Landsjö 2015

Excavations in 2015 at Landsjö Castle in Kimstad Parish, Östergötland, Sweden

Report by Martin Rundkvist, Ethan Aines and Mats G. Eriksson

Cover Image: Aerial view of Landsjö Castle from the NW. Photo by Michael Lander, Spring 2015.

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OVERVIEW

Introduction

This report details the 2015 fieldwork at Landsjö Castle. For context, see the report on the 2014 excavations, available at archive.org. Figure 1 on page 3 presents a map of Landsjö, its surrounding environs, and the excavation trenches from 2014 and 2015.

In 2015 we worked for two July weeks at the castle with a team of thirteen Umeå students and other volunteers. Martin Rundkvist headed the fieldwork. Cambridge Ph.D. candidate Ethan Aines and Umeå MA candidate Mats G. Eriksson acted as seconds-in-command, each overseeing work in one of the larger trenches.

In the following the term greystone denotes local gneiss and granite, following the Swedish use of the word *gråsten*.

The North-west Corner Building: Trench F

The west range of the perimeter wall around the high inner bailey is joined by the visible transversal walls of two buildings built against it. In the absence of visible eastern walls, the width of neither building could be measured. We opened trenches inside both: the NW corner building (trench F), and not far south of it the cellar building as Christian Lovén has called it (trench I).

The corner building's N–S interior length is c. 5.0 m Trench F measured 4 by 3 m and was delimited on one side by the northern reach of the perimeter wall. It exposed only one meter of the western reach at the corner and did not touch upon the building's southern wall. Trees inside the trench's edges precluded excavation of its NE and SW corners. Much of the trench bottom was formed by a smooth rock outcrop sloping from east to west.

The stratigraphy was simple: under the woodland surface loam was a layer of rubble, then a thin black conflagration layer, and finally scorched natural coarse sand and bedrock. The inside of the dressed greystone perimeter wall was visibly flaked by the heat of the fire. Our hopes to find undisturbed charred wood in the conflagration layer proved futile. At its deepest point near the north edge, the trench was 118 cm deep measured from the top of the northern wall. Bones were plentiful throughout.

The northern reach of the perimeter wall proved to be the sturdiest piece of architecture seen so far at the castle. All of it is greystone. Its base is over 160 cm thick and 43 cm high. On top of this foundation sits the wall itself, over 120 cm thick and built on the shell principle, placed in such a manner that the foundation forms a 20 cm shelf both on the inside and the outside. The western reach has no similar foundation on the inside, at least.

With its sloping bedrock floor and the surrounding topography, the structure that we worked inside must have been a basement under the building's main floor, which was likely entered from the east. It may have been a tower, but not a very high one given that there is no sign of an eastern wall. The three known walls are each 120 cm thick, and only the northern wall has a wide solid foundation.

Artefact finds from trench F (figs 16, 29, and 30) are as follows.

Copper alloy: a small piece of thin embossed sheet metal (F173). It broke into tiny fragments during post-excavation handling.

Iron: a loop with two large fastening plates (F133), an ornate Y-shaped carpentry fitting (F134), a knife, a U-shaped loop, two carpentry staples, 61 more or less complete nails including at least one horseshoe nail, six sundry fragments.

Pottery: two fragments of the handle of an Early Red glazed ware pitcher.

Slag: 2 fragments, possibly related to the house fire.

Stone: a small black rounded stone of exceptional weight.

The Steep Outer Bailey: Trench G

The 2014 fieldwork had convinced us that the high inner bailey has never had an eastern perimeter wall. But we were still unsure of the steep outer bailey in this regard. Trench G was laid out in order to investigate this, starting at the lip of the eastern scarp and crossing the line between trenches C and D. The trench measured 10 by 1.5 m.

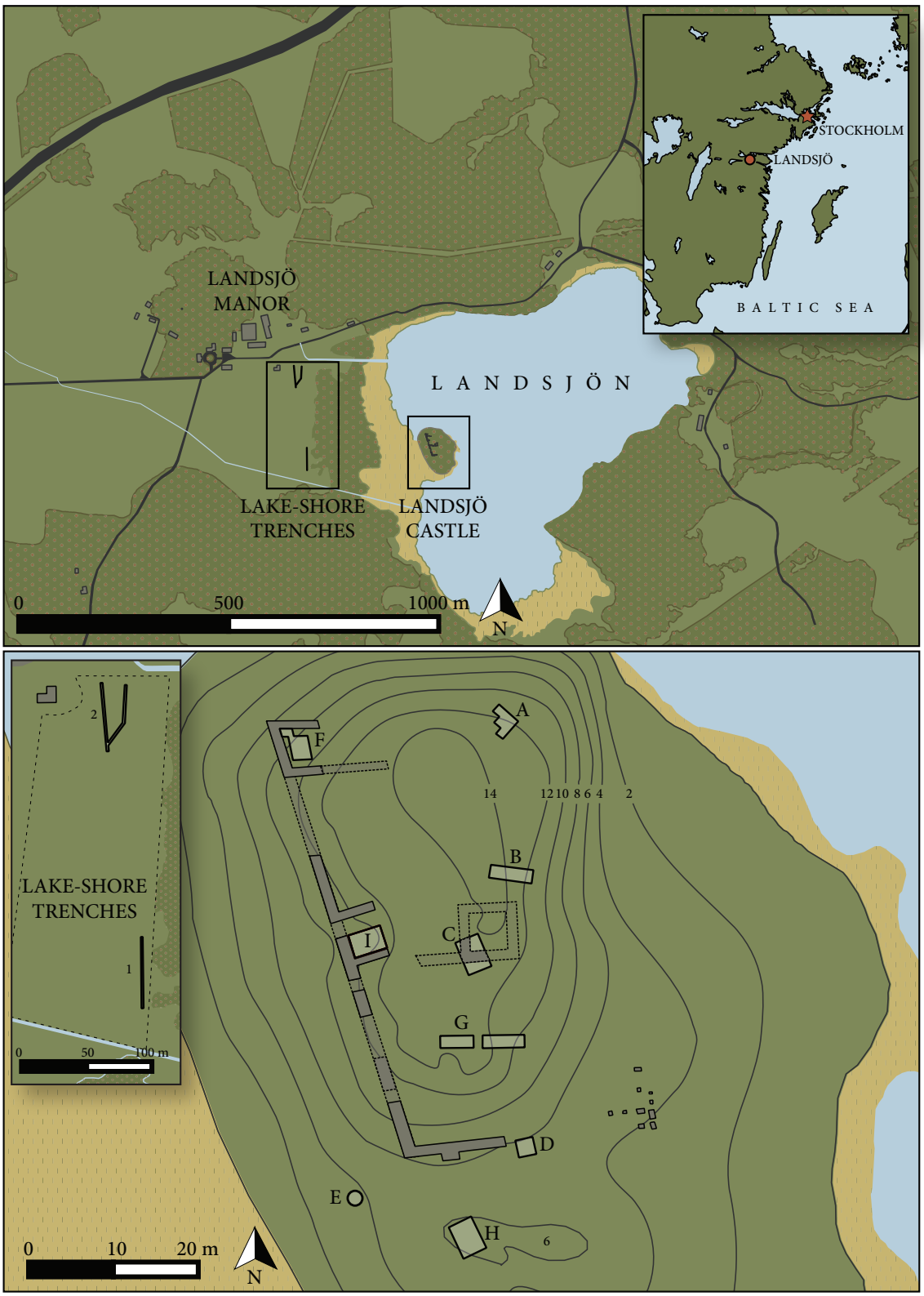


Figure 1: Landsjö and environs (top), and Landsjö Castle with excavation and lake-shore trenches (bottom). Trenches A - E: 2014, Trenches F - I and lake-shore trenches: 2015. Contains data © Lantmäteriet 2014-2016 All Rights Reserved. Map (bottom) based on Lovén, C. Borgar och befästningar i det medeltida Sverige. *1999.*

The depth to the natural subsoil, a greyish yellow coarse sand, was only 9–49 cm, median 27 cm. Only two artefact finds (an Early Modern brass button and an iron lump), a few brick fragments and fewer bones suggested any cultural influence. No remains of any walls, postholes or other sunken features were found.

We thus found no reason to believe that the steep outer bailey has ever had an eastern perimeter defence. Given the topography, this is quite odd from a fortification perspective. Nobody could get into the high upper bailey from the east without a very long ladder, regardless of whether there was a wall or not. The scarp is too high and steep. But in the absence of a perimeter wall, anyone could walk into the steep outer bailey from the south-east. This makes the western and southern reaches of the outer bailey's perimeter look either like a half-finished project, or like a stage set intended for viewing from the nearest lake-shore.

The Southern Mound: Trench H

The intent of trench H was to investigate the unusual topography eight meters south of the perimeter wall's southern reach, in conjunction with a protrusion from the wall observed in 2014. This area and protrusion had been interpreted as a potential structure akin to a drawbridge for crossing the dry moat. Interpreting excavations in the area was made particularly difficult by a nearly complete dearth of artefacts and the presence of a large, abandoned badger sett.

While no evidence of a drawbridge or any similar structure was uncovered, excavation did reveal piling of what may be Medieval tailings from the excavation of the dry moat and a more recent, post-Medieval cut into this piling, the construction of a small building, and subsequent piling on the cut. Two postholes were found 63 cm down, one of which contained mortared stone from the castle, leading us to believe they are from the period after the castle's abandonment.

Perhaps most interestingly, two pieces of Middle Neolithic Battle Axe culture pottery (a regional version of the Corded Ware complex) were found in the post-Medieval tailings. The potsherds, from approximately 2400 cal. BC, along with knapped quartz and numerous fire-cracked stones found in the same layer, indicate the longevity of human settlement on the island. Neolithic settlement remains were undoubtedly disturbed either during the Medieval excavation of the dry moat or subsequently during post-abandonment activities. Apart from five small Medieval potsherds, several nails, and a copper alloy cap, no other artefacts were retrieved from trench H. Furthermore, only two fragments of bone were found. Therefore, interpretation of the trench is limited to stratigraphy, the pilings and subsequent cuts, and the presence of mortared stone within one posthole.

Artefact finds from trench H (figs 18-20) are as follows.

Copper alloy: A little cylindrical cap made from sheet metal (F178), probably modern.

Iron: ten more or less complete nails including two horseshoe nails.

Pottery: six sherds, three Early Red glazed ware, one Late Black unglazed ware, two Malmer type J of the final Middle Neolithic.

Stone: eleven knapped quartz chips.

The Cellar Building: Trench I

This building foundation was visible on the surface as a depression delimited by the perimeter wall and a transverse wall on the north side. Trench I measured 4 by 3 m and exposed the insides of the perimeter wall and the south wall. All three walls are dressed greystone. The cellar building's N–S interior length is 5.5 m. We did not expose enough of the north or south walls to be able to measure their thickness or determine their structural characteristics. But the western wall, though part of the high bailey's perimeter, proved quite flimsy.

It has no widened base, no visible shell structure, and it sits partly on yellow sand, partly on sloping bedrock on a stretch between a crevasse (where it is missing entirely) and a big glacial erratic boulder. We did not investigate thoroughly if the wall has ever been a thick shell-and-core structure like the one encountered in trenches C and F. All that is visible now is a single line of dressed stones. From what we could see, it seemed unlikely that this would represent the inner facing of a sturdy shell wall that has mostly eroded away down-slope to the west. It looked simply like the wall of a building, placed in an unusually precarious spot. This wall strengthens the impression of an unfinished stage set of a castle.

Inside the trench the stratigraphy was dominated by rubble, much of it having fallen into the trench area down-slope from the east. This indicates that there is an eastern wall of dressed greystone and a little brick which we never reached. Under the rubble we encountered a level surface of coarse natural sand, identifiable as a floor by the fact that we found an upturned fine flagstone, a large key and a hinge sitting on it. Neither seemed to be in a primary position related to the function these objects would have fulfilled in the building. Nor did we encounter any identifiable remains of wooden furnishings. Bones were plentiful throughout.

As with trench G, the structure that we worked inside in trench I seems to have been a basement under the main floor of a building entered from the east. The flagstone we found may originally have been one of many covering that main floor.

Artefact finds from trench I (figs 21-29, 31-36, and 38) are as follows.

Copper alloy: a small half-pipe fitting with a rivet (F174), a cast dress spangle in the shape of an heraldic rose (F175), a thick triangular shard possibly from a brass tripod pot (F176).

Lead: A small folded piece of sheet lead (F172).

Iron: A riding spur (F139), a large key (F131), a knife surviving only as a tang inside a well preserved cylindrical bone handle (F104), a handle-less knife (F125), two half hinges (F130, 160), two rectangular carpentry fittings (F157, 166), two carpentry staples, four angled prongs similar to the outermost ones on a fork (F144, 151), 31 more or less complete nails including at least three horseshoe nails, one flat fragment, one cylindrical fragment.

Glass: Two large shards of an Early Modern bottle.

Pottery: 18 sherds, all Early Red glazed ware.

Slag: two fragments.

Antler: a small modified piece.

The 18th Century Smallholding: Finds and Surface Observations

A 1730 map and certain finds from the 2014 fieldwork document the presence of an 18th century smallholding on the castle islet. The 2015 fieldwork added further to this material. As we have seen, trench G yielded a brass button, trench H a little sheet-copper cap and a posthole padded with re-used rubble from the castle, and trench I shards of a bottle. In addition we identified the foundation of the smallholding itself.

The house foundation is immediately east and up slope from the NW corner building, hugging the islet's northern scarp: right where the 1730 map places it. It takes the shape of a low rectangular 9 by 6 m platform. Foundation stones are visible above the turf in the north end of the western wall line and near the middle of the south wall line. The latter are on a line with the NW building's southern wall, which caused us in 2014 to misinterpret them as part of the Medieval structure.

Inside the middle of the northern wall line is a turf-covered mound of greystone and brick, apparently the collapsed remains of a small fireplace and chimney (Sw. *spisröse*, "stove cairn"). These are common in Early Modern building foundations. The mound actually currently forms the castle islet's highest point.

Local historian Tommy Tyrberg has suggested (e-mail 23 March 2015) that this smallholding may be the otherwise unidentified *Landsjölund* that figures in a *kontributionslängd* taxation list from 1690 (Axel Wennberg 1947, *Lantbebyggelsen i Nordöstra Östergötland* 1600–1875). The smallholding's placement at the edge of the scarp ignored the effect of the northern wind and was extremely ostentatious from the perspective of landscape sightlining. When exiting Landsjö Manor, its owners would at all times have been immediately aware of whether their smallholder on the castle islet had a fire going. Such a placement would have been unthinkable without the landowners' permission.

One audience member at a late-2015 talk about our fieldwork suggested that the smallholding may actually have been placed deliberately up there as a picturesque park hermitage. This would go well together with period ideas about the ruins on the islet, which were certainly obvious to the surveyor of 1730. Indeed, the stone fabric of the smallholding's foundation, fireplace and chimney would almost certainly have been quarried from those same ruins. 1730 (not to mention 1690), however, is probably too early for park hermitages in Sweden.

Trenching for Bridge Posts on the Lake-shore

The castle islet is likely to have had a bridge to the lake-shore: both to get building material out there during construction, and to get horses and cows onto and off the islet while the castle was inhabited. The alternative would be to transport heavy things to the islet only during mid-winter when the ice was strong. Surely the builders of the rather imposing castle could have afforded a bridge.

A quay-like line of boulders across the dry moat's eastern end shows that the lake's surface level has been lowered considerably since the Middle Ages, as is common in agricultural Sweden. We therefore sought the posts of an assumed wooden bridge, but not under the reed belt that currently joins the islet to the lake-shore, and where trenching would be difficult. Instead we went to the pasture to the west of the islet, right where the distance across the reed belt and lake-shore bog scrub is shortest. Using a mechanical excavator, Landsjö Manor's overseer Roger Österqvist opened a 52 by 1.55 m trench parallel to the shoreline.

Under about a metre of wobbly reed-root peat, we struck the post-glacial clay of the former lake bed. And stuck into this clay we found seven clusters of 14 wooden posts spread out along the trench. We could extract nine of the posts and determine clearly that they had been given a pointy end using an axe. Twelve of the posts were less than 11 cm thick and are far more likely to represent little jetties or fish traps than a bridge you could drive a wagon full of building stone across. The thickest post, P6A, measured 13 cm across and disappeared at a diagonal into the section, so that we could not extract it and check its lower end. Looking at a sample, Ulf Strucke of SHMM Arkeologerna in Hägersten has determined that this post consists of alder, a rot-resistant but not very strong wood.

All in all our attempt to check for a bridge cannot be called successful. We could neither determine that there was once a bridge there, nor rule it out. Certainly the lake-shore across from the castle islet has been a busy place, as shown by the many posts stuck into the lake bed. Metal-detecting the spoil dumps along our trench, we found a well-preserved iron ard tip. Catarina Karlsson dates it to the 17th century (e-mail 8 August 2015).

Landowner Mikael Kuylenstierna took great interest in the question of the bridge and in the trenching method we used. After looking at aerial photographs, he believed that parch-marks might indicate a considerably longer bridge leading not west from the islet across the narrows, but north-west to a landfall near the modern manor buildings. After our fieldwork had ended, he opened two NNE–SSW trenches to test this idea, and invited Rundkvist to study and document them. Here there was mostly no reed peat, only a thin layer in the lake-ward southern parts of the east trench, covered with a thin layer of bark and sticks. This suggests that the east trench cut across an earlier shoreline. The only sign of human activity however was a 4 cm wide post found stuck deep into the clay at the south end of the east trench. It proved too rotten for extraction and inspection. Mr. Kuylenstierna concluded that the trenching had disproved his hypothesis.

Summary: Main Findings

This year's fieldwork demonstrated that the steep outer bailey at Landsjö has never been a defensible structure, but was either never finished or never intended to offer anything more than an imposing facade to the west. The trapezoid 30 by 30 m inner bailey, defended on two sides by perimeter walls and on the other two only by steep scarps, was the part of the castle that could offer any security against attack. The strength of its western wall looks quite questionable, though. We opened trenches inside two buildings abutting this wall, and found that what survives of these are only two basements. The north-west building has burned down. Both buildings yielded rather rich artefact finds of an elite nature.

The sandy mound across the dry moat south of the castle does not hide any masonry. It seems built up of spoil from the digging of the moat and has been rearranged in recent centuries, probably by the inhabitants of an 18th century smallholding on the castle islet. We found the foundation of their home inside the high bailey on the edge of the northern scarp.

We now have a total of 25 Medieval potsherds from four trenches on the castle islet. This material is dominated by Early Red glazed ware, Sw. *äldre rödgods*, dating to the period c. 1250–1350. The few sherds of other wares also fit nicely in this interval. The pottery's dates agree both with the written sources for Landsjö and with the dates of the six coins found during the excavations.

Knapped quartz and two sherds of prehistoric pottery were found mixed into the south mound's sand. The decoration on the larger potsherd suggests a date in the final century of the Middle Neolithic, c. 2400 cal BC.

TECHNICAL AND ADMINISTRATIVE DATA

Administrativia

County council permit number: 431-5302-15, invested in the Östergötland County Museum.

Location

Östergötland, Kimstad parish, Landsjö, Raä Kimstad 84

Coordinates of castle centre: 648 74 01, 56 03 48 (SWEREF 99 TM)

Fieldwork

Time: 3 to 17 July 2015: a total of 11 full days' work with a team of 11–16 people, or 164 person-days all together.

Stripped surface: On the castle islet, four hand-excavated trenches totalling 48 sqm. On the lake-shore, one 80 sqm machined trench. Additionally, observation and documentation of the landowner's two machined trenches closer to the manor house, totalling 165 sqm.

Staff

Director: Martin Rundkvist

Fieldworkers: Ethan Aines, Curt Andersson, Sofia Andersson, Henrik Eriksson, Love Eriksson, Mats G. Eriksson, Natalie Göktas, Thorey Hrolfsdottir, Freyja Högström, Mari Karlsson, Terese Kuokkanen, Ola Lindgren, Dr. Tim Schröder, Daniel Smeds, Simon Terbrant Säfström

Post-Excavation Specialists

Finds conservation: Acta Konservering

Digital plans and photogrammetry: Ethan Aines

Funding

Åke Wiberg Foundation, Royal Swedish Academy of Letters, King Gustavus VI Adolphus' Foundation for Swedish Culture, Magnus Bergvall Foundation

Figure 2: The excavation team at Landsjö Manor, July 16, 2015. From left to right: (back row) Ethan Aines, Ola Lindgren, Martin Rundkvist, Mats G. Eriksson, (second row from back) Tim Schröder, Terese Kuokkanen, Thorey Hrolfsdottir, Henrik Eriksson, Daniel Smeds, (third row from back), Sofia Andersson, Natalie Göktas, Love Eriksson, Freyja Högström, Curt Andersson, (front row) Simon Terbrant Säfström.

TRENCHES AND STRATIGRAPHIC CONTEXT DESCRIPTIONS

Trench F

Coordinates: centre of trench positioned with a hand-held GPS, N58° 31.395, E16° 02.152

Location: inside NW corner of perimeter wall with the N wall delimiting the trench

Dimensions: 4 x 3 m

Excavation units: twelve metre squares numbered NW 1, NE 3, SW 10, SE 12, plus half a metre square excavated between square 1 and the W reach of the perimeter wall

Orientation: 336–156°, laid out with N wall as baseline

Depth: 118 cm at the N edge, measured from the top of the N wall

When the trench was opened no undergrowth such as grass or herbage could be observed. The topsoil consisted of thick dark brown soil. This soil horizon was named Layer 101. From the beginning it was obvious that any efforts to excavate squares 3 and 10 would be severely restricted due to the fact that there was a large Scots pine growing in each of these squares. The top 10 cm of soil was removed using shovels without screening. After that the rest of the trench was screened through 4 mm mesh. Throughout L101 snail shells were common. At a depth of 30 cm pieces of clam shells were also found. Within the top 20 cm of the soil a pale yellow sand was observed in square 1 and named L102. This only occurred in the northern-most part of the trench (that is squares 1–3). The position of L102 along the northern wall and the appearance of the pale yellow sand led to the conclusion that this layer consisted of eroded mortar from the wall itself.

Eight days into the excavation (13 July), after the photographic documentation of the trench (it was at this point 42 cm deep, measured from the western edge of the trench in square 1) the decision was made to dig square 1 as a test square to investigate the stratigraphy in order to decide whether to excavate the whole trench or to focus on certain parts. At this level it became obvious that the base of the northern wall protruded 6 cm from the wall face at a depth of 41 cm. During the focus excavation of square 1, the rest of the trench was dug in spits of 20 cm to hasten the progress of the excavation. During these efforts bedrock was reached in squares 6, 9 and 12 along the eastern edge of the trench.

At a depth of 63 cm neither L101 nor L102 could be observed. Here a much darker (blackish brown) and fattier soil with local discolourations of reddish and yellowish sand began. This was named L103 and assumed to represent a Medieval cultural layer or remains of a fire. Due to this discovery it was decided to excavate the hole trench (with the exception of square 3 and 10 because of the trees). In L103 fish scales were common. Because of the large amount of fish scales and lack of time, a decision was made to only collect the most well preserved scales and discard the rest. Besides fish scales and the occasional burnt and unburned bones, L103 held a large amount of charcoal that was also sampled.

L103 gave way (at a depth of 74 cm) to a reddish fine sand with local discolourations consisting of pale yellowish fine sand. This new horizon was named L104 and was assumed to represent the natural subsoil. Due to lack of time efforts were directed towards finding the corner of the wall where the western reach joins the northern reach, and to excavate the remaining traces of L103. When the NW corner was uncovered it was revealed that the western reach has no counterpart to the widened wall base along the northern reach (see figure 3). It was also observed that the outside of the northern wall has the same protruding base as the inside. Whether or not there is a similar shelf on the outside of the western wall is unknown due to the fact that this part of the wall was overgrown and obscured by rubble.

Description by Mats G. Eriksson, who directed work in trench F from top to bottom.

Trench G

Coordinates: measured every three meters with a hand-held GPS under heavy leaf cover, N58° 31.375–376, E16° 02.161–172

Location: Between SE tower and E end of perimeter wall's S reach

Dimensions: 10 x 1.5 m with a one-metre unexcavated causeway across the middle to allow people to cross. Or put differently, trench G was actually two trenches of the same width and on the same line, placed one metre apart: a 4 m trench to the W and a 5 m trench to the E.

Excavation units: Nine boxes 1.5 by 1 m, the first ones W of the causeway named 1 and 2 be-

Figure 3: The NW corner of the perimeter wall excavated in Trench F. Note the burnt layer L103 partly visible at the bottom and the flaky surface of the masonry. For overviews of Trench F, see figures 6 and 7, pages 25-26.

cause this was where the few finds occurred.

Orientation: 270–90°

Depth: 9–49 cm, median 27 cm

Under forest loam followed 5–10 cm of soil, then a layer of small stones, then humus-rich gravelly sand with a lot of earthworms, and finally the natural subsoil, a greyish yellow coarse sand. Only two artefact finds (an Early Modern brass button and an iron lump), and a few brick fragments and bones suggested any cultural influence. No remains of any walls, post-holes or other sunken features were found. Everything below topsoil screened through 4 mm mesh in the east 5 metres, while only about half of the buckets were screened in the west 4 metres.

Trench H

Coordinates: centre of trench positioned with a hand-held GPS under leaf cover, N58° 31.362, E16° 02.168

Location: on the south mound across the dry moat from the protrusion out of the perimeter wall's south reach

Dimensions: 4 x 3 m

Excavation units: twelve metre squares numbered NW 3, NE 1, SW 12, SE 10

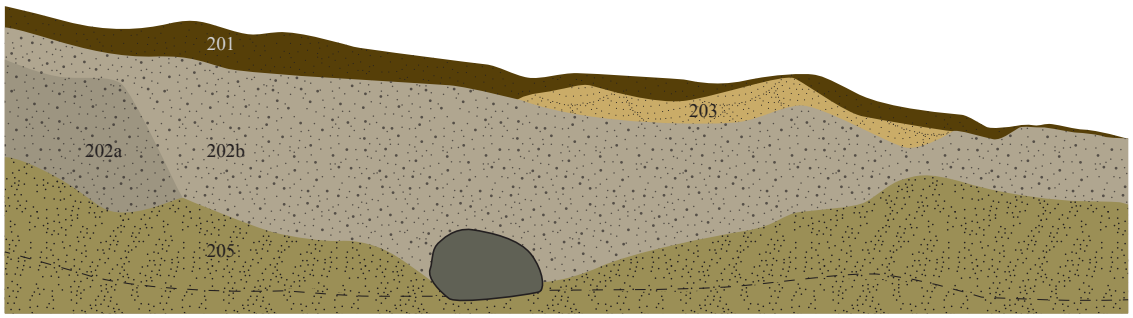
Orientation: 334–154°

Depth: 63 cm over most of trench, 84 cm in postholes

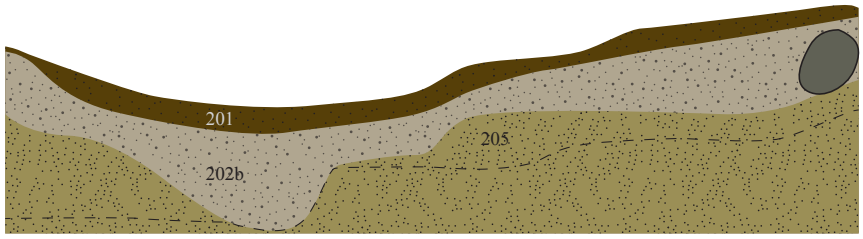
The primary aim of trench H was to investigate the unusual topography eight meters south of the southern reach of the perimeter wall in conjunction with a wide protrusion on the wall observed in 2014. This protrusion had initially been interpreted as the remains of a drawbridge used for crossing the dry moat. These ideas did not prove correct, however, and no masonry was found in trench H.

We positioned the 3 x 4 m (12 sqm) trench on the highest ground directly across from the observed wall protrusion, in the position where if there had been a bridge crossing the dry moat, we would have been most likely to find evidence of a structure. The area coincided with an abandoned badger sett. In addition to the trench, the tailings from the collapsed sett itself—lying just outside the trench on the northwestern side—was test screened through 4 mm mesh in order to recover any displaced artefacts. All spoil from inside trench H was also screened through 4 mm mesh. Metal detecting was conducted after every 10 cm of excavation.

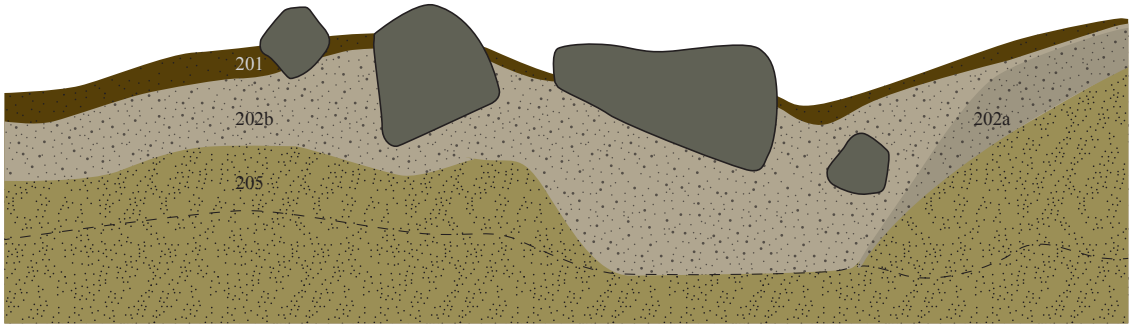
We encountered a somewhat complex stratigraphic sequence, apparently the result of Medieval tailings from the excavation of the dry moat followed by post-abandonment activities on the island, probably related to the 18th century croft. But a paucity of artefact finds make any solid interpretation difficult. Certainly no evidence for any Medieval structure or bridge was uncovered. Indeed, it quickly became clear that any bridge built into the area would have maintained an oddly steep, downward slope. Furthermore, as work up the hill in trench G progressed, we became aware that, as trenches B and D had already suggested in 2014, the "perimeter" wall around the steep outer bailey had never been completed, negating the need for a bridge across the dry moat. If one had ever been planned, it certainly was not completed.



EASTERN



SOUTHERN



WESTERN

Figure 4: Soil sections from Trench H. Eastern edge (top), southern edge (middle), and western edge (bottom). Note that the dotted line indicates the lowest level reached.

The stratigraphic sequence, illustrated in profile in fig. 4 on page 17 and as a Harris Matrix in fig. 5, this page, is as follows. The badger sett itself, lying on the northwestern corner of trench H, was identified as the most recent stratigraphical unit, Layer 200. L201 is the topsoil in trench H, a fine, dark, loamy soil approximately 10 cm deep, and overlaying L202 in most places and L203 in others.

L202 was a lighter, yellowish layer interspersed with small pebbles. Only in the section could L202 later be seen to consist of two distinct layers nearly identical in colour and composition (labelled 202a and 202b in fig. 4, but note that this nomenclature is used nowhere else and was not used when artefacts were recovered as this difference was noted post-excavation). As illustrated in fig. 4, L202b cuts L202a, which sat on L205/8. L202 also contained large pieces of greystone, though none showed evidence of dressing or mortar and therefore cannot be conclusively linked to the castle.

L203 was a small pile of light yellow sand, a very late addition to the stratigraphy, probably placed in the area by the crofters.

L204 was the cut and deposition of organic materials made by the badgers into L201, while L205/8 was an even finer, yellowish layer, sometimes interspersed with charcoal, very rarely with bone, and in which the preponderance of all artefacts from trench H were found. L205/8 was found beneath L201 and L204. This layer appears to represent the ground surface just before the castle was built. However, almost no faunal remains were recovered from the soil, probably because of its high sand content and thus high acidity and permeability to rain water. The two bones that were recovered from the surface of L205/8 were in remarkably bad shape, highly exfoliated and crumbling on removal.

Beneath L205/8 (approximately 63 cm below the surface of L201 in the northwestern and northeastern corners), the natural, post-glacial soils, an orange coloured gravel (L206) and pure, white sand (L207) were uncovered. These were the deepest levels reached during the excavation of trench H. L206 and L207 were not uniformly reached in trench H and are therefore not drawn in fig. 4. However, they always occurred below L205/8.

At the very bottom of L202, cutting into L205/8 and L206/207 two postholes were uncovered (see fig. 11). They were clearly delimited, in one case by the stones packed in around the now-decayed post. This posthole con-

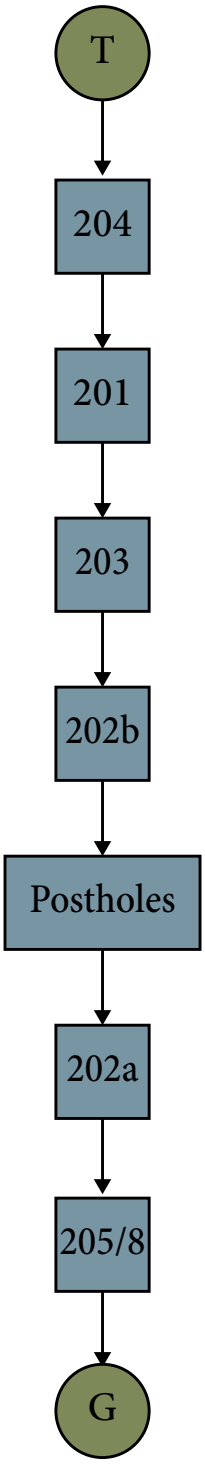


Figure 5: A Harris Matrix of the layers in Trench H.

tained a mortared piece of wall core, indicating that the postholes and much of L202 were probably post-Medieval and related to the crofters. The two postholes aligned approximately east-west, and they were slightly more than one metre apart from each other.

All things considered, it seems likely that L202a may have been the tailings from the Medieval excavation of the dry moat, which were later cut, mixed, and replaced by L202b in a post-Medieval process probably related to the construction and the postholes on the site. However, this is conjectural, based upon the melange of artefacts found and the post-excavation identification of the sublayers within 202.

Most interestingly, two pieces of Middle Neolithic Battle Axe culture pottery (representing a regional version of the Corded Ware complex) were found in the post-Medieval tailings. The potsherds, from approximately 2400 cal BC (Malmer's type J of the final Middle Neolithic, *Jungneolithische Studien*, Lund 1962), along with knapped quartz and numerous fire-cracked stones found in the same layer, indicate the longevity of human settlement on the island. A Neolithic settlement was undoubtedly disturbed either during the Medieval excavation of the dry moat or subsequently during post-abandonment activities.

Additionally, three sherds of Early Red glazed ware (c. AD 1250–1350), and one sherd of Grey unglazed ware with a wider date range were recovered from L202 and L205/8. The only other finds were some iron nails and a copper-alloy cap, all of unknown date.

Description by Ethan Aines, who directed work in trench H from top to bottom.

Trench I

Coordinates: centre of trench positioned with a hand-held GPS, N58° 31.385, E16° 02.158

Location: inside W cellar, W and S edges of trench delimited by walls.

Dimensions: 4 x 3 m

Excavation units: twelve metre squares numbered SE 1, NE 3, SW 10, NW 12

Orientation: 66–246°, laid out with walls as baselines

Depth: very uneven surface topography rising from 43.65 m a.s.l. in the NW to 44.97 m a.s.l. in the SE and with a depression in the middle

L401. Turf and forest loam on top of rubble.

L402. Greystone rubble in dark soil with a lot of mortar and snail shells. Rubble thickest

and richest in mortar along the E side of the trench. A few brick fragments. Bones and shards of an Early Modern glass bottle.

L403. Paler, finer-grained soil in rubble with more bones and more brick fragments in square 11.

L404. Floor layer under the rubble, top 43.85 m a.s.l. Darker again, almost no snail shells but continued abundant bones. Metalwork and pottery. Limestone flagstone sitting cracked and upside down on floor in square 4. Fine side polished and slightly concave, 36 by 31 cm, 6.5–7.0 cm thick.

L405. Natural subsoil: yellowish gravelly sand at 43.78 m a.s.l.

Lake-shore Trench

52 by 1.55 m in pastureland parallel to the shoreline.

Seven groups of wooden posts P1–P7:

P1: Charred, not pointed, 26 x 5-8 cm

P2A: Pointed like a screwdriver, by means of two opposed oblique planes, 33 x 6 cm

P2B: Screwdriver, upper end eroded to a tapered point in open water, 80 x 5 cm

P2C: Axe-cut wood chip

P3A: Pointed by means of a single oblique cut, 28 x 8 cm

P3B: Post stuck in the bottom clay and impossible to get out, >30 x 6 cm

P4A+B: Screwdriver, 156 x 10 cm

P5A: Screwdriver, 31 x 10 cm

P5B: Screwdriver, 21 x 5 cm

P5C: Single oblique cut, 29 x 4 cm

P5D: Single oblique cut, 30 x 3 cm

P6A: Post stuck in the bottom clay and impossible to get out, >76 x 13 cm. Ulf Strucke has determined it as alderwood, Alnus sp. (e-mail 27 November 2015).

P6B: Single oblique cut and one branch removed, 64 x 8 cm

P6C: Post not round: given two flat lengthwise facets at 45° to each other, 44 x 12 cm

P6D: Flat wood tablet with bevelled edges like a small roof shingle, 8 cm across

P6E: Iron ard tip

P7: Post not round: one flat lengthwise facet, 13 x 6 cm

Below are the decimal degree coordinates of the posts in the lake-shore trench.

	Northings	Eastings
S Endpoint	58.5225972	016.0309303
P1	58.5226093	016.0309483
P2	58.5226566	016.0309354
P3	58.5227091	016.0309510
P4	58.5228380	016.0309473
P5	58.5229363	016.0309325
P6	58.5229802	016.0309497
P7	58.5230255	016.0309296
N Endpoint	58.5230622	016.0308993

PHOTOGRAPHS

Figure 6: An overview of Trench F from the south near the end of the excavation.

Figure 7: An overview of Trench F from the east, with the reddish natural subsoil visible, but before the wall corner was exposed.

Figure 8: An overview of Trench G from the west, towards the causeway.

Figure 9: An aerial overview of Trench H from the east.

Figure 10: An overview of Trench H from the north with Layer 204 (the badger sett) fully excavated out. Note stone-lined posthole at centre.

Figure 11: One of the postholes uncovered in Trench H.

Figure 12: An overview of Trench I from the east.

Figure 13: An overview of the flimsy perimeter wall in Trench I from the north.

Figure 14: A panoramic photograph of the southern wall within Trench I.

Figure 15: The polished side of the broken paving stone, removed from context, found in Trench I.

Figure 16: Find 232. Part of the handle from an Early Red ware pitcher found in Trench F.

F232

Figure 17: Finds 179 and 194. Two sherds of Middle Neolithic ceramic found in Trench H. Obverse view (left) and reverse view (right).

F179 & F194

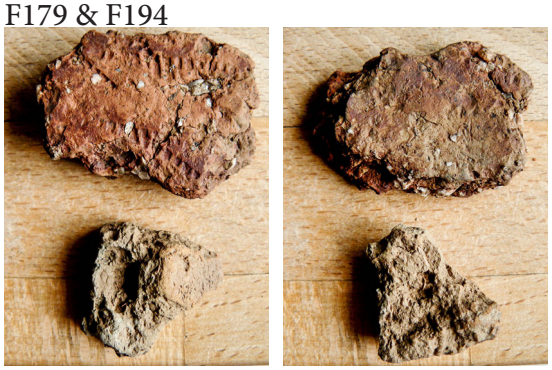


Figure 18: Find 180. One sherd of Early Red ware ceramic found in Trench H. Obverse view (left) and reverse view (right).

F180

Figure 19 Find 181. One sherd of Grey ware ceramic found in Trench H. Obverse view (left) and reverse view (right).

F181

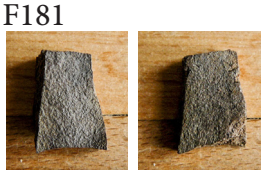


Figure 20: Find 186. Two sherds of Early Red ware ceramic found in Trench H. Obverse view (left) and reverse view (right).

F182

F 183

Figure 21: Find 183. Four sherds of Early Red ware ceramic found in Trench I. Obverse view (left), reverse view (right), and profile (not to scale, bottom).

F 184

Figure 22: Find 184. Four sherds of Early Red ware ceramic found in Trench I. Obverse view (left) and reverse view (right).

F 185

Figure 23: Find 185. One small sherd of Early Red ware ceramic found in Trench I. Obverse view (left) and reverse view (right).

F 186

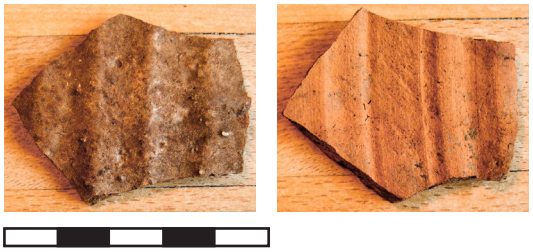


Figure 24: Find 186. One sherd of Early Red ware ceramic found in Trench I. Obverse view (left) and reverse view (right).

Figure 25: Find 187. Three sherds of Early Red ware ceramic found in Trench I. Obverse view (left) and reverse view (right).

F 187

Figure 26: Find 188. One sherd of Early Red ware ceramic found in Trench I. Obverse view (left), reverse view (right).

F 188

Figure 27 (below): Find 189. Two sherds of Early Red ware ceramic found in Trench I. Obverse view (left) and reverse view (right).

F 189

Figure 28: Find 316. Two sherds of Early Red ware ceramic found in Trench I. Obverse view (left) and reverse view (right).

F 316

F 103 & F 125

F103

Figure 29: Finds 125 and 103 from Trenches F and I, respectively. Left: two iron knives photographed in x-ray (not to scale). Right: find 103, post conservation. Photography by Carola Blom, Acta Konservering.

F 134

Figure 30: Find 134 from Trench F. Above: a Y-shaped carpentry mount photographed in x-ray (not to scale). Below: find 134 post-conservation. Photography by Carola Blom, Acta Konservering.

F 139

Figure 31: Find 139 from Trench I. Left: An iron spur, photographed in x-ray (not to scale). Right: Find 139 post-conservation. Photography by Carola Blom, Acta Konservering.

F 144 & F151

Figure 32: Finds 144 and 151 from Trench I. Iron flat angled prongs (not to scale). X-ray photography by Carola Blom, Acta Konservering.

F 130

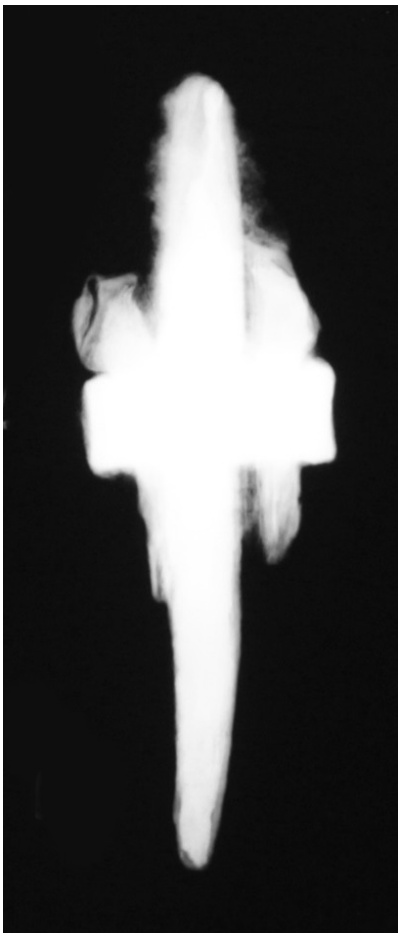
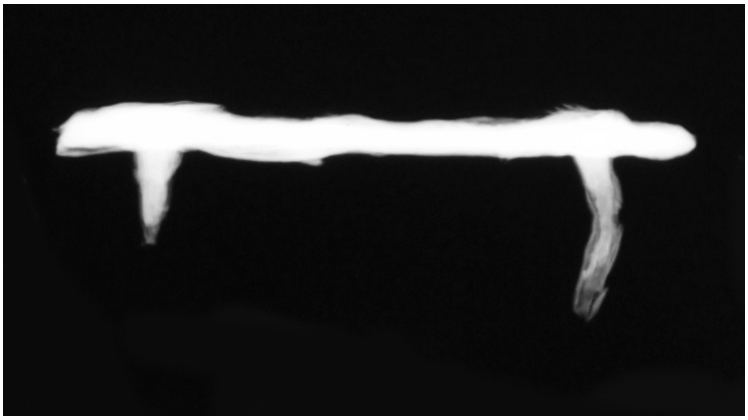
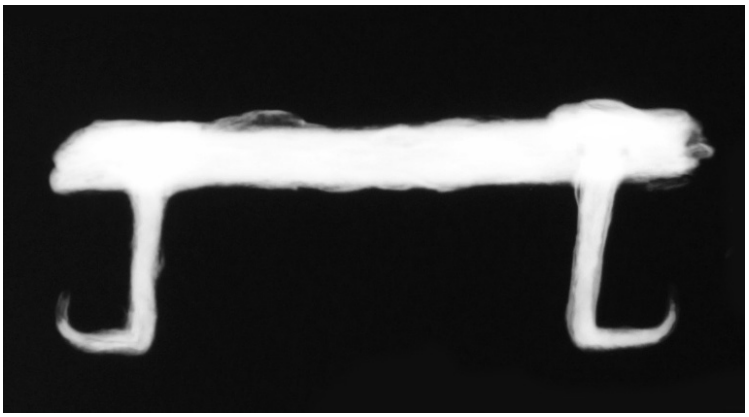


Figure 33: Find 130 from Trench I. An iron hinge (not to scale). X-ray photography by Carola Blom, Acta Konservering.

F 157



F 166



F 166

Figure 34: Finds 157 and 166, from Trench I. Top and middle: two iron rectangular mounts photographed in x-ray (not to scale). Bottom: Find 166 post-conservation. Photography by Carola Blom, Acta Konservering.

F 160

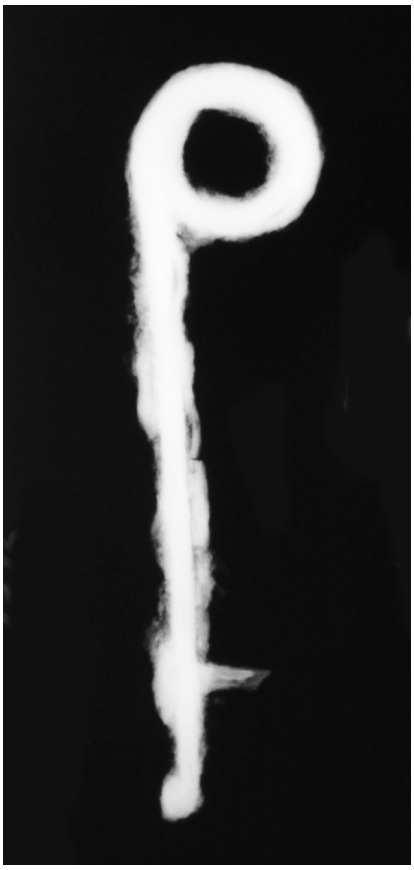
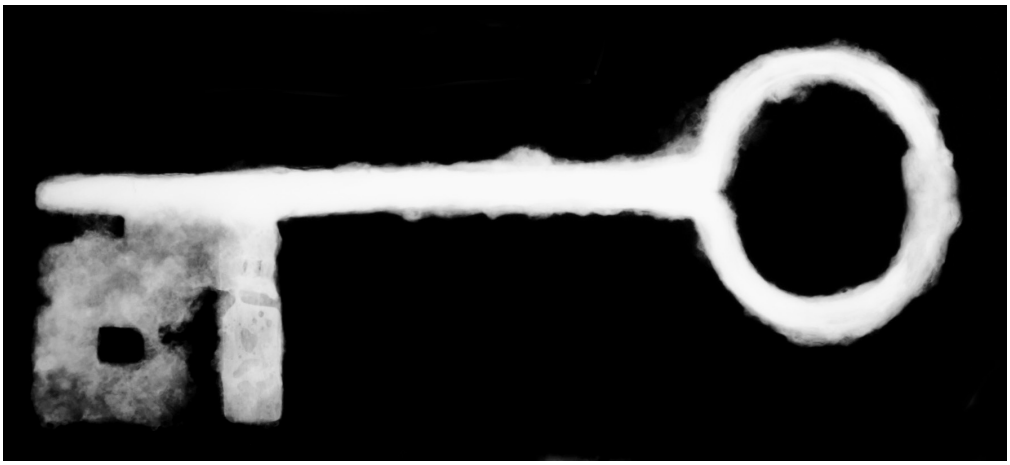


Figure 35 Find 160 from Trench I. An iron hinge (not to scale). X-ray photography by Carola Blom, Acta Konservering.

Figure 36: Find 131 from Trench I. An iron key (not to scale). X-ray photography by Carola Blom, Acta Konservering.

F 131



F 171

Figure 37: A 17th century ard tip (part of an agricultural implement) found in the lake-shore trench.

F 175

Figure 38: Find 175. Small decorative copper-alloy spangle in the shape of an heraldic rose, from trench I.

FINDS LIST

Find no	Trench	Context	Square	Mtrl	Type	Spec	Weight g	Frags
101	I	404	7	Fe	Nail		36	6
102	I	404	9	Fe	Nail		3	1
103	I	404	3	Fe	Nail		1	1
104	I	404	1	Fe + bone	Knife		31	1
105	H	202	8	Fe	Nail		4	1
106	H	?	4	Fe	Nail		20	3
107	H	205/8	8	Fe	Nail		34	4
108	H	205/8	7	Fe	Nail		7	1
109	H	202	6	Fe	Nail		17	1
110	F	102	5	Fe	Nail		14	1
111	F	101	7	Fe	?	Flat	17	1
112	F	101	4	Fe	Nail		49	7
113	F	102	1	Fe	Nail		5	2
114	F	103	1	Fe	Nail		30	4
115	I	404	4	Fe	Nail		43	4
116	I	404	4	Fe	?	Flat	24	1
117	F	103	12	Fe	Nail		7	1
118	F	103	5	Fe	Nail		90	10
119	F	103	5	Fe	Loop		19	1
120	F	101	1	Fe	Nail		3	1
121	F	101	5	Fe	Nail		15	2
122	F	101	6	Fe	Nail		39	3
123	F	103	4	Fe	Nail		70	6
124	F	101	11	Fe	Nail		38	4
125	I	403	12	Fe	Knife		38	2
126	F	103	7	Fe	Nail		40	2
127	F	101	8	Fe	Nail		9	2
128	I	402	3	Fe	Nail		2	1
129	I	405	10	Fe	Nail		10	2
130	I	403	12	Fe	Hinge		64	1
131	I	404	4	Fe	Key		136	1
132	I	403	12	Fe	Staple		14	1
133	F	101	5	Fe	Fitting	Loop w fastening plates	43	1
134	F	101	11	Fe	Fitting	Ornate	17	1
135	I	403/4	10	Fe	Nail		9	1
136	F	101	10	Fe	Nail		21	4
137	F	103	2	Fe	Nail		19	1
138	I	404	5	Fe	Nail		12	2
139	I	404	2	Fe	Spur		39	1

Find no	Trench	Context	Square	Mtrl	Type	Spec	Weight g	Frags
140	F	104	4	Fe	Staple		16	1
141	F	104	4	Fe	Nail		41	3
142	F	104	1	Fe	?	Flat	10	1
143	I	403	12	Fe	Nail		4	1
144	I	403	12	Fe	Prong	Flat	12	3
145	I	403	9	Fe	Nail		5	1
146	F	103	7	Fe	Knife		39	1
147	I	404	1	Fe	Nail		5	1
148	F	103	8	Fe	?	Lump	47	1
149	F	102	9	Fe	Nail		18	1
150	F	101	7	Fe	Nail		3	1
151	I	402	8	Fe	Prong	Flat	5	1
152	I	404	8	Fe	Nail		41	3
153	I	404	4	Fe	Staple		35	1
154	I	?	10	Fe	Nail		7	1
155	F	103	8	Fe	Nail		3	1
156	I	404	7	Fe	?	Cyl	54	1
157	I	404	11	Fe	Fitting	Rect	23	1
158	I	402	5	Fe	Nail		2	1
159	F	103	5	Fe	Staple		38	1
160	I	404	4	Fe	Hinge		111	1
161	G	302	2	Fe	?	Lump	6	1
162	F	103	11	Fe	Nail		18	2
163	I	403	6	Fe	Nail		11	1
164	F	101	9	Fe	Nail		7	1
165	I	402	12	Fe	Nail		11	1
166	I	404	10	Fe	Fitting	Rect	27	1
167	F	104	2	Fe	Nail		19	2
168	I	404	11	Fe	Nail		2	1
169	I	403	1	Fe	Nail		18	2
170	F	103	5	Fe	?	Lump	33	3
171	Lakeshore			Fe	Ard tip		425	1
172	I	404	7	Pb	Sheet	Folded	10	1
173	F	103	5	Cu	Sheet	Embossed	1	4
174	I	404	2	Cu	Fitting	Rect	2	2
175	I	404	4	Cu	Spangle	Rose	2	1
176	I	404	7	Cu	Sherd	Cooking pot?	13	1
177	G			Cu	Button		5	1
178	H	205/8	?	Cu	Cap		2	1

Find no	Trench	Context	Square	Mtrl	Type	Spec	Weight g	Frags
179	H	201	7	Pot	Neolithic		15	1
180	H	205/8	7	Pot	Early Red		25	1
181	H	205/8	8	Pot	Grey		3	1
182	H	205/8	8	Pot	Early Red		1	2
183	I	404	4	Pot	Early Red		21	4
184	I	404	5	Pot	Early Red		7	4
185	I	404	7	Pot	Early Red		2	1
186	I	404	8	Pot	Early Red		8	1
187	I	404	10	Pot	Early Red + unclass		12	3
188	I	404	12	Pot	Early Red		2	1
189	I	405	11	Pot	Early Red		7	2
190	H	202	4	Quartz			9	4
191	H	202	5	Quartz			10	4
192	H	202	6	Quartz			15	2
193	H	202	8	Quartz			5	1
194	H	202	5	Pot	Neolithic		5	1
195	F	101	5	Slag			5	1
196	F	103	4	Slag			2	1
197	I	403	10	Slag			4	2
198	I	401	8	Glass	Bottle		19	1
199	I	402	8	Glass	Bottle		6	1
200	I	404	12	Antler	Modified		4	1
201	F	101	4	Stone	Heavy		29	1
202	F	103	1	Bone			2024	
203	F	103	4	Bone			786	
204	F	?	NW	Bone			1366	
205	F	101	6	Bone			45	
206	F	101	8	Bone			243	
207	F	101	7	Bone			126	
208	F	102	1	Bone			112	
209	F	101	10	Bone			204	
210	F	101	12	Bone			167	
211	F	101	4	Bone			232	
212	F	101	5	Bone			231	
213	F	101	11	Bone			442	
214	F	101	2	Bone			39	
215	F	103	2	Bone			453	
216	F	101	1	Bone			184	
217	F	101	9	Bone			127	
218	F	101	?	Bone			15	

Find no	Trench	Context	Square	Mtrl	Type	Spec	Weight g	Frags
219	F	?	12	Bone			7	
220	F	?	5	Bone			3	
221	F	?	6	Bone			39	
222	F	102	2	Bone			1	
223	F	103	5	Bone			1093	
224	F	103	11	Bone			1649	
225	F	104	4	Bone			594	
226	F	103	7	Bone			409	
227	F	104	2	Bone			120	
228	F	104	1	Bone			75	
229	F	103	8	Bone			386	
230	F	104	7	Bone			42	
231	F	?	?	Bone			11	
232	F	103	7	Pot	Early Red		39	2
233	F	103	10	Bone			8	
234	F	104	5	Bone			111	
235	H	205/8	7	Bone			18	
236	I	402	11	Bone			89	
237	I	404	5	Bone			158	
238	I	403	11	Bone			324	
239	I	404	9	Bone			222	
240	I	403	9	Bone			16	
241	I	403	4	Bone			22	
242	I	402	3	Bone			5	
243	I	402	2	Bone			39	
244	I	403	7	Bone			15	
245	I	402	5	Bone			28	
246	I	402	12	Bone			172	
247	I	403	2	Bone			102	
248	I	401/2	12	Bone			186	
249	I	403	5	Bone			56	
250	I	403	10	Bone			45	
251	I	403/4	10	Bone			107	
252	I	403	8	Bone			77	
253	I	404	10	Bone			246	
254	I	403	12	Bone			306	
255	I	402	10	Bone			9	
256	I	404	11	Bone			250	
257	I	404	12	Bone			325	
258	I	404	1	Bone			391	
259	I	403	6	Bone			27	

Find no	Trench	Context	Square	Mtrl	Type	Spec	Weight g	Frags
260	I	403	1	Bone			199	
261	I	401/2	2	Bone			16	
262	I	403	3	Bone			48	
263	I	405	10	Bone			73	
264	I	404	7	Bone			154	
265	I	403/4	12	Bone			23	
266	I	404	6	Bone			104	
267	I	402	8	Bone			14	
268	I	402	6	Bone			4	
269	I	402	9	Bone			9	
270	I	404	8	Bone			166	
271	I	404	4	Bone			457	
272	I	404	2	Bone			159	
273	I	?	?	Bone			33	
274	G	302	1	Bone			3	
275	G	302	2	Bone			14	
276	H	205/8	12	Bone			16	
277	H	204	?	Bone			5	
278	F	101	4	Charcoal			8	
279	F	101	1	Charcoal			4	
280	F	103	2	Charcoal			5	
281	F	103	11	Charcoal			3	
282	F	101	10	Charcoal			4	
283	F	101	7	Charcoal			4	
284	F	101	12	Charcoal			22	
285	F	103	2	Charcoal			2	
286	F	101	5	Charcoal			1	
287	F	103	1	Charcoal			5	
288	F	103	1	Charcoal			20	
289	F	103	1	Charcoal			9	
290	F	101	11	Charcoal			1	
291	F	101	6	Charcoal			1	
292	F	102	1	Charcoal			1	
293	H	202	3	Charcoal			2	
294	H	202	9	Charcoal			3	
295	H	201	6	Charcoal			7	
296	H	?	8	Charcoal			5	
297	H	204	4	Charcoal			10	
298	H	202	5	Charcoal			66	
299	H	202	4	Charcoal			78	
300	I	403/4	10	Charcoal			28	

FINDS LIST

Find no	Trench	Context	Square	Mtrl	Type	Spec	Weight g	Frags
301	F		1	Mortar			148	
302	H	202		Mortar			12	
303	H	202		Plaster			3	
304	H	202		Mortar			38	
305	I	404	7-Apr	Mortar				
306	F	103	1	Soil				
307	F	104	1	Soil				
308	F	101	4	Soil				
309	H	?	5	Soil				
310	H	205/8		Soil				
311	H	202	?	Soil				
312	H			Soil				
313	H	205/8		Soil				
314	I	404	5	Soil				
315	I	405	?	Soil				
316	I	404	11	Pot	Early Red + unclass		5	2