

Under The Glacier

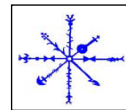
2014 Archaeological investigations on the fishing station
at Gufuskálar, Snæfellsnes



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FS575-08235
Reykjavík 2015



GHEA



Forsíðumynd/Front cover
Drónamynd tekin á síðasta degi uppgrftar 2014©FSÍ
/A drone photograph taken on last day of excavation 2014©FSÍ

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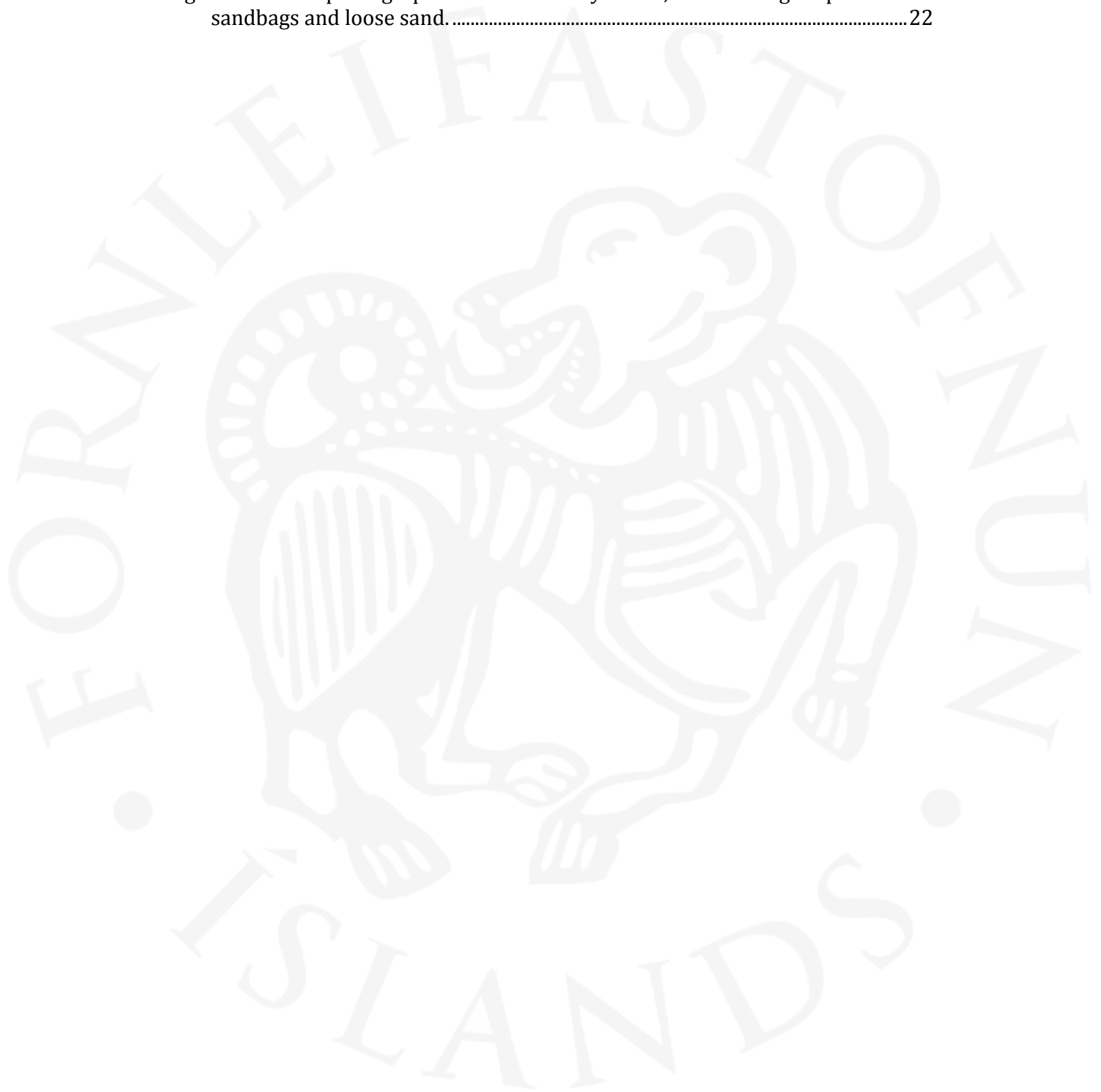




Figure 1 A gaming piece, likely chess piece found in room 1025

Samantekt á íslensku

Frá árinu 2008 hefur farið fram björgunarrannsókn á verstöðvarminjum á Gufuskálum. Sumarið 2015 var haldið áfram með styrk frá National Science Foundation og Fornminjasjóði.

Áður hefur rannsóknin fengið styrki frá Fornleifasjóði, Þjóðhátíðarsjóði, National Geographic Explorers club og Þjóðgarðinum Snæfellsjökli auk National Science Foundation og Fornminjasjóði.

Að rannsókninni koma nokkrir aðilar: Fornleifastofnun Íslands, City university in New York, Stirling university, Skotlandi og Þjóðgarðurinn Snæfellsjökull.

Árið 2014 var uppgrefti haldið áfram á verbúðarsvæði 9 en frá árinu 2012 hefur áhersla verið lögð á að grafa fram það sem talið var verbúð og er tímasett til 15. aldar. Grjóthlaðnir veggir hennar sáust í rofi árið 2011 en við rannsóknina hefur komið í ljós að hluti elsta byggingarstigs verbúðarinnar er illa farinn vegna rofs. Sá hluti sem ekki hefur orðið fyrir bardinu á landbroti og vindrofi er hinsvegar afar vel varðveittur og mun gefa góða mynd af byggingu og herbergjaskipan 15. aldar verbúðar. Verbúðin sem nú hefur verið til rannsóknar er þó einungis einn hluti af fleiri verbúðum sem standa þétt við þessa, virðast samtíða og mynda þar af leiðandi eina heild einskonar verbúðarþyrpingar.



Figure 2 E. Charm, D. Dubé, A. Norwood and R. De Loggins working in extended area

Í sumar var grafið upp elsta byggingarstig verbúðarinnar og kom í ljós að um er að ræða mun stærri og flóknari byggingu en síðar varð. Ekki náðist að fullgrafa allar minjar á rannsóknarsvæðinu að þessu sinni en ætlunin er að ljúka því sumarið 2015. Komið var niður á a.m.k. fimm hús eða herbergi og liggja tvenn göng í allri byggingunni að húsunum. Stærð og fjöldi húsanna kom mjög á óvart en ef litið er til allra þeirra mannvirkja sem liggja við ströndina og teljast til verbúðarminja og þeirra gríðarmiklu mannvistarlaga sem er að finna á Gufuskálum stemmir stærð húsanna vel við þann fjölda fólks hefur væntanlega þurft að hýsa á meðan á vertíð stóð. Ýmsir gripir fundust við uppgröftinn, þar á meðal nokkrir taflmenn auk hnífa með fagurlega skreyttum skeftum úr beini. Þær upplýsingar sem þegar hafa fengist við rannsóknina eru ómetanlegar heimildir um umhverfisbreytingar og viðbrögð við þeim en þó aðallega sjósókn og stækkandi hlutverk útgerðar á Íslandi á 15. öld.

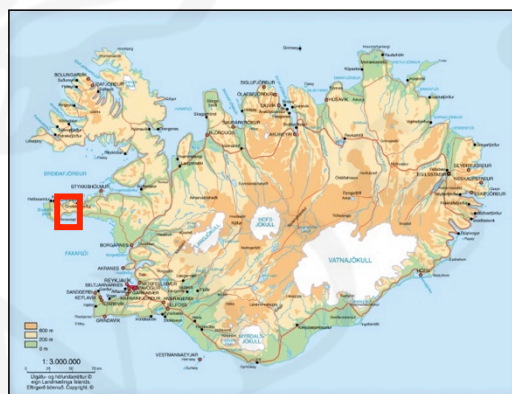
Summary in english

The site of the fishing station Gufuskálar is located on the northern side of the western tip of Snæfellsnes peninsula in the West of Iceland. It sits at the shore of the Atlantic Ocean which causes a major threat to the site. A dominant feature in the landscape is the cone-shaped 1446m high glacier Snæfellsjökull, known by many from Jules Verne's book "A Voyage to the Centre of the Earth". Underneath the glacier is a volcano, which has shaped the surrounding area with several lava flows, the last one 1750 years ago.¹

Archaeology is abundant at Gufuskálar with two main mounds made up of structures and midden material right by the seafront along with a cleared landing spot. A little further inland are two farm mounds and at least 47 other structures, which most likely are fishing booths, þurrabúðs,² and other structures related to the fishing station. In a lava field East of Gufuskálar are 154 small, oval shaped structures made of lava stone. They are commonly believed to be for drying and storing fish.

Samples taken during the 2008 assessment were used for C14 dating and the results indicate the fishing stations time span might be longer than previously thought.

Following assessment in 2008, when four erosion scars were cleaned back and sections drawn, an archaeological excavation took place in 2011. The focus within the site was on the two main mounds by the sea, which are under threat by active marine and wind erosion. Based on work done in 2008³, four trenches (Tr. Nr. 5,6,7 and 8) were placed in the most eroded areas of the two mounds. A new topographic survey was done on the two mounds but also on other visible structures such as the farm mounds and alleged þurrabúðs. In total, an area of about 7.2 hectares was



¹ Thor Thordarson and Ármann Höskuldsson. 2002.

² Þurrabúð is a house close to a fishing station. It has no land and the occupants live mainly off fishing all year round.

³ Lilja B. Pálsdóttir. 2009.

covered and around 47 structures mapped in.⁴ In 2014, work continued in trench 9. A topographic survey was also done on the two mounds as well as the erosion faces. A grant from Fornminjasjóður was awarded to do a field survey of the farm of Gufuskálar. A report⁵ with results of that work has been published and is available on www.instarch.is.

This investigation has been made possible with grants from the National Science Foundation (NSF OPP Arctic Social Sciences 1202692) and the National Geographic Explorers Club, The National Anniversary fund, the Archaeology fund and the National Park Snæfellsjökull. Special thanks go also to Sæmundur Kristjánsson at Rif, Skúli Alexandersson at Hellissandur and Þór Magnússon at Gufuskálar, for valuable information, kind support and interest in the project. Last but by no means least we would like to thank Guðrún Lára Pálmadóttir for her support and help. Thanks go also to the Icelandic Forest Service for permission to conduct the investigations within the Gufuskálar farm.



Figure 3 The 2014 Gufuskálar team. Cameron, Scott, Ellie, Tom, Dorotheé, Alexandra, Ceecee, Regan, Lilja. Missing on the picture are Frank, Tom Ryan and Ian.

⁴ Pálsdóttir. 2011.

⁵ Þórsdóttir, 2014

Introduction

The fieldwork at Gufuskálar took place during 4 weeks excavation season, between June 10th and July 6th 2014. This archaeological investigation is a collaboration of several institutions:

Fornleifastofnun Íslands (FSÍ), City University of New York (CUNY), Stirling University, Scotland and the National Park of Snæfellsjökull. It is a GHEA project (<http://Gheahome.org> -Ghea: Global Human Ecodynamics Alliance) and NABO (<Http://nabohome.org> –North Atlantic Biocultural Organisation).

The investigation was directed by Lilja Björk Pálsdóttir (FSÍ) with assistance of an international team consisting of Frank Feeley (Cuny), Prof. Ian Simpson (Stirling), Cameron Turley, Scott Schwartz, Ellie Charm, Tom Ryan, Grace Cecario, Regan De Loggans, Dorotheé Dube and Alexandra Norwood.

Aims and methods

The aim of the archaeological investigation is to further understand the archaeological remains through intrusive and non-intrusive methods.

A topographic survey of the eroding mounds by the sea makes it possible to monitor the rate of erosion. The two mounds were therefore surveyed topographically, along with two farm mounds a little further inland. The investigation is primarily a rescue investigation and therefore the most vulnerable areas were targeted for trenching in order to obtain information otherwise threatened by erosion. These are the areas that are most affected by the marine erosion. The targets of the excavation included material for radiocarbon dating (C14), bones and material culture from the midden deposits seen in sections.

The excavation was carried out using the single context planning and recording system developed by MOLAS but adapted for Icelandic archaeology⁶. A machine was used to remove overburden in trench 11 but apart from that, all trenches were hand dug. Contexts formed the main unit of recording and were excavated stratigraphically, in sequence, within excavation areas. Cultural deposits were sieved 100 % using a 4 mm size mesh. Each find, environmental sample and record is related to the unit that it was found within or taken from.

⁶ Spencer 1994; Lucas 2003; <http://instarch.is/utgafa.htm>

Results

Trench 9 64°54'05.13N 23°56'37.51W



Figure 3 Structure 1213 on the right and 1214 starting to appear on the left as seen from south west

This summer, an extension was made to the research area by moving the limit of excavation further north by c. 6 meters, i.e. to an erosion face on the north side (site north). The limit of excavation to the north was extended because of walls that seemed to be running north of the previous limit of excavation and stone collapse that could be seen outside of the LOE. These two walls turned out to be several, forming at least seven rooms as well as two corridors connecting them.

The remainder of structure [1213] was excavated to reveal the new structure [1214].

Structure 1213



Figure 4 A kite photograph of structure 1213 taken by Sigurður Einvarðsson. Looking south

In all, three complete rooms were discovered during the three years that took from uncovering the booth until it was fully excavated. It underwent several changes with walls being re-enforced, rebuilt and added to, entrances sealed off and new ones made. Whether each of those changes were made in between fishing seasons is difficult to say with certainty but there are strong indications that there was seasonal occupation of the structure. Floor deposits were quite thin, with Aeolian sand separating floors. The sand could also be due to accumulation between fishing seasons as it fell from the turf roof on to the floors. In either case, it is a matter of seasonal occupancy.

The following results are of the earliest phases of the structure but for information on later phases see reports from previous years.⁷

⁷ Under the glacier: FS512-08233 and FS539-08234.

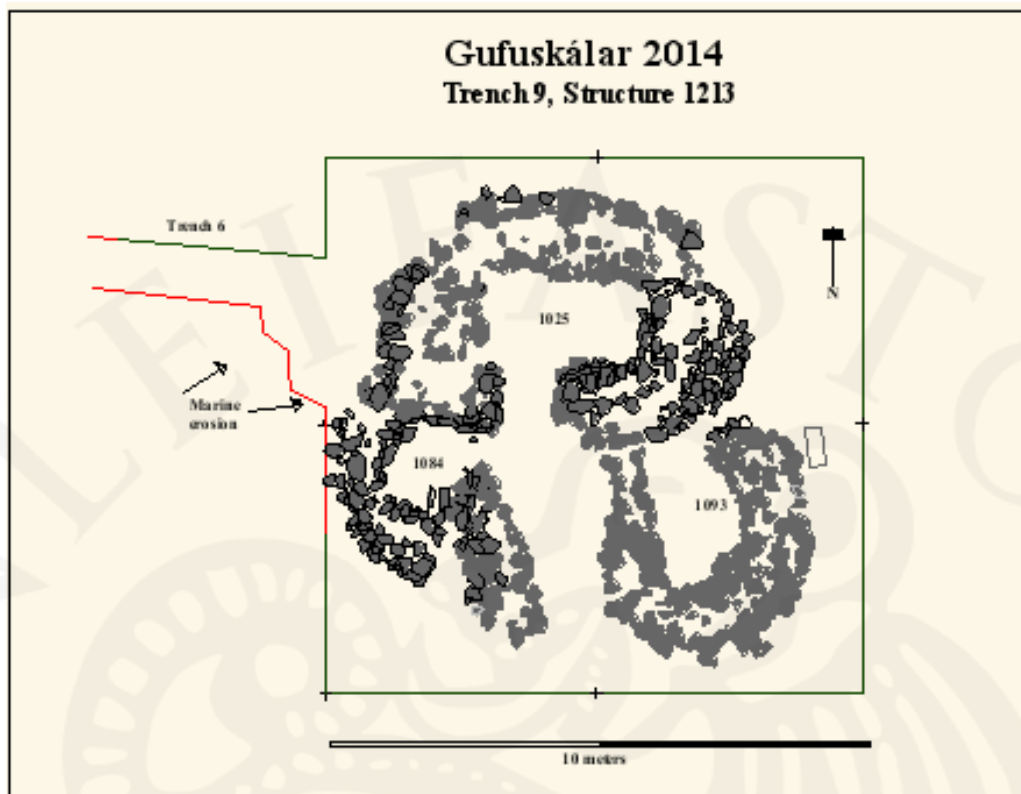


Figure 5 Structure 1213

Group 1025

This room went through the least changes of all the rooms of the fishing booth. It was built using walls of earlier structures on the W- and N-sides. The previous walls were [1216] and [1217] of which structure not much else remains. The final occupancy deposits were excavated this summer with some very interesting finds, supporting the assumption of this room being used for sleeping as well as recreational activities. A hearth [1171] was excavated in the west corner next to the doorway but no other features were found inside the room. The last deposit to be removed from this room was a thick leveling layer, which had been put directly on top of earlier structures.

Group 1084



Figure 6 Room [1084] with stove on bottom left. Entrance to the right

This room was used for cooking. A small stone built stove was built up against the south wall. This stove was rebuilt several times; including moved forward when the room was made smaller by moving the south wall. Thick floor deposits mostly made up of peat ash and charcoal were within the room and running out into a corridor (see fig. 5). This room had been sealed off and filled with stones when the corridor [1026] was repaired and lengthened.⁸

As work stopped in 2013 it was not clear whether this room had originally extended further west.⁹

In 2014 this earliest phase was fully excavated and no sign of an entrance or extension was visible to the west. As can be seen on fig. 6 the wall was complete.



Figure 7 West wall of the room. White sandbags in front to keep the wall in place as it is on the erosionline.

⁸ Under the glacier, FS512-08233, p. 25.

⁹ Same, p. 15.

Group 1093

This room was fully excavated in 2013. Results on this room can be seen in report from the 2013 season.¹⁰

Group 1026

The corridor was fully excavated in 2013.¹¹

Structure 1214



Figure 8 Limit of excavation and extension on the left (site north). Red indicates the erosion line as it was at the end of excavation in 2014.

After all deposits and accompanying walls of structure 1213 had been removed, new walls and wall collapse became visible. These were partly within an extension of the research area but reached under structure 1213. As can be seen on fig. 7 these new structures all seem to be connected, although the rooms are not all contemporaneous. They are squarer than the later structure and seem to be made up of more rooms. The fireplaces are stone built which is also different from the younger structure as well as peat ash, which is found in much more quantity and quality, according to Dr. Ian Simpson¹². Another differing feature in this structure from the younger one is that it seems to have had a permanent roof. Post pads have been found in the rooms and thin turf collapse, which resembles collapsed roof turf, was on top of the floors in rooms that had not been built on at a later time.

¹⁰ Under the glacier, FS512-08233

¹¹ Same

¹² Personal communication, 2014.



Figure 9 (left) Turf collapse being uncovered, most likely part of roof structure.

Figure 10 (right) Structure 1214 being uncovered



Figure 11 Uncovering structure 1214

Group 1146



Figure 12 Room as seen from north

This room is only partly within the limit of excavation. It had stone collapse within it and a very thin, spotty floor. This could be due to the floor being largely on top of the bedrock, making floor accumulation less. As the bedrock is not level but concave, stones have been put down for floor leveling. An entrance to the room is on the east side from a corridor [1215]. This entrance was blocked at a later time but it is unknown whether another entrance is to the room as it may be outside of the excavation limits.

No other features were found within the room and most of the deposits formed part of the post-abandonment phase, collapse and windblown material.



Figure 13 [Right] A schematic illustration of corridor [1215] and associated rooms

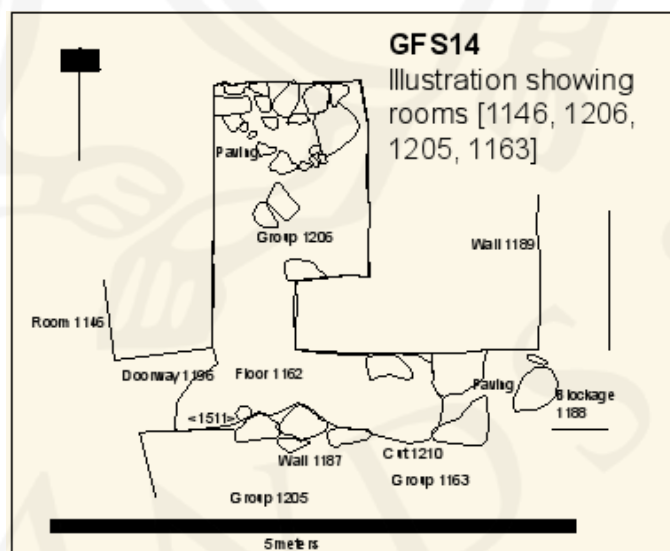


Figure 14 (left) Blocking of corridor [1215] at eastern end into room [1146]

Group 1206/ 1163

This room was the most complete of this new structure. It had an entrance on the south side, from corridor [1215]. Some rebuilding had taken place on the walls of this room, but not so that the floor plan changed much within it. The room had a substantial fireplace with series of peat ash burning and charcoals. The floors were even and thick, much more so in comparison to floors of structure [1213]. Some paving stones are at the north end as well as post pads. This room was not fully excavated this year but samples were taken from floors and hearth.



Figure 15 Room as seen from south

Figure 16 Hearth after sampling



Group 1215



Figure 17 A drone photograph showing the corridor [1215]

The corridor runs from east to west over the extended area. It starts on the east side just within the limit of excavation and runs to the west, ending at an entrance into room [1146].

Part of it is paved with flagstones. It had been blocked at the east end, as well as into room [1146].

Group 1205



This room had been severely truncated to the north like the earlier [1163] (See fig. 9 for position). Floor deposits were cut on the north side, thereby making it impossible to determine how the room relates to corridor [1215] and other rooms. As it was truncated, wall [1187] was built into the cut, sealing off what was left of the room.

Figure 18 Blocking of entrance into room [1205].

Group 1163

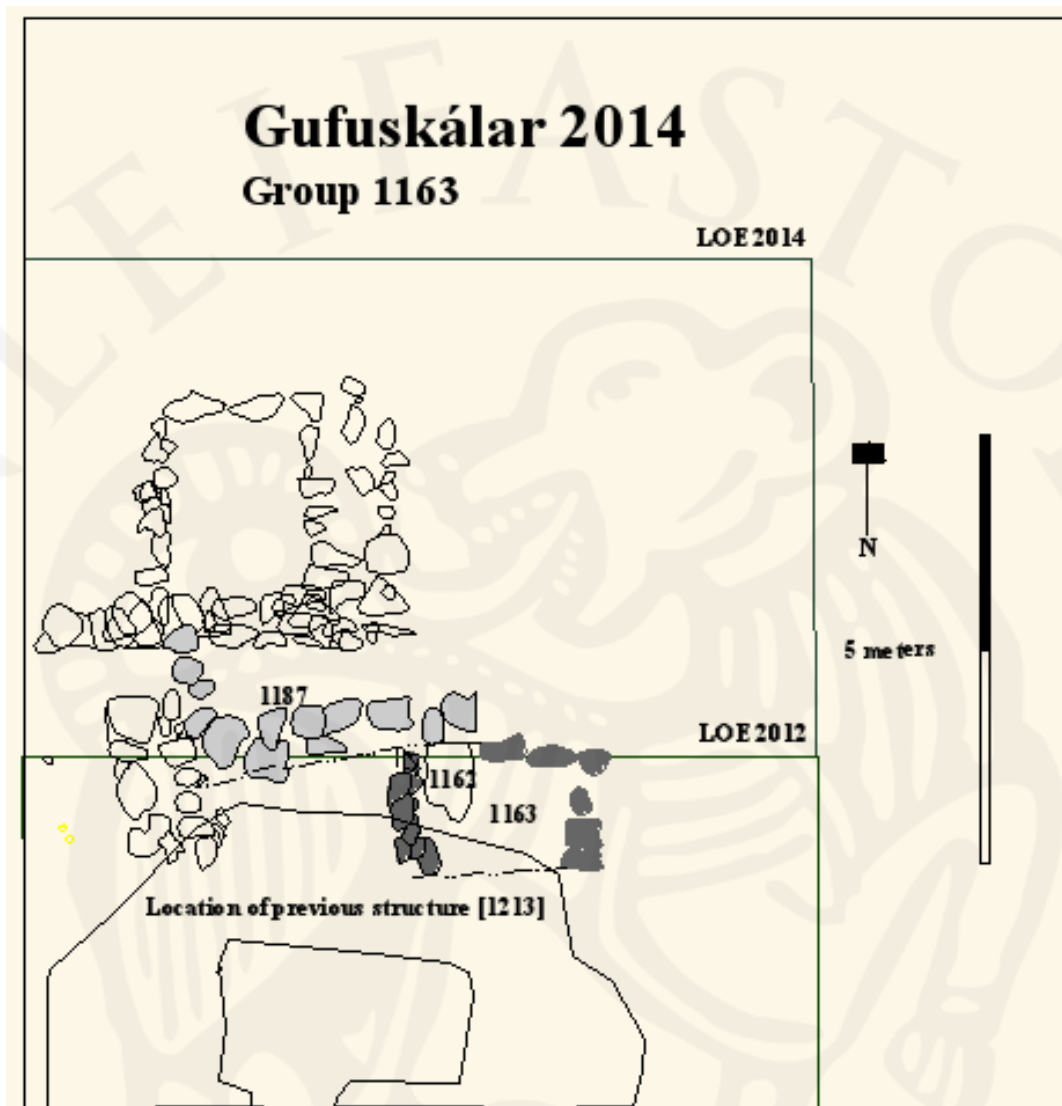


Figure 19 Group [1163].

This small group contains a wall fragment and a floor but is badly truncated by later constructions. To the north, it has been cut for the making of later wall [1187] and same goes for the south part which has been truncated when later structure, [1213] was built. Only a very thin, yet distinct able, charcoal rich floor [1162] was found and excavated.

Finds

The nature of the finds assemblage this season did not change from previous years. The most numerous finds were iron nails and rivets and thin sheets of cooper alloy. Several gaming pieces were added to the collection and although most of them seem homemade and possibly whittled on site, a few of the pieces are likely imports. Fish hammers and line sinkers were another numerous category as well as the ceramics. The number of finds is much greater than was expected in the beginning of the excavations at Gufuskálar and it is clear that it will take time to go through them properly. All finds were repacked after the season and Jannie Ebsen treated finds in need of conservation.



As the season came to an end, occupational deposits were found all over the excavation area. The SE-corner seemed more filled with windblown sand but midden deposits sealed the sand. The midden was left unexcavated.

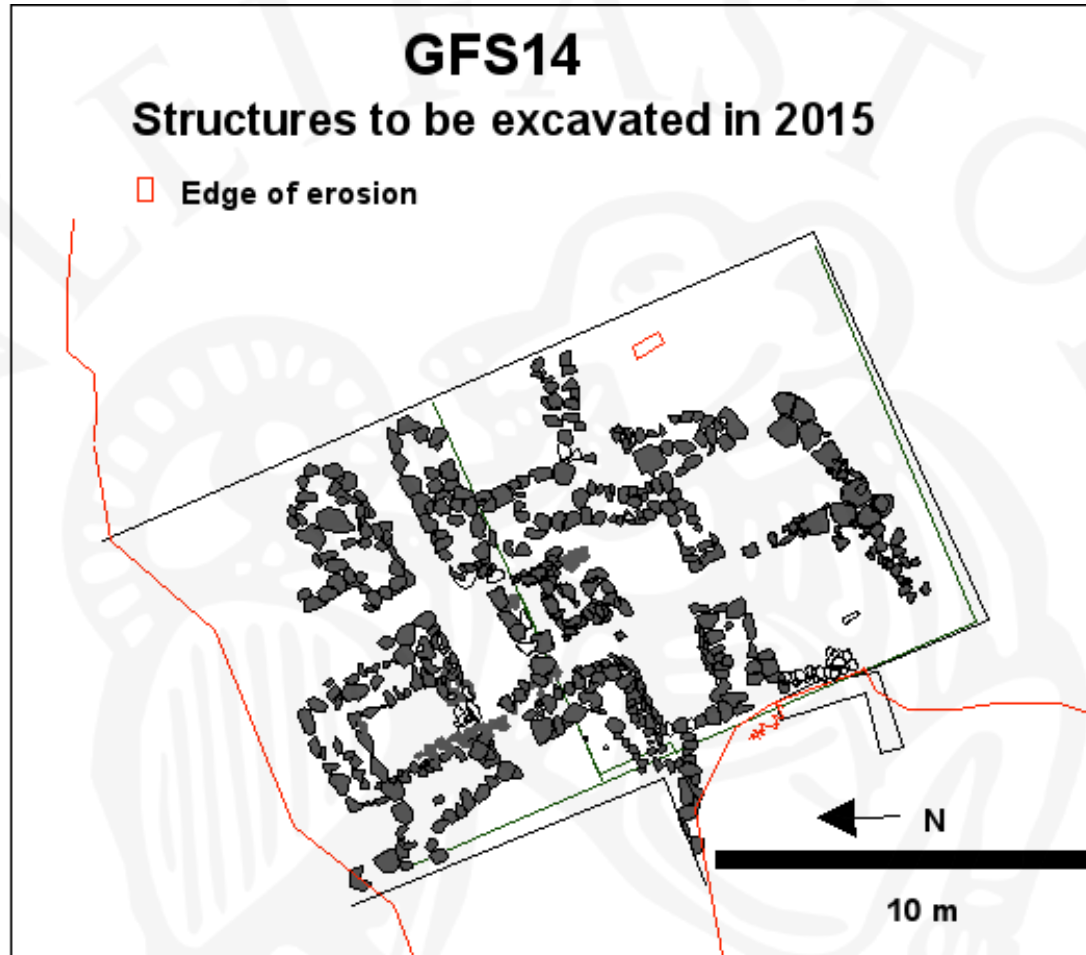


Figure 20 Structures that were left in 2014 to be excavated in 2015. Red lines show the erosion line at the end of excavation in 2014.

The archaeology was prepared for the winter using the same method that had proven to be adequate in previous times. To support standing walls, sandbags were stacked up against the walls and floors were covered with layers of sandbags. Spaces with very high walls were also filled with loose sand.



Figure 21 Drone photograph from the last day at site, after closing it up with sandbags and loose sand.

Appendices

| GFS14 Unit register | | | | |
|---------------------------|---------|------|-------|--|
| Number | Area | Type | Group | Description/Information |
| 1143 | T9 ext. | D | | Stone collapse in extension |
| 1144 | T9 | D | | Stone wall |
| 1145 | T9 | D | | Wall fill of western erosion face |
| 1146 | T9 ext. | Gr | | Possible room at the w-side of area |
| 1147 | T9 | D | | Potential floor layer (W) |
| 1148 | Void | | | |
| 1149 | T9 ext. | D | | Turf collapse with stones within structure |
| 1150 | T9 ext. | D | 1146 | Floor |
| 1151 | T9 | D | 1153 | Floor |
| 1152 | T9 | D | | |
| 1153 | T9 | Gr | | |
| 1154 | T9 | D | 1153 | Hearth deposit |
| 1155 | T9 ext. | | 1146 | Bedrock |
| 1156 | T9 ext. | D | 1146 | South wall of [1146] |
| 1157 | T9 | D | 1153 | Wall collapse (stone) |
| 1158 | T9 | D | | Western wall plug on erosion face |
| 1159 | T9 | D | 1146 | Southern wall collapse |
| 1160 | T9 | D | | Very truncated western room |
| 1161 | T9 | D | | Hearth in western part along erosion face |
| 1162 | T9 ext. | D | 1163 | Floor deposit in [1163] |
| 1163 | T9 ext. | Gr | | Group nr. For room in extension |
| 1164 | T9 | D | | North entrance to room [1025] |
| 1165 | T9 | D | 1146 | Possible wall collapse, south of [1146] |
| 1166 | T9 ext. | D | | Stone blocking and backfill of room |
| 1167 | T9 ext. | Gr | | Group nr. For blocked off room |
| 1168 | T9 | D | 1025 | Floor layer at south exit to doorway [1164] |
| 1169 | T9 | D | 1169 | Hearth deposit within east corridor |
| 1170 | T9 | D | 1025 | Series of turf fill from inside wall build |
| 1171 | T9 | D | 1025 | Expedient hearth |
| 1172 | T9 | D | 1153 | Hearth |
| 1173 | T9 ext. | D | 1146 | East wall of room [1146] |
| 1174 | T9 | D | 1025 | Stones of hearth |
| 1175 | T9 | D | | Wall north of [1025] running S/N connecting to 2014 ext. |
| 1176 | T9 ext. | D | | Hearth of corner |
| 1177 | T9 ext. | D | 1146 | North of wall [1146] |

| | | | | |
|------|---------|---|------|--|
| 1178 | T9 | D | 1153 | Floor |
| 1179 | T9 | D | 1153 | Hearth |
| 1180 | T9 ext. | D | 1146 | Possible structural collapse or wall rebuild |
| 1181 | T9 | D | | Midden/dump |
| 1182 | T9 | D | | Remnant of wall over peat ash expands north east of [1025] |
| 1183 | T9 | D | 1153 | Collapsed wall |
| 1184 | T9 | D | 1153 | Sand layer |
| 1185 | T9 | C | 1153 | Hearth cut |
| 1186 | T9 | D | 1153 | W. Wall kitchen |
| 1187 | T9 | D | | Wall north of [1169], south of [1162] |
| 1188 | T9 ext. | D | | Eastern wall at room entrance |
| 1189 | T9 ext. | D | | Short wall running North/south |
| 1190 | T9 | D | 1153 | South wall |
| 1191 | T9 | D | 1025 | Curtain wall abutting kitchen wall. |
| 1192 | T9 | D | | Midden in sw portion of T9 |
| 1193 | T9 | D | | Trampled midden (possible outside area) |
| 1194 | T9 | D | | Trampled midden above [1194] |
| 1195 | T9 | D | | White sand, windblown |
| 1196 | T9 | D | | Doorway between [1162] + [1146], behind [1187] |
| 1197 | T9 | D | 1025 | Possible thin lava stone paving (east side) |
| 1198 | T9 | D | | Trampled midden w/structural collapse |
| 1199 | T9 | D | | Ext. Wall of north |
| 1200 | T9 | G | | Floor of [1162] connects n,s,w |
| 1201 | T9 | D | | Structure at trench south |
| 1202 | T9 | D | | Paving north of [1201] at south |
| 1203 | T9 | D | | Peat ash floor deposit |
| 1204 | T9 | D | | Basal midden |
| 1205 | T9 | G | | Contains [1203], [1169], [1182], [1187], [1164] |
| 1206 | T9 | G | | Groupnr. For room S of corridor NE |
| 1207 | T9 | D | | Possible outside area (east side) |
| 1208 | T9 | D | 1207 | Midden dep. In 1207 |
| 1209 | T9 | D | 1205 | Possible hearth |
| 1210 | T9 | C | | Between groups [1200] and [1205] |
| 1211 | T9 | D | 1205 | Floor beneath peat ash/hearth running to [1210] |
| 1212 | T9 | D | 1205 | Sandy fill above [1211] and below [1169] |
| 1213 | T9 | G | | Group nr. For youngest phase of "fishing booth" |
| 1214 | T9 | G | | Group nr. For "new structures" |
| 1215 | T9 | G | | Group nr. For corridor |
| 1216 | T9 | D | | Walls reused for [1213] |
| 1217 | T9 | D | | Walls reuse for [1213] |

| | | | | |
|------|----|---|--|---|
| 1218 | T9 | D | | Blocking event, part of [1187] |
| 1219 | T9 | D | | Backfill of entrance, part of blocking event [1166] |
| 1220 | T9 | D | | Paving under [1170] leveling |

| GFS14 Sample register | | | | | |
|------------------------------|-------------|----------------|--------------------|-----------------------|-------------|
| Number | Area | Context | Quant. Bags | Description | Date |
| 109 | T9 ext. | 1150 | 1 L bag | Archaeobotanical | 12.06.14 |
| 110 | T9 ext. | 1150 | 1 L bag | Entomology | 12.06.14 |
| 111 | T9 ext. | 1150 | 1 s bag | Chemical | 12.06.14 |
| 112 | T9 | 1151 | 1 L bag | Archaeobotanical | 13.06.14 |
| 113 | T9 | 1154 | 1 L bag | Archaeobotanical | 13.06.14 |
| 114 | T9 | 1154 | 1 s bag | Chemical | 13.06.14 |
| 115 | T9 | 1154 | 1 L bag | burned compacted bone | 14.06.14 |
| 116 | T9 | 1154 | 1 s bag | Chemical | 14.06.14 |
| 117 | T9 | 1154 | 1 s bag | C14 | 14.06.14 |
| 118 | T9 | 1172 | 1 s bag | Chemical | 18.06.14 |
| 119 | T9 | 1172 | 1 L bag | hearth material | 18.06.14 |
| 120 | T9 | 1172 | 1 L bag | Archaeobotanical | 18.06.14 |
| 121 | T9 | 1172 | 1 tin | Micromorphological | 18.06.14 |
| 122 | T9 ext. | 1162 | 1 L bag | Archaeobotanical | 19.06.14 |
| 123 | T9 ext. | 1162 | 1 L bag | Entomology | 19.06.14 |
| 124 | T9 | 1169 | 1 L bag | Entomology | 19.06.14 |
| 125 | T9 | 1169 | 1 L bag | Floor dep. | 19.06.14 |
| 126 | T9 | 1171 | 1 s bag | Tephra sample | 18.06.14 |

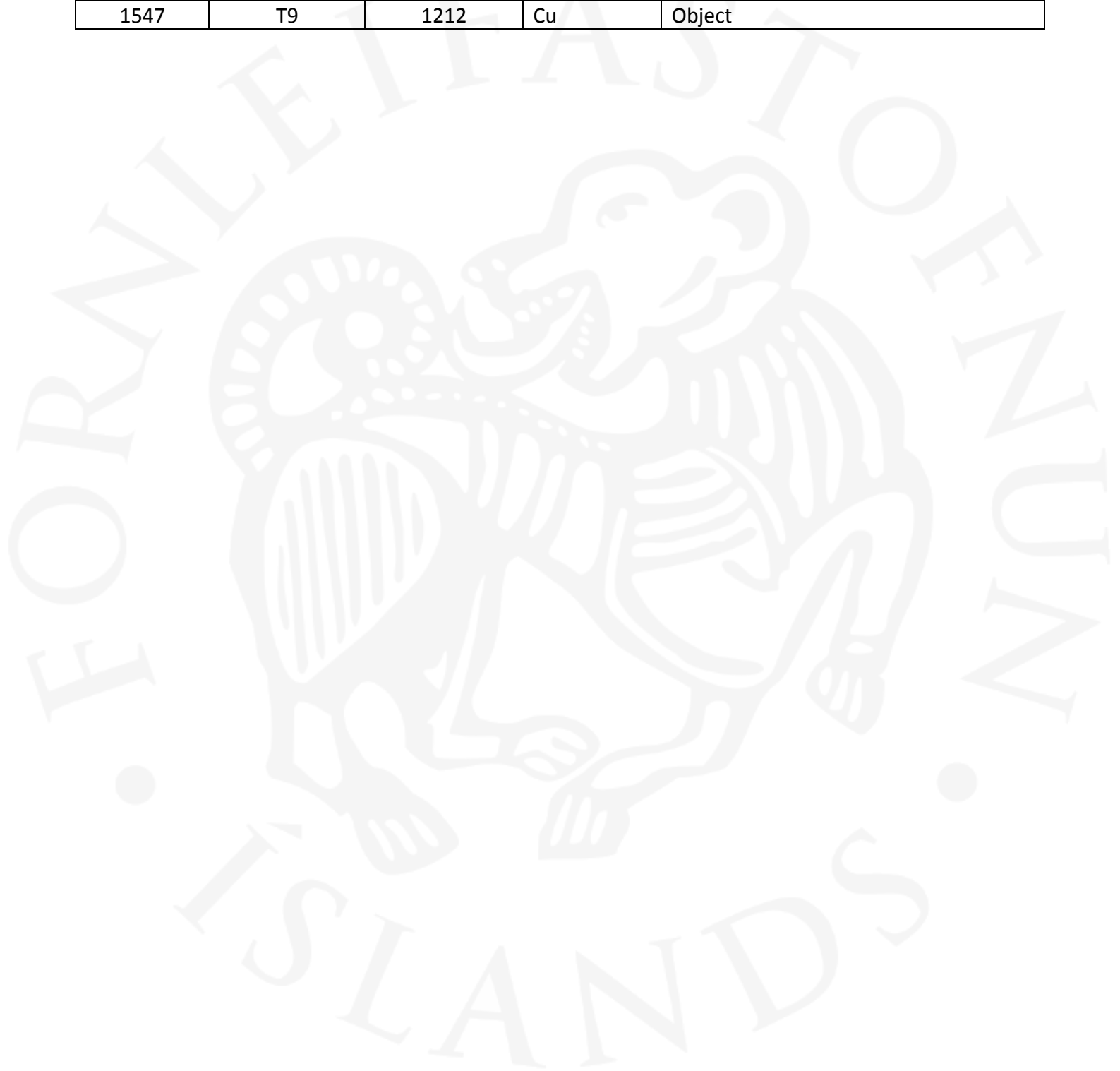
| GFS14 Finds register | | | | |
|-------------------------------------|-------------|----------------|-----------------|--|
| Number | Area | Context | Material | Description/Information |
| 1364 | T9 | 1144 | CU | Rectangular CU piece |
| 1365 | T9 | 1143 | CU | Small CU pieces |
| 1366 | T9 | 1144 | CU | Nail |
| 1367 | T9 | 1144 | Fe | iron nail |
| 1368 | T9 | 1144 | Fe | Iron artifact |
| 1369 | T9 | 1145 | Ceramic | Ceramic |
| 1370 | T9 | 1147 | Bone | Biperforated metapodial |
| 1371 | T9 | 1147 | Fe | Iron artifact |
| 1372 | T9 ext. | 1143 | Fe | Object |
| 1373 | T9 | 1147 | Ceramic | Ceramic |
| 1374 | T9 | 1144 | Stone | Line sinker |
| 1375 | T9 | 1147 | Fe | Artifact |
| 1376 | T9 ext. | 1143 | Stone | Whetstone? |
| 1377 | T9 ext. | 1146 | Ceramic | Ceramic |
| 1378 | T9 | 1147 | CU | Object |
| 1379 | T9 | 1145 | Fe | Rivet and rove |
| 1380 | T9 | 1147 | Fe | Object |
| 1381 | T9 ext. | 1146 | Cu | Cu pieces |
| 1382 | T9 ext. | 1146 | Stone | Flint |
| 1383 | T9 ext. | 1146 | Fe | Object |
| 1384 | T9 ext. | 1146 | Bone | Ivory, Decorated |
| 1385 | T9 ext. | 1143 | Cu | Copper alloy sheet |
| 1386 | T9 | 1147 | Fe | Objects |
| 1387 | T9 | | Bone | Haddock cleithrum, chess piece |
| 1388 | T9 ext. | 1150 | Stone | Whetstone |
| 1389 | T9 ext. | 1146 | Cu | |
| 1390 | T9 ext. | 1146 | Fe | Iron object |
| 1391 | T9 ext. | 1146 | Bone | Ivory |
| 1392 | T9 ext. | | Stone | Line sinker |
| 1393 | T9 ext. | 1150 | Cu | Copper pieces |
| 1394 | T9 ext. | 1150 | Fe | Iron pieces |
| 1395 | T9 ext. | 1150 | Cu | Copper object |
| 1396 | T9 ext. | 1150 | Cu | Copper object |
| 1397 | T9 ext. | 1150 | Fe | Iron object |
| 1398 | T9 ext. | 1150 | Fe | Iron object, all pieces from same object |
| 1399 | VOID | VOID | VOID | VOID |
| 1400 | T9 | 1151 | Ceramic | Bottle neck |
| 1401 | T9 | 1147 | Cu | Object |
| 1402 | T9 | 1147 | Fe | Iron pieces |
| 1403 | T9 ext. | 1149 | Bone | Fish vertebrae |

| | | | | |
|------|---------|------|---------|------------------------------------|
| 1404 | T9 ext. | 1150 | Cu | Copper pieces |
| 1405 | T9 | 1154 | Stone | Net sinker re-used as hearth stone |
| 1406 | T9 | 1150 | Fe | Iron objects |
| 1407 | T9 | 1150 | Fe | Iron object |
| 1408 | T9 | 1154 | Fe | Iron object |
| 1409 | T9 | 1154 | Fe | |
| 1410 | T9 | 1154 | Fe | |
| 1411 | T9 | 1170 | Bone/Fe | Knife blade/ bone handle |
| 1412 | T9 | 1147 | Fe | Objects |
| 1413 | T9 | 1169 | Stone | Whetstone |
| 1414 | T9 | 1154 | Bone | Worked bone object |
| 1415 | T9 | 1170 | Fe/bone | Knife with decorated handle |
| 1416 | T9 | 1170 | Bone | Perforated metapodial |
| 1417 | T9 | 1172 | Fe | Rove |
| 1418 | T9 | 1170 | Fe | Nail |
| 1419 | T9 | 1173 | Fe | Iron object |
| 1420 | T9 | 1175 | Cu | Copper object, burnt? |
| 1421 | T9 | 1168 | Fe | Objects |
| 1422 | T9 | 1168 | Cu | Objects |
| 1423 | T9 | 1157 | Wood | Charcoal |
| 1424 | T9 | 1171 | Lead | Object |
| 1425 | T9 | 1171 | Fe | Rivet and rove |
| 1426 | T9 | 1170 | Bone | Chess piece |
| 1427 | T9 | 1170 | Fe | Object |
| 1428 | T9 | 1170 | Fe | Object |
| 1429 | T9 | 1170 | Fe | Object |
| 1430 | T9 | 1170 | Fe | Object |
| 1431 | T9 | 1170 | Fe | Object |
| 1432 | T9 | 1170 | Fe | Object |
| 1433 | T9 | 1170 | Fe | Object |
| 1434 | T9 | 1171 | unknown | Unknown |
| 1435 | T9 | 1170 | Ceramic | Sherd |
| 1436 | T9 | 1171 | Stone | Polished |
| 1437 | T9 | 1170 | Fe/bone | Iron object with bone |
| 1438 | T9 | 1178 | Fe/bone | Iron object with bone |
| 1439 | T9 | 1025 | Fe | Object |
| 1440 | T9 | 1025 | Fe | Object |
| 1441 | T9 | 1025 | Fe | Object |
| 1442 | T9 | 1025 | Fe | Object |
| 1443 | T9 | 1025 | Fe | Object |
| 1444 | T9 | 1168 | Fe | Lump |
| 1445 | T9 | 1168 | Fe | Lump |
| 1446 | T9 ext. | 1162 | Cu | Copper object |
| 1447 | T9 ext. | 1146 | Cu | Copper object |
| 1448 | T9 ext. | 1146 | Fe | Iron object |
| 1449 | T9 ext. | 1146 | Fe | Iron object |

| | | | | |
|------|---------|----------------|----------|----------------------------|
| 1450 | T9 | 1182 | Ceramic | Sherd |
| 1451 | T9 | 1178 | Fe | Iron object |
| 1452 | T9 | 1157 | Fe | Iron objects |
| 1453 | T9 | 1186 | Bone | Biperforated metapodial |
| 1454 | T9 ext. | 1162 | Stone | Line sinker |
| 1455 | T9 | 1186 | Ceramic | Green glazed sherd |
| 1456 | T9 | 1186 | Fe | Iron object |
| 1457 | T9 | 1152 | Stone | Sinker |
| 1458 | T9 | 1183 | Stone | Flint nodule, giant. |
| 1459 | T9 | 1183 | Stone | Flint, flake |
| 1460 | T9 | 1183 | Ceramic | Sherd |
| 1461 | T9 | 1183 | Stone | Fish hammer |
| 1462 | T9 | 1147 | Bone | Whale vert. Chopping block |
| 1463 | T9 | 1147/1158 | Stone | Stone |
| 1464 | T9 | 1151 | Ceramic | Sherd |
| 1465 | T9 | West wall fill | CU | Sheet |
| 1466 | T9 | 1144 | Ceramic | Sherd |
| 1467 | T9 | 1150 | CU | Sheet |
| 1468 | T9 | East wall fill | Fe | Nail |
| 1469 | T9 | 1169 | Stone | Whetstone |
| 1470 | T9 | 1183 | Fe | Object |
| 1471 | T9 | 1162 | Fe | Object |
| 1472 | T9 | 1164 | Bone | Horn core |
| 1473 | T9 | 1151 | Fe | Object |
| 1474 | T9 | East wall fill | Stone | Line sinker |
| 1475 | T9 | 1181 | Stone | Line sinker |
| 1476 | T9 | 1146 | Cu | Sheet |
| 1477 | T9 | 1179 | Ceramic | Sherd |
| 1478 | | | | Void |
| 1479 | T9 | 1183 | Fe | Object |
| 1480 | T9 | 1178 | Ceramic | Sherd |
| 1481 | T9 | 1168 | Cu | Sheet |
| 1482 | T9 | 1152 | Bone | Biperforated metapodial |
| 1483 | T9 | 1181 | Ceramic | Sherds |
| 1484 | T9 | 1152 | Fe | Object |
| 1485 | T9 | 1152 | Fe | Object |
| 1486 | T9 | 1178 | Fe | Object |
| 1487 | T9 | 1152 | Cu Alloy | Needle, complete |
| 1488 | T9 | | | VOID |
| 1489 | T9 | 1187 | Fe | Nail/rivet |
| 1490 | T9 | 1187 | Cu | Clothing clasp |
| 1491 | T9 | 1193 | Cu | Rolled sheet |
| 1492 | T9 | 1193 | Cu | Decorated object |
| 1493 | T9 | 1193 | Ceramic | Dark glaze |
| 1494 | T9 | 1193 | Stone | Flint flakes |
| 1495 | T9 | 1194 | Bone | Horn core |

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|------|---------|--------------|----------|-------------------------|
| 1496 | T9 | 1194 | Stone | Worked stone |
| 1497 | T9 ext. | 1162 | Cu | Copper object |
| 1498 | T9 | 1196 | Fe | Iron object |
| 1499 | T9 | 1165 | Fe | Iron nail |
| 1500 | T9 | 1196 | Fe | Object |
| 1501 | T9 | 1197 | Cu | Small CU piece |
| 1502 | T9 | 1196 | Bone | bone ov. |
| 1503 | T9 | 1196 | Fe | Iron object |
| 1504 | T9 | Unstratified | Stone | Pumice, worked |
| 1505 | T9 | 1194 | Fe | Object |
| 1506 | T9 | 1194 | Cu | Brooch fragment |
| 1507 | T9 | 1194 | Cu | Fragment |
| 1508 | T9 | 1199 | Cu | Cu clothes pin |
| 1509 | T9 | 1199 | Cu | Cu object |
| 1510 | T9 | 1162 | Bone | Worked whale block |
| 1511 | T9 | 1162 | Fe | Fish hook |
| 1512 | T9 | Loose find | Fe | Fe rivet |
| 1513 | T9 | 1162 | Fe | Object nail? |
| 1514 | T9 | 1187 | Fe | Object |
| 1515 | T9 | 1194 | Cu | Object |
| 1516 | T9 | 1194 | Cu | Cu object |
| 1517 | T9 | 1187 | Fe | Fe object |
| 1518 | T9 | 1193 | Stone | Flint, worked |
| 1519 | T9 | 1193 | Fe | Nail |
| 1520 | T9 | 1193 | Bone | Decorated whale bone |
| 1521 | T9 | 1193 | Cu | Object |
| 1522 | T9 | 1193 | Bone | Biperforated metapodial |
| 1523 | T9 | 1193 | Fe | Object |
| 1524 | T9 | 1203 | Cu | Cu object |
| 1525 | T9 | 1193 | Fe | Ring/object |
| 1526 | T9 | 1193 | Fe | Object |
| 1527 | T9 | 1193 | Stone | Flint |
| 1528 | T9 | 1193 | Bone | Horn core |
| 1529 | T9 | 1193 | Ceramic | Ceramic pieces |
| 1530 | T9 | 1206 | Bone | Bone needle |
| 1531 | T9 | 1169 | Fe | Object |
| 1532 | T9 | 1169 | Fe | Object |
| 1533 | T9 | 1212 | Stone | Worked stone |
| 1534 | T9 | 1206 | Stone | Line sinker, broken |
| 1535 | T9 | 1206 | Fe | Object |
| 1536 | T9 | 1206 | Fe | Objects |
| 1537 | T9 | 1206 | Stone | Fish hammer, broken |
| 1538 | T9 | 1206 | Cu Alloy | Objects, sheets |
| 1539 | T9 | 1212 | Stone | Gaming piece |
| 1540 | T9 | 1194 | Cu | Sheet fragments |
| 1541 | T9 | 1193 | Fe | Object |

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|------|----|------|---------|----------|
| 1542 | T9 | 1198 | Fe | Object |
| 1543 | T9 | 1193 | Cu | Fragment |
| 1544 | T9 | 1193 | Ceramic | Sherd |
| 1545 | T9 | 1206 | Stone | Pumice |
| 1546 | T9 | 1203 | Bone | Worked |
| 1547 | T9 | 1212 | Cu | Object |



| GFS14 bone register | | | | |
|----------------------------|---------------|----------------|-----------------------|--------------------------------|
| Number | Trench | Context | Quant. Of bags | Description/information |
| GFS14-12-001 | 9 | 1171 | | |
| GFS14-12-002 | 9 | 1183 | | Group 1084 |
| GFS14-12-003 | 9 | 1170 | | |
| GFS14-12-004 | 9 | 1178 | | |
| GFS14-12-005 | 9 | 1146 | | Whale bones |
| GFS14-12-006 | 9 | 1170 | | |
| GFS14-12-007 | 9 | 1171 | | |
| GFS14-12-008 | 9 | 1151 | | |
| GFS14-12-009 | 9 | 1151 | | |
| GFS14-12-010 | 9 | 1178 | | |
| GFS14-12-011 | 9 | 1169 | | |
| GFS14-12-012 | 9 | 1169 | | Sieved floor deposit |
| GFS14-12-013 | 9 | 1149 | | |
| GFS14-12-014 | 9 | 1171 | | C14 sample |
| GFS14-12-015 | 9 | 1143 | | |
| GFS14-12-016 | 9 | 1131 | | |
| GFS14-12-017 | 9 | 1178 | | |
| GFS14-12-018 | 9 | 1151 | | |
| GFS14-12-019 | 9 | 1152 | | Single bone |
| GFS14-12-020 | 9 | 1179 | | |
| GFS14-12-021 | 9 | 1151 | | |
| GFS14-12-022 | 9 | 1178 | | |
| GFS14-12-023 | 9 | 1172 | | |
| GFS14-12- | 9 | 1204 | | C14 sample from basal layer of |

| | | | | |
|--------------|---|---------------|-------|------------------------|
| 023 | | | | SW corner |
| GFS14-12-024 | 9 | 1193 | 3L+3M | |
| GFS14-12-025 | 9 | 1194 | 3L | |
| GFS14-12-026 | 9 | 1187 | 1 S/M | OVCA skull fragment |
| GFS14-12-027 | 9 | 1212 | 3M | |
| GFS14-12-028 | 9 | 1203 | 1M | |
| GFS14-12-029 | 9 | Redep. midden | | Western wall extension |
| GFS14-12-030 | 9 | 1198 | 2L | |
| GFS14-12-031 | 9 | Gr. 1205 | 1L | Whale bone |

| GFS14 photo register | | | | |
|-----------------------------|----------------|-------------------|----------------------------|---------------------------------------|
| Frame | Area(s) | Context(s) | Direction of camera | Motive Description/Information |
| 9897 | T9 | 1144 | W | Working shot, wall deconstruction |
| 9898 | T9 | 1144 | W | same |
| 9899 | T9 | 1144 | S | same |
| 9900 | T9 | 1144 | S | same |
| 9901 | T9 | 1144 | E | same |
| 9902 | T9 | 1144 | E | same |
| 9903 | T9 | 1144 | N | Joint between 1144- |
| 9904 | T9 | 1144 | N | Joint between 1144- |
| 9905 | T9 | 1144 | N | Joint between 1144- |
| 9906 | T9 | 1144 | N | Working shot, wall deconstruction |
| 9907 | T9 | 1144 | N | Interior 1144 |
| 9920 | T9 | 1144 | N | Working shot, wall deconstruction |
| 9921 | T9 | 1144 | N | Working shot, wall deconstruction |
| 9922 | T9 | 1144 | N | Working shot, wall deconstruction |
| 9923 | T9 | 1144 | N | Exposing early wall phase |
| 9924 | T9 | 1144 | W | Exposing early wall phase |
| 9925 | T9 | 1144 | W | Exposing early wall phase |
| 9926 | T9 | 1144 | W | Exposing early wall phase |
| 9927 | T9 | 1144 | W | Exposing early wall phase |

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|------|--------|-----------|----------|---|
| 9928 | T9 | 1025 | NW | NW corner joint of walls/entrance fill |
| 9929 | T9 | 1025 | NW | NW corner joint of walls/entrance fill |
| 9935 | T9 | 1144 | W | Working photo of whale (?) bone in situ |
| 9936 | T9 | 1144 | W | same |
| 9937 | T9 | 1147 | W | West profile of [1147] |
| 9938 | T9 | 1147 | SW | West profile of [1147] |
| 9939 | T9 | 1147 | NW | West profile of [1147] |
| 9940 | T9 | 1025 | N | Collapse from kitchen wall |
| 9941 | T9 | 1025 | N | Collapse from kitchen wall |
| 9942 | T9 | 1025 | N | Collapse from kitchen wall |
| 9950 | T9 | 1151 | N | Floor of gr. 1153 kitchen |
| 9951 | T9 | 1151 | E | same |
| 9952 | T9 | 1151 | W | same |
| 9954 | T9ext. | 1150 | S | Floor of room , gr. 1146 |
| 9955 | T9ext. | 1150 | N | same |
| 9956 | T9ext. | 1149 | W | Turf collapse/laid |
| 9957 | T9ext. | 1149 | W | Close up of turf collapse/laid |
| 9959 | T9 | 1154 | S | Hearth working photo |
| 9960 | T9 | 1154 | SW | Hearth with wall collapse |
| 9962 | T9ext. | 1155 | S | Bedrock |
| 9963 | T9ext. | 1155 | N | Bedrock |
| 9964 | T9 | 1147 | W | Working photo of exposed floor |
| 9965 | T9 | 1147 | W | same |
| 9966 | T9 | 1147 | W | same |
| 9967 | T9 | 1154/1157 | S | Wall collapse over hearth |
| 9968 | T9 | 1154/1157 | S | Wall collapse over hearth |
| 9969 | T9 | 1154 | S | Hearth with cracked stone exposed |
| 9970 | T9 | 1154/1157 | W | Hearth and wall collapse |
| 9971 | T9 | 1159 | Overhead | Possible wall collapse (right side of photo is w) |
| 9972 | T9 | 1159 | S | Possible wall collapse |
| 9973 | T9 | 1154 | SW | Hearth post collapse clearing |
| 9974 | T9 | 1154 | SW | Hearth post collapse clearing |
| 9975 | T9 | 1154 | S | same |
| 9976 | T9 | 1154 | S | same |
| 9981 | T9 | 1150 | S | Floor of 1159 |
| 9982 | T9 | 1150 | N | same |
| 9989 | T9 | 1150 | S | Bedrock |
| 9990 | T9 | 1150 | N | Bedrock |
| 11 | T9 | 1164 | S | entrance to 1025 |
| 12 | T9 | 1164 | S | entrance to 1025 |
| 13 | T9 | 1164 | S | entrance to 1025 |
| 14 | T9 | 1157 | W | Wall collapse |
| 15 | T9 | 1147 | Overhead | Fe knife+bone handle |
| 16 | T9 | 1147 | Overhead | same |
| 17 | T9 | 1147 | Overhead | same |

| | | | | |
|-----|----------|------|----------|---|
| 25 | T9 | 1164 | N | entrance to 1025 |
| 26 | T9 | 1165 | S | Wall |
| 27 | T9 | 1165 | Overhead | wall (S) @ bottom of photo |
| 28 | T9 | 1165 | S | Profile of wall |
| 29 | T9 | 1168 | N | Floor under entrance to 1025 |
| 30 | T9 | 1168 | N | Floor |
| 44 | T9/T9ext | 1173 | Overhead | S is left of photo, wall is east |
| 45 | T9 | 1153 | N | Wall collapse |
| 46 | T9/T9ext | 1173 | E | Profile of East wall of 1146 |
| 47 | T9/T9ext | 1173 | Overhead | E-wall (middle) of 1146 is left |
| 48 | T9/T9ext | 1173 | E | Profile of E-wall of 1146, S is left |
| 52 | T9 | 1178 | N | Floor |
| 53 | T9 | 1178 | W | Floor |
| 54 | T9 | 1157 | E | wall fill |
| 56 | T9ext. | 1180 | Overhead | Trowel points N, Possible structural collapse |
| 67 | T9 | 1184 | W | Floor |
| 68 | T9 | 1184 | N | Floor |
| 69 | T9 | 1185 | S | hearth cut |
| 70 | T9 | 1185 | S | same |
| 71 | T9 | 1185 | | same |
| 72 | T9 | | W | west wall of 1153 |
| 73 | T9 | | E | same |
| 74 | T9 | 1155 | N | bedrock in 1146 |
| 76 | T9 | 1155 | N | same |
| 77 | T9 | 1155 | S | same |
| 78 | T9 | 1146 | w | profile, strat. Profile, S is left |
| 79 | T9 | 1146 | w | same |
| 80 | T9 | 1146 | w | same |
| 81 | T9 | 1146 | W | same |
| 84 | T9 | 1186 | W | Working shot of wall removal |
| 85 | T9 | 1186 | N | same |
| 86 | T9ext. | 1189 | W | profile of long north/south wall |
| 87 | T9ext. | 1189 | W | same |
| 88 | T9ext. | 1189 | W | same |
| 89 | T9ext. | 1189 | W | same |
| 90 | T9ext. | 1189 | W | same |
| 91 | T9ext. | 1189 | W | same |
| 92 | T9 | 1187 | W | wall |
| 93 | T9 | 1190 | S | South wall of 1153 |
| 94 | T9 | 1190 | W | same |
| 137 | T9 | 1191 | S | profile of curtain wall |
| 138 | T9 | 1191 | S | profile of curtain wall |
| 139 | T9 | 1187 | W | profile of wall |
| 140 | T9 | 1187 | W | same |
| 141 | T9 | 1187 | W | same |

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|---------|--------|------|----------|---|
| 142 | T9ext. | | E | Working photo of plugged up eastern waal/room |
| 143 | T9ext. | | E | same |
| 144/146 | T9 | 1194 | E, N | midden dump |
| 147/148 | T9 | 1194 | | Cu brooch |
| 154 | T9ext. | 1162 | W | Extension of floor into 1146 |
| 155 | T9ext. | 1162 | N | floor extension into room 1162 |
| 156 | T9ext. | 1162 | N | Floor in corridor |
| 158 | T9 | 1162 | W | same |
| 159 | T9 | 1162 | N | same |
| 160 | T9 | 1198 | N | Trampled midden |
| 161 | T9 | 1198 | N | Potential structure + trampled midden |
| 164 | T9 | 1202 | N | Paving |
| 166 | T9ext. | 1196 | N | Corridor of 1196 north. |
| 167 | T9ext. | 1196 | S | Southern view of corridor 1196 |
| 168 | T9ext. | 1196 | W | corridor |
| 169 | T9 | 1208 | E | midden deposit from 1207 |
| 170 | T9 | 1208 | S | midden deposit from 1207 |
| 171 | T9 | 1208 | w | midden deposit from 1208 |
| 172 | T9 | 1208 | E | midden deposit from 1209 |
| 173 | T9 | 1208 | E | midden deposit from 1210 |
| 174 | T9 | 1208 | N | midden deposit from 1211 |
| 175 | T9 | 1209 | S | possible hearth |
| 176 | T9 | 1209 | S | possible hearth |
| 4800-01 | T9 | 1170 | E | packed turf dump under wall |
| 4802 | T9 | 1171 | W | Peat ash, possible hearth |
| 4809 | T9 | 1173 | E | same |
| 4810 | T9 | 1173 | E | Profile of wall in 1146 (s is right) |
| 4812 | T9 | 1173 | N | N wall of 1146, E is right |
| 4813 | T9 | 1173 | Overhead | N wall of 1146, N is top of photo |
| 4814 | T9 | 1173 | E | Profile of E-wall of 1146, s is left |
| 4815 | T9 | 1169 | S | Floor west of wall 1175 |
| 4816 | T9 | 1169 | S | same |
| 4817 | T9 | 1169 | S | same |
| 4818 | T9 | 1179 | W | Wall dividing floors 1169 |
| 4819 | T9 | 1179 | W | same |
| 4820 | T9 | 1179 | N | same |
| 4821 | T9 | 1179 | N | same |
| 4822 | T9 | 1169 | W | Floor/hearth |
| 4823 | T9 | 1169 | W | Floor/hearth |
| 4824 | T9 | 1169 | W | Floor/hearth |
| 4825 | T9 | 1169 | W | Floor/hearth |
| 4826 | T9 | 1169 | W | Floor/hearth |
| 4827 | T9 | 1169 | W | Floor/hearth |