th Century (Icelandic archaeofauna (figure 3).

Figure 3 - Late Medieval Iceland
Major Domesticates (%)

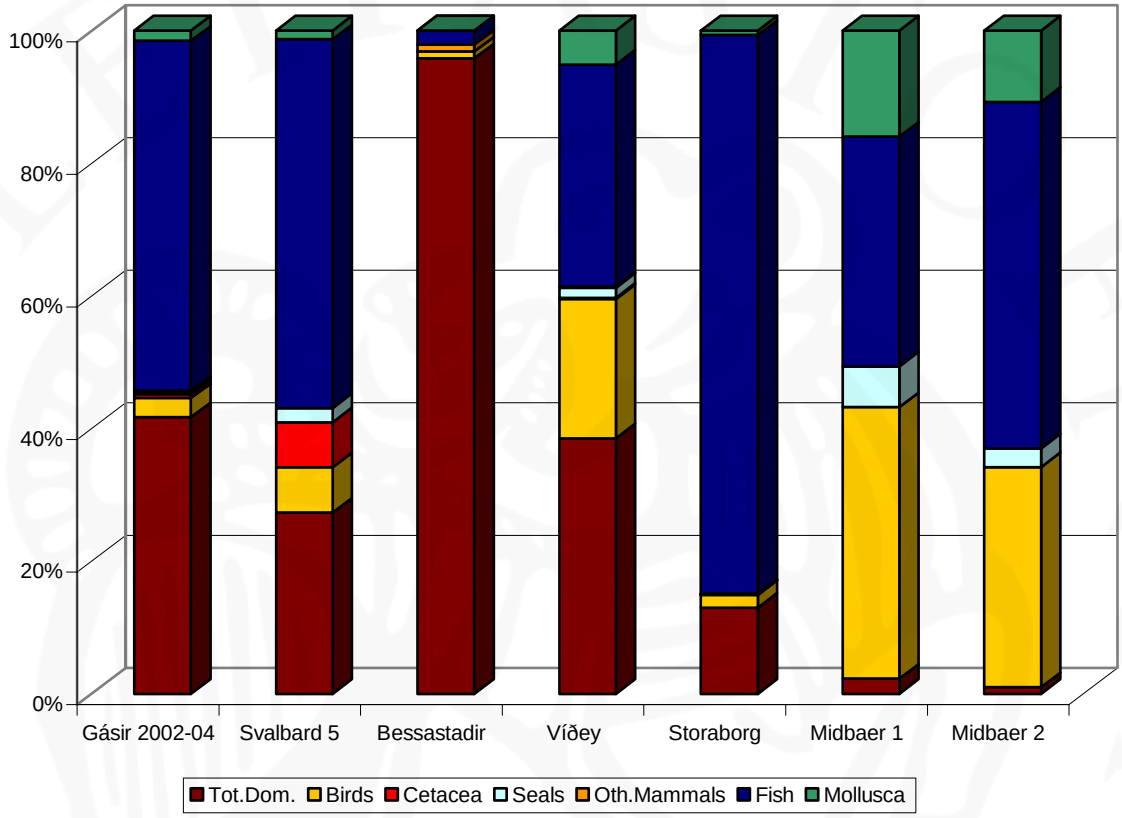


In figure 3, Gásir is compared to roughly contemporary collections from Svalbarð in the NE (SVB5, medium-high status farm with church), the elite manor at Bessastaðir (BES L) near Reykjavik, the monastery on Víðey in Reykjavík (VID LM), a middle ranking S coastal farm Storaborg (STB E) and two phases of a midden deposit associated with the small farm Miðbaer on the island of Flatey in Breidafjorð in the NW (Amundsen in press). The high cattle percentages for this small farm on Flatey are somewhat deceptive, as they reflect the extremely limited pasturage available on the island and a clear decision to use most available pasture for cattle raising (thus the graph actually reflects fewer sheep rather than more cattle). In general, higher percentages of cattle on most late medieval sites reflect availability of high quality pasture, high social status, or both. The closest matches with the Gásir domestic mammal pattern are in fact with the very high status manor of Bessastaðir in the SW, and the middle ranking S coastal farm Storaborg (STB E).

Figure 4 makes use of the same comparative archaeofauna to present the larger picture of the whole collection, regionally comparing wild species and domesticates. From the complete NISP collection, it seems that the monastery on Víðey in

Reykjavík (VID LM) offers the most resemblance in total distribution of faunal remains recovered.

Figure 4 - Late Medieval major Taxa NISP (%)

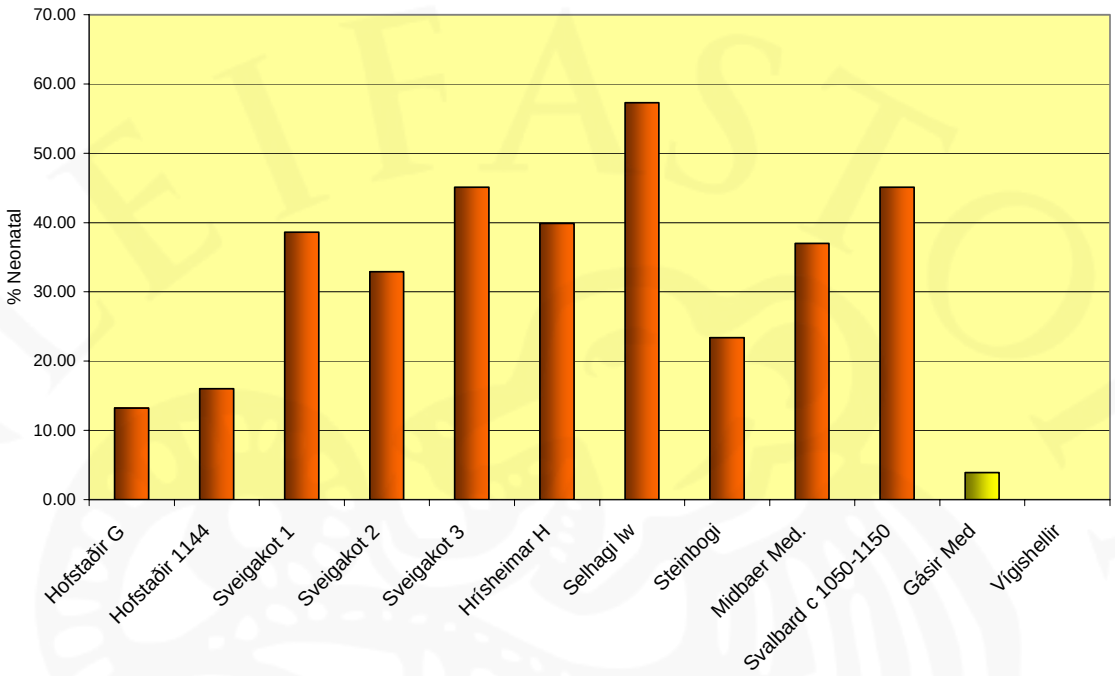


Reconstructing Domesticate Mortality Patterns

Cattle:

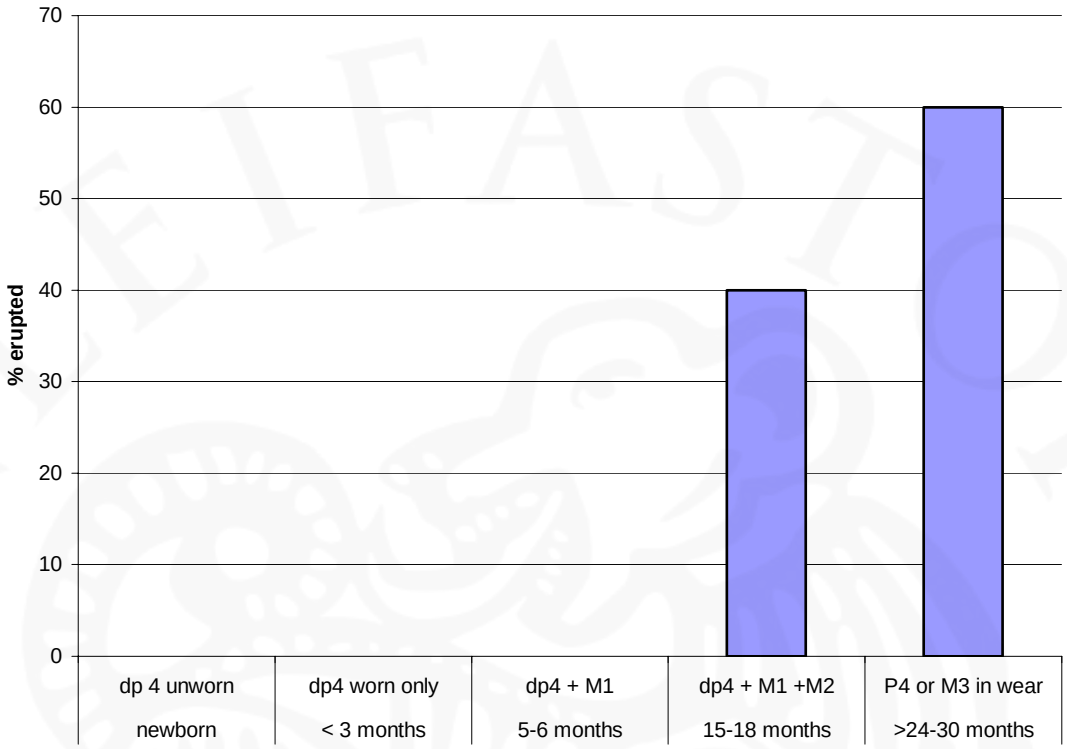
Figure 5 illustrates the relative percentage of neonatal (newborn) calf bones in a range of Viking-Medieval Icelandic sites, illustrating the normal range of variation from ca 15-50% of the total cattle bone count. This is generally interpreted as evidence of dairy herd management, with most milk being reserved for humans (Halstead 1998). The very low percentage of neonatal cattle bones at Gásir is thus very uncharacteristic of most Icelandic cattle collections, suggesting a different pattern of management or consumption.

Figure 5 - Cattle Neonatal % Comparison



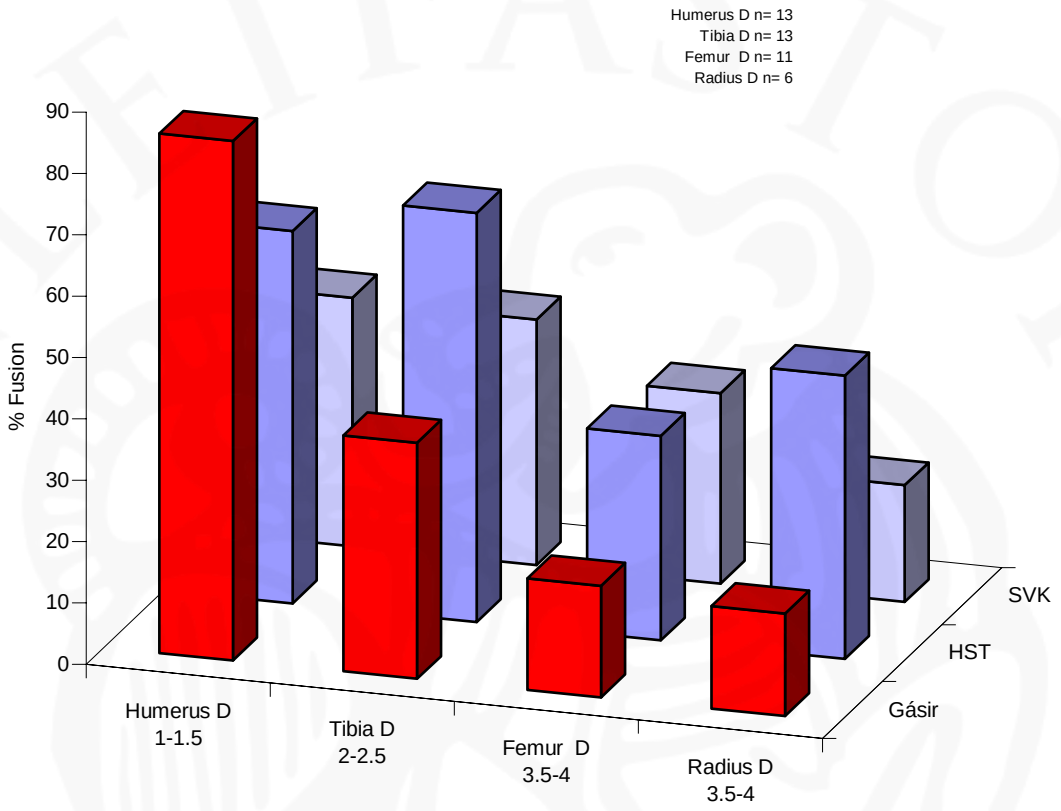
The Gásir excavation has produced a total of 10 cattle tooth rows that offer some insight into the site's food provisioning strategy. As can be seen in Figure 6, in the majority of the excavated cattle tooth remains, the animals' death occurred either in the second year of life or as an adult. The shortage of jaws of usually common newborn or less than 3 month old calves is notable, and supports the impression provided by the overall low percentage of neonatal or very young juvenile cattle bones. If these old juvenile or young adult cattle are males, they have been raised at considerable expense in fodder (esp. winter feeding). If they are females, they also have lived long enough to consume much fodder, but are only beginning their potential service as dairy cattle. In either case, in the context of a diary herd, these are very expensive animals to raise and slaughter at this stage in their lives.

Fig. 6 - Gásir cattle tooth eruption



The cattle long bone fusion proportions (figure 7) indicates that at late medieval Gásir, most of the young cattle survived the stage of distal epiphysis fusion of the humerus, which occurs at around 1-1.5 years of age. There would appear to be a considerable cattle mortality between 1-1.5 years and 2.5-3 yrs at Gásir, again suggesting kill off of large but not fully mature juvenile cattle as well as the presence of adults (note the different fall-off of survivorship at Hofstaðir and Sveigakot).

Figure 7 - Cattle long bone fusion Comparison

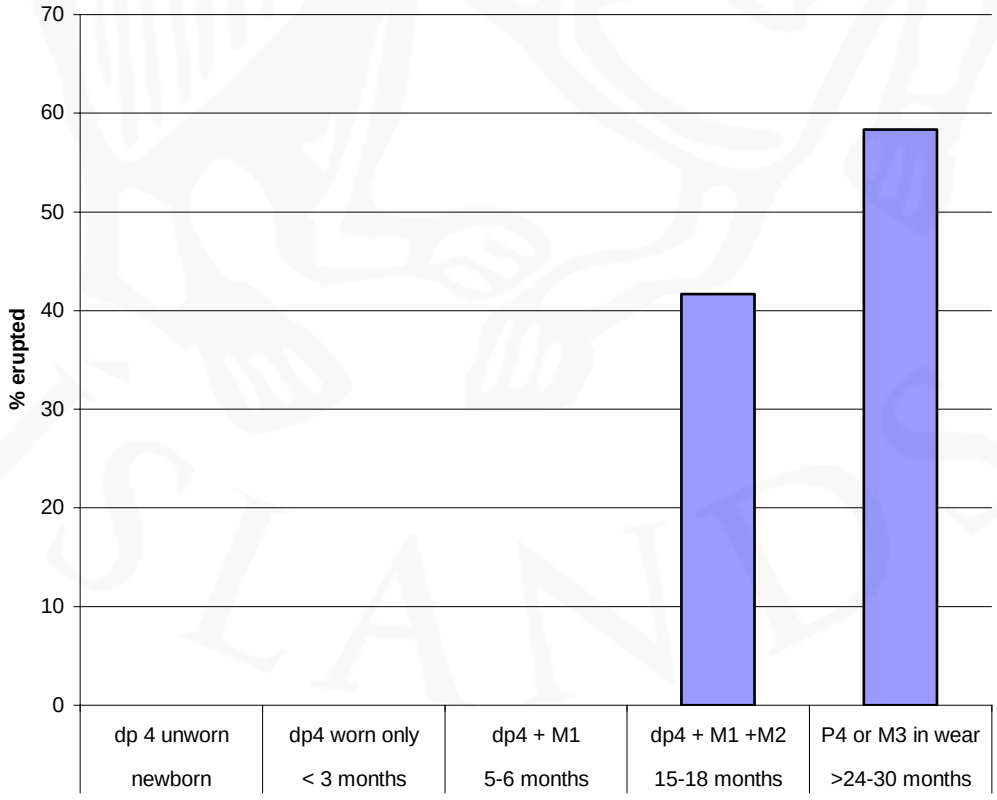


These mortality patterns indicate not only that Gásir was not itself a dairy farm, but that it was not being provisioned with the most readily available surplus age classes generated by a normal Icelandic dairying economy: very young calves and elderly worn out milk cows. The Gásir cattle bone collection indicates that the site was instead provisioned with high quality young adult cattle meat by nearby farms. Since the farms were not sending their cast-offs to Gásir, but instead made major adjustments to their cattle herding strategy necessary to raise surplus animals to adult or near adult meat weight, it seems likely that the market at Gásir had a significant impact on agricultural practice in the surrounding district. The nature of this impact and the linkage of Gásir with its sustaining rural hinterland are potential research questions for wider investigation.

Caprines:

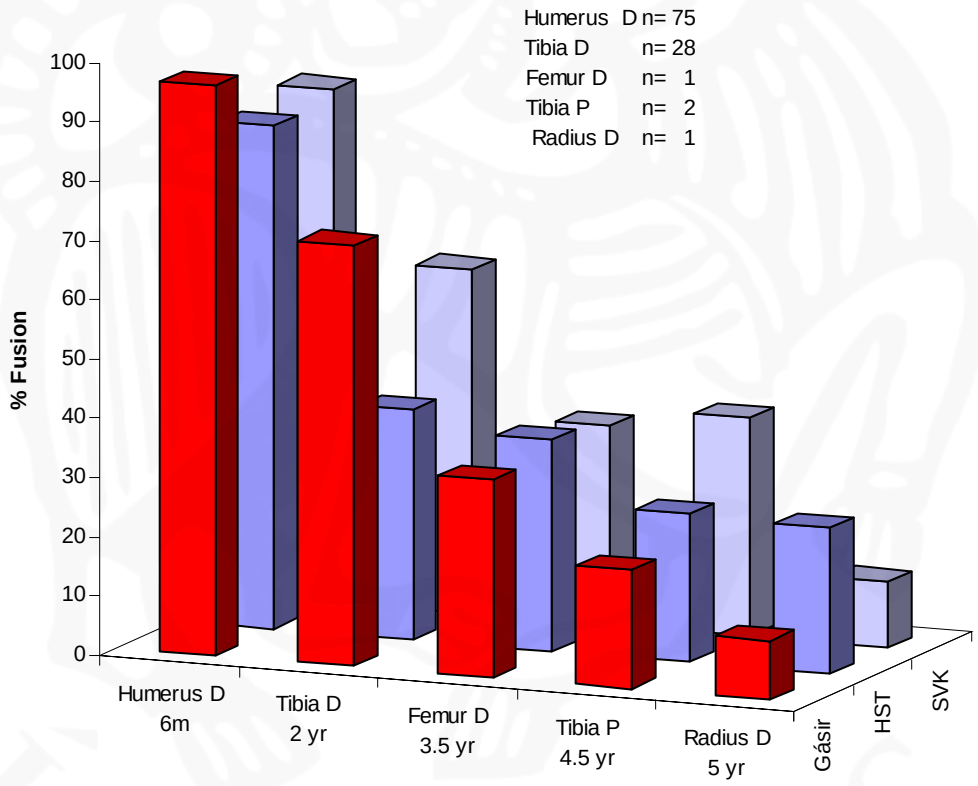
Figure 8 shows the pattern of tooth eruption in the caprine tooth rows (mandible and maxilla) from the Gásir excavation. Almost 60 % of the caprines were killed at an age of > 34 months, with full adult dentition in wear. Wear rates on caprine third molars suggest that few of these adult sheep were in fact old adults (further analysis is underway). The current tooth eruption and wear data for the Gásir caprines suggests provisioning with animals ranging from older adolescents to younger adults. Mandibular wear patterns thus far indicate the presence of substantial numbers of young to middle aged adults, without the higher proportion of highly worn teeth characteristic of old ewes or wethers (probably maintained primarily for wool production) characteristic of most larger Icelandic sheep mandible collections. Further analysis of caprine tooth eruption and wear will be carried out as sample size increases. Currently, there are 24 maxillae/mandibles available for study.

Fig. 8 - Gasir Caprine Tooth Eruption



The caprine (sheep/goat) long bone fusion comparison (figure 9) shows that the majority of caprines at Gásir were killed between 3.5 and 4.5 years of age. In comparison, caprines at HST (Hofstaðir) and SVK (Sveigakot) saw a slightly different mortality pattern, with higher culling in the first year and a generally higher proportion of older adults. Again, tooth eruption and wear and long bone fusion patterns suggest that most animals died as older juveniles or younger adults. Gásir was not being provisioned with worn out milking ewes or tough old wethers, but with sheep in their prime. Again, the implications for animal production strategies in nearby farms suggest some sort of specialized production.

Figure 9 - Caprine Long Bone Fusion Comparison



Pigs

A considerable number of pig remains are present in the 2002/03 faunal collection. This is very atypical of late medieval Icelandic sites. By the 14th Century, the pigs had either disappeared from the Icelandic landscape or become very rare. Some of the bone fragments present could have formed portions of smoked or salted pork shoulder or hams, but some cranial fragments suggest that live pigs (native or imported) were present at Gásir. A collaborative pig DNA project now underway with the University Museum, U. of Pennsylvania Ancient Biomolecules laboratory, comparing ancient DNA from pigs across the N. Atlantic may help determine the origins of the Gásir medieval pigs.

Dogs

As already mentioned in the summary, there are a total of 7 dog elements present in the Gásir faunal remains. Context 1551 offered a canine tibia most likely belonging to an individual of **lap dog size**. Size reconstruction according to van den Dreisch (GL * a factor of 2.92) the dog's shoulder height should be at around 262.8 mm or 26.3 cm. The presence of this very small dog at Gásir is subject to further investigation, but such small "lap" dogs were status items in high medieval Europe.

Figure 10. Medium to large size dog vs. dog from context 1551.

Wild Species

Walrus

Fig. 11 Walrus tusk fragment (101)

The walrus canine (tusk) fragment found in context 101 was most likely brought onto the site as an extracted but unworked tusk, as there is no evidence of butchered walrus post cranial remains or of the characteristic maxillary fragments remaining from tusk extraction so prevalent in Greenlandic collections (McGovern 1985). After the tusk was expertly extracted from the animal's jaw at some distant kill site (Greenland, arctic Norway, or just possibly on the drift ice north of Iceland) the tusk was brought to Gásir and the hollow end of the tusk root was cut off with a saw (probably a typical medieval shallow bladed backed bone working saw, as the cuts come from at least two sides rather than straight across). The solid tusk ivory was then either transferred elsewhere whole or further cut up for on site craft working. The tusk came from a medium sized adult walrus.

Whales

Whale bone fragments at Gásir fall into two somewhat overlapping categories- those showing signs of working as raw material for artifacts, and those suggesting provisioning with whale meat. Most fragments are the sort of small chips and cut offs indicative of craft work, but several rib fragments from small whales (pilot whale,

narwhal, beluga) or porpoise are also interpretable as food debris (contexts 101, 223, 528, 547, 577, 1694, 1284). Three of these rib bones come from immature individuals (two from context 101, one from context 571). Other whale species elements consist largely of vertebrae. The large cetacean vertebra found in context 1714 represents potential use as a butchery block, as it shows multiple chopping marks on its surface (fig 12). Late medieval cook books include many receipts for young porpoise to be served as high-status dishes, but porpoise and small whales have been consumed in most parts of the N Atlantic since prehistory.

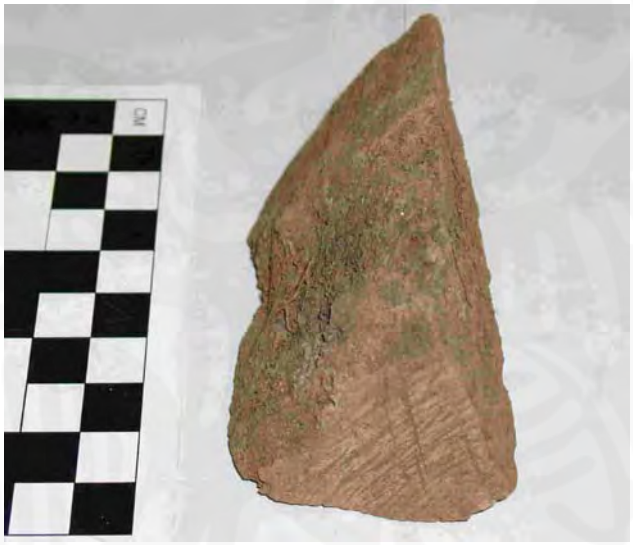


Figure 12. Large whale vertebra – context 1714
possibly used as butchery block

Seals

Seal bones found at Gásir (contexts 101, 562, 674, 238, 282, 528, 617, 684, 730, 756, 1280, 1283, 1401, 1429, 1501, 1599, 1642) include both adults and newborn young (context 282). All five bones that could be identified to species level (contexts 617, 684, 730, 756, 1622 - mandible) came not from the local harbor seals (*P vitulina*) still plentiful in Eyjafjord but from the ice-riding harp seal (*Pag. groenl.*). Harp seals are common in Icelandic waters only during periods of heavy drift ice, and have been associated with “little ice age” conditions in the NE (Amorosi 1992, Woollett 2004, Oglivie 1991). While widely consumed in most coastal communities in the N Atlantic, by late medieval times seal meat was usually distained in court cook books

as “fit only for sailors”. It is possible that the distribution of seal bones at Gásir may provide some hints at class and ethnicity.

Birds

Table 3 presents the 2003 birds identified to species, grouped by family. The majority of bones come from eider ducks, common along the shore of Eyjafjord today. Guillemot and Puffin were regularly eaten in Iceland and much of Atlantic Europe. One swan element (Cygnus olor) was analyzed, found in context 674.

Table 3: Identified Bird Species	Absolute #	%
Raptor		
Gyrfalcon (Falco rusticolus)	2	4
Migratory Waterfowl		
Mallard Duck (Anas platyrh.)	1	2
Eider Duck (Somateria mollissima)	29	52
Mute Swan (Cygnus olor)	1	2
Sea birds		
Murre species (Uria species)	14	25
Atlantic puffin (Fratercula arctica)	5	9
Razorbill (Alca torda)	3	5
Gull species (Larus species)	1	2
Total	56	100

The exceptional find of a gyrfalcon leg bone (756) in 2003 serves to confirm documentary accounts of the export of falcon via Gásir (figure 11). A second gyrfalcon element analyzed from the 2004 faunal collection (context 1632) is even further proof for such activities.

Fig. 13 - Gásir 04 – Gyrfalcon (Falco rusticolus) tibia (1632)

Fish

As mentioned earlier in this report, a large amount of fish elements are fragmented beyond speciation. One possible explanation could be application of stone cod hammers used to tenderize dried fish in medieval times. Figure 14 thus lumps all identified gadid (cod family) fish in presenting the distribution of fish bones across the skeleton. The Gásir gadids (red) are compared to distributions of gadids from two 18th Century fishing sites (Finnbogastaðir in the NW and Tjarnargata 3c in Reykjavik) and 10th -11th c inland consumer sites in the Mývatn region (Sveigakot and Hrísheimar).

The coastal Gásir gadid distribution, with its large number of cleithra (in pectoral girdle, usually left in the body of preserved fish) and caudal (tail) vertebrae, resembles the pattern of the early medieval inland sites and differs strongly from the pattern of the two fishing sites with their heavy representation of head parts. It would appear that Gásir was being provisioned with some form of headless preserved fish, and that little active fishing or fish processing was taking place at the site.

Figure 14 Gásir - Gadid Element Distribution

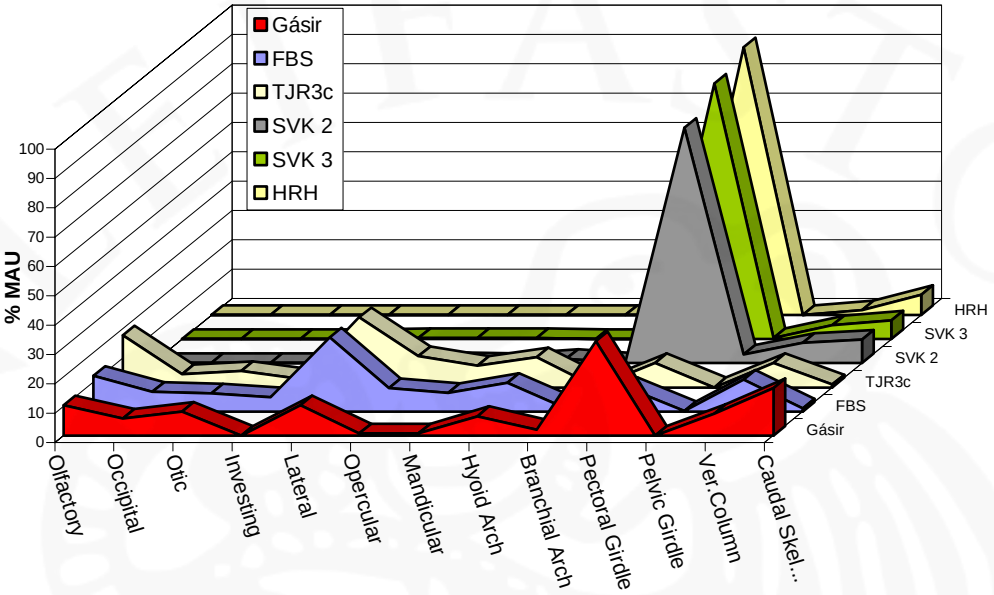
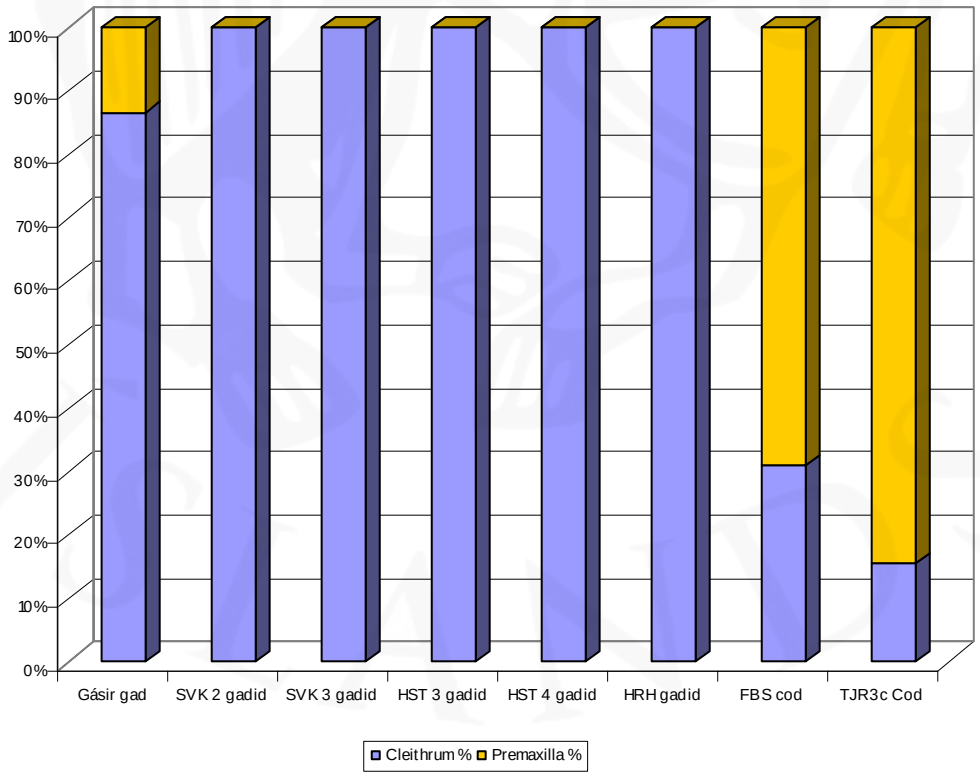


Fig. 15 - Cleithra vs. Premaxilla %



As mentioned earlier, there may be proof of sporadic fishing with the cod element found in context 1557 – a urohyal with a hole seemingly caused by a fishing hook.

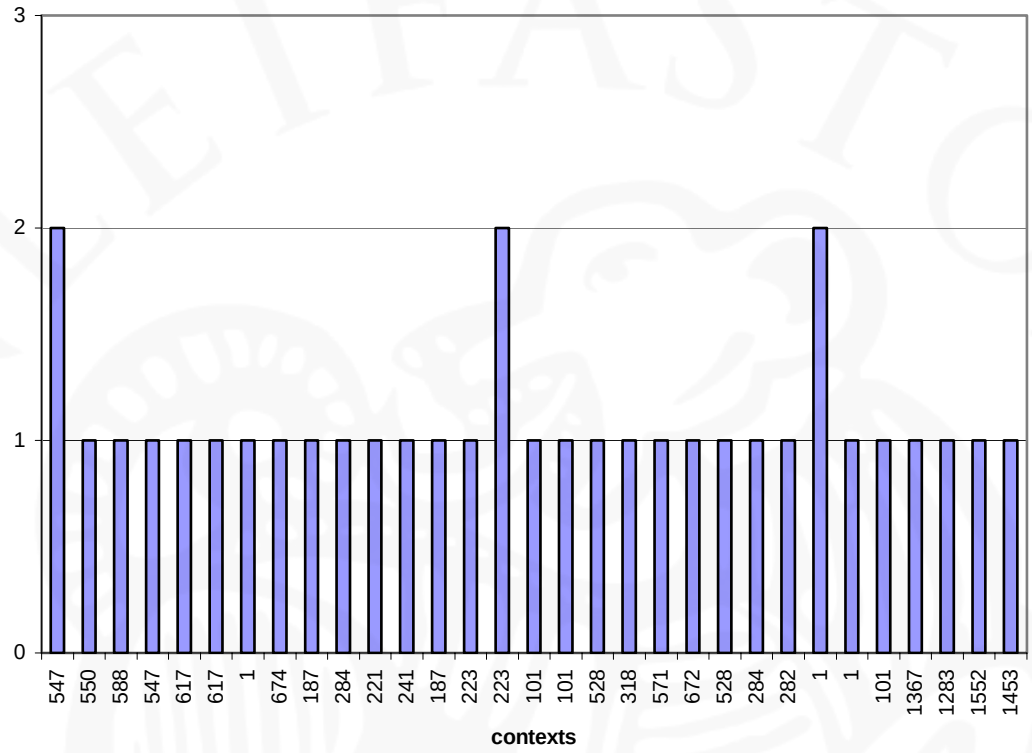
Figure 16 – cod urohyal with hook mark

Craft working: The horse remains are mostly comprised of loose teeth and foot/lower leg fragments. It should be noted that context 220 and context 101 yielded 70% (7/10) of the horse bone assemblage present at the site. The nature of preserved horse bone fragments indicates craft working activities rather than horse meat consumption, since the elements found were mandibular, maxillary, or lower limbs. Whale bone: except for the porpoise-size whales, the majority of whale bones found at Gásir bear marks that derive from bone working. The one large whale element collected in 2003 represents a particularly good example. for craft working, since it has been drilled.

Gnawing: tooth marks of carnivores (almost certainly dogs in the Icelandic context), rodents, and occasionally humans are regularly found on bones in North Atlantic archaeofauna. Archaeofauna from Norse Greenland are by far the most gnawed, with up to 30 % of bones on some sites showing carnivore tooth marks (McGovern 1985). Icelandic bone collections are far less heavily marked by gnawing, though some bones from urbanizing Reykjavik show dog and rodent gnawing on the same bones (suggesting a multi-tiered scavenging hierarchy, Perdikaris et al 2001). The Gásir

2002/03 collection does show carnivore (presumably dog) gnawing, and the distribution by context is shown in figure 17.

Fig 17 - Dog gnawing



Note that while a low number out of the total bone assemblage are gnawed, there are a good amount of contexts have show gnawing. Questions that arise are: dogs have access to some areas but not others? Are some species' bones (and some skeletal elements) more likely than others to show gnaw marks?

Foodways and Ethnicity:

Beginning around AD 1150-1200, a technique for extracting the marrow from the metapodials (lower leg bones) of sheep and goats spread into several N Atlantic communities, including the Shetlands, Faroes and Iceland (but not Greenland). The biperforation technique involves opening two circular holes at each end of the long bone and sucking out the rich marrow (Bigelow 1984). This marrow extraction technique avoids bone splinters in the marrow produced by the earlier Viking age pattern of longitudinal splitting, and has the advantage of retaining a very usefully shaped bone nearly intact for tool use. By the later medieval period, nearly all sheep

metapodials in all Icelandic archaeofauna were biperforated, and split metapodials are exceedingly rare (by early modern times a folk belief held that splitting metapodials at meals would cause live sheep to break legs in the same place). In England and Continental Europe, this technique remained unknown, and late medieval diners continued to split sheep and goat metapodials in the old fashion. Table 4 presents the proportions of split vs. biperforated caprine metapodials from the Gásir collection (including drilling to err on the safe side), documenting the overwhelming use of splitting rather than biperforation in marrow extraction. In an Icelandic farm site of the 14th-15th century one would expect to see these proportions reversed. Does this low frequency of biperforation reflect non-Icelandic ethnic origins of the residents of Gásir?

Table 4: Caprine Metapodials				
	Biperforated	Split	Other	total
count	11	48	2	59
%	15.25	81.36	3.39	

Conclusions and Further Work

The 2002-04 archaeofauna from Gásir serves to demonstrate its considerable potential for zooarchaeological research in Iceland, and suggests a number of areas where zooarchaeology may usefully contribute to a better understanding of this complex site. While the current sample is but a beginning, we are already able to lay out some areas for productive further collaboration and to propose some broader questions for general consideration.

As noted above, close integration of the animal bone data (element representation, species present, taphonomic signatures) with the excavation program can aid in the interpretation of specific features and in some cases may aid in establishing sequences of use and abandonment. Fortunately modern software makes such contextual integration straightforward, and this will certainly increase as the project moves ahead.

Beyond the basic archaeological issues associated with individual contexts and phases, zooarchaeology can contribute to some of the larger questions concerning the role of Gásir in Iceland's history.

- **Provisioning**: How was the settlement at Gásir provided with food? As the site was definitely not primarily a farm or fishing station, it needed to be supplied from outside sources. From historical data we can hypothesize many sources of supply, but the current bone sample suggests that dried fish, cattle and sheep meat played a major role in provisioning the settlement. While it is unclear at the moment if cuts of meat were imported to Gásir, it is now certain that at least some animals were brought to the site whole and probably slaughtered nearby. The current lack of calf and lamb bones suggests that the settlement did not in fact constitute a normal dairy-oriented, wool producing late medieval Icelandic farm.

- **Integration with Rural Economy**: What impact did the specialized settlement at Gásir have on the rural economy of the surrounding area? How did the presence of relatively wealthy consumers affect the economic decision making of local farmers of different wealth and rank? Thus far the archaeofauna does not suggest that the site was being entirely provisioned with cast off by-products of the normal farming economy (very young animals and very old ones) but with older juvenile and young adult cattle and sheep. Further investigation of age profiles of animals brought to Gásir will be important, and the sampling of a contemporary farm midden in the same district would provide important comparative information.
- **Ethnicity and Foodways**: In many respects the Gásir archaeofauna is very atypical for late medieval Iceland: cattle consumption comparable to rich manors in the SW but without the clear dairying profile characteristic of these elite farms. In the details of butchery and consumption of animals there are messages about foodways and ethnicity: does the butchery pattern of sheep at Gásir reflect the dining habits of native Icelandic or foreign consumers?
- **Seasonality**: If enough different seasonal indicators can be collected, it should be possible to contribute to discussions of seasonal vs. year round occupation. While the current sample is small, we may wonder if the shortage of new born calves and lambs (almost exclusively born in May) reflects an arrival of most of the occupants later in the summer?
- **Status**: Hopefully, future excavation work will produce more indicators of status and hierarchy systems present at the site. The gyrfalcon and seals provide an initial idea of the socially diversified group of people present at late medieval Gásir.

Acknowledgments:

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Discussion and Conclusions

Excavation at Gásir in 2004 achieved a number of important goals. These include the detailed excavation of very complex occupational deposits within Area A – for the first time dominated by floors and pits and undamaged by previous excavators. Also, work commenced in Area B – exposing the remains if the church and churchyard.

Work within Area A progressed well, and is on target for extending the excavation area across the central "trackway" in 2005. Work within Area B also progressed very well, although it is regretted that financial shortfalls may require the suspension of this work in 2005. A more detailed discussion of Area B will be forthcoming when this matter becomes clearer. A great many new questions may be asked of this area, but resolving them satisfactorily will require significant funding

Specialist studies are ongoing, and once again the faunal remains have proved to be very interesting and unusual. This line of enquiry sustains its promise to provide unique evidence for the nature of trade, and practice of subsistence at Gásir. Artefactual studies continue, and the recovery of a number of parts of shoes, along with fragments of textiles promises to be of great interest.

The results of excavation in 2004 have none the less obliged us to reconsider some of our original aims. A modified research agenda follows below.

Modified research agenda

In the original research agenda it was proposed that in 2005 work would begin on Area D, a small cluster of ruins on the eastern edge of the ruin-area, just south of Area A. These booths have at one time been eroded by the sea and for this reason it was thought both prudent and possibly informative to subject them to investigation now. In the meantime it has become more and more clear that there is no active erosion on the site and these ruins are quite stable in their present condition. The work so far has also suggested that the easternmost ruins date from the final phase of the site, a phase that is already well documented by the current research project. So far remains earlier than 1300 have not been excavated although such deposits have been observed in later truncations, mainly in very deep and waterlogged – and therefore to all intents and purposes inaccessible – places. For these reasons it is proposed that Area D be left untouched for the time being and that if the westwards extension to Area A fails to reveal pre-1300 remains, some other part, possibly at the north western limit of the area, be subjected to testing in order to locate remains from the earliest phase of Gásir.

Appendix 1

Context Register for Area A, 2004

Context	Type	Group	Description
1101	Deposit	1120	Turf collapse
1102	Deposit	1109	Peat ash dump
1103	Deposit	0	Aeolian silt
1104	Deposit	0	Turf collapse
1105	Deposit	0	Mixed aeolian, turf collapse, trample
1106	Deposit	1109	Slag rich burnt dump
1107	Deposit	0	Trampled silt and turf
1108	Deposit	1109	Peat ash dump
1109	Group	0	Series of burnt dumps - temporary hearth. Inc 1102, 1106, 1108 and 1113
1110	Deposit	0	Mixed turf collapse and aeolian silt
1111	Deposit	0	Mixed turf collapse and aeolian silt
1112	Deposit	0	Mixed turf collapse and aeolian silt
1113	Cut	1109	Shallow hearth cut
1114	Deposit	0	Mixed turf collapse and aeolian silt
1115	Deposit	0	Mixed turf collapse and aeolian silt
1116	Deposit	1239	Mixed turf collapse and aeolian silt
1117	Deposit	1136	Burnt deposit, temporary hearth
1118	Deposit	1120	Turf layer
1119	Deposit	0	Mixed turf collapse and aeolian silt
1120	Group	0	Abandonment of building/s in northern part of Area A - inc 1100, 1101, 1118, 1131, 1135, 1139, 1140, 1145, 1159, 1165, 1172, 1175, 1182, 1186, 1194, 1202
1121	Deposit	0	Mixed turf collapse and aeolian silt
1122	Deposit	1136	Black charcoal rich deposit
1123	Deposit	0	Turf collapse
1124	Deposit	1137	Pit fill
1125	Deposit	0	Aeolian silt
1126	Deposit	1136	Aeolian silt
1127	Deposit	0	Mixed turf collapse and aeolian silt
1128	Deposit	0	Mixed turf collapse and aeolian silt
1129	Deposit	1136	Turf collapse with charcoal
1130	Deposit	1136	Turf collapse with charcoal
1131	Deposit	1120	Aeolian silt
1132	Deposit	1136	Peat ash layer
1133	Cut	1137	Ovoid pit

Context	Type	Group	Description
1134	Deposit	0	Mixed turf collapse and aeolian silt
1135	Deposit	1120	Aeolian silt
1136	Group	0	Temporary hearth group - inc 1117, 1122, 1126, 1129, 1130, 1132
1137	Group	0	Pit cut 1133 and fill 1124
1138	Deposit	1146	Mixed turf collapse and aeolian silt
1139	Deposit	1120	Mixed turf collapse and aeolian silt
1140	Deposit	1120	Turf collapse
1141	Deposit	1239	Mixed turf collapse and aeolian silt
1142	Deposit	1146	Pit fill
1143	Deposit	1239	Fill
1144	Deposit	0	Turf collapse
1145	Deposit	1120	Aeolian silt
1146	Group	0	Group of pit fills - inc 1138, 1142, 1147, 1150 and cut 1154
1147	Deposit	1146	Pit fill
1148	Deposit	0	Mixed turf collapse and aeolian silt
1149	Deposit	0	Mixed turf collapse and aeolian silt
1150	Deposit	1146	Pit fill
1151	Deposit	0	Mixed turf collapse and aeolian silt
1152	Deposit	0	Aeolian silt
1153	Deposit	1239	Aeolian silt with charcoal
1154	Cut	1146	Pit cut
1155	Deposit	1239	Aeolian silt
1156	Deposit	1179	Pit fill, charcoal rich
1157	Deposit	1351	Wall
1158	Deposit	1179	Mixed turf collapse and aeolian silt, with burnt material
1159	Deposit	1120	Turf collapse
1160	Deposit	0	Aeolian silt
1161	Deposit	1179	Peat ash
1162	Deposit	1179	Peat ash and burnt turf
1163	Deposit	1167	Hearth deposit
1164	Deposit	1179	Mixed turf collapse and aeolian silt
1165	Deposit	1120	Mixed turf collapse and aeolian silt
1166	Deposit	1167	Hearth deposit - burnt dung/charcoal
1167	Group	1191	Hearth group, inc. 1163, 1166, 1169
1168	Deposit	1179	Floor deposit - occupation surface, inc turf fragments
1169	Cut	1167	Shallow cut for hearth
1170	Deposit	1191	Peat ash and mixed debris
1171	Deposit	1179	Pit fill
1172	Deposit	1120	Aeolian silt with peat ash

Context	Type	Group	Description
1173	Deposit	0	Hearth deposit - burnt material
1174	Deposit	0	Floor deposit - occupation surface
1175	Deposit	1120	Turf collapse
1176	Deposit	1191	Hearth deposit
1177	Deposit	1191	Charcoal deposit
1178	Deposit	0	Wall
1179	Group	0	Group for pit, inc 1156, 1158, 1161, 1162, 1168, 1171, 1179, 1180,
1180	Deposit	1179	Pit fill
1181	Deposit	0	Hearth deposit
1182	Deposit	1120	Turf collapse
1183	Deposit	1199	Turf collapse
1184	Deposit	1190	Hearth deposit - red, burnt
1185	Deposit	1199	Turf collapse
1186	Deposit	1120	Aeolian silt
1187	Deposit	1190	Hearth deposit - scorching at base
1188	Deposit	1199	Fill
1189	Cut	1190	Hearth cut
1190	Group	1191	Hearth group inc 1184, 1187 and cut 1189
1191	Group	0	Meta group of temporary hearths inc Groups 1167 and 1190, and layers 1170, 1176, and 1177
1192	Deposit	1239	Mixed turf collapse and aeolian silt
1193	Deposit	0	Aeolian silt
1194	Deposit	1120	Turf collapse
1195	Deposit	0	Mixed turf collapse and aeolian silt, compacted
1196	Deposit	1239	Aeolian silt
1197	Deposit	0	Yellow brown sandy silt - levelling?
1198	Deposit	1199	Aeolian silt
1199	Group	0	Group of fills - inc 1183, 1185, 1188, 1198, 1200, 1203, 1206, 1207, 1210
1200	Deposit	1199	Turf collapse
1201	Deposit	1239	Turf collapse
1202	Deposit	1120	Aeolian silt
1203	Deposit	1199	Yellow brown sandy silt
1204	Deposit	0	Yellow brown sandy silt, compacted
1205	Deposit	1239	Turf collapse
1206	Deposit	1199	Turf collapse
1207	Deposit	1199	Fill - sand and turf debris
1208	Deposit	1239	Turf collapse
1209	Deposit	1239	Turf collapse

Context	Type	Group	Description
1210	Cut	1199	Cut for pit
1211	Deposit	0	Mixed dump
1212	Cut	1743	Cut for pit
1213	Deposit	1743	Pit fill
1214	Deposit	1744	Turf collapse
1215	Cut	1744	Cut
1216	Deposit	0	
1217	Deposit	0	Mixed turf collapse and aeolian silt, yellowish.
1218	Deposit	0	Floor deposit - occupation surface. Dark grey
1219	Deposit	1225	Hearth deposit
1220	Deposit	1239	Aeolian silt
1221	Deposit	1239	Turf collapse
1222	Deposit	0	Aeolian silt, with some mixed inclusions
1223	Deposit	1225	Peat ash, with aeolian silt
1224	Deposit	1239	Turf collapse
1225	Group	0	Peat ash deposits
1226	Deposit	1225	Peat ash, with aeolian silt
1227	Deposit	0	Aeolian silt
1228	Deposit	0	Mixed turf collapse and aeolian silt
1229	Deposit	0	Turf collapse
1230	Deposit	1239	Turf collapse
1231	Deposit	1225	Peat ash layer with charcoal
1232	Cut	1745	Cut for pit
1233	Deposit	1225	Peat ash and burnt turf
1234	Deposit	0	Turf collapse, compacted
1235	Deposit	0	Floor deposit - occupation surface. Pale,sandy.
1236	Deposit	1225	Peat ash and burnt turf
1237	Deposit	0	Mixed turf collapse and aeolian silt. Dark, trampled.
1238	Deposit	1225	Turf fragments - multicoloured, with charcoal
1239	Group	0	Disuse sub-phase - inc 1116, 1141, 1143, 1153, 1155, 1192, 1196, 1201, 1205, 1221, 1208, 1209, 1214, 1215, 1220, 1224, 1230, 1232, 1243, 1244, 1249, 1255, 1259, 1266, 1272, 1275, 1279, 1288
1240	Deposit	1225	Peat ash
1241	Deposit	0	Mixed turf collapse and aeolian silt. Dark, trampled
1242	Deposit	0	Mixed turf collapse and aeolian silt
1243	Deposit	1745	Pit fill
1244	Deposit	1239	Turf collapse
1245	Deposit	0	Turf collapse
1246	Deposit	0	Aeolian silt and white tephra - upcast

Context	Type	Group	Description
1247	Deposit	0	Peat ash
1248	Deposit	0	Peat ash
1249	Deposit	1239	Mixed turf collapse and aeolian silt
1250	Deposit	0	Mixed turf collapse and aeolian silt. Trampled
1251	Deposit	0	Aeolian silt
1252	Deposit	0	Aeolian silt
1253	Deposit	0	Wall - upper portion
1254	Deposit	0	Mixed turf collapse and aeolian silt
1255	Deposit	1239	Aeolian silt
1256	Deposit	0	Peat ash
1257	Deposit	1746	Levelling event below 1253
1258	Deposit	0	Aeolian silt
1259	Deposit	1239	Aeolian silt
1260	Deposit	0	Floor deposit - occupation surface?
1261	Deposit	1291	Peat ash - hearth deposit?
1262	Deposit	1291	Mixed turf collapse and aeolian silt. Post abandonment
1263	Deposit	0	Stony layer
1264	Deposit	0	Turf collapse
1265	Deposit	1268	Hearth deposit
1266	Deposit	1239	Mixed turf collapse and aeolian silt
1267	Deposit	1268	Hearth deposit
1268	Group	0	Group of temporary hearths, and hearth deposits
1269	Deposit	1268	Hearth deposit
1270	Deposit	1268	Hearth deposit - at base of cut.
1271	Cut	1746	Cut for levelling event?
1272	Deposit	1239	Wall - upper turf deposit
1273	Deposit	0	Mixed turf collapse and aeolian silt. Trampled, with some peat ash
1274	Deposit	0	Hearth deposit
1275	Deposit	1239	Aeolian silt
1276	Deposit	0	Turf collapse. Trampled
1277	Deposit	0	Turf collapse. Trampled, turbated - track layer
1278	Deposit	0	Hearth deposit with turf collapse.
1279	Deposit	1239	Wall - addition.
1280	Deposit	0	Turf collapse
1281	Deposit	0	Aeolian silt - compacted
1282	Deposit	0	Levelling event
1283	Deposit	0	Turf collapse
1284	Deposit	0	Turf layer at threshold
1285	Deposit	0	Mixed turf collapse and aeolian silt

Context	Type	Group	Description
1286	Deposit	0	Yellow brown sandy silt
1287	Deposit	0	Turf collapse
1288	Deposit	1239	Mixed turf collapse and aeolian silt
1289	Deposit	0	Sandy silt and charcoal
1290	Deposit	0	Mixed turf collapse and aeolian silt
1291	Group	0	Occupation deposits - inc 1261 and 1262
1292	Deposit	0	Turf collapse
1293	Deposit	0	Turf collapse
1294	Deposit	1300	Pit fill
1295	Group	0	Occupation group inc 1123 and 1153
1296	Cut	1291	Recut of SFB
1297	Deposit	0	Turf collapse
1298	Deposit	0	Turf collapse
1299	Cut	1300	Cut for pit
1300	Group	0	Pit with multiple fill episodes inc 1294, 1299, 1470
1301	Deposit	0	Mixed turf collapse and aeolian silt
1302	Deposit	1291	Floor deposit - occupation surface
1303	Deposit	0	
1304	VOID	0	VOID
1305	Deposit	0	Mixed turf collapse and aeolian silt
1306	Deposit	0	Turf collapse and stones
1307	Deposit	0	Turf collapse
1308	Deposit	0	Track layer
1309	Deposit	0	Stone cluster
1310	Deposit	0	Turf bench
1311	Deposit	0	Mixed turf collapse and aeolian silt
1312	Deposit	0	Mixed turf collapse and aeolian silt
1313	Deposit	0	Turf collapse
1314	Deposit	0	Turf collapse
1315	Deposit	1317	Fill of posthole
1316	Cut	1317	Cut of posthole
1317	Group	0	Inc 1315 and 1316
1318	VOID	0	VOID
1319	Deposit	0	Possible floor deposit - occupation surface
1320	Deposit	0	Turf collapse
1321	Deposit	0	Mixed turf collapse and aeolian silt
1322	Deposit	0	Turf collapse
1323	Deposit	0	Turf collapse
1324	Deposit	0	Turf collapse
1325	Deposit	1329	Peat ash

Context	Type	Group	Description
1326	Cut	1329	Truncated cut
1327	Deposit	0	Turf collapse
1328	Deposit	0	Aeolian silt, mixed and trampled/compacted
1329	Group	0	Inc 1325 and 1326
1330	Deposit	1337	Fill of posthole
1331	Group	0	Inc 1332 and 1333
1332	Deposit	1331	Fill of 1333
1333	Cut	1331	Truncated cut
1334	Deposit	0	Turf collapse
1335	Deposit	1385	Wall - turf, N-S partition
1336	Cut	1337	Cut of posthole
1337	Group	0	Inc 1330 and 1336
1338	Deposit	1351	Aeolian silt
1339	Deposit	0	Turf collapse
1340	Deposit	0	Mixed turf collapse and aeolian silt
1341	Deposit	1351	Wall - turf
1342	Deposit	1385	Floor deposit - occupation surface
1343	Deposit	1385	Floor deposit - occupation surface
1344	Cut	0	Primary cut for SFB?
1345	Deposit	1385	Peat ash with charcoal and aeolian silt
1346	Deposit	0	Turf collapse
1347	Deposit	0	Turf collapse
1348	Deposit	0	Mixed turf collapse and aeolian silt
1349	Deposit	0	Turf collapse
1350	Deposit	0	Turf threshold?
1351	Group	0	Wall group - 1341, 1352, 1157, 1338
1352	Deposit	1351	Wall slumping
1353	Deposit	1355	Peat ash fill
1354	Cut	1355	Hearth cut
1355	Group	0	Inc 1353 and 1354
1356	Deposit	1385	Wall packing
1357	Deposit	0	Yellow brown sandy silt
1358	Deposit	0	Yellow brown sandy silt
1359	Deposit	0	Mixed turf collapse and aeolian silt
1360	Deposit	1385	Wall - turf, N-S
1361	Deposit	1385	Wall - turf, E-W
1362	Deposit	1385	Wall - turf, E-W
1363	Deposit	0	Yellow brown sandy silt
1364	Deposit	0	Aeolian silt
1365	Deposit	0	Yellow brown sandy silt

Context	Type	Group	Description
1366	Deposit	0	Peat ash
1367	Deposit	0	Turf collapse
1368	Deposit	0	Aeolian silt
1369	Deposit	0	Turf collapse
1370	Deposit	1385	Turf packing
1371	Deposit	1385	Levelling event for walls 1361, 1362
1372	Deposit	0	Turf collapse
1373	Deposit	0	Mixed turf collapse and aeolian silt
1374	Deposit	0	Turf collapse
1375	Deposit	0	Aeolian silt
1376	Deposit	0	Mixed turf collapse and aeolian silt, compacted
1377	Deposit	1385	Levelling event
1378	Deposit	0	Turf collapse
1379	Deposit	0	Turf collapse
1380	Deposit	0	Mixed turf collapse and aeolian silt
1381	Deposit	0	Peat ash with aeolian silt
1382	Deposit	0	Turf collapse
1383	Deposit	0	Floor deposit - occupation surface
1384	Cut	1385	Cut for SFB
1385	Group	0	SFB at north of Area A - inc 1212, 1213, 1335, 1342, 1343, 1345, 1356, 1360, 1361, 1362, 1370, 1371, 1377, 1384
1386	Deposit	0	Wall
1387	Deposit	1414	Fill of 1390
1388	VOID	0	VOID
1389	Deposit	0	Fill of 1390
1390	Cut	1414	Cut for pit
1391	Deposit	0	Mixed turf collapse and aeolian silt, compacted
1392	Deposit	1414	Fill of 1390
1393	Deposit	0	Peat ash
1394	Deposit	0	Turf collapse
1395	Deposit	0	Floor deposit - occupation surface
1396	Deposit	1414	Fill of 1390
1397	Deposit	0	Turf collapse
1398	Deposit	0	Stones
1399	Deposit	0	Stone pile
1400	Deposit	0	Mixed turf collapse and aeolian silt
1401	Deposit	0	Turf collapse
1402	Deposit	1414	Fill of 1390 (lowest)
1403	Deposit	0	Aeolian silt
1404	Deposit	0	Turf collapse

Context	Type	Group	Description
1405	Deposit	0	Turf collapse
1406	Deposit	0	Turf collapse, compacted
1407	Deposit	0	Floor deposit - occupation surface
1408	Deposit	0	Floor deposit - occupation surface
1409	Deposit	0	Mixed turf collapse and aeolian silt
1410	Deposit	0	Yellow brown sandy silt
1411	Deposit	0	Yellow brown sandy silt, compacted
1412	Deposit	0	Mixed turf collapse and aeolian silt, compacted
1413	Deposit	1748	Hearth deposit
1414	Group	0	Pit cut and fills - inc 1387, 1390, 1392, 1396, 1402
1415	Deposit	0	Floor deposit - occupation surface
1416	Deposit	1423	Wall - turf, retaining.
1417	Deposit	0	Aeolian silt, trampled
1418	Deposit	0	Turf collapse, compacted
1419	Deposit	1504	Fill of 1420
1420	Cut	1504	Cut for pit
1421	Deposit	0	Mixed turf collapse and aeolian silt
1422	Deposit	1423	Wall - turf, retaining
1423	Group	0	Retaining walls - 1416 and 1422
1424	Deposit	0	Mixed turf collapse and aeolian silt
1425	Deposit	0	Charcoal deposit, wood ash
1426	Deposit	0	Turf collapse
1427	Deposit	0	Sand and wood ash
1428	Deposit	1747	Peat ash and burnt earth, hearth deposit?
1429	Deposit	1451	Fill of 1430
1430	Cut	1451	Cut for pit
1431	Deposit	0	Turf collapse, compacted
1432	Deposit	0	Peat ash, with sand
1433	Deposit	0	Hearth deposit
1434	Deposit	0	Mixed turf collapse and aeolian silt
1435	Cut	1747	Cut for hearth 1428
1436	Cut	1748	Cut for hearth 1413
1437	Deposit	0	Floor deposit - occupation surface
1438	Deposit	0	Floor deposit - occupation surface
1439	Deposit	0	Yellow brown sandy silt
1440	Cut	1423	Cut for SFB
1441	Deposit	0	Turf collapse
1442	Deposit	0	Turf collapse - levelling deposit?
1443	Deposit	0	Turf collapse - trampled
1444	Deposit	0	Yellow brown sandy silt - levelling deposit?

Context	Type	Group	Description
1445	Deposit	0	Mixed turf collapse and aeolian silt
1446	Deposit	0	Peat ash
1447	Deposit	0	Floor deposit - occupation surface
1448	Deposit	1503	Fill of 1449
1449	Cut	1503	Cut for posthole
1450	Deposit	0	Yellow brown sandy silt, compacted, surface?
1451	Group	0	Inc 1429 and 1430
1452	Deposit	0	Aeolian silt, compacted
1453	Deposit	0	Mixed turf collapse and aeolian silt
1454	Deposit	0	Peat ash and charcoal
1455	Deposit	0	Yellow brown sandy silt, mixed
1456	Deposit	1749	Hearth deposit
1457	Deposit	0	Hearth deposit
1458	Deposit	0	Mixed turf collapse and aeolian silt, compacted
1459	Deposit	0	Floor deposit - occupation surface
1460	Deposit	0	Peat ash
1461	Deposit	1504	Fill of pit 1420
1462	Deposit	1466	Pit fill
1463	Deposit	0	Yellow brown sandy silt, mixed
1464	Deposit	0	Peat ash and turf collapse
1465	Deposit	1466	Pit fill
1466	Group	0	Pit group - inc 1462, 1465, 1474, 1475, 1488
1467	Deposit	1504	Fill of pit 1420
1468	Cut	1749	Cut for hearth (fill 1456)
1469	Deposit	0	
1470	Deposit	1300	Pit fill
1471	Deposit	0	Mixed turf collapse and aeolian silt
1472	Deposit	1504	Pit fill - fe precipitation - 1420
1473	Deposit	1504	Turf and stone fill - 1420
1474	Deposit	1466	Pit fill - turf fragments
1475	Deposit	1466	Pit fill - charcoal and wood ash
1476	Deposit	0	Turf layer
1477	Deposit	0	Bench - turf
1478	Deposit	0	Peat ash
1479	Deposit	0	Yellow brown sandy silt
1480	Deposit	1504	Decayed wood
1481	Deposit	1504	Decayed wood
1482	Deposit	0	Turf collapse
1483	Deposit	0	Floor deposit - occupation surface
1484	Deposit	0	Turf collapse

Context	Type	Group	Description
1485	Deposit	0	Wall - turf - addition to 1496
1486	Deposit	1752	Wall - turf
1487	Deposit	0	Peat ash
1488	Cut	1466	Cut for fire pit
1489	Deposit	0	Turf collapse
1490	Deposit	0	Mixed turf collapse and aeolian silt
1491	Deposit	0	Yellow brown sandy silt
1492	Deposit	0	Mixed turf collapse and aeolian silt, compacted
1493	Deposit	0	Mixed turf collapse and aeolian silt, compacted
1494	Deposit	0	Mixed turf collapse and aeolian silt
1495	Deposit	0	Wall - turf - E-W
1496	Deposit	0	Wall - turf
1497	Deposit	0	Mixed turf collapse and aeolian silt, inc lenses of peat ash
1498	Deposit	0	Mixed turf collapse and aeolian silt, compacted
1499	Deposit	0	Turf collapse
1500	Deposit	0	Mixed turf collapse and aeolian silt
1501	Deposit	0	Mixed turf collapse and aeolian silt
1502	Deposit	1750	Mixed turf collapse and aeolian silt
1503	Group	0	Inc 1448 and 1449
1504	Group	0	Inc 1419, 1420, 1461, 1467, 1472, 1473, 1480, 1481
1505	Deposit	0	Compression fill
1506	Deposit	0	Turf collapse
1507	Deposit	1753	Backfill of SFB?
1508	VOID	0	VOID (equals 1555)
1509	Deposit	0	Turf collapse
1510	Cut	0	Cut for SFB
1511	Deposit	0	Occupational debris
1512	Deposit	0	Peat ash
1513	Deposit	0	Turf collapse
1514	Deposit	0	Turf collapse
1515	Deposit	0	Peat ash
1516	Deposit	0	Peat ash
1517	Deposit	0	Aeolian silt, highly compacted
1518	Deposit	0	Pit fill
1519	Deposit	0	Midden layer
1520	Deposit	0	Yellow brown sandy silt
1521	Deposit	0	Turf collapse
1522	Deposit	0	Charcoal rich layer
1523	Deposit	0	Peat ash
1524	Deposit	0	Yellow brown sandy silt, mixed, mottled

Context	Type	Group	Description
1525	Deposit	0	Mixed turf collapse and aeolian silt
1526	Deposit	0	Yellow brown sandy silt, mixed
1527	Deposit	0	Yellow brown sandy silt, mixed
1528	Deposit	0	Turf collapse
1529	Deposit	0	Mixed turf collapse and peat ash
1530	Deposit	0	Yellow brown sandy silt, trackway
1531	Deposit	0	Yellow brown sandy silt, trackway
1532	Deposit	0	Peat ash
1533	Deposit	0	Mixed turf collapse and aeolian silt
1534	Deposit	0	Peat ash
1535	Deposit	0	Yellow brown sandy silt, mixed
1536	Deposit	0	Aeolian silt
1537	Deposit	0	Turf collapse
1538	Deposit	0	Turf collapse
1539	Deposit	0	Yellow brown sandy silt
1540	Deposit	0	Wall - upper part
1541	Cut	0	Cut of SFB
1542	Deposit	0	Turf collapse
1543	Deposit	0	Turf collapse
1544	Deposit	0	Mixed turf collapse and aeolian silt
1545	Deposit	0	Yellow brown sandy silt
1546	Deposit	1750	Peat ash
1547	Deposit	1751	Turf collapse
1548	Deposit	1751	Turf collapse
1549	Deposit	0	Turf collapse
1550	Deposit	0	Yellow brown sandy silt, with charcoal, bone etc
1551	Deposit	0	Yellow brown sandy silt, mixed
1552	Deposit	0	Mixed turf collapse and aeolian silt
1553	Deposit	1750	Fill of 1554
1554	Cut	1750	Cut for pit
1555	Deposit	0	Aeolian silt
1556	Deposit	1752	Aeolian silt
1557	Deposit	0	Fish bone rich dump deposit
1558	Deposit	0	Turf collapse
1559	Cut	1751	Depression on trackway
1560	Deposit	0	Aeolian silt
1561	Deposit	0	Yellow brown sandy silt
1562	Deposit	0	Mixed turf collapse and aeolian silt
1563	Deposit	0	Aeolian silt
1564	Deposit	0	Turf collapse, yellow white grey

Context	Type	Group	Description
1565	Deposit	0	Peat ash - hearth deposit
1566	Deposit	0	Floor deposit - occupation surface
1567	Deposit	0	Hearth deposit
1568	Deposit	1652	Mixed turf collapse and aeolian silt
1569	Deposit	1652	Fill of 1570
1570	Deposit	1652	Cut for pit
1571	Deposit	0	Mixed turf collapse and aeolian silt
1572	Deposit	0	Mixed sandy layer
1573	Deposit	0	Yellow brown sandy silt
1574	Deposit	0	Mixed turf collapse and aeolian silt
1575	Deposit	0	Mixed turf collapse and aeolian silt
1576	Deposit	0	Yellow brown sandy silt
1577	Deposit	0	Aeolian silt
1578	Deposit	1580	Fill of 1579
1579	Cut	1580	Posthole
1580	Group	0	Inc 1578 and 1579
1581	Deposit	0	Mixed turf collapse and aeolian silt
1582	Deposit	0	Hearth debris dump
1583	Deposit	0	Peat ash - hearth deposit
1584	Deposit	0	Mixed turf collapse and aeolian silt
1585	Deposit	0	Mixed aeolian silt accumulation
1586	Deposit	0	Turf collapse - from wall
1587	Deposit	0	Mixed turf collapse and aeolian silt
1588	Deposit	0	Turf collapse - from wall
1589	Deposit	0	Hearth debris dump
1590	Deposit	0	Hearth debris dump
1591	Deposit	1752	Aeolian silt
1592	Deposit	0	Mixed turf collapse and aeolian silt
1593	Deposit	0	Mixed turf collapse and aeolian silt
1594	Deposit	1596	Fill of 1595
1595	Cut	1596	Re-cut for pit
1596	Group	0	Inc 1595, 1595
1597	Deposit	1653	Peat ash - hearth deposit
1598	Deposit	0	Aeolian silt, mixed
1599	Deposit	0	Yellow brown sandy silt
1600	Deposit	0	Turf collapse
1601	Deposit	0	Turf collapse - wall fragment
1602	Deposit	1613	Peat ash fill of 1612
1603	Deposit	0	Hearth deposit
1604	Cut	1653	Cut for temporary hearth (fill 1597)

Context	Type	Group	Description
1605	Deposit	0	Mixed turf collapse and aeolian silt
1606	Cut	1752	Cut for wall 1486
1607	Cut	1753	Cut for pit (fill 1507)
1608	Deposit	0	Turf collapse
1609	Deposit	0	Turf collapse
1610	Deposit	0	Mixed turf collapse and aeolian silt, with charcoal and burnt material
1611	Deposit	1613	Sand and turf fill of 1612
1612	Cut	1613	Cut for pit - rectangular
1613	Group	0	Inc 1602, 1611, 1612
1614	Deposit	0	Hearth deposit
1615	Deposit	0	Turf collapse
1616	Deposit	1651	Wall - turf - uppermost phase of 3
1617	Deposit	0	Yellow brown sandy silt
1618	Deposit	0	Turf collapse
1619	Deposit	0	Mixed turf collapse and aeolian silt
1620	Deposit	0	Dark brown layer
1621	Deposit	1651	Mixed turf collapse and aeolian silt
1622	Deposit	0	Yellow brown sandy silt
1623	Deposit	1651	Wall - turf - second phase of 3
1624	Deposit	1754	Fill of 1625
1625	Cut	1754	Cut for small circular pit
1626	Deposit	1755	Fill of 1627
1627	Cut	1755	Irregular cut
1628	Deposit	0	Yellow brown sandy silt
1629	Deposit	0	Mixed turf collapse and aeolian silt
1630	Deposit	0	Yellow brown sandy silt, with some burnt material
1631	Deposit	1651	Mixed turf collapse and aeolian silt
1632	Deposit	0	Hearth debris dump
1633	Deposit	0	Turf collapse
1634	Deposit	0	Floor deposit - occupation surface
1635	Deposit	0	Mixed turf collapse and aeolian silt
1636	Deposit	1651	Wall - turf - first phase of 3
1637	Deposit	0	Floor deposit - occupation surface
1638	Deposit	0	Mixed turf collapse and aeolian silt
1639	Deposit	0	Aeolian silt
1640	Deposit	0	Turf collapse
1641	Deposit	0	Peat ash and burnt material
1642	Deposit	1651	Aeolian silt
1643	Deposit	0	Floor deposit - occupation surface

Context	Type	Group	Description
1644	Deposit	0	Mixed turf collapse and aeolian silt
1645	Cut	1651	Construction cut
1646	Deposit	0	Turf collapse
1647	Deposit	0	Mixed turf collapse and aeolian silt
1648	Deposit	0	Floor deposit - occupation surface
1649	Deposit	0	Yellow brown sandy silt
1650	Deposit	0	Floor deposit - occupation surface inc charcoal
1651	Group	0	Turf wall group - inc 1616, 1621, 1623, 1631, 1636, 1642, 1645
1652	Group	0	Pit group 1569, 1570
1653	Group	0	Hearth group 1597, 1604
1654	Deposit	0	Turf collapse
1655	Deposit	0	Yellow brown sandy silt, with grey mottling
1656	Deposit	0	Mixed turf collapse and aeolian silt
1657	Deposit	0	Peat ash, burnt earth, in-situ
1658	Deposit	0	Mixed turf collapse and aeolian silt
1659	Deposit	0	Mixed turf collapse and aeolian silt
1660	Deposit	0	Turf collapse
1661	Deposit	0	Turf layer
1662	Deposit	0	Mixed turf collapse and aeolian silt
1663	Deposit	0	Mixed turf collapse and aeolian silt, with peat ash
1664	Deposit	1666	Fill of 1665
1665	Cut	1666	Posthole
1666	Group	0	Inc 1664, 1665
1667	Deposit	0	Turf collapse
1668	Deposit	0	Mixed turf collapse and aeolian silt
1669	Deposit	0	Turf collapse
1670	Deposit	0	Turf collapse
1671	Deposit	0	Yellow brown sandy silt, with burnt material
1672	Deposit	1719	Turf collapse
1673	Deposit	0	Turf collapse
1674	Deposit	0	Floor deposit - occupation surface
1675	Deposit	0	Mixed turf collapse and aeolian silt
1676	Deposit	0	Turf collapse
1677	Deposit	0	Peat ash, mixed, surface?
1678	Deposit	0	Stones and gravel
1679	Deposit	1699	Peat ash, burnt earth, in situ
1680	Deposit	0	Yellow brown sandy silt
1681	Deposit	0	Mixed turf collapse and aeolian silt, with charcoal
1682	Deposit	0	Yellow brown sandy silt

Context	Type	Group	Description
1683	Deposit	0	Mixed turf collapse and aeolian silt
1684	Deposit	0	Turf collapse
1685	Deposit	0	Mixed turf collapse and aeolian silt, with peat ash
1686	Deposit	0	Mixed turf collapse and aeolian silt, with burnt material
1687	Deposit	0	Floor deposit - occupation surface
1688	Deposit	0	Yellow brown sandy silt
1689	Deposit	0	Turf collapse
1690	Deposit	0	Turf collapse
1691	Deposit	0	Turf collapse
1692	Deposit	0	Yellow brown sandy silt
1693	Deposit	1719	Wall - upper part
1694	Deposit	0	Burnt turf layer
1695	Deposit	0	Turf collapse
1696	Deposit	0	Turf collapse
1697	Deposit	1719	Yellow turf wall element
1698	Cut	1699	Cut for hearth
1699	Group	0	Inc 1679 and 1698
1700	Deposit	0	Floor deposit - occupation surface, with peat ash
1701	Deposit	0	Turf collapse
1702	Deposit	1707	Fill of 1706
1703	Deposit	1719	Yellow brown sandy silt, with peat ash and tephra
1704	Deposit	1756	Mixed turf collapse and aeolian silt
1705	Deposit	1719	Wall fragment
1706	Cut	1707	Cut for posthole
1707	Group	0	Inc 1706 and 1702
1708	Deposit	1756	Yellow brown sandy silt
1709	Deposit	1719	Mixed turf collapse and aeolian silt, with peat ash
1710	Deposit	0	Turf collapse
1711	Deposit	0	Wall - turf
1712	Deposit	1719	Yellow brown sandy silt - within wall
1713	Deposit	1756	Midden fill, with fishbone
1714	Deposit	1756	Yellow brown sandy silt, fill of 1721
1715	Deposit	1719	Mixed turf collapse and aeolian silt
1716	Deposit	0	Wall repair
1717	Deposit	1719	Fill of 1718
1718	Cut	1719	Construction cut
1719	Group	0	Wall group - inc 1672, 1693, 1697, 1703, 1705, 1709, 1712, 1715, 1717, 1718
1720	Deposit	0	Yellow brown sandy silt
1721	Cut	1756	Cut for pit

Context	Type	Group	Description
1722	Deposit	1756	Turf rich fill of 1721
1723	Deposit	0	Wall - turf - upper part
1724	Deposit	0	Wall - turf - upper part
1725	Deposit	0	Turf collapse
1726	Deposit	0	Yellow brown sandy silt, with occasional turf fragments
1727	Deposit	0	Mixed turf collapse and aeolian silt
1728	Deposit	0	Mixed turf collapse and aeolian silt
1729	Deposit	0	Mixed turf collapse and aeolian silt
1730	Deposit	0	Mixed turf collapse and aeolian silt
1731	Deposit	0	Turf collapse
1732	Deposit	0	Turf collapse
1733	Deposit	0	Structural turf
1734	Deposit	0	Turf collapse? Levelling
1735	Deposit	1740	Pit fill of 1736
1736	Cut	1740	Cut for pit
1737	Deposit	1739	Fill of 1738
1738	Cut	1739	Cut for circular pit
1739	Group	0	Inc 1737 and 1738
1740	Group	0	Inc 1735 and 1736
1741	Deposit	0	Block of turf
1742	Deposit	0	Wall - turf - not yet excavated
1743	Group	1385	Inc 1212, 1213
1744	Group	1239	Inc 1214, 1215
1745	Group	1239	Inc 1232, 1243
1746	Group	0	Inc 1271, 1257
1747	Group	0	Inc 1435, 1428
1748	Group	0	Inc 1413, 1436
1749	Group	0	Inc 1456, 1468
1750	Group	0	Inc 1502, 1546, 1553, 1554
1751	Group	0	Inc 1547, 1548, 1559
1752	Group	0	Inc 1486, 1556, 1591, 1606
1753	Group	0	Inc 1507, 1607
1754	Group	0	Inc 1624, 1625
1755	Group	0	Inc 1626, 1627
1756	Group	0	Inc 1704, 1708, 1713, 1714, 1721, 1722
1757	Group	0	Meta-group over Area A east (2001-2002)
1758	Group	0	Meta-group over Area A west (2003-2004)
1759	Group	1758	SFB - inc groups 1004, 1034, 1073
1760	Group	1758	SFB - inc group 1120
1761	Group	1758	SFB - inc group 1239

Context	Type	Group	Description
1762	Group	1758	Group of features at NW
1763	Group	1068	Track group, south
1764	Group	1068	Track group, north
1765	Group	1758	SFB inc groups 921, 987 and 1766
1766	Group	1765	Earlier phase of room 1765

Appendix 2

Finds Register for Area A, 2004

Finds No	Object_Keyword	Material_Keyword	Weight (g)	Count
04-001	Nail	Iron	2	1
04-002	Nail	Iron	19	1
04-003	Blade	Iron	13	1
04-004	Buckle	Iron	9	1
04-005	Net Sinker	Steatite	88	1
04-006	Worked whalebone	Bone	0	1
04-007	Pottery	Ceramic	7	1
04-008	Shoe sole	Leather	0	1
04-009	Loop	Iron	19	2
04-010	Rivet/Rove	Copper alloy	5	2
04-011	Shoe	Leather	0	1
04-012	Shoe	Leather	0	1
04-013	Weight	Copper alloy	14.19	1
04-014	Nail	Iron	7	1
04-015	Object	Iron	8	1
04-016	Nail	Iron	19	1
04-017	VOID	VOID	0	0
04-018	Object	Iron	111	4
04-019	Pottery	Ceramic	6	1
04-020	Object	Copper alloy	2	1
04-021	Pottery	Ceramic	49	1
04-022	Object	Iron	105	2
04-023	Strap end	Copper alloy	1	1
04-024	Object	Iron	20	1
04-025	Pottery	Ceramic	10	1
04-026	Object	Copper alloy	4	3
04-027	Object	Copper alloy	1	1
04-028	VOID	VOID	0	0
04-029	Object	Copper alloy	1	1
04-030	Whetstone	Stone	45	1
04-031	Blade	Iron	35	1

Finds No	Object_Keyword	Material_Keyword	Weight (g)	Count
04-032	Object	Copper alloy	1	1
04-033	Object	Iron	108.15	1
04-034	Vessel rim	Copper alloy	17	1
04-035	Object	Copper alloy	1	1
04-036	Bone	Bone	67	0
04-037	Bone	Bone	77	0
04-038	Bone	Bone	14	0
04-039	Bone	Bone	25	0
04-040	Bone	Bone	5	0
04-041	Bone	Bone	28	0
04-042	Bone	Bone	13	0
04-043	Bone	Bone	32	0
04-044	Bone	Bone	5	0
04-045	Bone	Bone	77	0
04-046	Bone	Bone	227	0
04-047	Bone	Bone	14	0
04-048	Bone	Bone	214	0
04-049	Bone	Bone	4	0
04-050	Bone	Bone	3	0
04-051	Bone	Bone	4	0
04-052	Bone	Bone	16	0
04-053	Bone	Bone	5	0
04-054	Bone	Bone	7	0
04-055	Bone	Bone	19	0
04-056	Bone	Bone	16	0
04-057	Bone	Bone	27	0
04-058	Bone	Bone	3	0
04-059	Bone	Bone	5	0
04-060	Bone	Bone	71	0
04-061	Bone	Bone	56	0
04-062	Bone	Bone	38	0
04-063	Bone	Bone	26	0
04-064	Bone	Bone	66	0
04-065	Bone	Bone	25	0
04-066	Bone	Bone	28	0
04-067	Bone	Bone	414	0
04-068	Bone	Bone	61	0

Finds No	Object_Keyword	Material_Keyword	Weight (g)	Count
04-069	Bone	Bone	17	0
04-070	Bone	Bone	332	0
04-071	Bone	Bone	31	0
04-072	Bone	Bone	701	0
04-073	Bone	Bone	54	0
04-074	Bone	Bone	198	0
04-075	Bone	Bone	11	0
04-076	Bone	Bone	76	0
04-077	Bone	Bone	16	0
04-078	Bone	Bone	114	0
04-079	Bone	Bone	69	0
04-080	Bone	Bone	6	0
04-081	Bone	Bone	21	0
04-082	Bone	Bone	50	0
04-083	Bone	Bone	33	0
04-084	Bone	Bone	8	0
04-085	Bone	Bone	721	0
04-086	Bone	Bone	157	0
04-087	Bone	Bone	1	0
04-088	Bone	Bone	33	0
04-089	Bone	Bone	68	0
04-090	Bone	Bone	86	0
04-091	Bone	Bone	2	0
04-092	Bone	Bone	4	0
04-093	Bone	Bone	71	0
04-094	Bone	Bone	6	0
04-095	Bone	Bone	324	0
04-096	Bone	Bone	17	0
04-097	Bone	Bone	178	0
04-098	Bone	Bone	3	0
04-099	Bone	Bone	16	0
04-100	Bone	Bone	40	0
04-101	Bone	Bone	125	0
04-102	Bone	Bone	18	0
04-103	Bone	Bone	26	0
04-104	Bone	Bone	8	0
04-105	Bone	Bone	330	0

Finds No	Object_Keyword	Material_Keyword	Weight (g)	Count
04-106	Bone	Bone	221	0
04-107	Bone	Bone	35	0
04-108	Bone	Bone	31	0
04-109	Bone	Bone	9	0
04-110	Bone	Bone	90	0
04-111	Bone	Bone	38	0
04-112	Bone	Bone	13	0
04-113	Bone	Bone	29	0
04-114	Bone	Bone	15	0
04-115	Bone	Bone	24	0
04-116	Bone	Bone	892	0
04-117	Bone	Bone	13	0
04-118	Bone	Bone	30	0
04-119	Bone	Bone	236	0
04-120	Bone	Bone	32	0
04-121	Bone	Bone	28	0
04-122	Bone	Bone	14	0
04-123	Bone	Bone	7	0
04-124	Bone	Bone	3	0
04-125	Bone	Bone	10	0
04-126	Bone	Bone	71	0
04-127	Bone	Bone	35	0
04-128	Bone	Bone	19	0
04-129	Bone	Bone	61	0
04-130	Bone	Bone	15	0
04-131	Bone	Bone	121	0
04-132	Bone	Bone	851	0
04-133	Bone	Bone	63	0
04-134	Bone	Bone	10	0
04-135	Bone	Bone	1212	0
04-136	Bone	Bone	5	0
04-137	Bone	Bone	40	0
04-138	Bone	Bone	112	0
04-139	Bone	Bone	198	0
04-140	Bone	Bone	10	0
04-141	Bone	Bone	76	0
04-142	Bone	Bone	131	0

Finds No	Object_Keyword	Material_Keyword	Weight (g)	Count
04-143	Bone	Bone	53	0
04-144	Bone	Bone	38	0
04-145	Bone	Bone	44	0
04-146	Bone	Bone	3	0
04-147	Bone	Bone	145	0
04-148	Bone	Bone	116	0
04-149	Bone	Bone	56	0
04-150	Bone	Bone	80	0
04-151	Bone	Bone	1	0
04-152	Bone	Bone	37	0
04-153	Bone	Bone	72	0
04-154	Bone	Bone	4	0
04-155	Bone	Bone	28	0
04-156	Bone	Bone	24	0
04-157	Bone	Bone	207	0
04-158	Bone	Bone	5	0
04-159	Bone	Bone	6	0
04-160	Bone	Bone	106	0
04-161	Bone	Bone	2	0
04-162	Bone	Bone	62	0
04-163	Bone	Bone	106	0
04-164	Bone	Bone	32	0
04-165	Bone	Bone	29	0
04-166	Bone	Bone	23	0
04-167	Bone	Bone	2	0
04-168	Bone	Bone	27	0
04-169	Bone	Bone	6	0
04-170	Bone	Bone	61	0
04-171	Bone	Bone	164	0
04-172	Bone	Bone	1	0
04-173	Bone	Bone	12	0
04-174	Bone	Bone	152	0
04-175	Bone	Bone	7	0
04-176	Bone	Bone	11	0
04-177	Bone	Bone	258	0
04-178	Bone	Bone	47	0
04-179	Bone	Bone	194	0

Finds No	Object_Keyword	Material_Keyword	Weight (g)	Count
04-180	Bone	Bone	3	0
04-181	Bone	Bone	20	0
04-182	Bone	Bone	80	0
04-183	Bone	Bone	18	0
04-184	Bone	Bone	967	0
04-185	Offcut	Leather	0	1
04-186	Offcut	Leather	0	1
04-187	Offcut	Leather	0	1
04-188	Textile	Wool	0	1
04-189	Worked whalebone	Bone	128	1
04-190	Worked whalebone	Bone	88	1
04-191	Leather	Leather	0.41	1
04-192	Leather	Leather	8	1
04-193	Leather	Leather	0.61	1
04-194	Leather	Leather	17	1
04-195	Leather	Leather	0.13	1
04-196	Twine	Fibre	0.07	1
04-197	Textile	Wool	13	2
04-198	Pottery	Ceramic	1.38	1
04-199	Pottery	Ceramic	1.13	1
04-200	Pottery	Ceramic	8.73	1
04-201	Pottery	Ceramic	9.05	1
04-202	Pottery	Ceramic	2.17	1
04-203	Baking Plate	Schist	36.1	1
04-204	Baking Plate	Schist	32.85	1
04-205	Whetstone	Schist	82.14	1
04-206	Whetstone	Schist	40	1
04-207	Whetstone	Schist	6.08	1
04-208	Whetstone	Schist	29.9	1
04-209	Whetstone	Schist	23.58	1
04-210	Baking Plate	Schist	1.86	1
04-211	Flake	Flint	25.48	1
04-212	Flake	Flint	29.63	1
04-213	Flake	Flint	3.06	1
04-214	Flake	Flint	5.26	1
04-215	Flake	Flint	6.49	1
04-216	Flake	Schist	2.56	1

Finds No	Object_Keyword	Material_Keyword	Weight (g)	Count
04-217	Flake	Obsidian	0.34	1
04-218	Stone	Jasper	1.91	1
04-219	Glass	Glass	0.98	1
04-220	Stone	Quartz	56.15	1
04-221	Stone	Quartz	3.13	1
04-222	Stone	Quartz	8.99	1
04-223	Stone	Quartz	6.4	1
04-224	Stone	Quartz	1.93	1
04-225	Sulphur	Sulphur	0.97	1
04-226	Sulphur	Sulphur	0.42	1
04-227	Sulphur	Sulphur	0.87	1
04-228	Object	Copper alloy	0.66	7
04-229	Object	Copper alloy	0.3	1
04-230	Rivet/Rove	Copper alloy	2.02	1
04-231	Rivet/Rove	Copper alloy	1	1
04-232	Object	Copper alloy	0.35	1
04-233	Rivet/Rove	Copper alloy	0.97	1
04-234	Object	Copper alloy	0.52	3
04-235	Object	Copper alloy	0.23	1
04-236	Rivet/Rove	Copper alloy	0.75	1
04-237	Rivet/Rove	Copper alloy	0.89	1
04-238	Object	Iron	7.01	1
04-239	Object	Iron	20.36	1
04-240	Object	Iron	1.17	1
04-241	Nail	Iron	16.42	1
04-242	Nail	Iron	18.68	2
04-243	Object	Iron	29.09	3
04-244	Nail	Iron	11.88	1
04-245	Nail	Iron	2.49	1
04-246	Object	Iron	2.2	1
04-247	Staple	Iron	4.72	1
04-248	Object	Iron	5.32	1
04-249	Object	Iron	7.04	1
04-250	Object	Iron	33.02	1
04-251	Object	Iron	1.27	1
04-252	Tool	Iron	13.75	1
04-253	Object	Iron	19.63	1

Finds No	Object_Keyword	Material_Keyword	Weight (g)	Count
04-254	Nail	Iron	8.97	1
04-255	Hook	Iron	4.78	1
04-256	Object	Iron	11.9	2
04-257	Nail	Iron	15.47	1
04-258	Nail	Iron	5.52	1
04-259	Nail	Iron	3.49	1
04-260	Nail	Iron	0.99	1
04-261	Nail	Iron	11.33	1
04-262	Slag	Slag	35.5	1
04-263	Slag	Slag	112	1
04-264	Slag	Slag	8.5	1
04-265	Slag	Slag	27	1
04-266	Slag	Slag	13	1
04-267	Slag	Slag	18	1
04-268	Slag	Slag	8	1
04-269	Slag	Slag	11.5	1
04-270	Slag	Slag	3	1
04-271	Slag	Slag	26.5	1
04-272	Slag	Slag	7	1
04-273	Slag	Slag	26	1
04-274	Slag	Slag	14.5	1
04-275	Slag	Slag	22.5	1
04-276	Slag	Slag	2.5	1
04-277	Slag	Slag	245	1
04-278	Nail	Iron	30.5	1
04-279	Slag	Slag	8.5	1
04-280	Slag	Slag	12.5	1
04-281	Slag	Slag	3.5	1
04-282	Slag	Slag	20	1
04-283	Slag	Slag	15.5	1
04-284	Slag	Slag	61	1
04-285	Slag	Slag	22.5	1
04-286	Slag	Slag	20.5	1
04-287	Slag	Slag	26	1
04-288	Slag	Slag	9.5	1
04-289	Burnt Bone	Bone	3	2
04-290	Slag	Slag	0.5	1

Finds No	Object_Keyword	Material_Keyword	Weight (g)	Count
04-291	Slag	Slag	8.5	1
04-292	Slag	Slag	32.5	1
04-293	Slag	Slag	2.5	1
04-294	Slag	Slag	3	1
04-295	Slag	Slag	2	1
04-296	Slag	Slag	5	1
04-297	Slag	Slag	6	1
04-298	Slag	Slag	9	1
04-299	Slag	Slag	30	1
04-300	Slag	Slag	18	1
04-301	Slag	Slag	15	1
04-302	Slag	Slag	15.5	1
04-303	Nail	Iron	2	1
04-304	Slag	Slag	0.9	1
04-305	Slag	Slag	5	1
04-306	Slag	Slag	1	1
04-307	Slag	Slag	3.4	1
04-308	Slag	Slag	11.6	1
04-309	Slag	Slag	2.3	1
04-310	Slag	Slag	1.5	1
04-311	Slag	Slag	18.2	1
04-312	Slag	Slag	1.3	1
04-313	Slag	Slag	5	1
04-314	Slag	Slag	5	1
04-315	Slag	Slag	4.2	1
04-316	Slag	Slag	1.1	1
04-317	Slag	Slag	4.7	1
04-318	Slag	Slag	5.5	1
04-319	Slag	Slag	5.2	1
04-320	Slag	Slag	221	1
04-321	Slag	Slag	228	1
04-322	Slag	Slag	9	1
04-333	Slag	Slag	1.4	1
04-334	Slag	Slag	5.3	1
04-335	Slag	Slag	6.2	1
04-336	Slag	Slag	58.1	1
04-337	Slag	Slag	25.9	1

Finds No	Object_Keyword	Material_Keyword	Weight (g)	Count
04-338	Slag	Slag	4.9	1

Appendix 3

Sample Register for Area A, 2004

Sample	Context	Type	Method	Process	Vol	Context Description
04-01	1102	Bulk	Macro	Floatation	10	Peat ash dump
04-02	1106	Bulk	Macro	Floatation	20	Slag rich burnt dump
04-03	1108	Bulk	Macro	Floatation	20	Peat ash dump
04-04	1117	Bulk	Macro	Floatation	10	Burnt deposit, temporary hearth
04-05	1117	Bulk	Macro	Floatation	10	Burnt deposit, temporary hearth
04-06	1122	Bulk	Macro	Floatation	5	Black charcoal rich deposit
04-07	1142	Bulk	Macro	Floatation	50	Pit fill
04-08	1156	Bulk	Macro	Floatation	10	Pit fill, charcoal rich
04-09	1166	Bulk	Macro	Floatation	10	Hearth deposit - burnt dung/charcoal
04-13	1173	Bulk	Macro	Floatation	5	Hearth deposit - burnt material
04-12	1174	Bulk	Macro	Floatation	50	Floor deposit - occupation surface
04-10	1177	Bulk	Macro	Floatation	2	Charcoal deposit
04-11	1181	Bulk	Macro	Floatation	10	Hearth deposit
04-14	1188	Bulk	Macro	Floatation	20	Fill
04-15	1207	Bulk	Macro	Floatation	10	Fill - sand and turf debris
04-16	1240	Bulk	Macro	Floatation	3	Peat ash
04-17	1261	Bulk	Macro	Floatation	30	Peat ash - hearth deposit?
04-18	1274	Bulk	Macro	Floatation	2	Hearth deposit
04-20	1342	Bulk	Macro	Floatation	30	Floor deposit - occupation surface
04-19	1343	Bulk	Macro	Floatation	20	Floor deposit - occupation surface
04-21	1345	Bulk	Macro	Floatation	3	Peat ash with charcoal and aeolian silt
04-27	1350	Bulk	Macro	Floatation	10	Turf threshold?
04-23	1395	Bulk	Macro	Floatation	20	Floor deposit - occupation surface
04-22	1396	Bulk	Macro	Floatation	30	Fill of 1390
04-24	1402	Bulk	Macro	Floatation	50	Fill of 1390 (lowest)
04-26	1407	Bulk	Macro	Floatation	10	Floor deposit - occupation surface
04-25	1408	Bulk	Macro	Floatation	10	Floor deposit - occupation surface
04-28	1413	Bulk	Macro	Floatation	15	Hearth deposit
04-29	1425	Bulk	Macro	Floatation	1	Charcoal deposit, wood ash
04-30	1427	Bulk	Macro	Floatation	1	Sand and wood ash
04-31	1428	Bulk	Macro	Floatation	10	Peat ash and burnt earth, hearth deposit?
04-32	1429	Bulk	Macro	Floatation	30	Fill of 1430

Sample	Context	Type	Method	Process	Vol	Context Description
04-33	1433	Bulk	Macro	Floatation	1	Hearth deposit
04-35	1437	Bulk	Macro	Floatation	30	Floor deposit - occupation surface
04-34	1446	Bulk	Macro	Floatation	10	Peat ash
04-38	1454	Bulk	Macro	Floatation	5	Peat ash and charcoal
04-36	1456	Bulk	Macro	Floatation		Hearth deposit
04-37	1457	Bulk	Macro	Floatation		Hearth deposit
04-39	1461	Bulk	Macro	Floatation	10	Fill of pit 1420
04-40	1467	Bulk	Macro	Floatation	10	Fill of pit 1420
04-41	1470	Bulk	Macro	Floatation		Pit fill
04-42	1475	Bulk	Macro	Floatation	15	Pit fill - charcoal and wood ash
04-43	1487	Bulk	Macro	Floatation	20	Peat ash
04-44	1497	Bulk	Macro	Floatation	10	Mixed turf collapse and aeolian silt, inc lenses of peat ash
04-45	1512	Bulk	Macro	Floatation	10	Peat ash
04-46	1518	Bulk	Macro	Floatation	10	Pit fill
04-47	1522	Bulk	Macro	Floatation	30	Charcoal rich layer
04-48	1557	Bulk	Macro	Floatation	30	Fish bone rich dump deposit
04-49	1569	Bulk	Macro	Floatation	10	Fill of 1570
04-50	1713	Bulk	Macro	Floatation	30	Midden fill, with fishbone

Appendix 4

Context Register for Area B, 2004

No	NoType	GroupNo	Description
5001	Deposit		Top soil
5002	Group	5002	Churchyard enclosure
5003	Deposit	5002	Peatash and turf debris inside wall
5004	Deposit	5018	Turf collapse under 5003 inside wall
5005	Deposit	5018	Turf collapse outside wall
5006	Deposit	5018	Turf wall
5007	Deposit	5018	turf deposit
5008	Deposit	5002	Brown silt - aeolian - sitting in cut (?)
5009	Deposit	5019	Ash and turf debris w. Animal bone and shell
5010	Deposit	5019	Turf debris w concentrations of bone and shell
5011	Deposit	5020	upcast and turf debris, sitting in cut (?)
5012	Deposit	5020	lens of turf
5013	Deposit	5020	Upcast - reddish brown
5014	Deposit	5020	upcast - dark brown - less mixed than 5013
5015	Deposit	5020	Turf, laminated, strengur?
5016	Deposit	5020	Upcast - dark brown - identical to 5014
5017	Cut	5020	Cut for N-S trench under wall
5018	Group	5018	Turf wall (5004, 5005, 5006, 5007)
5019	Group	5019	Midden deposits under 5018: 5009, 5010
5020	Group	5020	Upcast and fills in trench 5017: 5011-16
5021	Deposit	5018	upcast
5022	Deposit	5018	upcast w turf debris
5023	Deposit	5018	turf
5024	Deposit	5019	Ash and turf debris
5025	Deposit	5020	Reddish brown silt, some mixing
5026	Deposit	5020	Upcast and turf debris, identical to 5016
5027	Deposit	5020	Homogenous upcast
5028	Deposit	5020	Upcast, identical to 5026, 5016 and 5015
5029	Deposit	5020	turf debris
5030	Cut	5020	cut on w side of bank created by 5017
5031	Deposit	0	Fill of DB's trench, south side
5032	Cut	0	Cut for DB's trench, south side
5033	Deposit	0	Fill in cut 5034, sand

No	NoType	GroupNo	Description
5034	Cut	0	Bjarni and Margrét's 1986 trench
5035	Deposit	5041	Fill (gravel, sand, turf debris) and fire remains/charred remains
5036	Deposit	0	Fill of 5037
5037	Cut	0	DB's cut for 'entrance' to S-side of chancel
5038	Deposit	0	patch of turf, south side of church
5039	Deposit	0	Mixed turf collapse with some charcoal lensin
5040	Cut	5041	Pit N-side of church
5041	Group	5041	Pit N-side of church
5042	Cut		Bruun's cut on N-side of church
5043	Deposit	5058	Fill of linear cut 5044
5044	Cut	5058	Liner cut, southside
5045	Deposit	0	Grey gravelly layer, N-side, prob same as 5047
5046	Deposit	5018	Turf collapse, inside S-wall of enclosure
5047	Deposit	0	Grey gravelly layer, N-side, prob same as 5045
5048	Deposit	5058	Patch of charcoal
5049	Deposit	0	Fill of 5050
5050	Cut	0	Shallow circular pit
5051	Deposit	0	Turf collapse - S-side
5052	Deposit	0	Sand lens - S-side
5053	Deposit	5058	charcoal rich deposit (=5048)
5054	Deposit	0	Turf collapse - N-side
5055	Deposit	5058	Charcoal rich deposit
5056	Deposit	0	Turf collapse
5057	Deposit	0	Peatash dump
5058	Group	5058	Charcoal patches, burnt wood on S-side
5059	Deposit	0	charcoal and peat ash rich dump layer
5060	Deposit	5067	Bioturbated blob
5061	Deposit	0	Turf collapse
5062	Deposit	5018	Turf collapse
5063	Deposit	0	Turf collapse
5064	Deposit	0	Mixed peatash deposit
5065	Deposit	5018	Turf collapse
5066	Deposit	0	Peatash dump
5067	Group	5067	Great pit on N-side
5068	Deposit	5067	Ash w. Firecracked rock
5069	Cut	5067	Recut into earlier pit

No	NoType	GroupNo	Description
5070	Deposit	5067	Fill of pit 5067, turf, ash + sand
5071	Deposit	0	Fill of DB's cut 5072 in chancel
5072	Cut	0	DB's cuts in chancel
5073	Deposit	0	Turf collapse
5074	Deposit	0	Turf collapse
5075	Deposit	0	Turf collapse
5076	Deposit	0	Turf collapse
5077	Deposit	0	Turf collapse
5078	Deposit	0	Turf collapse
5079	Deposit	0	Turf collapse under 5004
5080	Deposit	0	Turf collapse
5081	Deposit	0	Aeolian sand under 5079
5082	Deposit	0	Turf collapse in great pit
5083	Deposit	0	Fill of DB's trenches on N-side of chancel
5084	Cut	0	DB's trenches on N-side of chancel
5085	Cut	0	DB's excavation in nave
5086	Deposit	0	Fill of cut 5087
5087	Cut	0	DB's sondage by possible bell-tower
5088	Deposit	5090	Fill of ash pit 5089
5089	Cut	5090	Pit
5090	Group	5090	Ash filled pit = hearth
5091	Deposit	0	Aeolian layer
5092	Deposit	0	Orange turf collapse
5093	Deposit	0	Turf debris in nave and over N-wall
5094	Deposit	0	Turf collapse
5095	Cut	5067	Series of fire pits
5096	Deposit	5098	Mixed fill of pit 5097
5097	Cut	5098	Cut of pit
5098	Group	5098	pit
5099	Deposit	0	Fill of pit 5100
5100	Cut	0	Oval pit
5101	Deposit	0	Secondary fill of cut 5103
5102	Deposit	0	Primary fill of cut 5104
5103	Cut	0	Oval pit, with signs of in situ burning
5104	Group	0	Multi-context, end of excavation plan
5105	Deposit	5111	Primary fill of pit 5108
5106	Deposit	5111	Secondary fill of pit 5108

No	NoType	GroupNo	Description
5107	Deposit	5111	Tertiary fill of pit 5108
5108	Cut	5111	cut for pit filled with 5015-07
5109	Deposit	0	Fill of 5110
5110	Cut	0	Shallow circular pit/posthole
5111	Group	5111	Pit containing 3 fills
5112	Group	5112	Series of pits, possibly indicating metal-working
5113	Deposit	0	Primary fill of 5114
5114	Cut	0	shallow pit

Appendix 5

Finds Register for Area B, 2004

Find	Context	Object	Material	Notes
5001	5019		Bone	worked whalebone
5002	5001	Nail	Iron	
5003	5019	Food waste	Bone	
5004	5001	Nail	Iron	
5005	5001		Iron	two pieces of iron
5006	5001	Nail	Iron	broken nail, modern
5007	5001		Iron	iron object
5008	5019		Iron	iron object - head of nail
5009	5001	Slag	Iron	
5010	5001	Food waste	Bone	
5011	5035		Wood	charred wood
5012	5035	Food waste	Bone	
5013	5043	Food waste	Bone	
5014	5039		Bone	teeth from large mammal
5015	5039	Nail	Iron	
5016	5049	Food waste	Bone	
5017	5048		Iron	Iron object - key?
5018	5003	Slag	Iron	
5019	5053		Bone	Horse tooth
5020	5003	Food waste	Bone	Animal bones, some with cut marks
5021	5004	Textile	Wool	Coarse woven fabric - sacking?
5022	5063	Food waste	Bone	
5023	5004	Textile	Wool	two large fragm of coarse fabric
5024	5070	Food waste	Bone	
5025	5004	Food waste	Bone	
5026	5078	Food waste	Bone	
5027	5078	Slag	Iron	
5028	5076	Whetstone	Schist	Fragment
5029	5076	Food waste	Bone	
5030	5070		Wood	fragm of wood object
5031	5070	Textile	Wool	
5032	5096	Textile	Wool	Large piece of coarse fabric

Find	Context	Object	Material	Notes
5033	5094	Textile	Wool	Possible shoe/inner sock of fabric (horse hair, wool?)
5034	5096	Slag	Iron	
5035	5096		Glass	Small glass (?) object
5036	5096	Textile	Wool	coarse fibre
5037	5113	Nail	Iron	
5038	5041	Textile	Wool	More textile and bone is embedded in the section of the cut
5039	5066	Slag	Iron	
5040	0	Food waste	Bone	Unstratified bone.

Appendix 6

Sample Register for Area B, 2004

Sample	Context	Type	Process	Vol	Notes
5001	5001	Bulk	Identification	0	Charcoal
5003	5003	Bulk	Floatation	10	peat ash deposit
5002	5035	Bulk	Floatation	20	Fill: charcoal, peatash, turf and sand
5007	5039	Bulk	Floatation	10	charcoal lens
5004	5043	Bulk	Floatation	10	
5005	5043	Bulk	Identification	0	charcoal
5006	5043	Bulk	Identification	0	stone
5008	5048	Bulk	Identification	0	charcoal
5009	5053	Bulk	Identification	0	charcoal
5010	5068	Bulk	Floatation	10	charcoal and peat ash
5012	5070	Bulk	Identification	0	1 small bag, fill with possible sulphur from central area
5013	5070	Bulk	Identification	0	1 small bag, possible sulphur from central area
5014	5070	Bulk	Floatation	10	Ash in fill
5011	5088	Bulk	Floatation	10	charcoal and ash
5017	5093	Bulk	Identification	0	stone for ID
5015	5096	Bulk	Identification	10	fill full of textile
5016	5099	Bulk	Floatation	10	Charcoal fill of 5100
5018	5101	bulk	Floatation	10	Charcoal rich fill (secondary fill) of 5103
5019	5102	Bulk	Floatation	10	Charcoal and peat ash (in situ burning)
5020	5105	Bulk	Floatation	10	Primary fill in pit
5021	5106	Bulk	Floatation	10	Secondary fill of pit 5108
5022	5107	Bulk	Floatation	10	Primary fill in pit 5108
5023	5109	Bulk	Floatation	10	Fill of 5110
5024	5113	Bulk	Floatation	10	Charcoal fill of 5114