RANNSÓKNASKÝRSLUR FERÐAMÁLADEILDAR HÁSKÓLANS Á HÓLUM

Preliminary Report of the 2024 Field Season: Coring and Surface Survey at Geitnakofahóll, Kringla, Kringlugerði, and Hvammsgerði in Hjaltadalur

HJALTADALUR ARCHAEOLOGICAL SETTLEMENT PROJECT

By

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Photo on front page: Claire Ross and Chiara Torrini examine a core at Hvammsgerði.

Acknowledgments

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Kathryn Catlin (2019) designed the scheme for displaying the coring data for her dissertation work. Unless otherwise noted, the underlying data such as elevation land type are based on data from Landmælingar Íslands (the National Land Survey of Iceland). Images and data are used based on the terms of the License for National Land Survey of Iceland free data (https://www.lmi.is/is/moya/page/licence-for-national-land-survey-of-iceland-free-data). Aerial photographs, unless otherwise noted, are from Loftmyndir ehf. and in accordance with the educational license. Any opinions, findings, conclusions, or recommendations expressed in this material are those of the authors and do not necessarily reflect the views of the individuals and institutions who support this work. Products, data, or instruments mentioned should not be construed as an endorsement.

Hjaltadalur Archaeological Survey Project - HASP

The Hjaltadalur Archaeological Survey Project seeks to determine if Hólar, the historically important site of the northern bishopric, rose to political and religious primacy due to the conditions created during the initial settlement of Iceland around A.D. 870, or if it arose as part of a fundamental social reorganization associated with the later institutionalization of Christianity. Through a program of soil coring, geophysics, and test excavation, the project will chronicle the changing site size and relative importance of Hólar and its neighboring 20 farms. This will allow us to determine if the institutionalization of Christianity in the valley of Hjaltadalur was directly dependent on the conditions of the initial settlement, or if it was an outcome of the placement of the bishopric at an otherwise ordinary farm.

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Abstract

This report outlines the 2024 work at four sites with standing enclosure walls (Geitnakofahóll, Kringla, Kringlugerði, and Hvammsgerði) in Hjaltadalur as part of the Hjaltadalur Archaeological Survey Project (HASP). The enclosures at these sites ranged in size from .32-1.88 ha. Geitnakofahóll and Kringlugerði each had one enclosure, while Kringla and Hvammsgerði both have two distinct enclosures. Geitnakofahóll, Kringla, and Hvammsgerði had turf enclosure walls that were initially built before 1104, contemporary to domestic occupations. Kringlugerði also had an enclosure wall first built before 1104, but had no evidence of domestic occupation during any time period. At Kringla, Kringlugerði, and Hvammsgerði, the enclosure walls were rebuilt after 1104. Finally, the data from these sites did not show a correlation between the area enclosed within an enclosure and farmstead area.

Introduction

This report details the results of 2024 fieldwork at four enclosed sites in Hjaltadalur as part of the Hjaltadalur Archaeological Survey Project (HASP). The overarching goal of HASP is to estimate the size of Hólar and the surrounding farmsteads and how they change over time. HASP specifically targets three periods: pre-1104, 1104-1300, and post-1300, and the project employs coring, geophysics, and small test trenches into midden and other non-structural deposits.

As a subset of the overall HASP project and for Chiara Torrini's MA research, four sites with standing turf enclosure walls were investigated to determine the date of enclosure walls, occupations associated with the site, and to determine whether enclosure size is related to the size of farmstead areas.

General permits for the survey of Hjaltadalur and associated excavations were granted by the Cultural Heritage Agency of Iceland. Items accessioned to the National Museum database can be found at https://sarpur.is/Leit.aspx?search=2023-47&filter=32&typeID=0.

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Geology and tephra in Hjaltadalur

The geology of the Hjaltadalur region is characterized by flows of Upper Tertiary basic and intermediate extrusive basalts (Feuillet et al. 2012) interbedded with weak pulverized red vesicular basaltic strata (Decaulne et al. 2016). The area was deglaciated by 6100 yr cal.BP and then subject to uplift (Cossart et al. 2014). Hjaltadalur is a large scree-lined glacial valley with several distinct ecological zones corresponding to both highland and midland elevations. The midland areas are characterized by organic-rich soils and iron, while highland areas have drier

soils and dwarf birch forests (Carter 2010). Carter suggested that Hjaltadalur is naturally sheltered by large mountain ranges that result in a slow rate of erosion.

The natural stratigraphy of the near-surface of the region consists of a rapidly formed sediment and soil with intermixed tephra layers, along with gravel layers and lenses of glacial origin. The soil is a brown andosol that derives from aeolian sediments of volcanic origin but is not the direct product of eruptions (Arnalds et al. 1995; Arnalds 2004; Arnalds 2008). The andosol is non-cohesive but has an extremely high water-retention capacity (Arnalds 2008).

Hjaltadalur is subject to substantial avalanches and landslides. This does not seem to be a recent phenomenon, as many of these events are described in early surveys (Magnússon and Vídalín 1930; Johnsen 1847). It is clear from the more recent work of Brynjólfsson, et al. (2019) that avalanches have been quite common in the southwestern part of Hjaltadalur. The impact of avalanches, landslides, & mudslides on farms and archaeological sites is variable. For working farms, these events can result in just a few rocks scattered across a field that are easily cleaned up in a few hours. On the other hand, these sudden events can render larger areas permanently unproductive and destroy important infrastructure beyond grass fields (e.g., walls and structures). These earth movement events can form subsurface gravel layers of various thicknesses and, when covered over by later aeolian deposition and a grass surface layer, can be difficult to identify from the surface. Surface and subsurface gravel layers can have archaeological layers (and tephra layers) above and below them. For archaeological deposits, even small thin rock spews overlying sites can make their identification difficult. Substantial rock deposits from various earth movements can make site identification impossible. Not all these earth movements are sudden and dramatic. Slow land movements can shift large areas (e.g., 0.5 ha) 10’s of meters downhill over tens and even hundreds of years. These shifts can move large sections of archaeological deposits wholesale and create substantial discontinuities at their edges.

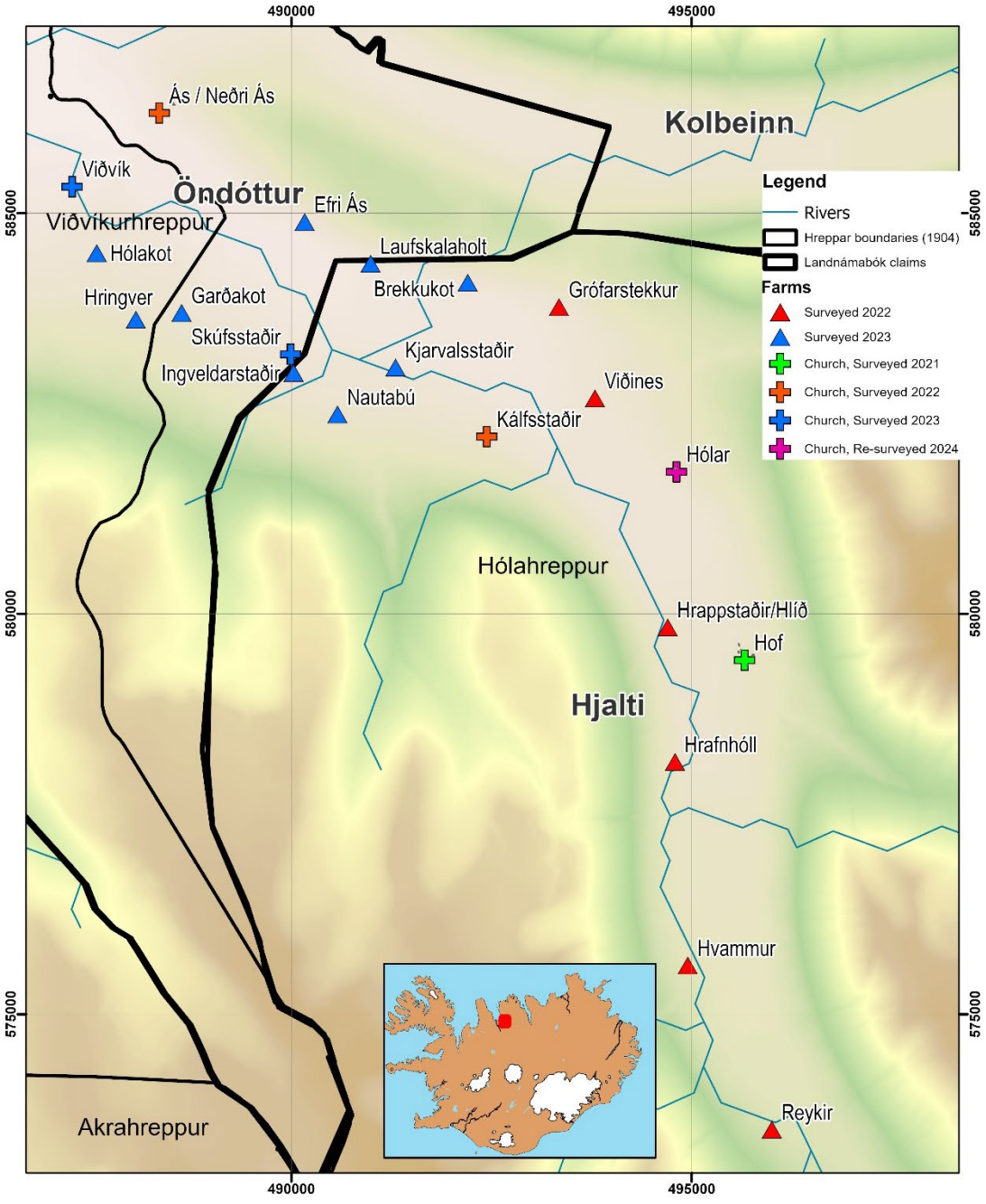


Figure 1. Map of Hjaltadalur. Farmsteads with churches are denoted by '+'. Farmsteads in pink were surveyed in 2024. Farmsteads in green were surveyed in 2021. Farmsteads in red were surveyed in 2022. Farmsteads in blue were surveyed in 2023. Elevation gradient is shown, along with hreppur boundaries. Best guesses as to original land claims are also outlined in bold.

The Hjaltadalur Archaeological Survey Project relies heavily on tephra layers preserved in the soil. Skagafjörður has an early tephra sequence that allows for a fine-grained chronology

of the changes in early settlement patterns (Larsen et al. 2002). While tephra deposition can vary over small distances (Davies et al. 2010) the basic tephra sequence is found throughout Skagafjörður and allows for a common dating system among farms and farmsteads (Larsen and Þórarinsson 1977).

- Historic:
  - Hekla A.D. 1766 (H1776). A black tephra usually found in turf or in the upper 10 cm of the soil sequence (Kirkbride and Dugmore 2006; Þórarinsson 1967).
  - Hekla A.D. 1300 (H1300): A gray-blue to dark black tephra (Larsen 1984; Sveinbjarnardóttir 1992; Larsen et al. 1999; Larsen et al. 2002; Larsen et al. 2001).
  - Hekla A.D. 1104 (H1104, and often referred to as H1): This white or yellowish-white tephra is the most consistent in Skagafjörður (Eiríksson et al. 2000) and is readily identifiable in both natural and cultural stratigraphic sequences.
- Landnám sequence (LNS):
  - Vj~1000 tephra. A blue to bluish-black layer whose source has not been determined but is likely to be either from a Grímsvötn and/or Veiðivötn eruption dated to approximately A.D. 1000 (Sigurgeirsson 2001). The layer was first suggested in two undergraduate theses (Jónsson 2005; Ólafsson 1985) and it has been proposed that this layer may be found in other areas (Lárusdóttir et al. 2012; Aldred and Sigurgeirsson 2005). Preliminary analysis of the composition of volcanic glass shards by scanning electron microprobe (SEM) has identified a mixture of shards from both volcanic sources.
  - "Landnám" or "settlement" layer (LNL, LTL, also designated as 871). The layer is so-named for its association with the earliest settlements in Iceland (Dugmore and Newton 2012) and is dated to A.D. 871 ±2, (Grönvold et al. 1995) but could be dated to A.D. 877±4 (Zielinski et al. 1997; Schmid et al. 2017). The tephra originates from the Vatnaöldur fissure swarm associated with the Torfajökull and Bárðarbunga volcanos (Larsen 1984; Dugmore and Newton 2012). In general, this layer consists of two distinct tephras–an olive-green tephra overlying a white tephra. However, in Skagafjörður, only the green portion is present (Hallsdóttir 1987). In many cases this layer and surrounding layers of the LNS are tightly spaced in a brown organic rich soil matrix associated with the environmental changes of colonization.
  - Black tephra below the LNL (K600). The earliest tephra in this sequence is a dark black layer probably from the Katla volcano but is not well dated (Wastegård et al. 2003).
- Prehistoric:
  - Hekla 3 (H3). A thick (generally 2-3 cm) white or whitish-yellow tephra dating to about 950 B.C. (Dugmore et al. 1995).

- Hekla 4 (H4). A thick (generally 1-3 cm) white or yellowish-white tephra dating to about 2300 B.C. (Eiríksson et al. 2000).

Deposits are then periodized using these tephras (and AMS dates when available) in a sequence of date ranges. These ranges are not applied to tephra layers (which are given a single date). In the absence of a tephra layer, the latest date range is applied.

Farmstead stratigraphy

Chronological phasing of farmstead sizes primarily relies on two tephra layers: the white Hekla AD 1104 (H1) and the dark Hekla AD 1300. These layers are the ones commonly found in cores and are often the easiest to identify of the historical tephras. H1 is presented twice as often as Hekla A.D. 1300. Using these tephra layers to date cultural deposits allows for the chronological phasing of farmstead sizes and for farmstead sizes to be compared across contemporary temporal horizons. Their presence also allows for the identification of changes in the size of individual farmsteads. Other tephra layers are used to help identify the overall stratigraphic sequence in the soil cores and to associate specific layers with historical periods. Deposits categorized by these temporal phases are based on whether or not they contained evidence of cultural material. The resulting chronology allows for the estimation of farmstead size for three primary periods:

- Pre-AD 1104
- AD 1104-1300
- Post-AD 1300

Short history of early Hjaltadalur

According to documentary sources, the Hjaltadalur valley refers to the land claim of Hjalti Þórðarson who settled at Hof. Hólar, later the most important farm in the valley, however, is not mentioned in the *Book of Settlements* which recounts the details of the initial settlement of Iceland and the land claims staked by the approximately 400 settlers starting in around A.D 870 (Pálsson and Edwards 1972) . According to *Landnámabók* (Íslenzk fornrit I 1986) the first settler in the region was Sleitu-Björn Hróarsson whose extensive land claim was later subdivided roughly into fourths (Sleitu-Björn at Sleitu-Bjarnastaðir, Öndóttur at Viðvík, Kolbeinn somewhere in Kolbeinsdalur, and Hjalti at Hof in Hjaltadalur (Figure 1). The order is described such that Öndóttur bought land from Sleitu-Björn and Kolbeinn took possession of a separate claim that was originally part of Sleitu-Björn's land. Hjalti Þórðarson then takes possession of the valley of Hjaltadalur that was part of Kolbeinn's land. Hjalti Þórðarson was an influential and wealthy chief (Pálsson and Edwards 1972) and his settlement farm, Hof, is just south of Hólar. Öndóttur land boundaries were specifically described but are difficult to place in the landscape. The most defined boundary is the "brook north of Nautabú," which is assumed to be Skúfsstaðir creek, and on the other side of the valley as below Hálsgróf, which is assumed to be the saddle on the long hill (As) between Kolbeinsdalur and Hjaltadalur.

The farm of Ás is mentioned in *Kristnisaga* (Grønlie 2006) as potentially the earliest church in Iceland. *The Saga of bishop Jón Ögmundarson* contains the first mention of a church at Hólar. The church builder was Oxi Hjaltason, and in a footnote, Sigurðsson and Vigfússon (1858), the saga's editors, suggest that the church may have been built around AD 1050 and that Oxi was the grandson of Hjalti the settler at Hof. According to the saga, Oxi´s church was the largest in Iceland: a richly furnished timber structure with a lead-lined roof. That church burned down and was replaced by a second pre-bishopric Hólar church. The general assumption has been that Hólar took over from Hof at some point in the 10th century as the main farm in Hjaltadalur, but no written sources throw light on how or when that happened. Sigurðardóttir (2011) notes two other documented churches in the survey area at Kálfsstaðir and Viðvík. The surveyed area of the Hjaltadalur valley consists of 21 farms, 17 of which appear in the documentary record with specific values and farmstead populations (Table 1).

A bishopric was established at Hólar in 1106. According to bishop Jóns saga, Hólar was the private farm property of priest Illugi Bjarnason, the only person in North Iceland willing to donate his farm (patrimony) to the Church to house the bishop's seat (Cormack 2000). No explanation is made of his generosity, other than it was for the glory of God and advancement of the Church (Sigurðsson and Vigfússon 1858), although he may have had another farm to retire to (Vésteinsson 2000). The first bishop at Hólar, Jón Ögmundarson (1052-1123), was not from North Iceland. He was a student of the first bishop at Skálholt, Ísleifur Gissurarson, and was appointed to manage Hólar by the second bishop, Ísleifur's son, Gissur. Bishop Jón had a new church built at Hólar and established a school.

In 1388 about 70 people were working at Hólar—on the same scale as the other bishopric at Skálholt (Júlíusson 2010). The first land registry (from 1714) (Magnússon and Vídalín 1930:218), was recorded about the time Hólar began to fall from its zenith, states that Hólar owned 179 farmsteads in Skagafjörður worth over 4000 hundreds.

In 1824 Benedikt Vigfússon purchased the Hólar estate which had been deteriorating and lost the see in 1801.

Table 1. Values (18th C.) and farmstead populations (19th C) of Hjaltadalur farmsteads.

Place Name	*Book of Settlements*	Church	Property Value (18th C.)	Household Size (19th C.)
Reykir				11.5
Hvammur			60.0	8.8
Hrafnhóll			10.0	5.8
Hof	Yes	Yes		10.3
Hrappstaðir/Hlíð			30.0	
Hólar	Yes	Yes		35.0
Víðines				8.3
Kálfsstaðir		Yes	60.0	11.5

Kjarvalsstaðir			20.0	6.5
Nautabú	Yes		20.0	7.8
Ingveldarstaðir			24.0	8.0
Skúfsstaðir		Yes	60.0	12.3
Efri Ás			30.0	10.0
Garðakot			20.0	7.3
Ás/Neðri Ás		Yes		11.8
Viðvík	Yes	Yes	40.0	14.0
Holakot			20.0	

The natural stratigraphy of the near surface of the region consists of a rapidly formed sediment and soil with intermixed tephra layers, along with gravel layers and lenses of glacial origin. The soil is a brown andosol that derives from aeolian sediments of volcanic origin but is not the direct product of eruptions (Arnalds 2004, 2008; Arnalds, et al. 1995). The andosol is non-cohesive but has an extremely high water-retention capacity (Arnalds 2008).

The 2024 Project: Enclosures

This fieldwork was a subset of the total work in 2024. This fieldwork was conducted to learn more about turf enclosures and the relationship between enclosure size, enclosure date, the presence of domestic deposits within an enclosure, and farmstead area. The rest of the 2024 HASP season focused on refining investigations at Skúfsstaðir and Hólar.

This study focuses on turf enclosure walls, which surround fields. These are often homefields, the areas surrounding farmsteads that were fertilized and used to grow grass that would be harvested as hay to keep animals alive through the winter (Aldred 2008; Adalsteinsson 1991). There is also archaeological evidence, however, of enclosed fields without contemporary occupation (Carter 2010; Catlin 2019). Place name evidence also suggests that some sites, especially those with the place name element gerði, which refers to either an enclosure wall itself or the area within it, may have not been sites of domestic occupation (Tetzschner 2006). Homefields are hypothesized to be important drivers of overall farm productivity (Bolender 2006; Adderley et al. 2008; Buckland et al. 2009). Farmstead area (an areal measurement of cultural deposits dating to a certain time period) can be used as a proxy for farm productivity (Steinberg et al. 2016). Comparing the two metrics can help clarify the role of enclosure size in farm productivity.

The four sites—Geitnakofahóll, Kringla, Kringlugerði, and Hvammsgerði—were chosen for survey because they all have standing enclosure walls that were likely to date to the medieval period. The wall at Geitnakofahóll had already been dated to pre-1104 (Zoëga et al. 2009), and the walls at Kringla, Kringlugerði, and Hvammsgerði are referred to as ancient based on their state of preservation (Pálsson 2011). The coring strategy at each site was designed to assess enclosure size, enclosure date, presence of occupation, occupation date, and farmstead area with

a two-person crew over one week. Procedures at sites with small occupations were formalized by Catlin (2019) and include cores on systematic 10m paced grids followed by test pits in the locations of the oldest middens to obtain samples for radiocarbon dating (Catlin et al. 2017).

This investigation focused on coring and mapping surface structures (limited resources precluded test pits or wall trenches). There were two separate coring approaches for walls and farmsteads. Walls at each site were targeted first and cored at 5m paced spacing until a chronology for each wall could be determined. Farmsteads were cored by beginning close to visible structures and expanding outwards in 10m intervals if no cultural deposits were found and 2m intervals if cultural materials were found. Each core with cultural material was bounded with additional cores to determine the limit of cultural deposits.

HASP guidelines for determining farmstead area from coring data involve determining the spatial extent of cores containing evidence of domestic occupation (midden, charcoal, LDC) for each time period and connecting cores with cultural evidence. The standard farmstead area process (Zoëga et al. 2023; Guttman 2024) calls for only defining a farmstead area for a time period if some confirmed evidence ("yes") of midden or floor was found, whether from a single core or an excavation profile. For the 2024 sites, multiple "yes" cores for LDC (were considered enough to create a farmstead extent if there were also cores with midden that could conceivably date to the same time period, even if they were only a "maybe." This modification allows farmstead areas to be generated that are comparable to those from other farms with test pits.

The sites in this thesis are discussed in spatial order, from northwest to southeast, going further into the valley of Hjaltadal (Figure 2). None of the sites are mentioned in historical documents before the 1713 Jarðabók. Table 2 provides a summary of known activities at each enclosed site pre-1104, from 1104-1300, and post-1300. For a detailed explanation of how coring data was processed, see page 64.

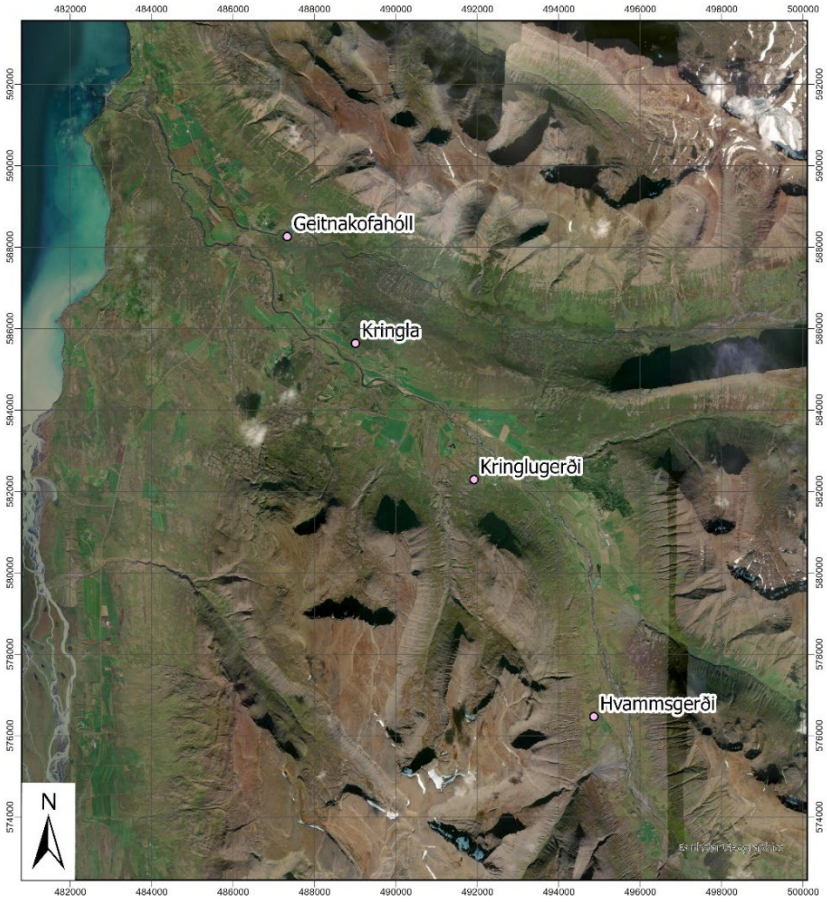


Figure 2. Overview of site locations within Hjaltadalur.

Table 2. 2024 Sites Ecological Summary

	Geitnakofahóll (1.34 ha)	Kringla (.32, .40 ha)	Kringlugerði (.51 ha)	Hvammsgerði (1.88, .99 ha)
Pre-1104	- Enclosure wall construction - Turf structure construction - Domestic occupation	- Enclosure wall construction - Turf structure construction - Domestic occupation - Charcoal activity	- Enclosure wall construction - Turf structure construction - No domestic occupation	- Wall construction, presumably for intensive infield use - Turf construction - Domestic occupation
1104-1300	- No enclosure wall construction - Turf structure construction - No domestic occupation	- Enclosure wall reconstruction and new wall construction (expansion) - Domestic occupation - Charcoal activity	- Wall reconstruction - Turf structure construction - No domestic occupation	- Wall reconstruction and new wall construction (reduction) - Turf structure construction - Domestic occupation (lower intensity)
Post-1300	- No enclosure wall construction - No turf structure construction - No domestic occupation	- Minor enclosure wall repair - No turf structure construction - No domestic occupation	- No enclosure wall construction - Turf structure construction - No wall repairs - Assumed hayfield/animal control use - No domestic occupation	- No wall repairs/construction - Turf structure construction - No domestic occupation, though some cultural activity

Geitnakofahóll [251-6]

Geitnakofahóll is currently on the land of Nedri-As, approximately 2km northwest of the current farmhouse. It is very close to the Kolbeinsdalsá river, which runs approximately 100m north of the site. Geitnakofahóll is relatively low-lying, flat, and quite far out of the valley, only about 4.5km away from the shore (Figure 2). It does not appear in any historical documents. Geitnakofahóll was previously investigated by a wall trench that dated the wall to pre-1104 and

several cores through the farmstead, one of which found burnt bone and scattered charcoal next to building ruins (Zoëga et al. 2009).

Standing walls

There was one almost totally contiguous wall at Geitnakofahóll, which was labeled wall 1. While there were some small gaps in the standing wall, these were not considered separate walls because the gaps were all less than 5m and the wall did not appear different in character on either side of the gaps. This wall was mostly complete, except for a section to the southwest where the wall was very eroded. This area was not cored or officially considered part of the standing wall, but its outline was used to generate the enclosure shapefile. This one long wall has a length of 323 meters, based on a polygon to centerline calculation.

There were 3 cores placed through wall 1 during the 2024 season. There was also a previous trench dug through the wall and 3 previous cores at this site (Zoega et al 2009, Figure 3).

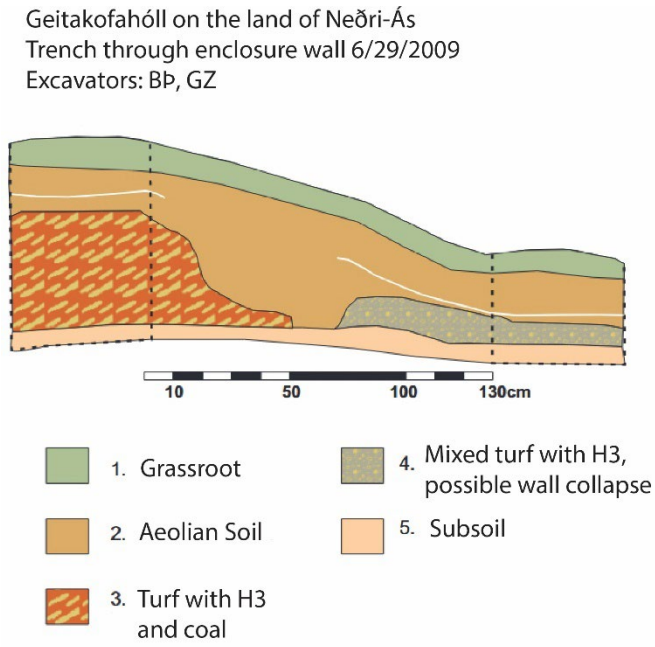


Figure 3. Wall profile from Geitnakofahóll trench; from Zoega et al. 2009:59, with labels translated into English.

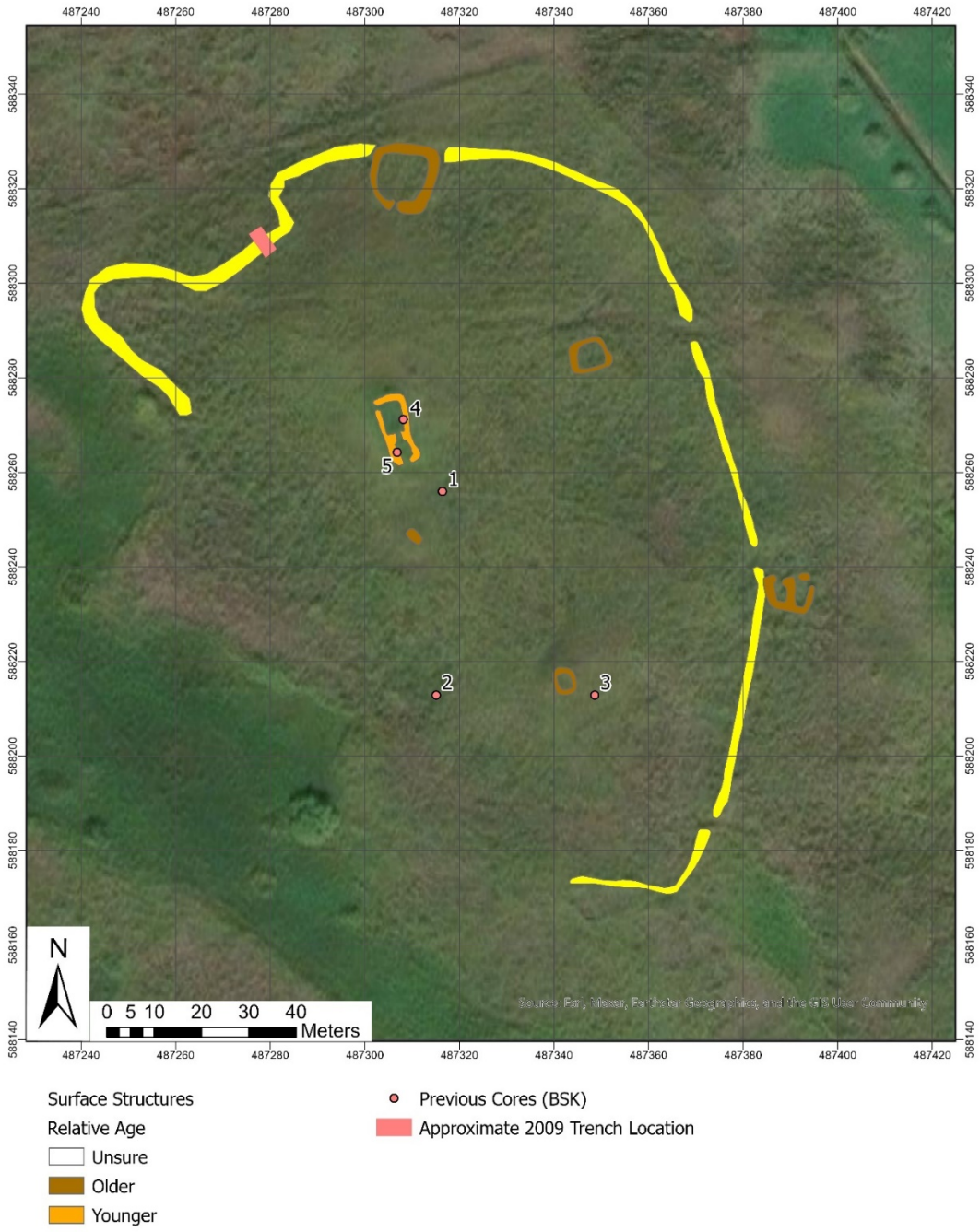


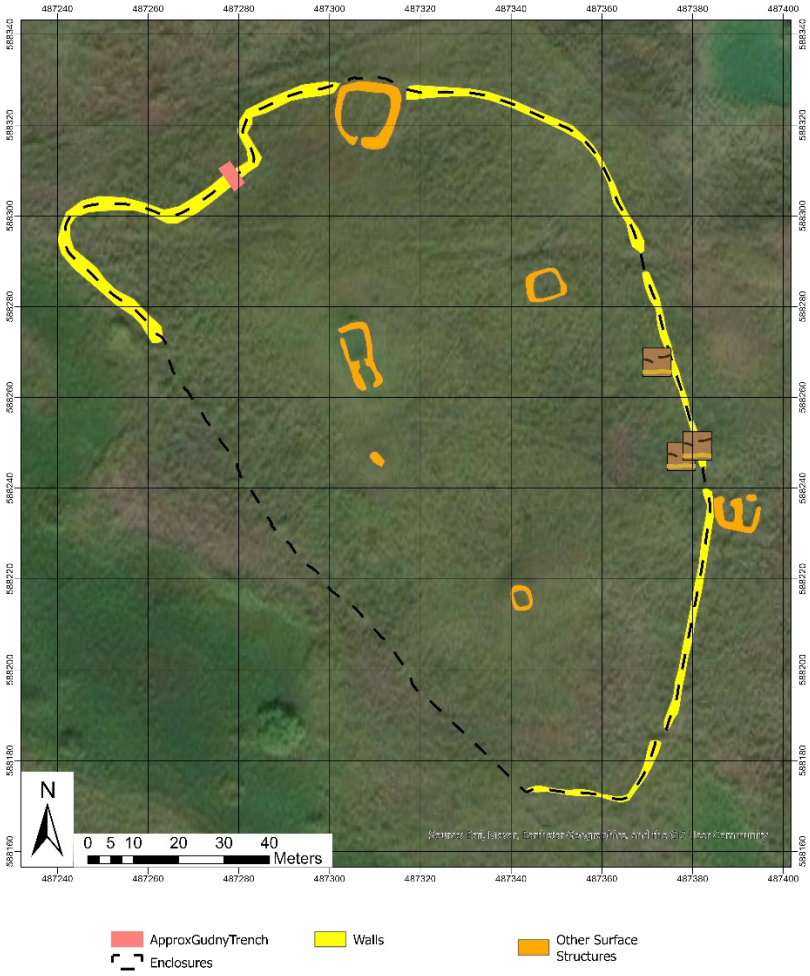
Figure 4. 2009 investigation at Geitnakofahóll.

The trench through the western area of the wall found turf with H3 below an in-situ H1104 (Zoëga et al. 2009:43). Zoëga et al. suggest that the field was used for intensive cultivation in the 10th century and possibly before, and that it was no longer a homefield by the 11th century (Zoëga et al. 2009:43).

A small number of cores were conducted in 2024 to confirm that other portions of the wall had the same characteristics as the area trenched in 2009. The cores taken at the south-eastern sections of the wall support this conclusion. All 3 cores taken contained turf with only prehistoric tephra (H3/H4 and/or LNL), and one core (241229) had turf directly on top of H3, suggesting an early construction date. Because these cores matched the previous trench, no further cores were taken. All evidence suggests that this wall was built and abandoned before 1104. There was no visible evidence of wall reconstruction from the cores taken, with each only showing one visible turf construction episode.

Enclosure

Because there was only one wall at Geitnakofahóll, there was also only one enclosure, designated as enclosure 1. This enclosure, like the wall, is dated to pre-1104 only. The enclosure size from this traced shape was 1.34 ha; Zoega et al referred to this as an unusually large homefield of about 2 ha (Zoëga et al. 2009:43).



Farm Mound

There are several surface structures at Geitnakofahóll, some of which have unknown purposes. The most important one is a stekkur or weaning pen, which appears to be relatively recent, in the center of the enclosure (Figure 5).

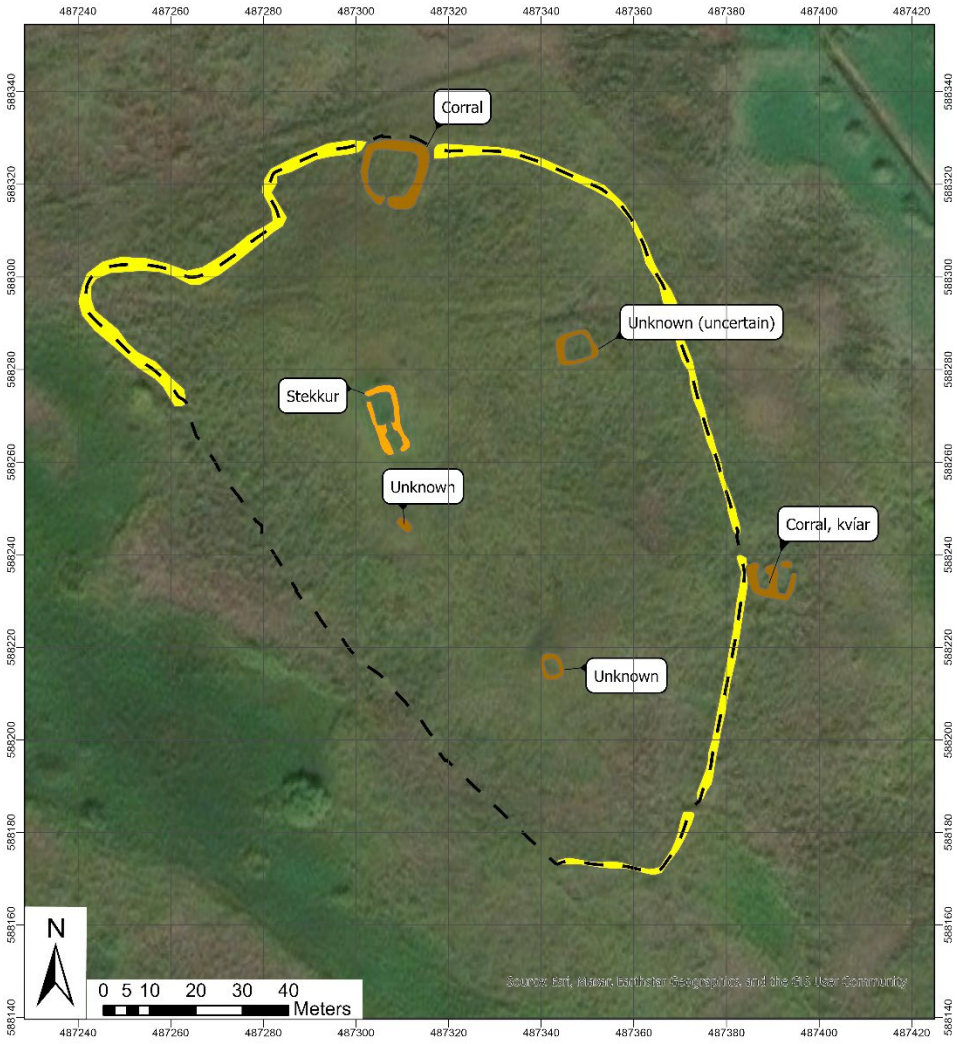


Figure 5. Surface structures at Geitnakofahóll.

The farm mound at Geitnakofahóll was previously investigated in 2009, when Zoega et al. recorded 5 cores inside the wall at Geitnakofahóll (Figure 4). Core 1, which was in the wall of the smallest visible toft, recovered turf with 1104. These cores found primarily evidence of post-1104 turf (1 and 3), no floor layers in surface structures (2 and 4), and one layer of charcoal and burnt bones close to the central surface structure (5). Pálsson summarizes Zoega et al, noting that the site has an unusually large field and that the surface structures are post-1104 (Pálsson 2011:279).

There were 38 cores at Geitnakofahóll to locate a domestic occupation, 17 of which had cultural material (Table 3). No cores were taken outside the enclosure wall. The cores were consistent with the coring in 2009, suggesting a concentrated and short-lived domestic occupation before 1104 and turf structures built after 1104. The domestic occupation is centered around a relatively recent stekkur, which suggests there may have been a previous structure that

was later modified or rebuilt to become the stekkur. The time control on the domestic occupation was not excellent, but it appears to be early.

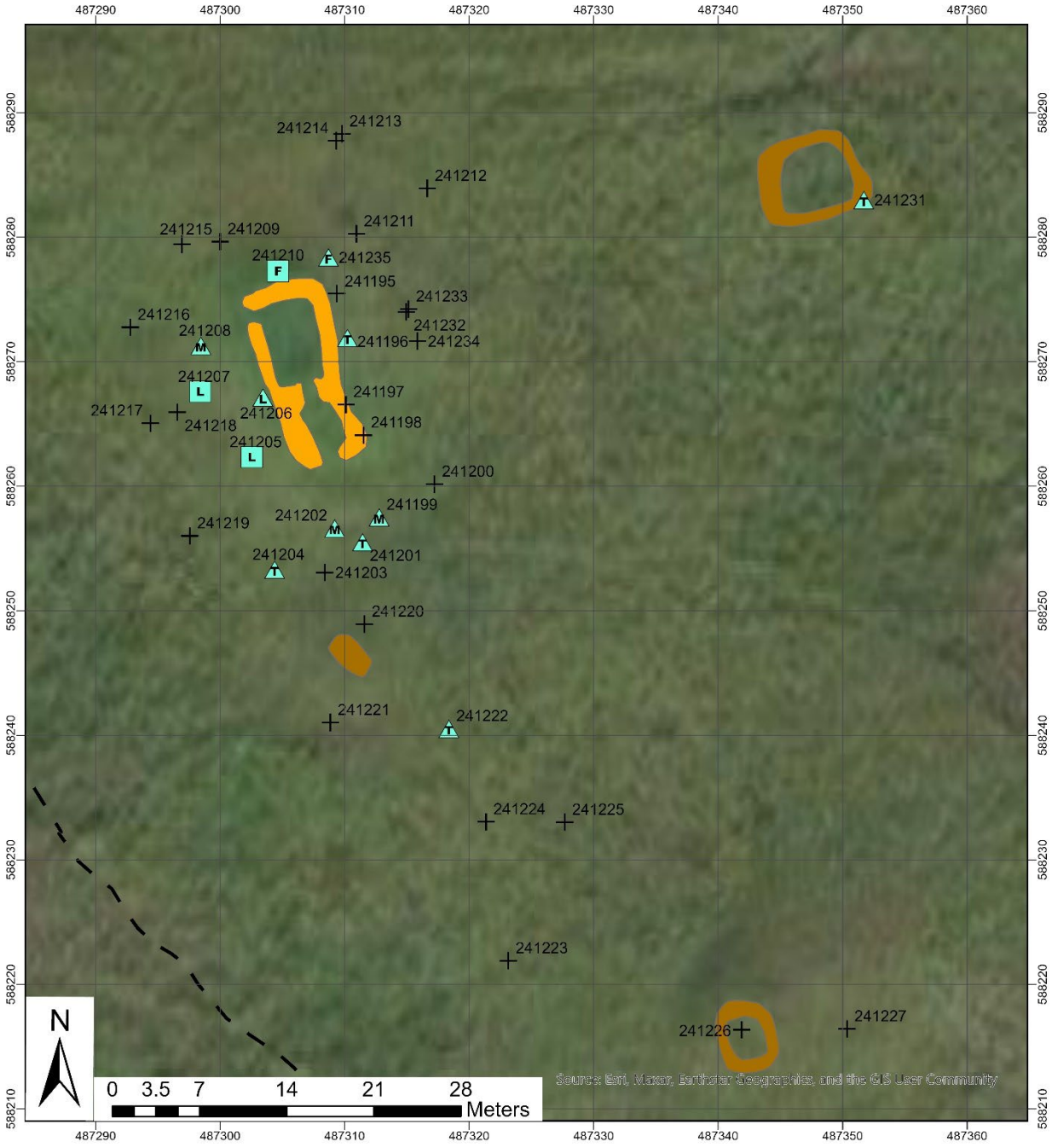


Figure 6. Zoomed-in view of labeled farm mound cores at Geitnakofahóll.

There were no cultural deposits below an in-situ H1104, but there were 3 cores deemed a 'yes' for pre-1104 because they were stratigraphically just above prehistoric tephras: 241210,

241207, and 241205 (Figure 6, Table 5). Core 241210 was especially convincing. It was conducted through the northern edge of the standing stekkur and recovered turf with H1104 (most likely representing the younger stekkur) above LDC, floor and midden. The midden was 2cm above an in-situ H3/H4 (Figure 7). This suggests that there was an early midden and potentially a domestic occupation below the stekkur which is currently visible, which seems to date to after 1104. While there was no in-situ 1104 recovered in this core, the presence of turf with H1104, which must postdate 1104, helps to establish the floor and midden as early and to establish a post-1104 phase of turf usage.

Figure 7. Core 241210, showing turf with 1104, LDC, floor, and midden. H3 was primarily visible in the butt of the core, so is not clear in this image.

The other two cores that were considered a "yes" for the pre-1104 time period both contained LDC. Core 241207, to the west of the younger stekkur, contained LDC from 20-38 cm with peat ash and charcoal. This was 1 cm above a tentatively identified LNL and 7 cm above H3. Core 241205, to the southwest of the stekkur, contained LDC from 16-21cm, 2cm above the LNL. While these cores do not have a clear upper date limit on the cultural deposits, they have generally consistent depths for cultural deposits (15-40cm) and the LNL (Table 7). Furthermore, the deposits seem to be similar in character and primarily composed of charcoal ash.

Other cores with cultural deposits generally supported this conclusion. Core 241253 was taken inside the current stekkur. This core recovered turf with H1104 from 20-60cm and a floor from 60-62cm (Figure 8); it is plausible that the floor is related to the one from core 241210, which was also found below a layer of turf containing H1104, but since there were no prehistoric tephras recovered, it cannot be determined exactly when this floor was from.

Figure 8. Core 241235, showing the end of post-1104 turf above floor at 60-62cm.

Core 241208, to the northwest of the stekkur, contained turf with prehistoric tephras (LNL, H3) above midden, which also suggests an early date for midden deposition. Core 241204 contained turf with only H3, but without any in-situ tephras. The presence of turf that is likely pre-1104 in the same area as other cultural deposits supports the idea that there was an early domestic structure in this area. Core 241202, to the south of the visible stekkur, recovered alternating layers of midden and turf; all of the turf only contained H3, which supports the idea that there was both an early turf structure and associated midden.

Generally, these cores support the idea of a pre-1104 domestic occupation and associated structure. In cores where midden was recorded, it was much darker in color than peat ash midden; this suggests it was more charcoal-based midden, which is commonly found in earlier occupations before widespread deforestation (Catlin 2019). Most of the midden deposition appears to have been to the south/southwest of the modern stekkur and potentially the earlier structure (Figure 9).

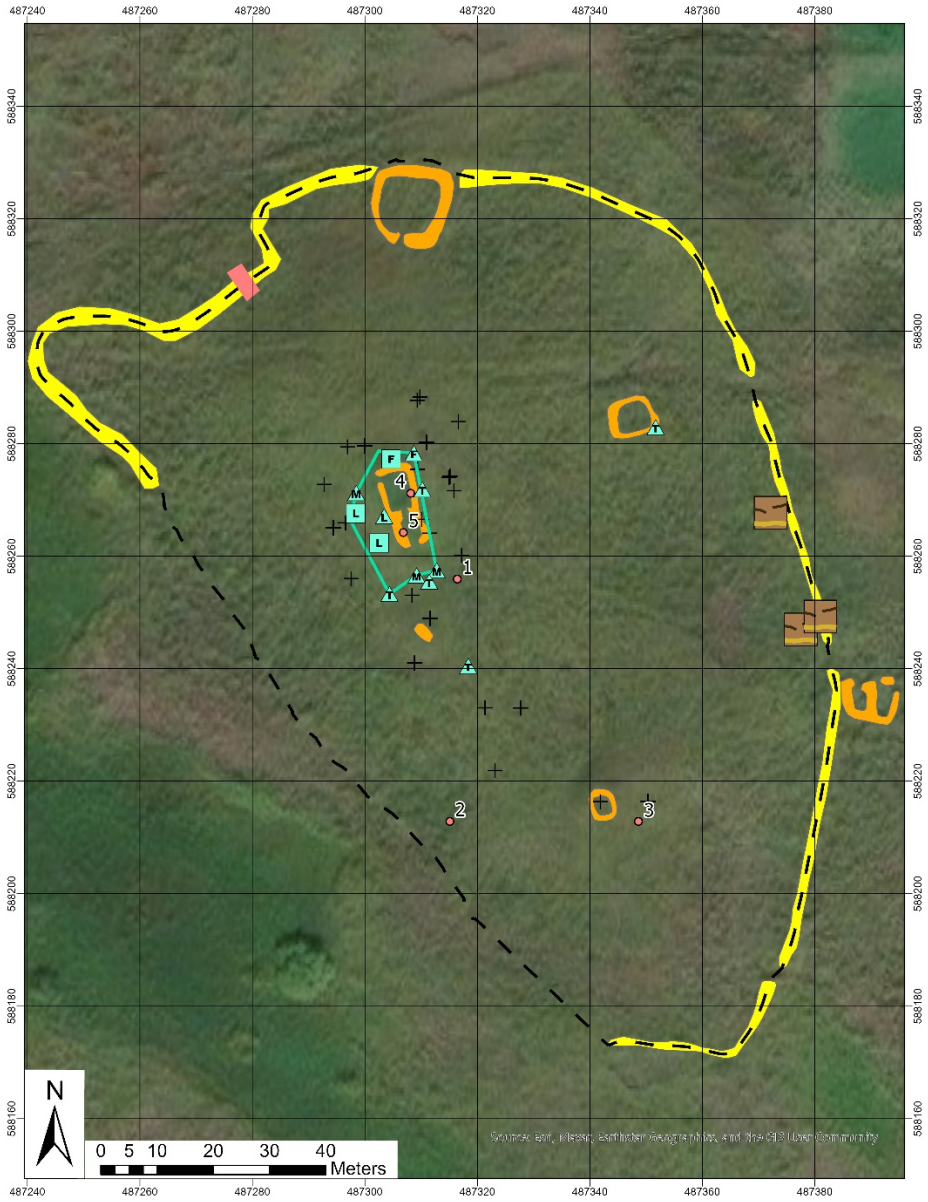


Figure 9. Map of Geitnakofahóll showing standing walls, estimated enclosure, previous work, and 2024 pre-1104 coring results.

While there is evidence of turf construction that post-dates 1104 (Table 3), there were no cores with other cultural deposits that post-date 1104 (Table 4). This suggests that by 1104, this site was no longer part of a domestic occupation. There was no evidence of wall rebuilding after 1104, which is interesting because there is evidence of turf construction after 1104 at the stekkur. When this site was later used, presumably for animal grazing and management, walls may have no longer been the primary methods for controlling livestock movement. However, at other sites discussed in this appendix, walls were rebuilt after 1104, even if the site was not necessarily used

for a domestic occupation; perhaps the walls at Geitnakofahóll were too large to be practically rebuilt. It is unknown until what time period this site was used for animal management. The absence of any turf with tephras after 1104 could suggest that it was primarily used for this purpose before 1300, but there were very few cores that recovered later tephras like 1300 or 1766, so this cannot currently be confidently determined (Table 7).

What is also unusual at Geitnakofahóll is the large size of the enclosure (1.34 ha) compared to a very small farmstead area, both in horizontal spread (253 square meters) and in depth (less than 20cm in most cores). Hólakot, which also has a relatively large enclosure (2.11 ha), has a much larger pre-1104 farmstead area (5558 square meters).

Kringla [251-4]

Kringla is currently on the land of Nedri-As, approximately 1km southeast of the current farmhouse and approximately 3km southeast of Geitnakofahóll. It sits on a significant slope from northeast to southwest. The southern portion of the site, especially the southeast, is primarily a bog. To the north of the site is forest land, while to the south are currently cultivated hayfields from Nedri-As. Approximately half a kilometer south of the site is the Hjaltadalsá river. Kringla does not appear in any historical documents. There has been no previous archaeological investigation.

Standing Walls

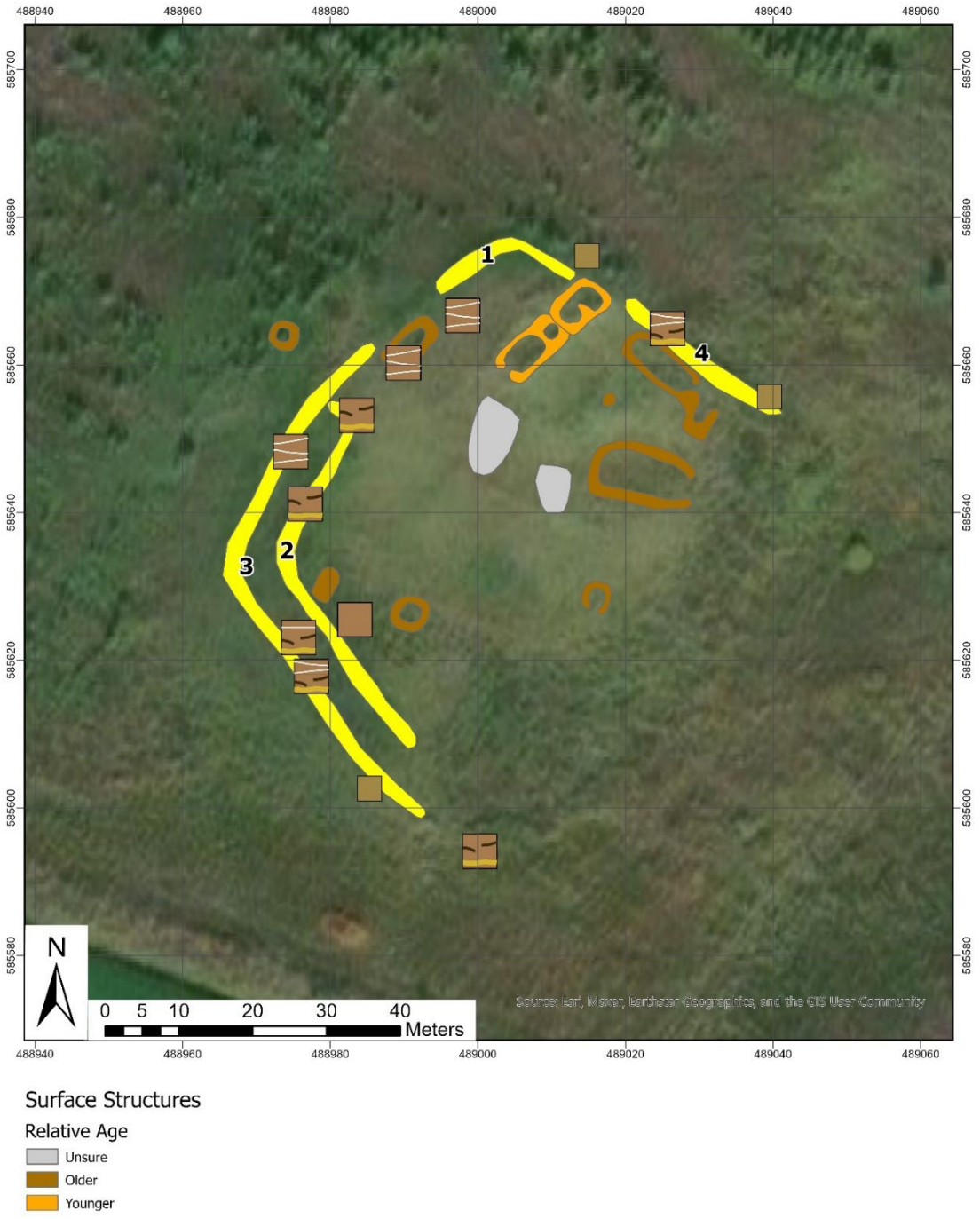


Figure 10. Map of standing walls, surface structures, and wall cores at Kringla.

There are four standing walls at Kringla, which do not appear to all date to the same time period (Figure 10). Wall 1 is short (22m) and makes up the NW corner enclosure of Kringla (Figure 10). Two cores were placed through this wall. Core 241236, on the western side of the corner, recovered 40cm of turf with 1104 visible many times. Core 241249, on the northern side

of the corner, did not recover any turf. While one core is limited evidence to date a wall, the current evidence suggests that there was wall building after 1104, but no evidence of wall building before 1104.

Wall 2 (56m) is the inner wall in the western and southern area of Kringla (Figure 10). There were three cores through this wall, all of which contained turf, but only two of which contained turf with visible tephras. Cores 241239 and 241240 both only contained prehistoric tephras. Core 241239 contained turf with only H3/H4, potentially below an in-situ 1300. Core 241240 contained turf with only H3/H4 directly above an in-situ H3. Based on this evidence, it was determined that this wall was most likely built pre-1104 and that there was no evidence of rebuilding discernable from the cores.

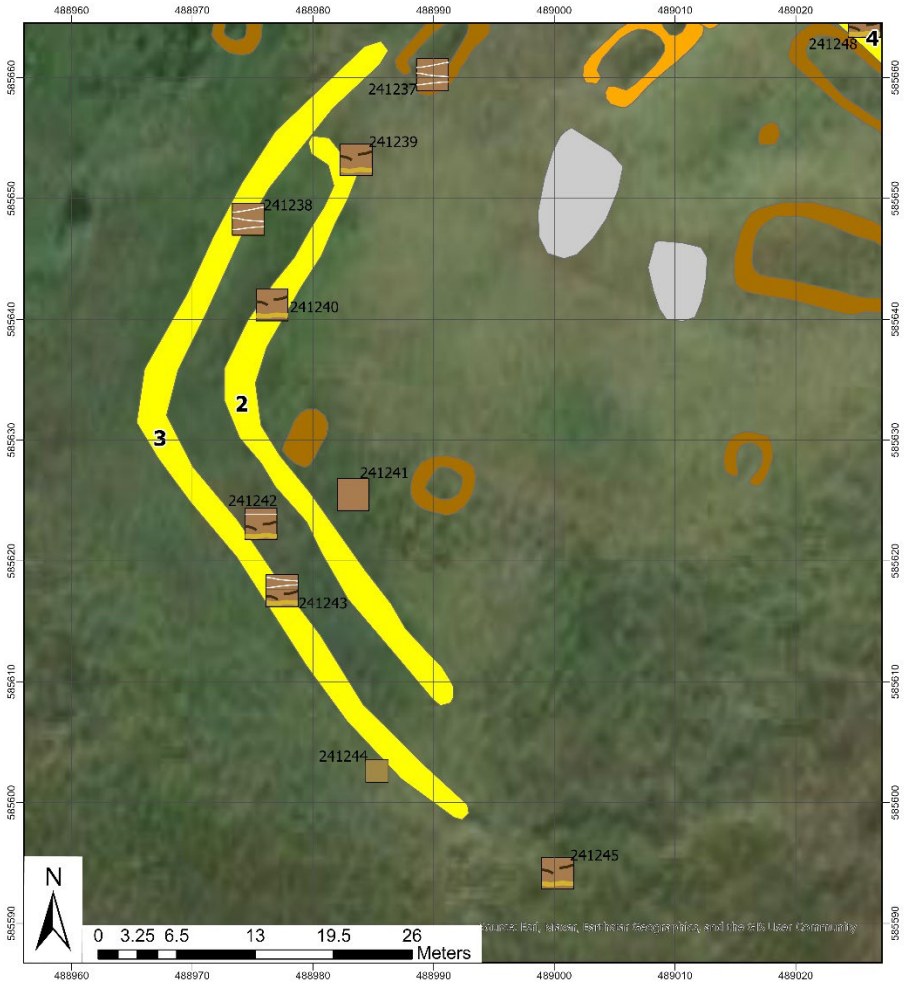


Figure 11. Detailed view of Kringla walls 2 and 3 with cores labeled.

Wall 3 (79m) is the outer wall in the western and southern area of Kringla (Figure 10). There were six cores through this wall, five of which contained turf. The results of these cores are less straightforward than walls discussed at Kringla so far, but they generally point towards

two phases of construction for this wall, one before 1104 and one after 1104. This may also be spatially divided for different areas of the wall, with the western section appearing to have more evidence for post-1104 construction and the southern section to have more evidence for pre-1104 and post-1104 construction (Figure 11). However, because it would make little sense to have only half of the wall before 1104 and half after, it was determined that the whole wall probably had a pre-1104 and post-1104 phase, and enclosure size was determined accordingly. Cores 241237 and 241238, on the western side of wall 3, contained only turf with H1104, suggesting one construction phase that occurred after 1104. Cores 241242 and 241243, on the southern section of wall 4, suggested an earlier construction date. Core 241242 contained turf with only H3/H4 below an in-situ H1104 and directly above an in-situ H3, suggesting one construction phase before 1104. Core 241243 contained two different types of turf, one which contained H1104 and one below it which contained only H3/H4, though this layer was only tentatively identified as turf. This would suggest two construction episodes, one before 1104 and one after; alternatively, it would suggest one episode after 1104.

Figure 12. Core 241243, showing the transition at approximately 60cm bgs between two types of turf.

Core 241244 was in the area where the wall was beginning to be very eroded, so it did not recover any turf or tephra. Core 241245, which was technically beyond the bounds of the wall but was an experiment to see if any turf could be recovered, contained turf with only H3/H4 above a very small layer of midden. This suggests one phase of earlier construction.

The data from these cores are not totally consistent, but I propose the following interpretation. The southeast corner of the site is extremely boggy, which is probably a major reason why the wall on the eastern and southeastern parts of the site is almost totally eroded. Because there is evidence for pre-1104 construction and post-1104 construction in separate cores and evidence for both in one core (241243), I categorize this wall as having two construction phases, one before 1104 and one after 1104. The western area of the wall may have not had an earlier phase, but there is definitely evidence that this wall was built or rebuilt after 1104, making it in use later than wall 2.

Wall 4 (27m) is a short, straight wall in the northwestern area of the site (Figure 10). There were two cores through this wall, only one of which recovered any turf. The dating of this wall is preliminary because it is based on one core, but it appears consistent with the other wall cores from the site. This section was relatively eroded, which made collecting any more cores very difficult because their stratigraphy would likely be compromised. Core 241248 shows two

distinct types of turf, the upper of which contains H1104 and 1300, while the lower one contains only H3/H4. The lower layer of turf was also close to an in-situ H3. This core suggests that this wall had at least two construction phases, one before 1104 and one after; the later one was likely later than 1300.

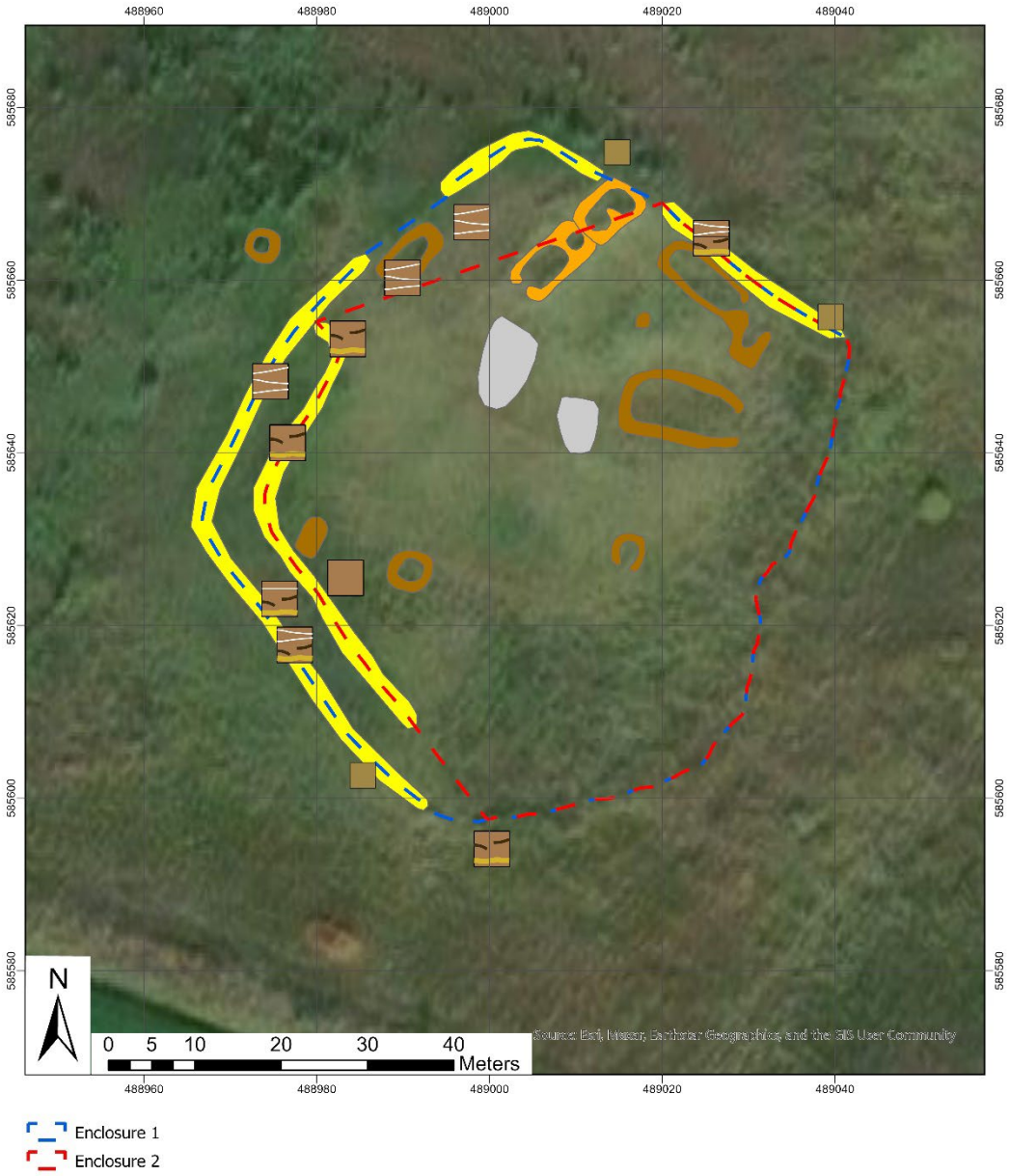


Figure 13. Kringla enclosures.

Enclosures

Determining enclosures at Kringla was complicated primarily by the conflicting coring results from wall 3. There are two enclosures interpreted at Kringla: one pre-1104 and one from 1104-

1300. Enclosure 1 (shown in blue on the map) is made up of walls 1, 3, and 4, and post-dates 1104 (Figure 13). This enclosure is based on the standing sections with evidence of post-1104 construction. On the eastern side of the site, where the wall is totally eroded, it follows the area of erosion as an edge. This is the largest enclosure at the site. Enclosure 2 (shown in red on the map) is made up of walls 2 and 4 and pre-dates 1104. It follows the same assumed eastern edge as enclosure 1. This enclosure is smaller than enclosure 1. This fits with the fact that wall 2 was not re-built after 1104, showing a shift to wall 3 as the more important southern boundary after 1104.

While this thesis largely looks at 870-1104 as one time period, it is important to remember that this time period spans 234 years and could contain many different uses of fields and walls. Wall 3 and wall 4 are consistently about 6m apart, suggesting that whichever was built later was purposefully built a consistent distance away from the other. The area inside the small corridor between the two walls is quite small, about 270 square meters (.027 ha) at the most. It seems likely that these walls were built to create this bounded section, because expanding or contracting a field by this degree would require a large amount of labor for little clear purpose, especially because the inner wall was left in place. This bounded area may have served a specialized purpose at some point in the period before 1104; possibilities include livestock management or potentially a different type of cultivation, though because of the lack of a test pit, it is unknown whether there is any evidence of barley consumed or cultivated at this site. Because only the outer wall was rebuilt after 1104, it seems that this bounded area was no longer necessary at that point or did not need to be rebuilt to be functional. The fact that the inner wall was not cleared away suggests that this section of the field would still have been used for something different; though if the site was primarily used as a shieling or other grazing site, perhaps the labor to remove the inner wall was deemed too great.

In this case, the appearance of a double wall seems to more likely indicate the creation of a specialized bounded area at the site instead of a contraction or expansion of a field system. It seems that this area was primarily important before 1104 and less important after 1104; after 1104, the priority seems to have been to create a more clearly defined outer wall.

Farm Mound

There has been no previous archaeological survey at Kringla. Pálsson 2011 discusses the different visible ruins, noting that some appear older, while the most visible toft in the north appears relatively young (278), which is consistent with the surface structure determinations made by Bryndís Zoëga (Figure 14). The site is not mentioned in any written documents, suggesting it was abandoned before the 15th century.

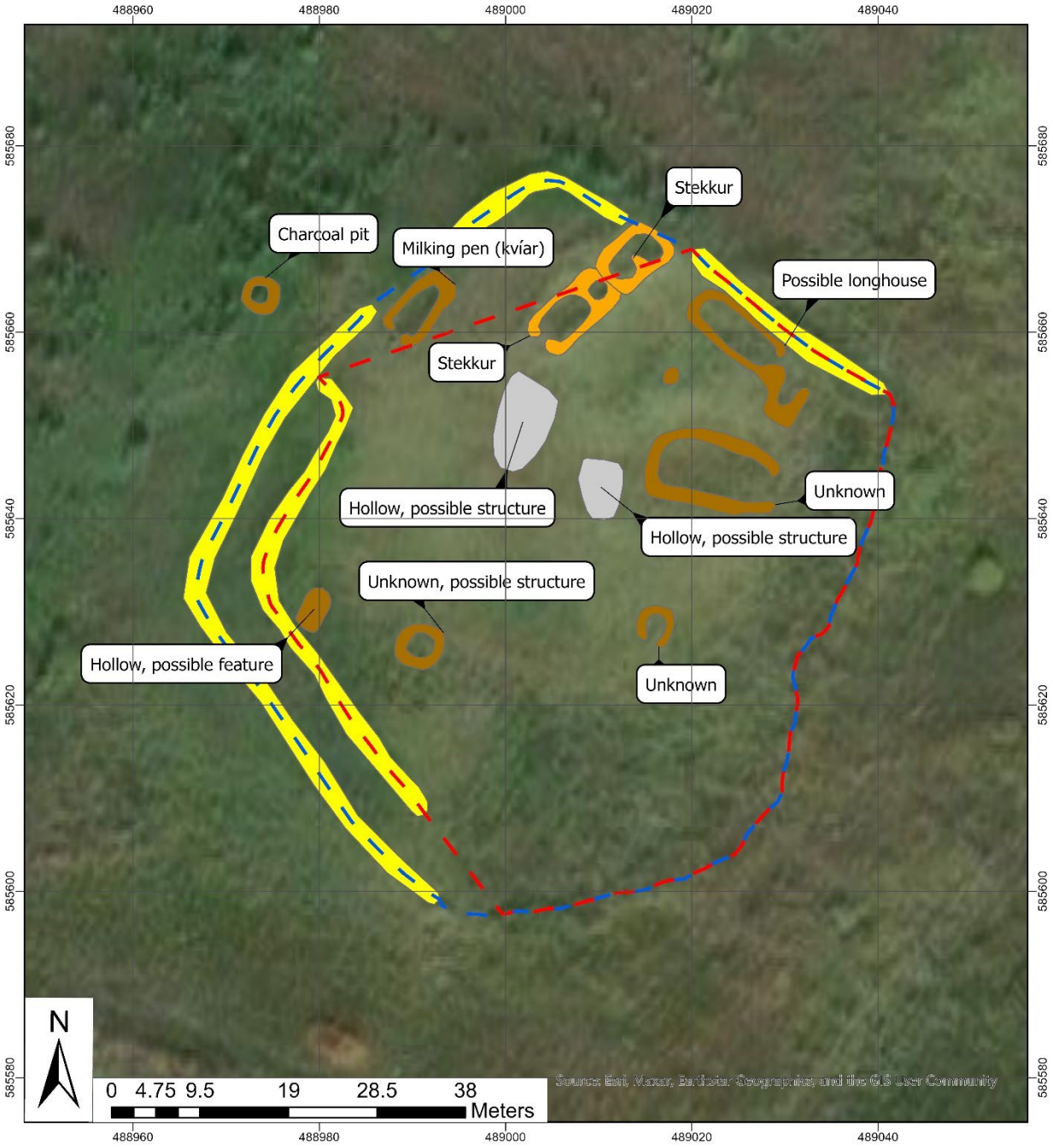


Figure 14. Labeled surface structures at Kringla.

Coring in the 2024 field season began in the northwestern area inside the wall, working south and east. Cultural layers at Kringla are dominated by charcoal; there is evidence of charcoal throughout the site, including one core outside of the enclosure walls. The specifics of the charcoal are examined in greater detail below, but it appears to be cultural in origin because they are often mixed in with other cultural layers like LDC or midden. Charcoal appears to be

present before and after 1104 and concentrated around feature 3, an enigmatic dip on the eastern side of the site (Figure 15). Inside the hollow, there are very compact layers entirely of charcoal. There are layers of charcoal further away, but it becomes more common for charcoal to be found as an inclusion instead of a compact layer as one gets further from feature 3.

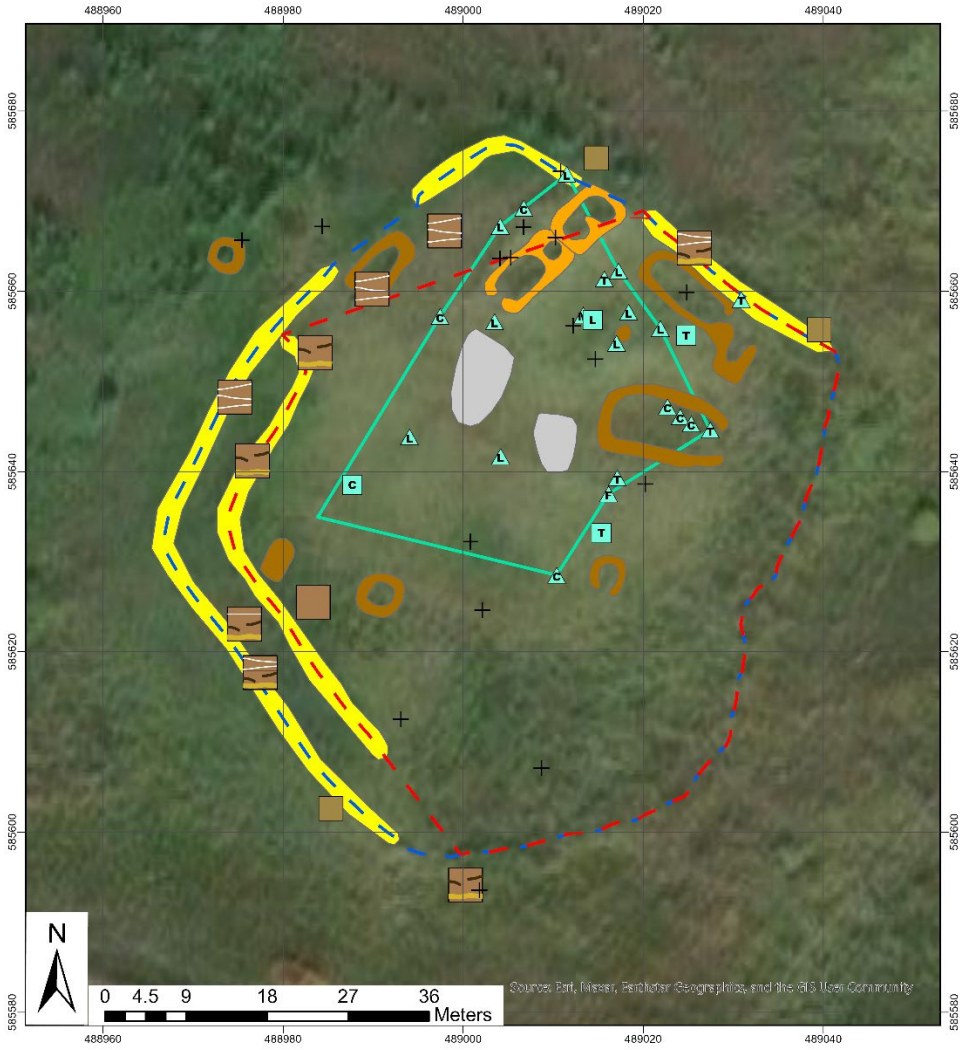


Figure 15. Pre-1104 coring results at Kringla.

The following facts support a domestic occupation at Kringla. In the northeast corner of the site, there are the ruins of a structure that were identified as a potential longhouse by Bryndís Zoëga; Pálsson also noted that this could be a longhouse (Pálsson 2011:277, Figure 14). There are 4 cores that contained bone and/or peat ash inclusions in cultural layers: 241257, 241264, 241265, and 241266. Of these, core 241265 was the only one with an in-situ H11104 and contained an LDC strata with bone and charcoal that crossed across H1104. It also contained a charcoal layer above H1104 with pieces of bone. Most of these cores are close to the potential longhouse, supporting the idea that it was the area of early occupation. Also nearby, core 241282

contained pre-1104 turf which may have come from the structure. There were also 4 cores that recovered midden, though none of them had upper bounding tephras. In 3 of these, the midden was below another layer of LDC, and in one of those 3 it was directly above H3 (241259). This is consistent with a domestic occupation in the earlier life of the site.

There were several charcoal-rich layers, especially around feature 3 and in the southeast area of the site, that were identified in the field as floors. This was because the layers were especially compact, but they were also in places where the floor of a structure would not make sense. In the comments for core 241271, which recovered two distinct charcoal layers, and a layer identified as a floor, it was noted that it was far too steep of a slope for a typical floor, but the layer was dark and extremely compact (Error! Reference source not found.). These cores are displayed with their original field identification in maps. These layers were probably not floors from domestic structures, but instead some kind of working surface associated with the nearby charcoal activity.

Timing the domestic occupation and charcoal activity at Kringla, like at Geitnakofahóll, was somewhat difficult, primarily because of the low recovery rates for H1104 (Table 7). There were only 6 non-wall cores where an in-situ H1104 was recorded. 25 cores total contained all-time cultural material, 4 of which were considered a yes for pre-1104 cultural material (Table 3, Table 4). 2 were considered a yes for cultural material from 1104-1300. There were no cores, not counting turf, that were a yes for post-1300 (Table 3, Table 4). The limited tephra recovered seems to suggest a relatively early occupation that extends past 1104. Of the 6 cores with an in-situ H1104, 3 cores contained evidence for pre-1104 activity and 2 contained evidence for post-1104 activity. The three cores with the best pre-1104 evidence below an in-situ H1104 suggest at least limited trash deposition, including animal bones (241265); a charcoal layer (241274); and turf construction (241282). The three cores with the best post-1104 evidence suggest limited trash deposition, but for less of a depth than before 1104 and a distinct charcoal layer (241265), and turf construction (241282). One core, 241265, is the current best evidence for both pre and post 1104 occupation.

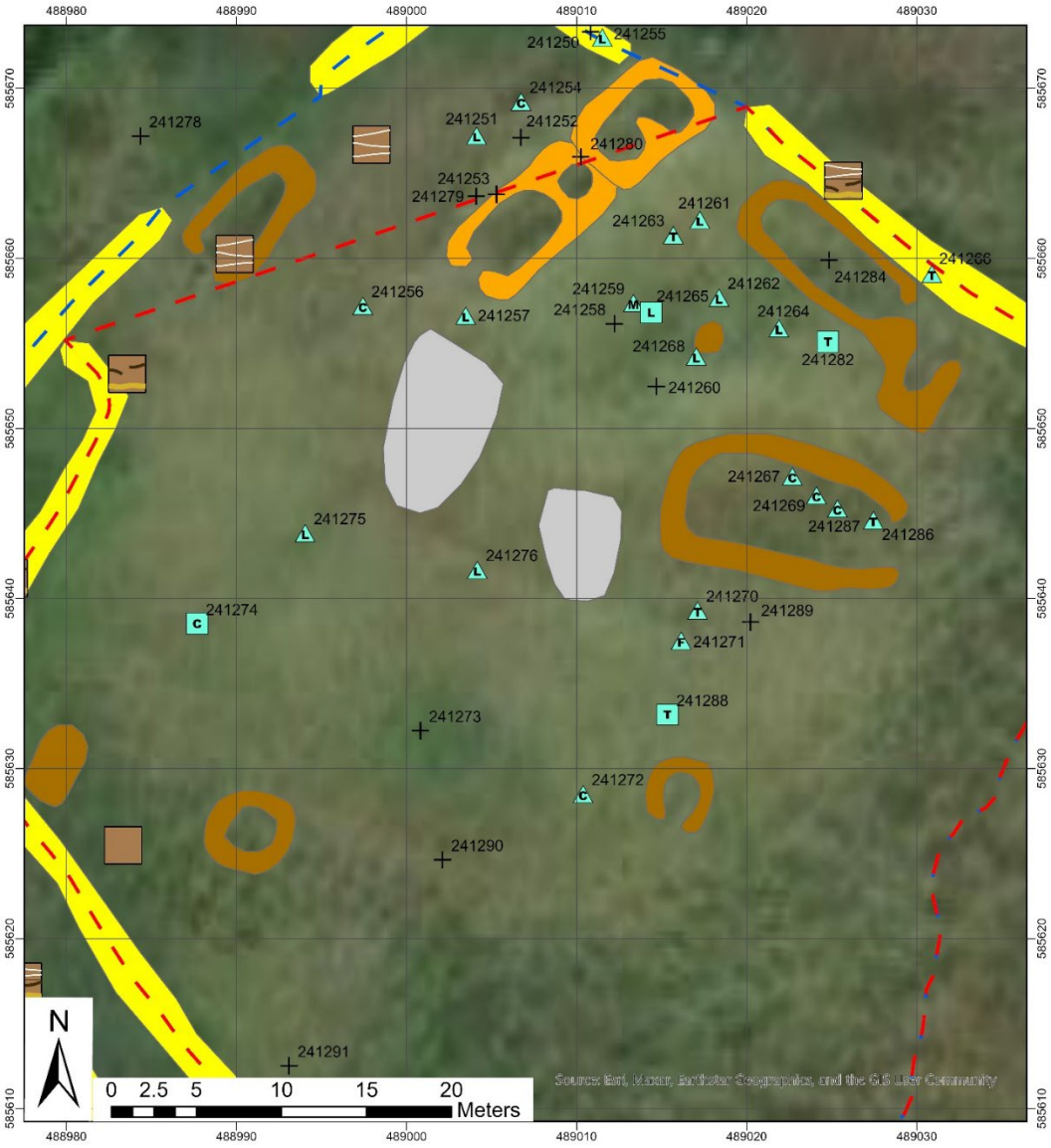


Figure 16. Labeled pre-1104 cores at Kringla.

Charcoal

The cores that contained charcoal from Kringla will now be discussed in more detail to determine the timing of charcoal activity and its location within the site. Nine farm mound cores at Kringla were recorded as having at least one layer of charcoal, while 15 farm mound cores at Kringla recorded charcoal as an inclusion in another layer; some of these had both, so there were 22 total cores at Kringla that contained evidence of charcoal. Several surface features at Kringla might be associated with the charcoal activity found across most of the site (Figure 17). Feature 1, a circular depression outside the enclosure walls, was identified as a likely charcoal pit. One experimental core nearby (241277) did not recover charcoal or any other cultural material, so

while this depression is consistent with a charcoal pit, it needs to be further investigated. Core 241278, further to the northeast, did have charcoal in an aeolian layer, suggesting that there was charcoal activity in this area and outside the wall. Feature 2, in the northeast area of the site, was also identified as a potential charcoal pit. The cores around this depression primarily contained LDC instead of distinct charcoal layers with the exception of core 241265, which contained LDC with charcoal and bone below 1104 and a thin charcoal layer above 1104. Cores 241262 and 241264, very close to the pit, both contained LDC with charcoal inclusions. This supports the idea that this depression could be a pit associated with charcoal production.

Feature 3, in the eastern area of the site, is enigmatic because it is by far the area with the greatest charcoal concentration but is also not the shape of a typical charcoal pit. This semi-rectangular feature, which is about 14m long and 8m wide, contained four cores with distinct charcoal layers, many of which had multiple layers. The cores are described in order from northwest to southeast. Core 241267 contained no tephra but had a layer of midden above a thin layer of charcoal at 40-41cm bgs. Core 241269 also had no tephra, but was somewhat similar, with a floor containing charcoal at 23-24cm bgs and a layer of charcoal at 38-40cm bgs. Core 241287 contained turf above a layer of charcoal from 30-32cm bgs. Core 241285 contained a charcoal layer from 30-32cm bgs below an in situ 1104. These indicate a consistent layer of charcoal in this area that appears at a relatively uniform depth. In this feature, there appears to have been some kind of intense charcoal-related event before 1104, and then later (but not clear if still before or after 1104) there was another period of use that had more midden and floor than pure charcoal; it remains unclear whether this was a structural building at this point. This feature may be too large to truly be a charcoal pit, but it is still possible that this feature was associated with charcoal production.

Figure 17. Visible turf structures at Kringla, with features possibly associated with charcoal production numbered and in grey.

Feature 4 is a hollow area in the center of the site. There are no cores directly associated with it. Core 241276, which was relatively close, did not contain any charcoal layers, so it seems that this feature is not strongly associated with charcoal production. Feature 5 is a semi-circular feature in the southeast section of the site. It is similar in size/diameter to feature 1, so its size could correspond to a charcoal pit. There are no cores directly associated with it. Core 241272, which is slightly to the west, did contain a charcoal layer (25-26cm), which indicates that this feature might be charcoal-related. The other nearby core, 241288, did not contain any evidence of charcoal. Feature 6 is a circular hollow in the southwest area of the site. There were no cores nearby, so it is currently not known if there is any charcoal association. Between features 3, 4, and 5, there are two cores with evidence of charcoal. Core 241271, which had the highest

number of distinct layers (2 identified as charcoal layers and 1 floor) is not directly associated with any specific feature, but is approximately equidistant between 3, 4, and 5. Core 241270 contained midden with charcoal above a layer of turf. It is most likely that Core 241271 is associated with structure 3, because it has consistent evidence of charcoal layers.

Overall, while core 241269 had a charcoal layer and a floor (which is most likely another charcoal layer) and core 241271 had 2 charcoal layers and what was identified as a floor, the rest of the cores where a charcoal layer was recorded only contained one layer. However, given that some were above H1104 and some were below H1104, it does not seem like these all came from one event. This suggests multiple charcoal-related events at Kringla, potentially both before and after 1104. Because charcoal pits would seriously damage a grazing field, it seems likely that the domestic structure and use of the field for grazing pre-dated the charcoal production. The fact that walls were reconstructed and expanded after 1104 is interesting, especially because it seems that charcoal production continued after 1104, and enclosure walls would likely not be directly related to charcoal production. Perhaps the walls were intended to keep livestock away from pits related to charcoal production, or perhaps they were built after charcoal production had halted and the site was primarily being used for grazing again.

From 1104-1300, there is still evidence of a domestic occupation at Kringla, though it appears less intense than the pre-1104 occupation. As mentioned in the charcoal section, there is evidence of continued charcoal activity after 1104, as well as one confirmed LDC above H1104 and several “maybes” for post-1104 midden. The farmstead extent drawn for 1104-1300 is very similar to the pre-1104 extent, primarily because the cores at the edges of the extent do not have tephra to consistently date the deposits (Figure 18, Table 6). Because the walls were also rebuilt after 1104 but seemingly before 1300, it is assumed that charcoal activity continued for a while after 1104, but eventually the site was again used as a hayfield or for another animal grazing-related activity.

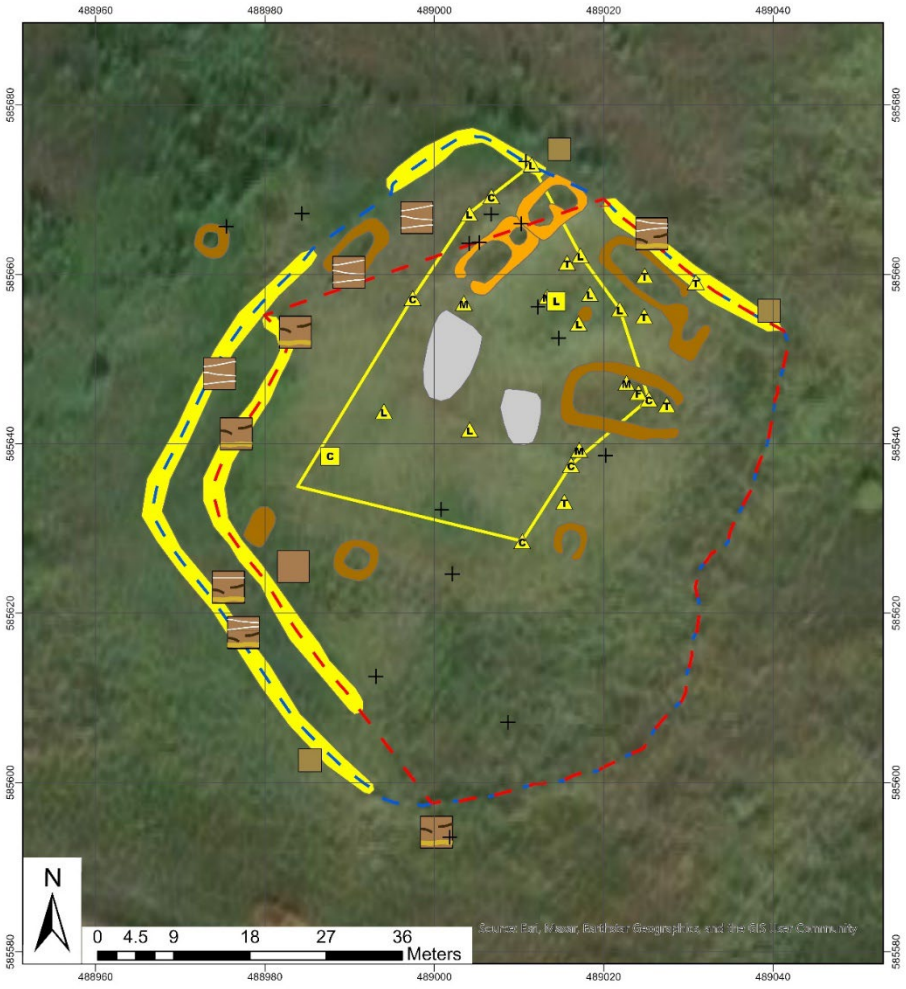


Figure 18. 1104-1300 coring results at Kringla.

For post-1300, there were no confirmed cultural deposits of any kind, including turf (Figure 19), so it seems that the site was totally abandoned, or at least not used intensively enough to warrant investing effort into repairs. This lines up with Geitnakofahóll, also on the land of Nedri-As, which appears to have no turf construction or repairs after 1300. Interestingly, this makes Kringla the only site where there does not appear to be construction of turf structures after repair of enclosure walls ended.

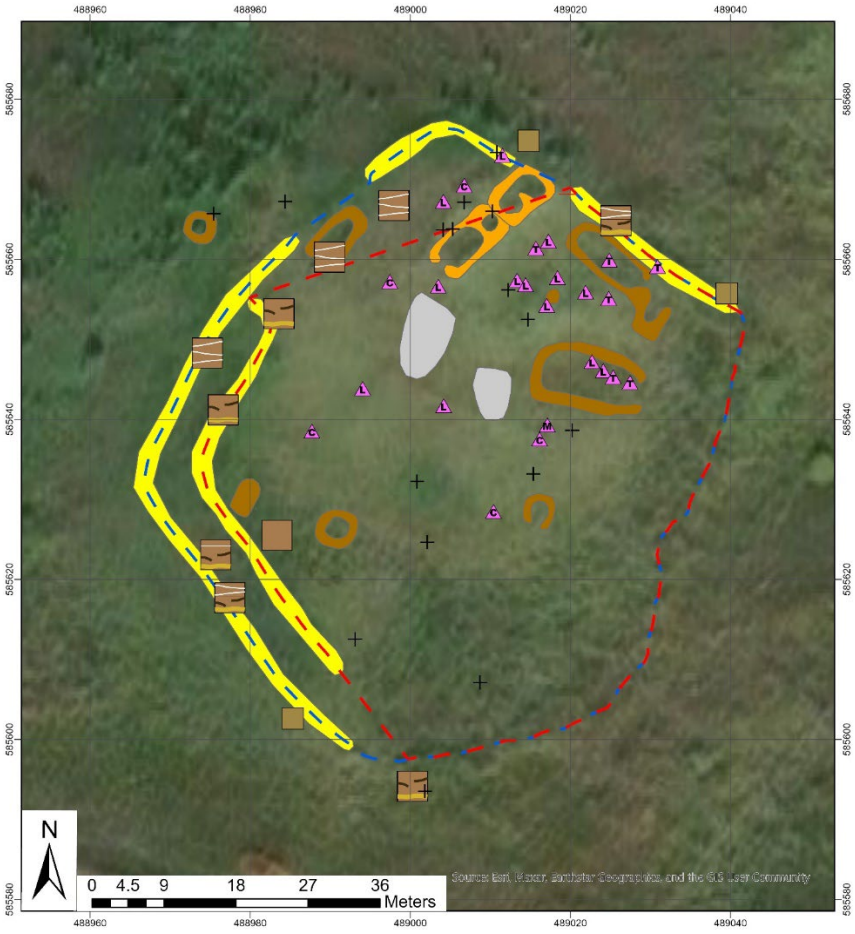


Figure 19. Post-1300 coring results from Kringla.

Kringlugerði [257-1]

Kringlugerði is today on the land of Kálfsstaðir, approximately .5km northwest of the modern farmhouse. It sits in a relatively flat area of undeveloped land surrounded primarily by bogs. The Hjaltadalsá river is approximately .75km northeast of the site. Kringlugerði is further into the valley, with an elevation of 168m a.s.l and close to the edge of currently vegetated land, with the gravel-dominated mountainside close to the south. Kringlugerði does not appear in any historical documents. There has been no previous archaeological investigation.

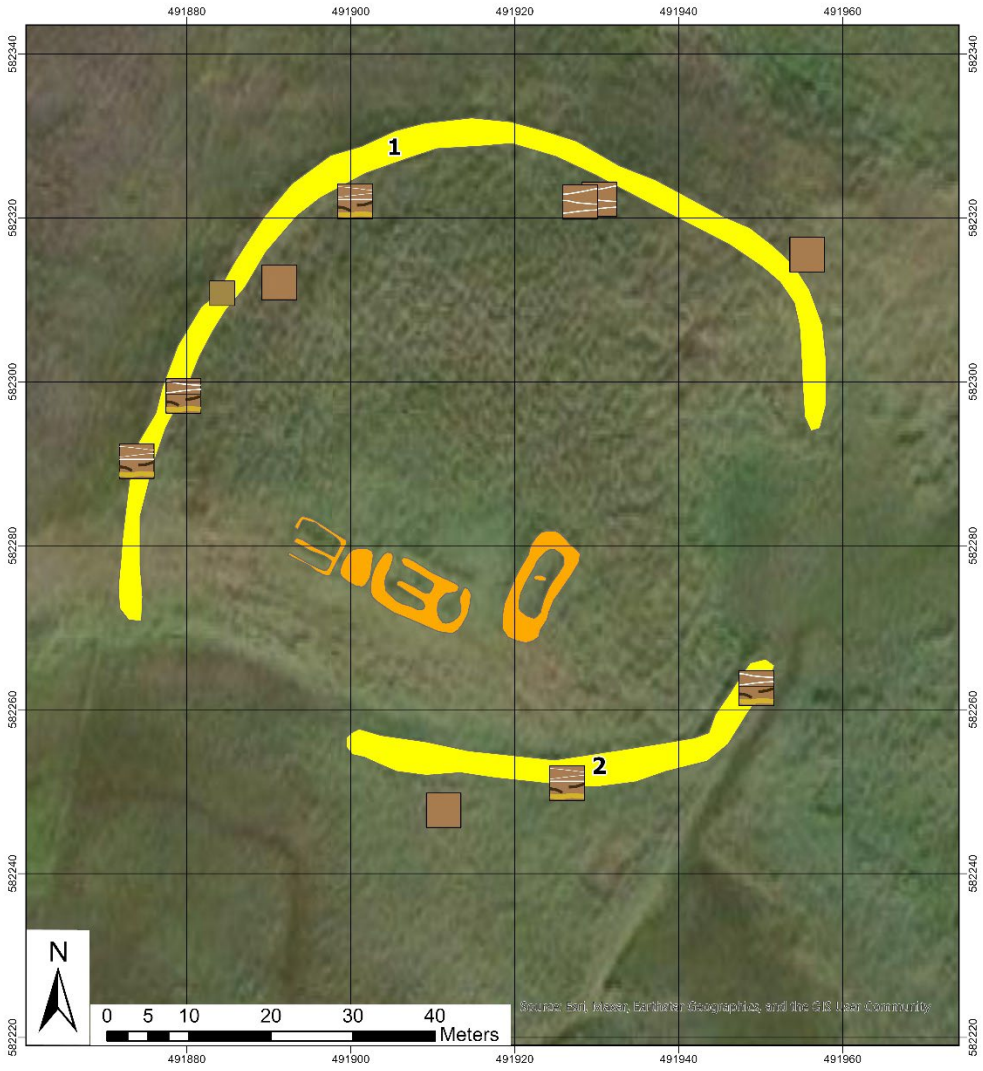


Figure 20. Standing walls and structures at Kringlugerði.

Standing Walls

There are two standing walls at Kringlugerði, separated by areas where the wall is so eroded that there would be no recoverable turf stratigraphy (Figure 20). In total, there were 11 cores through standing walls at Kringlugerði.

Wall 1 (143m) surrounds the northern section of the site. There were 8 cores through this wall, 5 of which recovered tephra. Two cores recovered turf without any tephra, and one core did not recover any turf. This wall has relatively clear evidence for construction before 1104 and reconstruction after 1104. While the eastern section only had cores with post-1104 evidence, this could be because that section becomes much more visibly eroded. The western section of wall 1, which has walls with better preservation, contained multiple cores with what appeared to be turf below an in-situ H1104, and this was secure enough evidence to consider the entire wall as

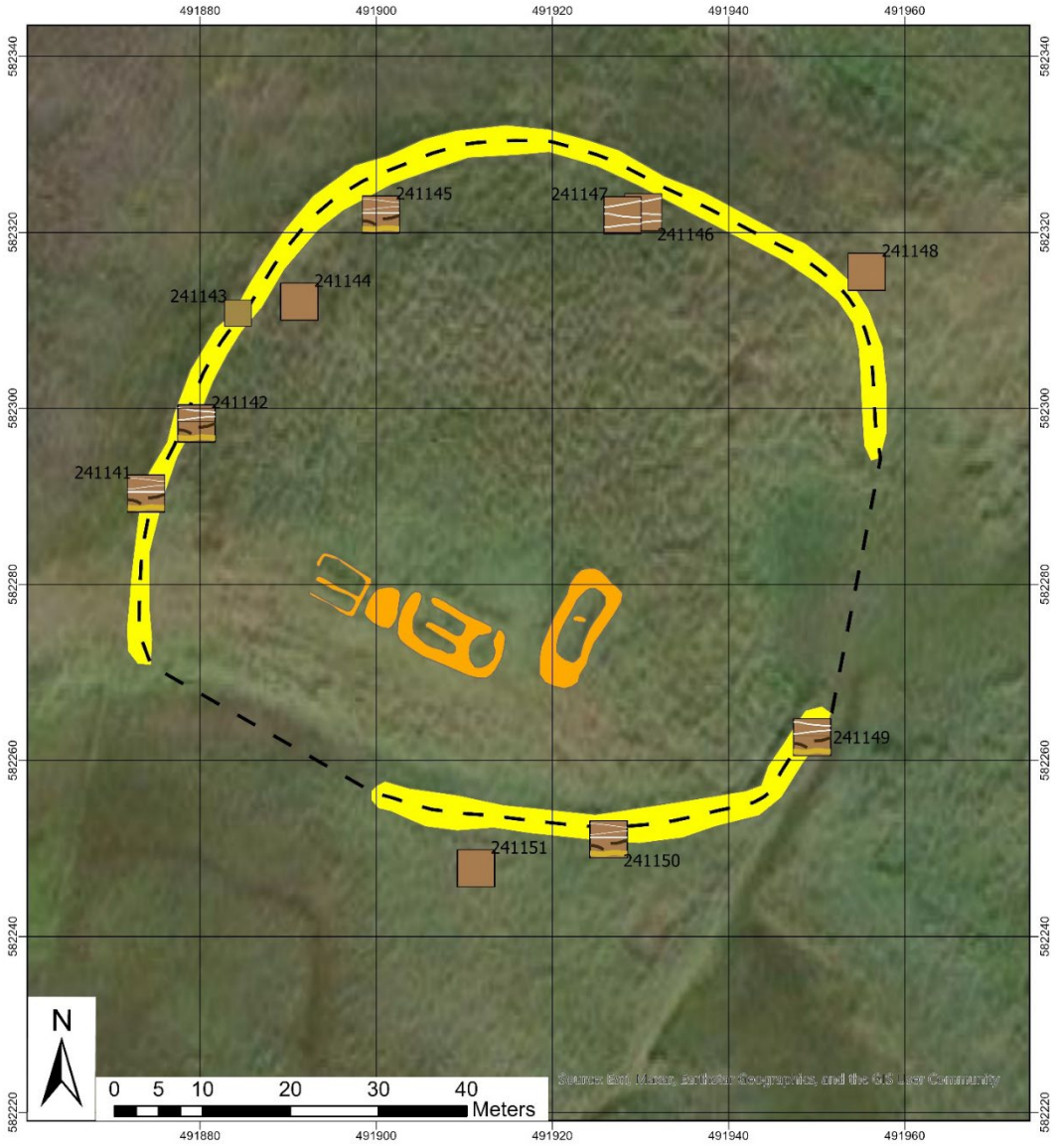
having a pre-1104 component (Figure 21). Another core, 241142, contained earlier turf layers without H1104 below layers with H1104.

Figure 21. Core 241145, second barrel, showing H1104 and earlier turf underneath.

Wall 2 (57.85m) is smaller than wall 1 and makes up the southeast corner of the enclosure. There were 3 cores through the wall, all of which recovered turf. One core, 241151, did not contain any tephras; it was the core furthest to the west, where the wall began to disappear into bog. Core 241150, to the east of 241151, contained a remarkably preserved wall, with several different layers of turf visible. Two layers of turf were recorded, one with turf containing H1104, followed by a potential gap of aeolian soil, and then followed by a layer of more red and grey turf that may either contain Vj ~ 1000 or be partially below it (Error! Reference source not found., Figure 22). A potential in-situ H1104 was recorded at 46 cm bgs because there was only one white line visible, but the identification is tentative. Core 241149 contained turf with H1104 above turf without H1104.

Figure 22. Core 141150, second barrel, showing red and grey turf.

Evidence from both walls therefore shows that the enclosure had both a pre-1104 and post-1104 component, rebuilt in the same location.



Farm Mound

There has been no previous archaeological survey at Kringlugerði. Pálsson notes that two small tofts are visible, and that while there are no documentary records of a farm/domestic occupation at the sites, the enclosure suggests a domestic occupation (Pálsson et al. 2011:87).

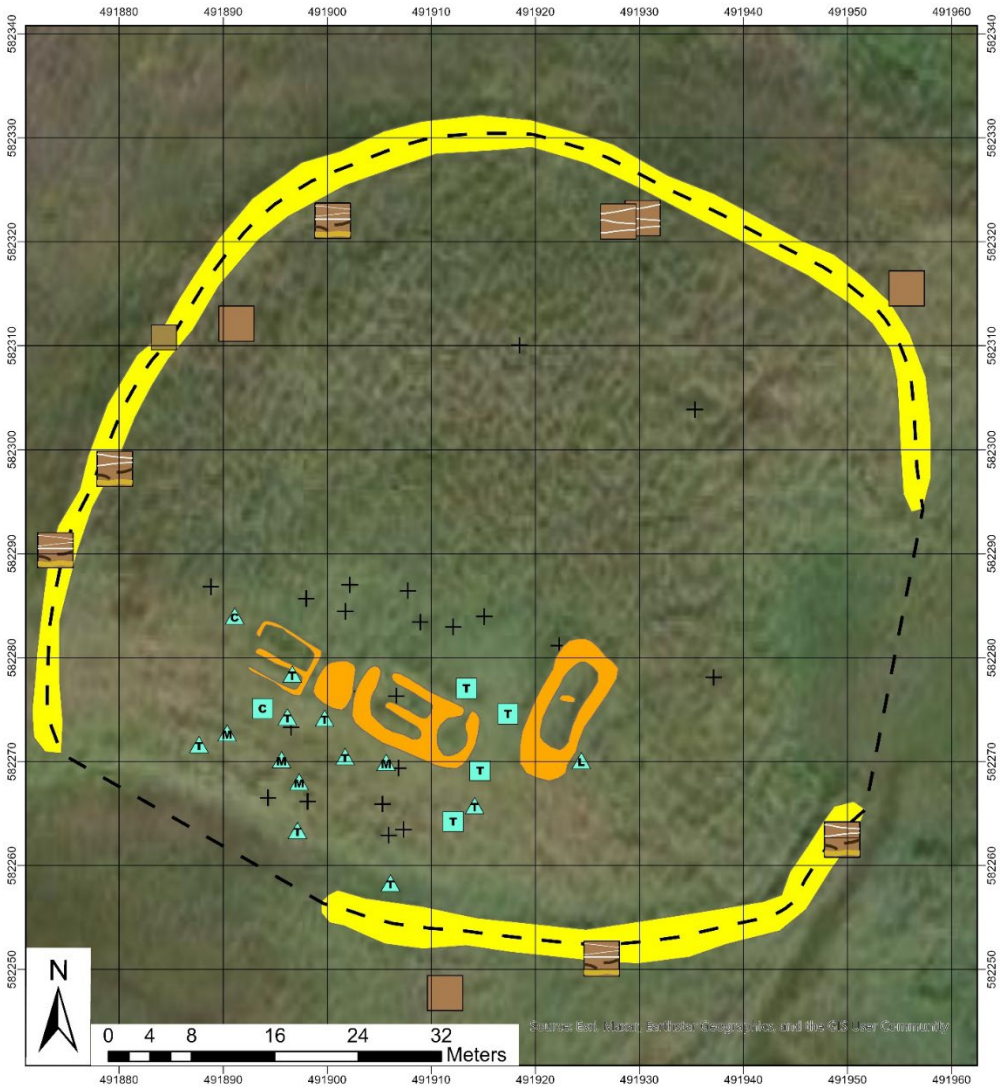


Figure 23. Overview of pre-1104 coring results at Kringlugerði; note that coring results reflect initial incorrect identifications of cultural deposits.

There were 41 cores through the potential farm mound at Kringlugerði (Table 7). While several were initially identified as containing cultural material, as depicted in the original coring data shown (Figure 24), it was later determined that no cores contained cultural material. Part of this confusion came from the presence of pale sand layers at Kringlugerði, which were a similar color to peat ash. Core 241187 is an example of a core that was identified as containing cultural material below H1104 because there appeared to be a thin lens of midden above and below the

sand, but it was determined that this was from sediments draining down the slope into the bog instead of cultural activity (Figure 25). The red color is possibly from iron occurring in the bog. Because all of the layers originally identified as cultural in other cores (241154, 241189, 241188, 241193) were all similar, they were all discounted as evidence of cultural activity (Table 4, Table 5). There was also no evidence of burnt bone found, and a second visit to the site determined that all initial deposits identified as cultural were naturally occurring because there was no recovery of deposits that could be confidently determined to be cultural. There was also no evidence of any structures that resembled a longhouse. Kringlugerði had no farmstead extent drawn for any time period because there is no evidence for domestic occupation during any time period (Table 6).

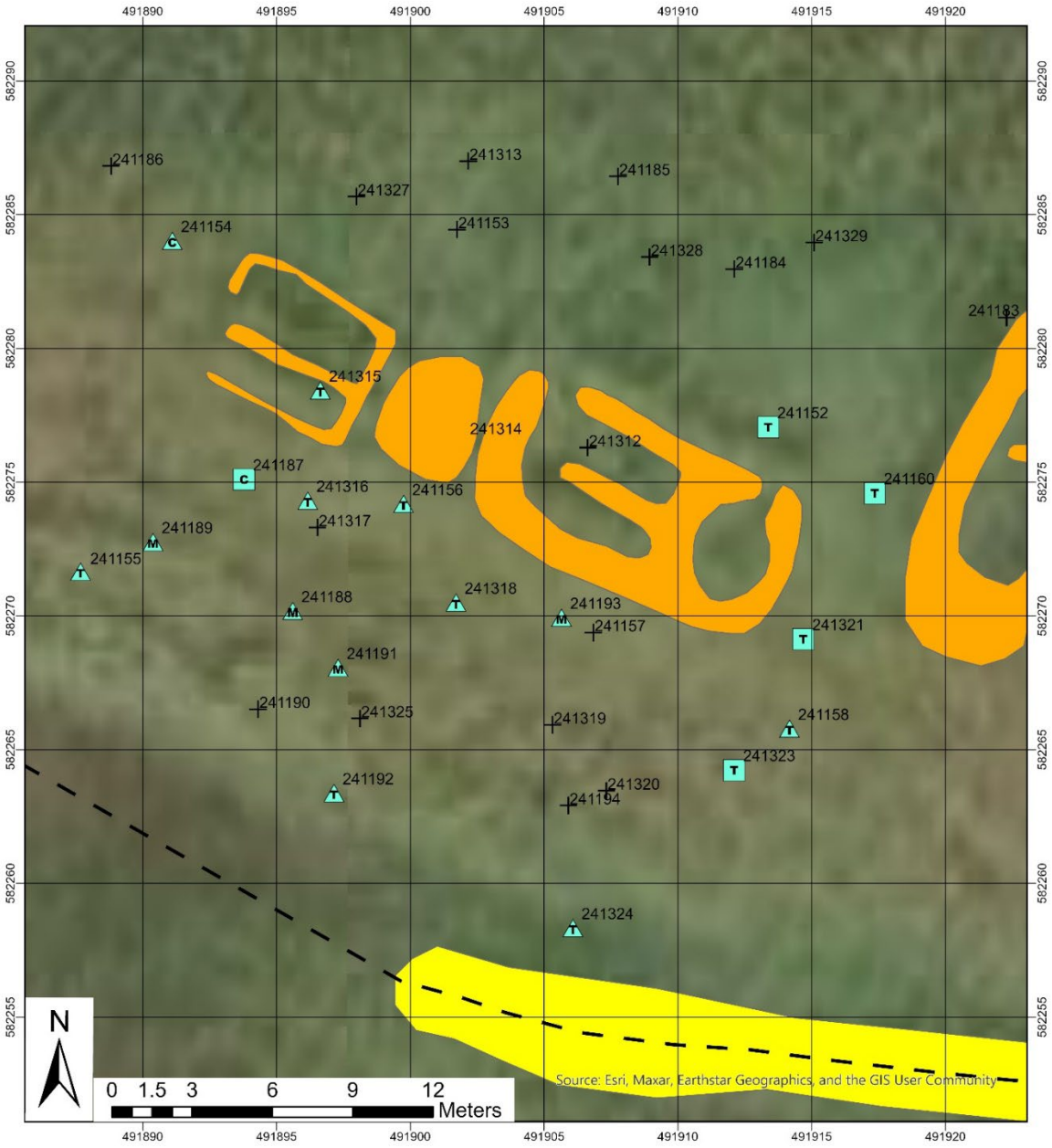


Figure 24. Detailed view of southern area at Kringlugerði where cultural deposits were initially identified, with core numbers labeled.

Figure 25. Core 241187, showing sand and bog layers initially identified as cultural.

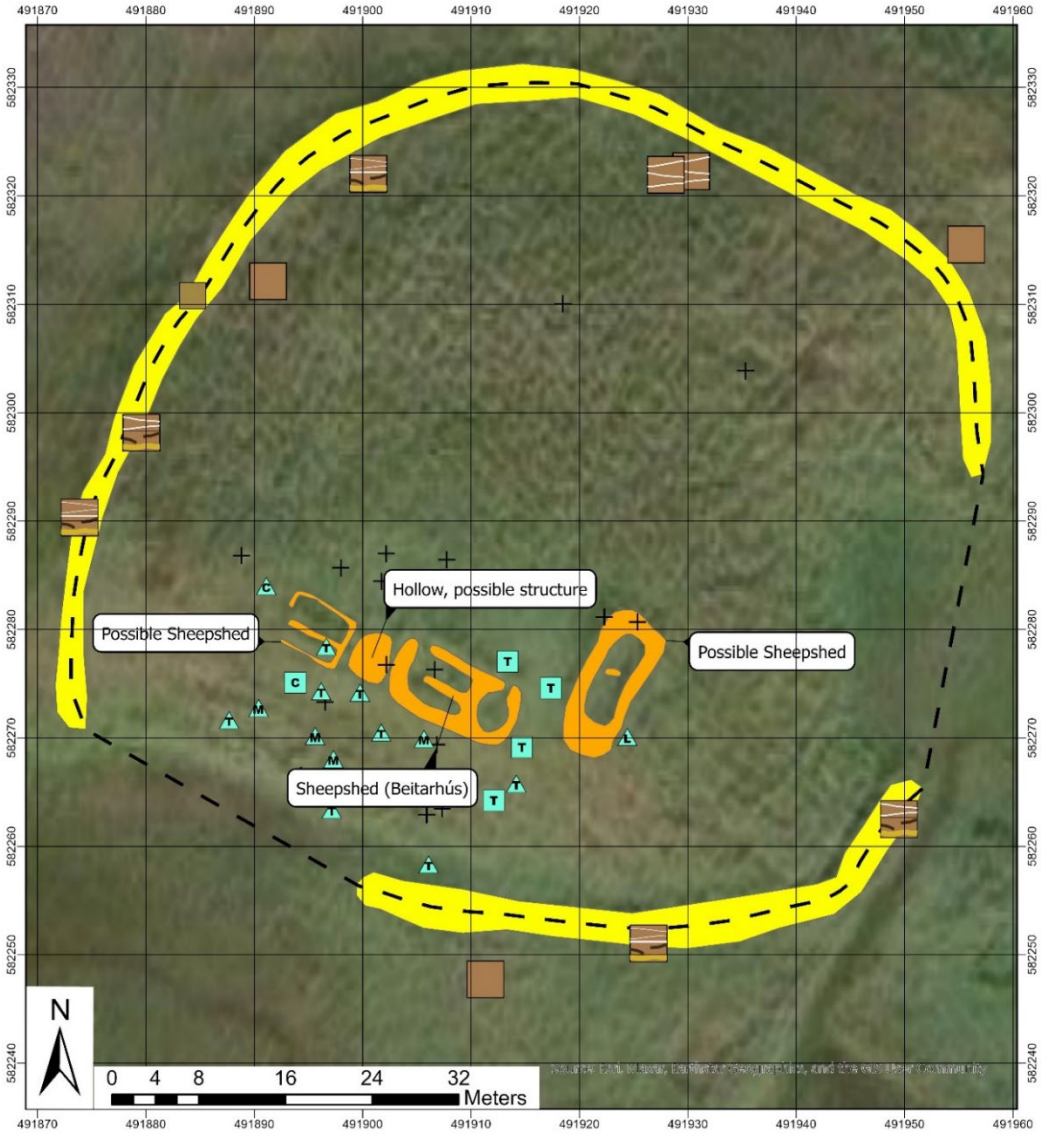
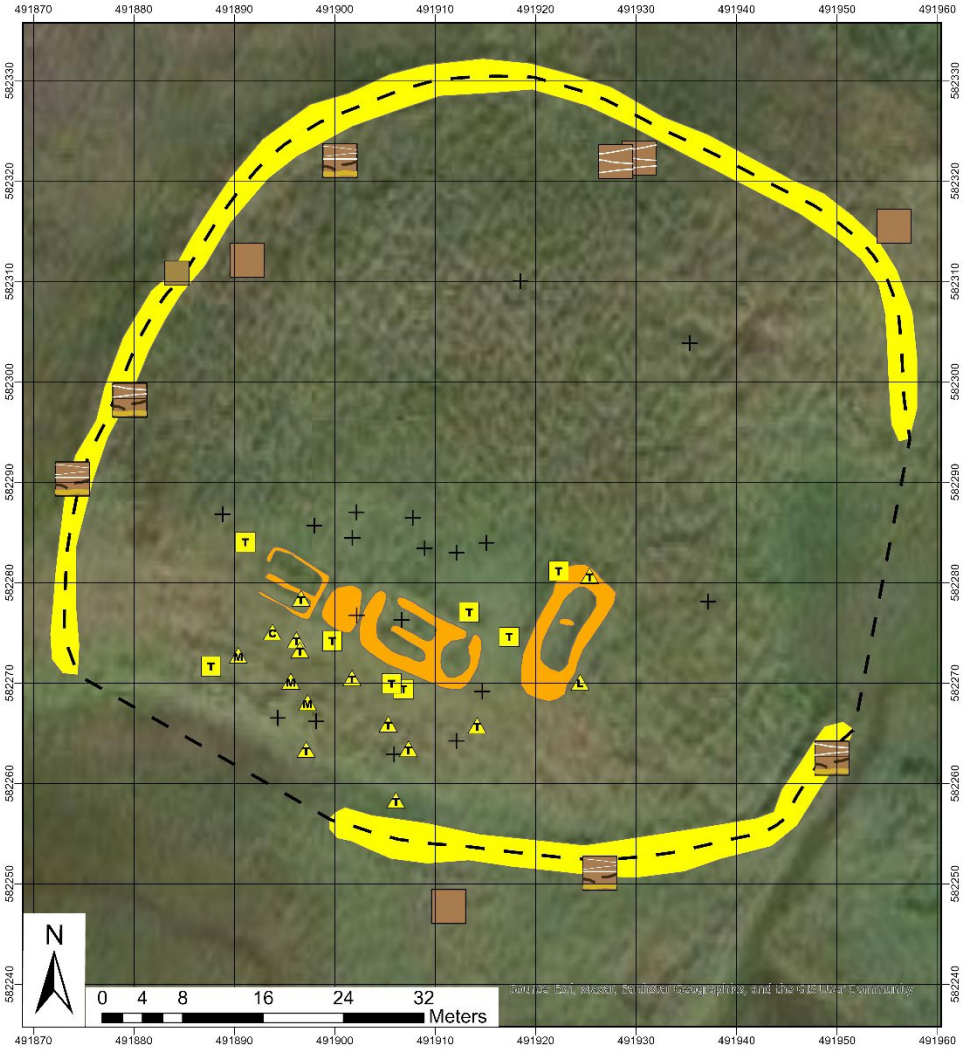


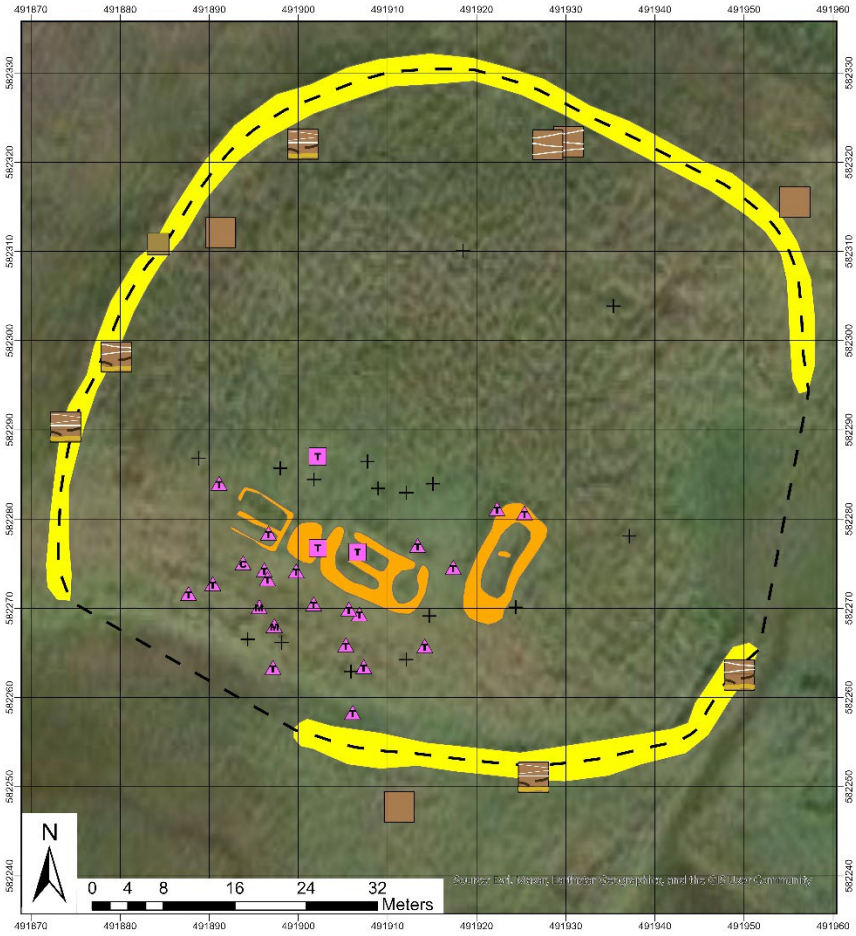
Figure 26. Labeled surface structures and pre-1104 coring results from Kringlugerði.

However, there is evidence of turf from several time periods at Kringlugerði, as well as several visible surface structures. The surface structures, from west to east, were identified as a potential sheepshed, a hollow that might have once been a structure, a sheepshed, and another possible sheepshed by Bryndís Zoëga (Figure 26). The surface structures are at the highest elevated point within the enclosure, and the ground slopes down steeply to the south of the structures. Coring through the structures was not systematic, so they have not been identified to a single time period. Based on preservation, the eastern possible sheepshed was hypothesized to be older than the other structures, though there is later turf present in the structure.

While many cores around the structures recovered turf from different time periods, the relationship to the structures is not clear. Five cores contained evidence of pre-1104 turf surrounding the visible surface structures (Table 5). These cores are primarily in the eastern section of the site, but do not appear to be exclusively related to any one structure. They could represent early phases of the sheepshed and the eastern possible sheepshed, but there is later turf more closely related to those structures.



Eight cores contained evidence of post-1104 turf. Post-1104 turf does not overlap all of the places pre-1104 turf was found and appears to be more related to the surface structures. Three cores contained evidence of post-1300 turf.



The coring results at Kringlugerði indicate that while there was never evidence of a domestic occupation, there were turf structures built on the high point of the hill during all three time periods, two of which are contemporary to construction/reconstruction of the turf walls. However, since there was never any evidence of domestic occupation at this site, it is currently unknown how this enclosure would have functioned, and primarily whether it was designed to keep animals in or out. It is especially interesting that there is evidence of turf construction in the central area of the enclosure after 1300, when there is no more evidence of wall rebuilding. This is consistent with Geitnakofahóll, and suggests that after 1300, enclosures were no longer worth the effort of rebuilding, even though non-domestic use of the structures continued, and structures

were built or rebuilt. It is unclear exactly what this site was used for at any time period, but especially after 1300, when the wall was no longer being repaired.

Hvammsgerði [260-2]

Hvammsgerði is today on the land of Hvammur, a farm in the interior portion of Hjaltadalur. Hvammsgerði is approximately 1km north of the modern farm house at Hvammur. Hvammur was investigated by HASP in 2022, and it was determined that the site was likely settled before 1104, though data recovery was complicated by evidence of landslides and the evidence for pre-1104 occupation was not exceptional (Zoega and Steinberg 2023:33). Hvammsgerði is mentioned as recently abandoned in the 1709 land registry (Magnússon and Vídalín 1930:216). There has been no previous archaeological investigation.

The site sites on a moderate slope, slanting downhill from west to east towards the road. With an elevation of 184m a.s.l., it is the highest farm investigated in this study. The site is also relatively disturbed by the presence of streams flowing down the slope and modern farming-related drainage ditches to the south and east of the walls. Much of the area surrounding the site is bog, especially to the east and south.

Standing Walls

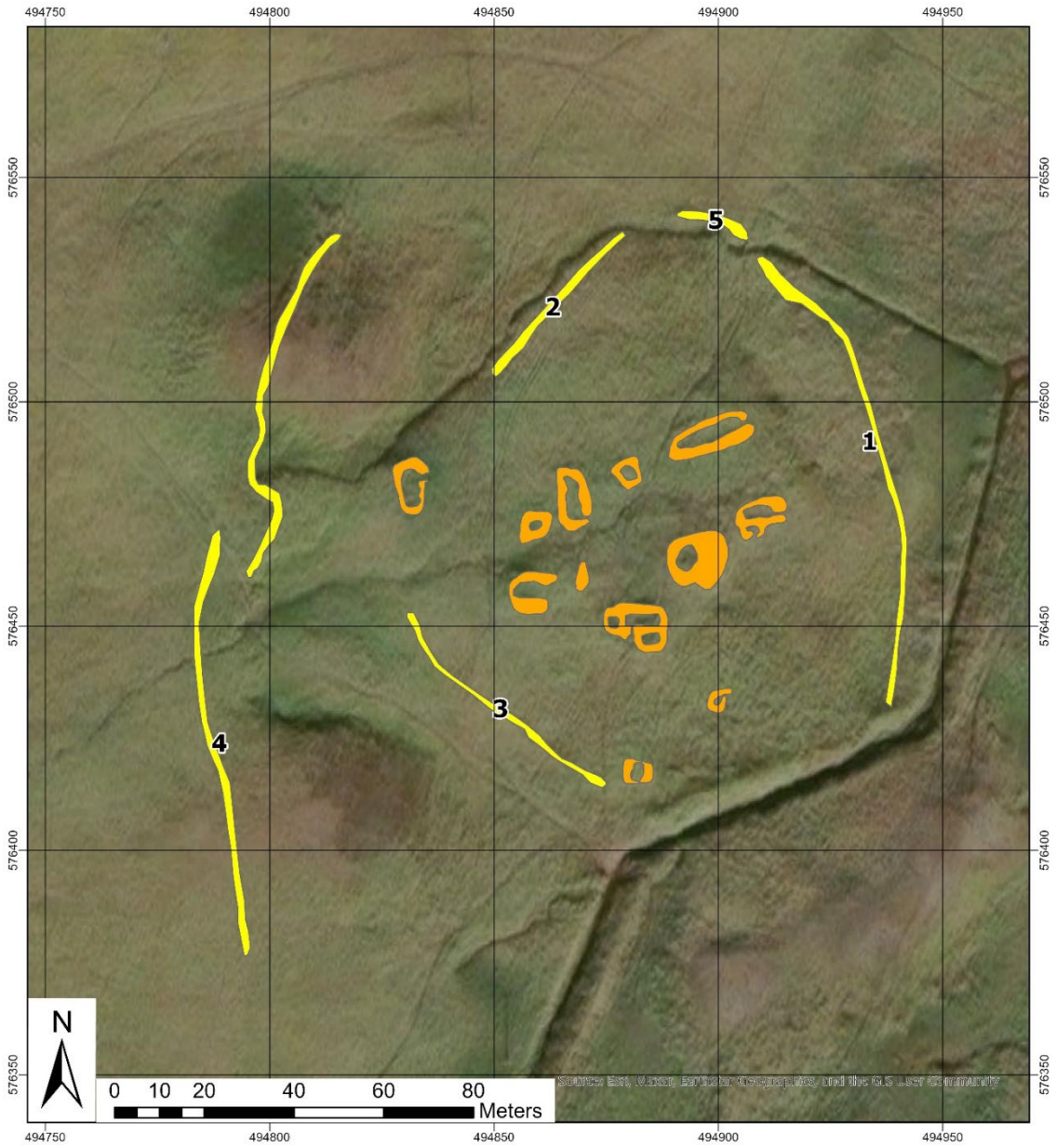


Figure 27. Standing walls at Hvammsgerði with respective numbers.

There are 5 distinguishable standing walls at Hvammsgerði (Figure 27). The relationship between these walls and their one-time enclosures is difficult to interpret.

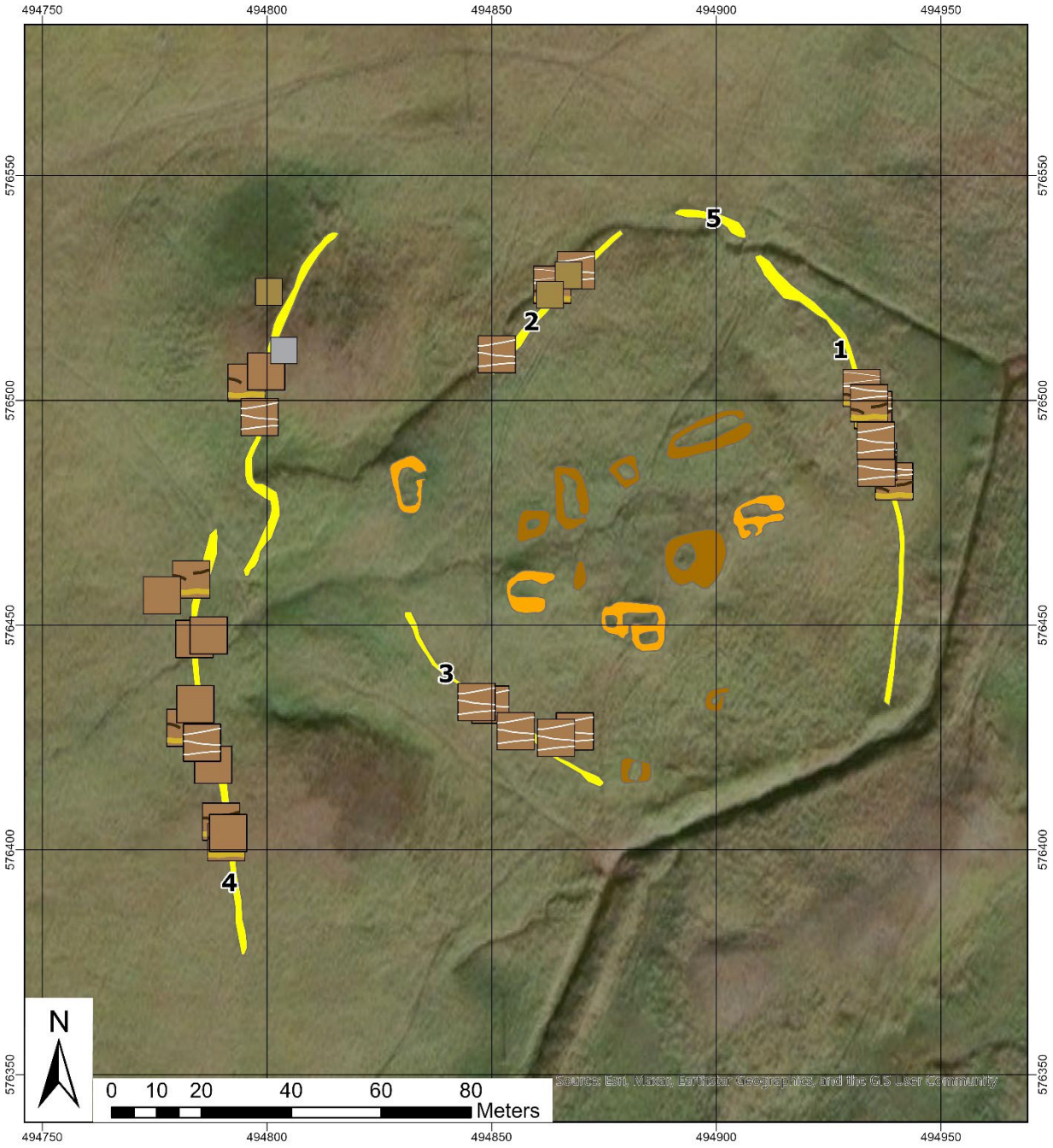


Figure 28. Hvammsgerði wall coring results.

Wall 1 is a long wall (111 m) making up the eastern boundary of the site. There were 7 cores placed through wall 1, primarily in the central section, all of which recovered turf with tephra. All of the cores had evidence of post-1104 turf, and five also had evidence of an earlier,

pre-1104 phase. Based on this, the wall was recorded as having both pre and post 1104 components.

Wall 2 is a short wall (43m) making up what appears to be the northwestern corner of the inner possible enclosure at Hvammsgerði. It is bordered by a stream, which appears to have affected the stratigraphy of the wall. There were 5 cores through this wall, two of which did not recover any clear turf, but did have layers of sand from the nearby stream. Of the cores that recovered turf, all of them had evidence of post-1104 turf, and the wall is only dated to post-1104.

Wall 3 is a medium length wall (60m) making up the southwest portion of the inner possible enclosure at Hvammsgerði. There were five cores through this wall, which all recovered turf containing H1104. There were no cores that appeared to show an earlier turf phase, so this wall was dated to only post-1104.

Wall 4, which technically has two segments but was treated as one wall for the purposes for recording, is a long wall (184m) at the highest and further west point of the enclosure. It is outside walls 2 and 3. The coring results from wall 4 were not totally straightforward, especially because so many cores through the wall did not recover any turf or recovered turf without any tephras for dating reference. There were 16 cores in total through the wall, five of which contained only prehistoric tephras. A further two cores recovered turf containing H1104. Six cores contained turf without any visible tephras. Based on this evidence, it was determined that the wall had both a pre-1104 phase and a post-1104 phase, but that the pre-1104 phase was more important. The function of this wall, especially once walls 2 and 3 were built, may have been to serve as a first line of defense against landslides.

Wall 5 is a very short wall (18m) that is basically an extension of wall 1. It was not cored in the field, but is visible in aerial imagery. As an extension of wall 1, it is assumed to have the same dating. It is primarily included so that calculations about the percent of an enclosure that is represented by standing walls are accurate.

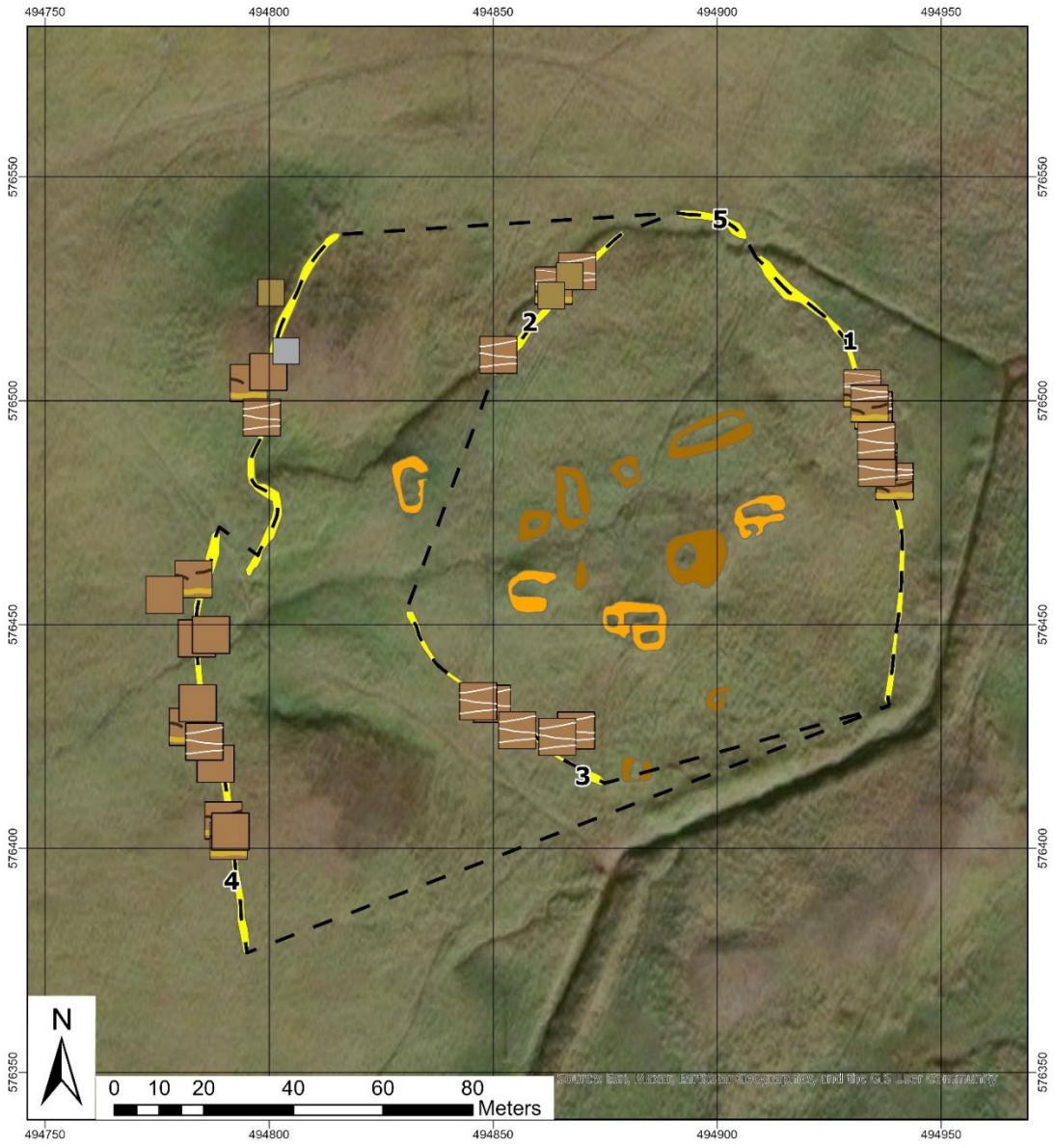


Figure 29. Enclosures at Hvammsgerði.

Enclosures

Enclosure 1 (1.88 ha) includes the outer walls (1, 4, and 5) and represents the larger possible enclosure at Hvammsgerði (Figure 29). Walls 5 is included because it appears to be a continuation of 1 and would line up relatively well with wall 4. While there was some possibly pre-1104 turf in wall 2, it was ignored because the stratigraphy of that section was difficult to understand and 2 does not line up with 4 but does line up well with wall 3. This enclosure is considered to have both pre-and post-1104 use, but most likely it was more important before 1104, because there is only slight evidence for wall rebuilding in wall 4 (2 cores with post-1104 turf), while wall 1 is more clearly rebuilt after 1104.

Enclosure 2 (.99 ha) includes walls 1, 2, 3, and 5. Its use is considered post-1104 based on walls 2 and 3 being considered post-1104 and not pre-1104. Wall 5 is again included as a continuation of 1 and because it conceivably lines up with 2. Wall 4 is not included because 2 and 3 line up clearly and have better evidence for a post-1104 date, especially 3. Even though wall 4 may have been used post-1104, the construction of walls 2 and 3 would have shrunken the possible space used as a homefield.

Farm Mound

There are many visible surface structures at Hvammsgerði, some of which have been tentatively identified based on shape; the structures have also been distinguished by relative age, mostly based on preservation. Structures determined to be older are in darker orange, while younger structures are lighter. Like many other enclosed sites, there are later structures that are thought to be stekkurs (weaning pens), primarily because the ruins show evidence of multiple rooms (Figure 30).

There were 53 cores through the farm mound at Hvammsgerdi, 30 of which contained cultural materials (Table 7). Compared to the other enclosed sites investigated, Hvammsgerði had the most widespread evidence of cultural material present, both vertically and horizontally, making it the most comparable to a traditional farm mound.

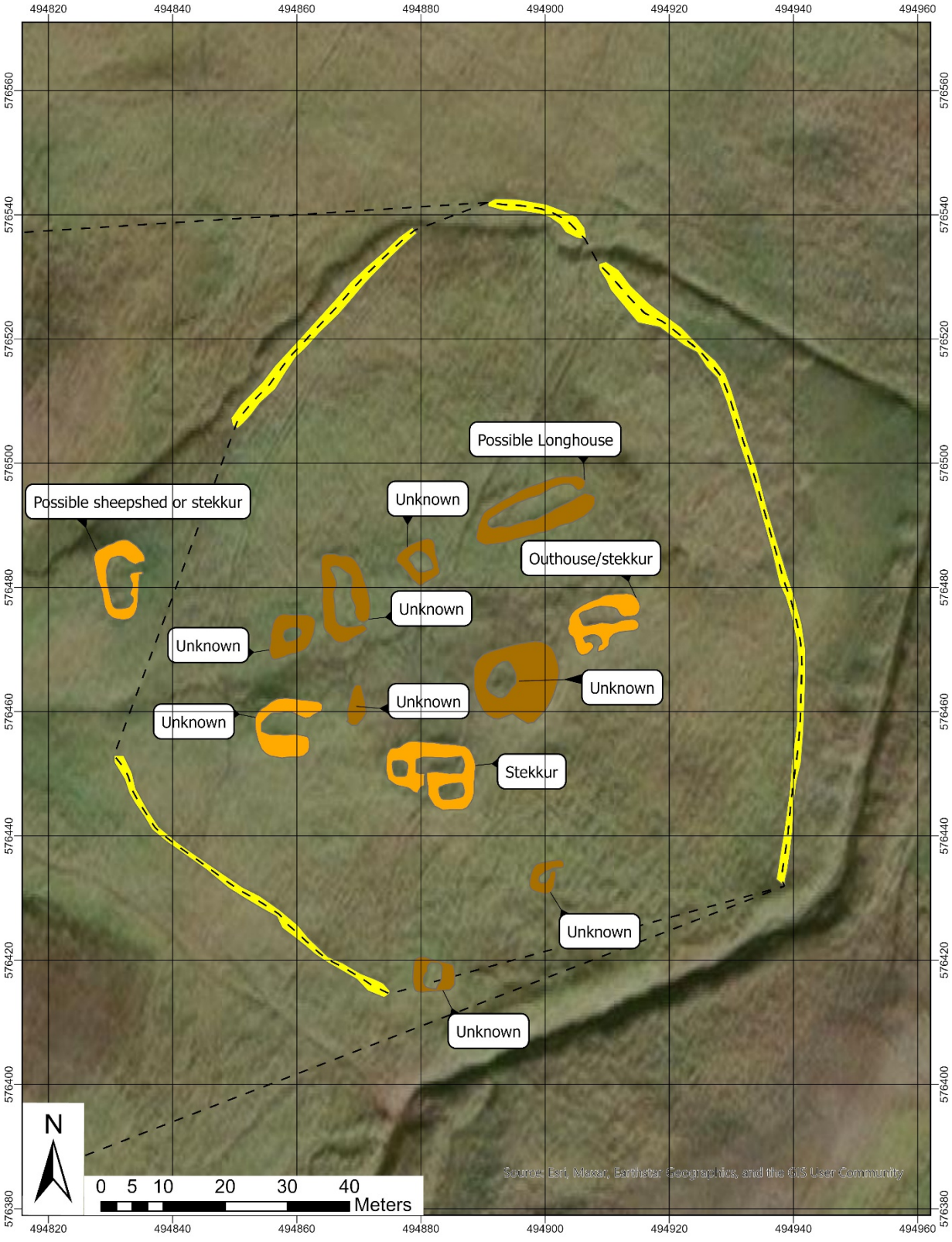


Figure 30. Surface structures at Hvammsgerði.

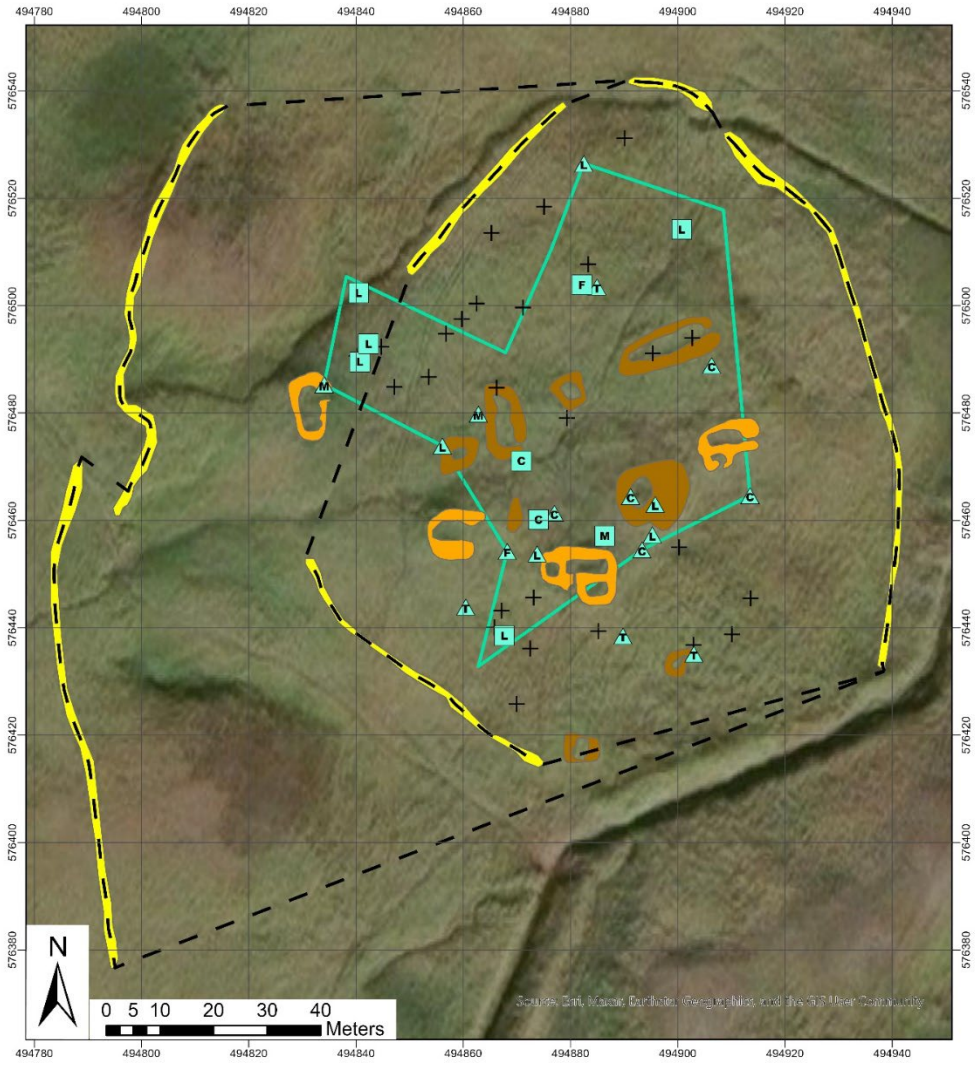


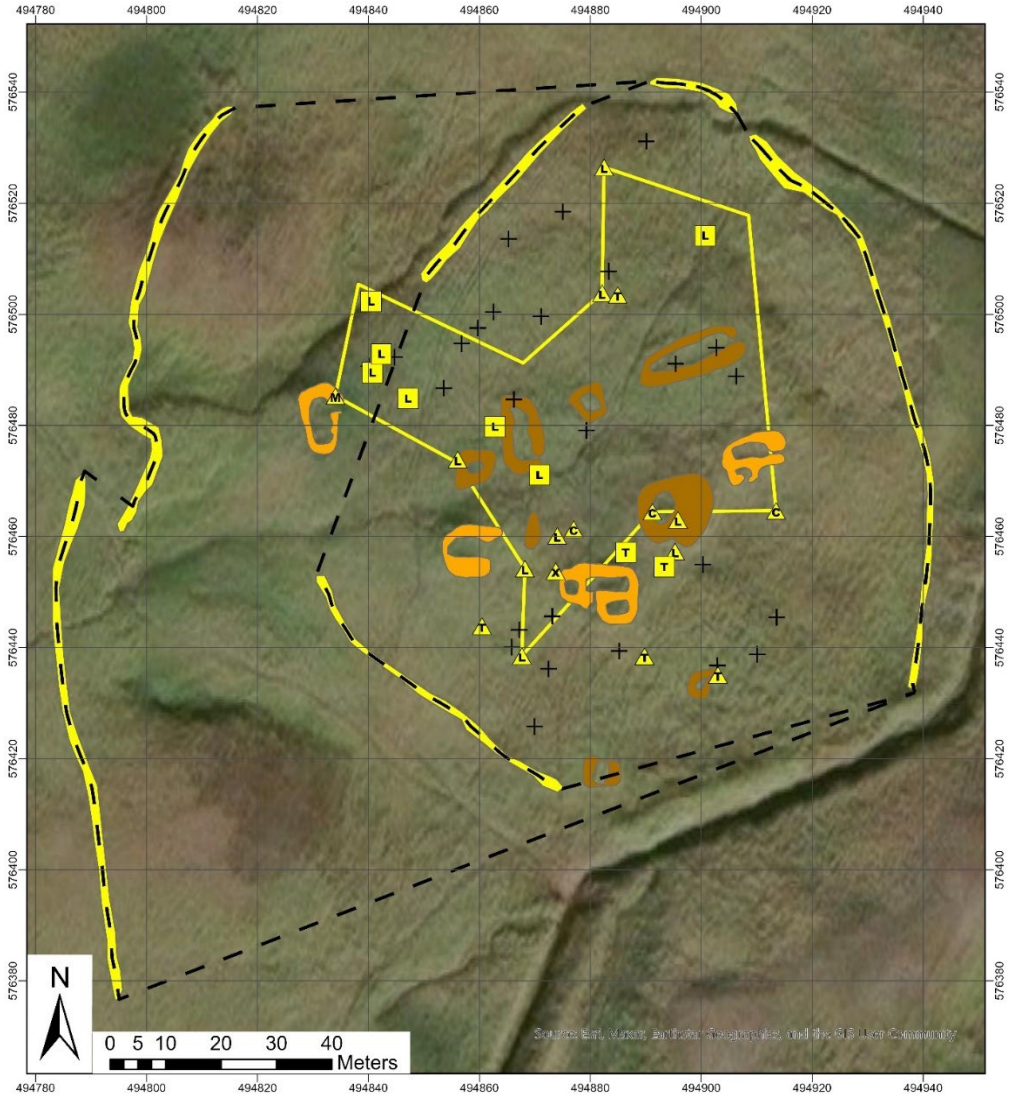
Figure 31. Pre-1104 coring results ats Hvammsgerði

There are three broad areas that contained evidence of pre-1104 occupation at Hvammsgerdi, two of which contained dated floor or midden layers (Table 5). The first cluster is in the southern central area of the site, close to the possible longhouse. Cores in this area consistently found LDC, midden, and charcoal below an in-situ H1104, typically without any cultural evidence above 1104 in the same cores. This indicates that this area was less culturally significant after 1104, and occupation appears to have shifted further north inside the enclosure.

However, there is post-1104 turf in this area, indicating that it might be still used for structures. While there was no tephra to date them, there were also cores with charcoal to the east of this cluster.

The second cluster is in the northeast area, primarily around one floor layer (core 241104). There is no surface structure in this area. Core 241104 recovered a floor directly above the LNL, which was categorized as a 'yes' for pre-1104. Other cores nearby contained primarily LDC, one of which was continuous from before to after 1104. This area seems to have had some continuity from pre-1104 to 1104-1300, though still a de-intensification of activity. Whether the layer identified as a floor indicates there was once a structure in this area has not been determined, but there was at least some cultural activity in this area that extended past 1104.

The third cluster is in the northwestern area of the site, by a surface structure that was identified as a possible younger stekkur (weaning pen). Interestingly, even though the structure appears relatively recent, there is associated cultural material from all time periods, so this structure shows the greatest continuity of use at Hvammsgerdi. Three cores (241091, 241092, 241093) were very similar, containing one deposit of LDC punctuated by H1300 and H1104. Another core contained a thin layer of midden, but without any tephra to date it. It has not been determined whether there was ever a domestic structure in this area of the site, but it is clear that there was some kind of cultural activity that was very consistent throughout a long time period. This area is especially interesting because it is outside the enclosure drawn by connecting walls 2 and 3, which were built after 1104, when this area of the site was still in use. Because there is no surviving wall directly next to stekkur, it is unclear whether the enclosure would have gone around the stekkur or whether the enclosure was built with an area of cultural activity outside of it.



The evidence for post-1104 occupation is more sparse, but it was still considered enough to designate a farmstead area because there was a core that contained midden that could be related to the 1104-1300 occupation, especially since there were large amounts of confirmed 1104-1300 LDC close by. This occupation seems to only be around the second and third cluster identified above, with the area around cluster 1 clearly not being used in the same way post-

1104. Instead, occupation seems to shift more closely towards the northern area of the site, and appears to be significantly less intense than pre-1104 (Table 6).

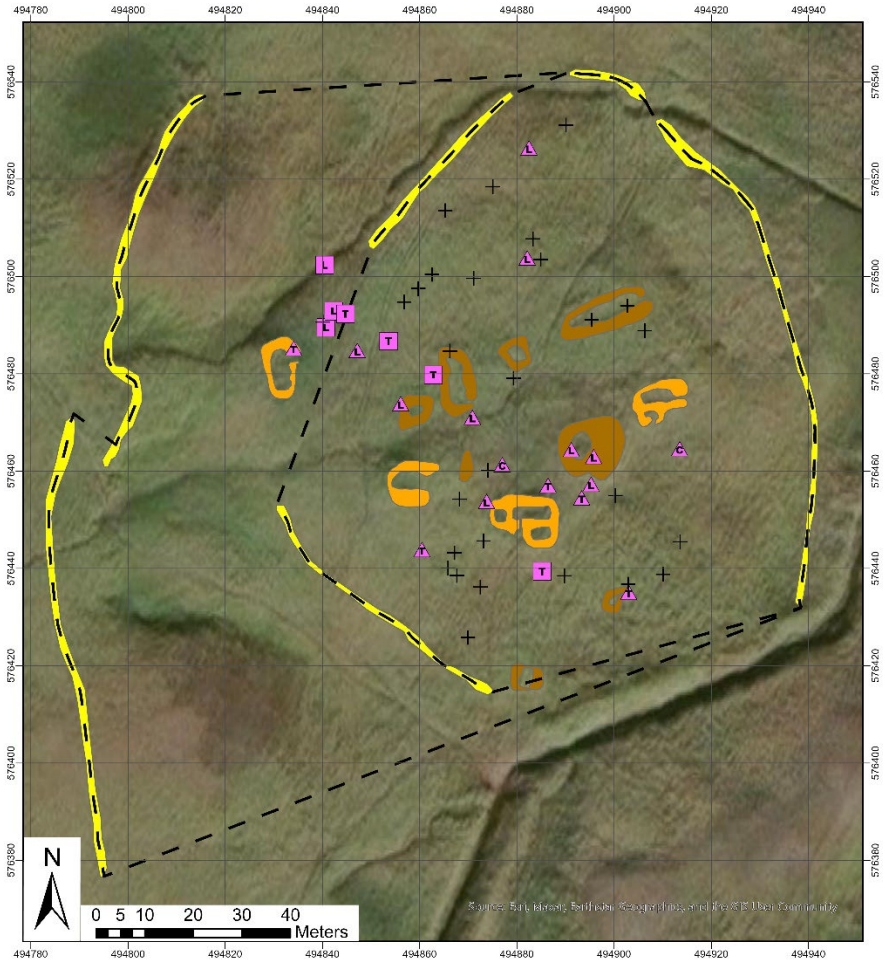


Figure 32. Post-1300 coring results at Hvammsgerði.

Post-1300, there was no farmstead area created because while there was still some LDC, there was no cores that contained midden that were a "maybe" for post-1300. This indicates that there was still some cultural activity at Hvammsgerði after 1300, seemingly concentrated totally around the possible stekkur in the northwest of the site, though it was limited enough to not be considered a domestic occupation. It is possible that this site was used as a shieling at this time, which could explain the cultural material in limited quantities, especially around the possible

stekkur. The area around the stekkur, therefore, has more continuity than any area of the site, because it sees use during every period of the site. The lack of evidence for domestic occupation post-1300 is also interesting because the farm is described as recently abandoned in 1709 (Magnússon and Vídalín 1930:216).

Conclusion

These sites, all of which have pre-1104 enclosures, fall along a continuum of occupation spans. Kringlugerði was never inhabited, Geitnakofahóll was only inhabited pre-1104, Kringla was inhabited pre-1104 and slightly after, and Hvammsgerði was inhabited pre-1104, 1104-1300, and used minorly after 1300.

Even more interestingly, wall size does not exactly correlate with this continuum of occupation duration. While Hvammsgerði's pre-1104 enclosure is larger than Geitnakofahóll's, its post-1104 enclosure is smaller than Geitnakofahóll's. Geitnakofahóll and Kringla are an especially interesting contrast—while Kringla's enclosures are much smaller than Geitnakofahóll or either of Hvammsgerði's, it was inhabited longer than Geitnakofahóll, had a larger farmstead area, and seems to have been used more intensely. Kringlugerði's enclosure, which was never used for human occupation, is almost twice as large as Kringla's. This suggests that in this period, a farm's ability to continue to operate was dependent on more factors than the size of their homefield.

At all of these sites, there is evidence of turf structures within the enclosure, which were likely an important part of the agricultural activities at each site. Geitnakofahóll, Kringlugerði, and Hvammsgerði have evidence of turf structure construction after the end of enclosure wall construction and when there is no evidence of domestic occupation, suggesting that these sites were important parts of agricultural infrastructure even when the enclosure walls were no longer being repaired. It likely that these turf structures were associated with animal grazing activity instead of domestic occupation.

This collection of sites also demonstrates the variability of the place name element gerði. The element gerði has been associated with sites used for specialized activities instead of domestic occupation, though association is complicated because most place names are known from the 1713 JAM at the earliest (Tetzschner 2006). Tetzshner suggests that some places with the element gerði may have never been domestic sites, while some others may have been tenant farms established by larger farms, especially when the name of the gerði site is a derivative of another farm. The two sites in this dataset with the place name element gerði appear to demonstrate both of these possibilities. At Kringlugerði, the place name element gerði aligns with a site that was never used for domestic occupation and was probably always a specialized area. Hvammsgerði, on the other hand, was inhabited for a long time. The name Hvammsgerði

also suggests that the site is associated with Hvammur, the nearest farm (Zoëga and Steinberg 2023), and may mean that Hvammsgerði began as a tenant farm associated with Hvammur.

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Appendix 1: HASP Coring Protocols

Coring Designations

To determine the location and area of farmstead deposits, the results of cores were divided into three simple categories: "yes," "no," and "maybe" for each of the three temporal periods based on the presence of cultural material above or below specific tephra layers (Steinberg *et al.* 2016). Small and infrequent anthropogenic inclusions in soils – such as ash, charcoal, and bone – are common near farmsteads and other activity areas. These are good indicators that an activity area or domestic site may be nearby, but we do not count infrequent inclusions as contributing to the areal extent of the farmstead. Higher concentrations of anthropogenic inclusions, midden deposits, turf, and floors are included in farm mound deposits. These deposits are listed in the "category" column in the coring (e.g., **Error! Reference source not found.**) list and the class column in the context list (**Error! Reference source not found.**).

The first step in determining a "yes," "no," or "maybe" was to check if there were any in situ primary tephra layers (H1766, H1300, or H1104) present in the core. If none of these tephra layers were present, then all time periods were listed as "maybe". This procedure was also followed if any pre-H1104 tephra layers (ex. H3 and H4) were present below the deepest cultural deposit in the core. The deposit type listed as "maybe" for each time period depended on how many total farmstead deposits were present in the core and their relative stratigraphic location. If there were 3 different deposit classes, they were listed in stratigraphic order with the deepest deposit corresponding to the pre-1104 time period, the middle deposit listed for 1104-1300, and the latest deposit for post-1300. If there was only one deposit, it was listed as "maybe" in all three time periods. If there were two deposits, the deepest one was listed for pre-1104 and the latest was listed for post-1300. For deposit classes, floor and midden were prioritized for 1104-1300, and if there was no floor or midden, the deepest deposit was listed for this time period. If there were more than three deposits, the deepest was listed for pre-1104 and the latest for post-1300. The deposit for 1104-1300 was assigned based on descending priority: Floor, midden, cultural layer, LDC, turf.

If there were in situ primary tephra layers present, the method was slightly different. For the pre-1104 time period, a deposit was assigned as "yes" if it extended through an in situ H1104 layer, started below one, or extended through any deeper tephra, such as the LNL, H3, or H4. If there were multiple cultural deposits that could be listed as "yes", priority was given to midden

or floor. If none of the deposits were midden or floor, the deposit type was listed as "mixed". A "no" was assigned for this time period if there were no deposits deeper than an in situ H1104 layer. A deposit was listed as "maybe" if H1104 was missing but the deposit was determined in association with another tephra, such as H1766, or H1300. The absence of the H1104 in a context of a cultural deposit is mostly because it was not preserved or the core did not penetrate deeply enough to encounter it (i.e., refusal within more recent deposits). In this case it was unclear whether the deposit would have extended below H1104. A "maybe" was also given if H1104 was missing and a deposit ended at the exact depth of a tephra layer below H1104 but did not extend through it. If there were multiple deposits that could be listed as "maybe" the deepest one was selected for this time period.

For the 1104-1300 time period, a deposit was assigned as "yes" if it extended through the H1104 layer or the H1300 layer or was located between these two in-situ layers without overlapping either one. If there were multiple cultural deposits that could be listed as "yes", priority was first given to the one that physically overlapped with the H1104 or H1300, and then floor followed by midden. If no floor or midden were present, any combination of deposits was listed as "mixed". A "no" was assigned for this time period if there were no cultural deposits above the H1104 tephra, or none extending through or existing between an in situ H1300 and H1104. A deposit was listed as "maybe" if it existed above an in situ H1 with no H1300 present, or if there was no H1104 present, but the deposit was determined in association with another tephra layer. A "maybe" was also given if there was no H1300 layer and a cultural deposit ended at the exact depth of an in situ H1104 but did not extend through it. If there were multiple cultural deposits that could be listed as "maybe" the middle one was prioritized. However, if there were only two potential deposits, and therefore no middle, the earlier deposit was selected. Finally, if there was a greater even number of potential deposits (and thus no middle deposit), floor was prioritized, followed by midden, cultural layer, LDC, and turf.

For the post-1300 time period, a deposit was assigned as "yes" if it extended through the H1300 tephra layer, started and ended above it, or extended through a later tephra, such as H1766. If there were multiple deposits that could be listed as "yes" priority was given to midden and floor, and if none of the deposits were midden or floor the deposit type was listed as "mixed". A "no" was assigned for this time period if no farmstead deposit existed after the H1300 layer. A deposit was listed as "maybe" if there was no in situ H1300 layer, but the deposit was identified in association with another tephra. If multiple deposit types could be listed as "maybe", the latest one was selected.

For the purposes of the coring survey, farmstead or farm mound class deposit categories include:

- Turf deposits: any evidence for a turf structure, including collapsed or leveled turf, are considered evidence of farm buildings. The organic content and percentage of soil in turf deposits is variable. Sometimes tephra layers are present in turf, which represents a special case, as the tephra can provide a terminus post quem (TPQ) date for the deposit. As a rule, the turf must always postdate the tephra layer incorporated within it. This can

lead to some specific situations. For example, a turf deposit containing an H1300 tephra layer is assigned a "yes" for the post-1300 time period if there are no other farmstead deposits above H1300 that would take priority. All other time periods are assigned according to the rules for in-situ tephra outlined above. If turf with H1104 in it is the only farmstead deposit, and no in-situ tephra are present, a "no" is assigned for the pre-1104 time period, and the turf is assigned as "maybe" for both later time periods. If there is turf with H1 as the oldest deposit, a "no" is assigned for the pre-1104 time period, and the other time periods are assigned according to the rules for in-situ tephra outlined above. Finally, if there is turf with H1104 in it as the only farmstead deposit, but there is also an in situ H1300 layer above the turf, the turf deposit is listed as "yes" for the 1104-1300 time period.

- Low-density cultural layers (LDC): defined by anthropogenic inclusions amounting to 10-50% of the soil matrix. These are assumed to result from indistinct and extensive depositional events that suggest regular activity typical of farmsteads or other farm production areas. Sometimes this deposit has a "mixed" character.
- Middens: defined by anthropogenic inclusions amounting to more than 50% of the soil matrix that suggest the regular deposition of household or production area waste. Middens are the result of distinct and intensive depositional events associated with purposeful disposal. In both LDC and Midden layers that are punctuated by tephra layers, for purposes of farm mound dating, the deposits are assumed to be continuous, occurring immediately before and after the date of the tephra deposition. For example, in a midden deposit with only H1104 present, surrounded on either side by midden, both "Pre 1104, and "1104-1300" would be positive "yes" while "Post-A.D. 1300" would be "maybe."
- Floor: characterized by dense, compacted, and/or greasy cultural layers indicative of floors, extramural activity areas, or areas of intense deposition of organic materials. Sometimes floors are distinct fine-grained black ash. These floor deposits are often thin but are very distinct.

A coring shapefile was generated with a 3 layered symbology (one layer for each time period) where each core displayed a specific color for each time period, a specific shape for "yes", "no" or "maybe" within each time period, and a specific letter referencing the type of farmstead deposit in that time period.

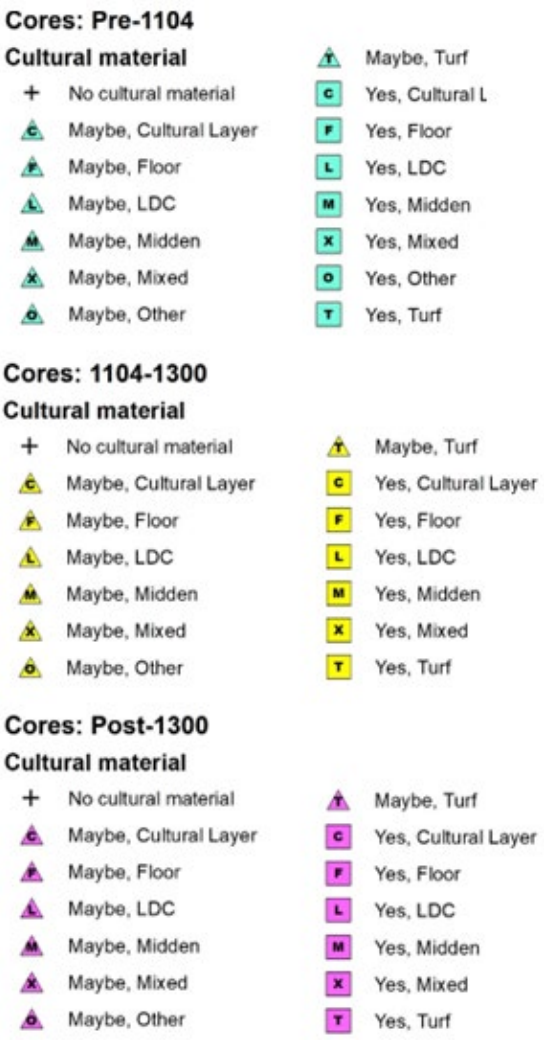

Figure 33. Key for interpreting coring results.

Record Keeping and Numbering System

Farmsteads are numbered based on their sequence in *Jarðatal á Íslandi* (Johnsen, 1847). Sub farms are given an arbitrary place number (often from the order listed in the *Jarðatal*), so that Viðvík is 247-0 and Hólakot, which is on the property of Viðvík, is 247-1. Excavations are designated with a letter and number combination (e.g., TP1, for test pit one). Excavation sequences can span sub farms or continue the numbering sequence. Excavation contexts are designated with a 3 -digit number and usually surrounded with brackets ([ ]) to donate that they are contexts.

Determining Enclosure Size

The following method for standardizing enclosure size measurements was developed for this enclosure project. Enclosure size, also referred to as area enclosed, was determined according to the following steps. First, standing walls were assigned a number and traced in the walls polyline file. If surface survey files existed, they were used to trace walls. If the walls were represented only as polygons, the polygon to centerline tool was used to generate a central line through each polygon which was used as the wall polyline. If there were no survey files, the walls were traced based on what was visible in aerial imagery. Walls vary dramatically in length due to preservation, and there can be ambiguity about what is considered part of the same wall. A gap of at least 5m was needed to create a separate wall designation when using aerial imagery because smaller gaps were harder to see. Surface survey files have greater resolution, so different walls could be separated by less than 5m.

Once walls had been traced, the enclosure polygon could be drawn. If the walls formed a closed shape, they were traced directly. If the walls did not form a closed shape and there was ambiguity in the size of the enclosure, the edge of a field, identified visually by the presence of grass, was traced; this included areas where a turf wall had totally collapsed. If there was no field edge, a natural barrier like a lake, river, modern road, or modern ditch was traced. If no natural barriers were not present, the visible walls were connected with straight lines, so areas enclosed will be conservative in ambiguous cases. In cases where there are multiple enclosures at one site, dating information was used to determine which walls formed a contemporary enclosure.

Determining Enclosure Date

The following method for standardizing enclosure date was developed for this enclosure project. There are some cases where an in-situ layer of tephra was found over a wall, but in most

cases the date of an enclosure wall was determined by the presence or absence of H1104 in turf. Like cultural deposits, turf enclosure walls are dated to one of the three major periods derived from tephra: pre-1104, 1104-1300, and post-1300. Dating walls through coring is less conclusive than trenching walls, but is faster, reliable, and can cover a greater area of the wall (Catlin 2019). Dating a wall to before a certain date through the absence of a tephra has some ambiguity, but is often used in Icelandic archaeology and supported by cases where only older tephra layers were present in turf (like H3/H4 and LNL) and there was an in-situ layer of H1104 above the turf, confirming that it dated to pre-1104 (Vésteinsson 2011; Zoëga et al. 2009).

For the sites investigated in 2024, a system was developed for categorizing and symbolizing cores through turf walls to symbolize the attributes of each core spatially so that wall and enclosure dates could be determined. Since two of the sites investigated had multiple enclosures, determining which walls would have formed the enclosures in use at different times was especially important.

Synthesizing original investigations for 2024 sites meant categorizing the turf recovered in each core based on the in-situ and in-turf tephra it contained to quickly summarize its useful dating information. There few cases of H1300 found in wall turf at these sites, so cores were categorized based on the presence or absence of H1104, accounting for the most common combinations of in-situ and in-turf tephra. At the most basic level, turf without H1104 was interpreted as evidence of a pre-1104 wall. Turf containing H1104 but not H1300 was interpreted as evidence of an 1104-1300 wall. A wall core that contained both types of turf was considered evidence of wall initially built before 1104 and rebuilt from 1104-1300.

Each category assigned to a core indicates one of these three dating outcomes for a wall (pre-1104, 1104-1300, and both pre-1104 and 1104-1300; Figure 36). Each categorized core's

evidence was considered more or less reliable based on the presence of in-situ tephras. There were two summary categories that indicated use only pre-1104: either only prehistoric tephras alone, or prehistoric tephras capped by H1104, which was considered more reliable. Two summary categories indicated use both pre-1104 and from 1104-1300, both of which required two visibly distinct turf layers. The first category is a core turf containing H1104 above turf not containing H1104, with no in-situ tephra in between. The second category has the same two layers of turf, but with an in-situ H1104 between them; this category was considered more reliable. One summary category indicated use only after 1104: turf that contained H1104 without any evidence of earlier turf.

Distinguishing between in-situ and in-turf tephra can be difficult in cores. If there were repeated lines of a tephra, it was considered in turf (Figure 34). If a core only had one visible layer of a tephra, especially if the turf appeared visually different on either side of it, the tephra was considered in situ. In a few cases, there were two layers (the top with H1104, the bottom without), where it was also determined that there was an in-situ H1104 between the layers based on the in-situ tephra being horizontal and more distinct than the tephras in turf (Figure 35). This was also based on a common depth of the proposed H1104 tephra across multiple cores in one area of a wall. These in-situ identifications are all preliminary, but the presence of turf without H1104 below turf with H1104 still indicates a wall initially built before 1104 and then rebuilt afterwards.

Figure 34. Core 240919 at Hvammsgerði, showing H1104 and LNL in turf in the first barrel.

Figure 35. Core 240919 at Hvammsgerði, showing possible in-situ H1104 and earlier turf without H1104 in the second barrel.

Each core category is represented through an Adobe Illustrator graphic which mimics the appearance of a core with the corresponding results (Figure 36). This symbology is helpful to parse complicated enclosure sequences with multiple enclosures that were rebuilt, like Kringla and Hvammsgerði.

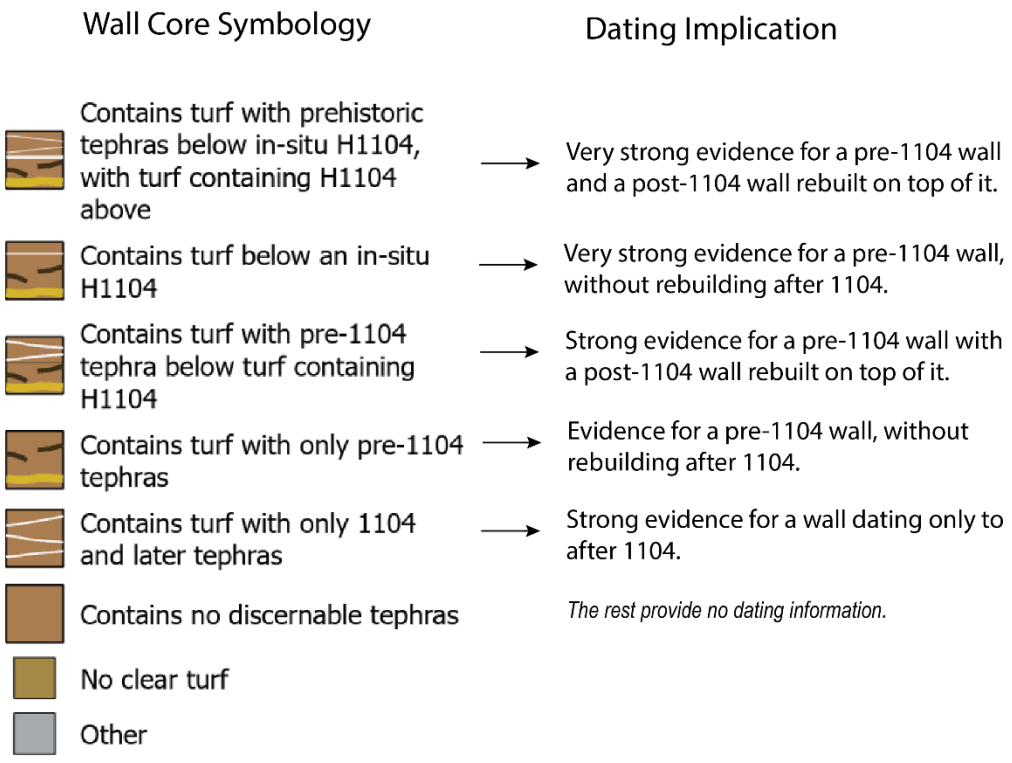

Figure 36. Wall core categories and symbology.

Dating walls is based on the spatial representations of categorized cores. If a wall only contained cores with a summary category indicating one time period, it was recorded as only that time period. If there were conflicting cores, for example one core summary category a pre-1104 date and one core summary category indicating an 1104-1300 date, the wall was recorded as both time periods. This is based on the idea that coring could collect data on different sections of a wall that was either repaired unevenly or has collapsed unevenly, but there is still evidence of use in both time periods. Kringla is a good example of determining wall dates because it has multiple walls forming two possible enclosures. The coring symbology shows that categorized cores in wall 1 only indicate 1104-1300, categorized cores in wall 2 only indicates pre-1104, and categorized cores in wall 4 indicate both pre-1104 and 1104-1300, but wall 3 is more ambiguous (Figure 37). While some cores suggest only post-1104 evidence, one suggests only pre-1104 evidence, and one core suggest pre and post-1104 evidence; because there is evidence of turf dating to both time periods, this wall was dated as pre-1104 and post-1104.

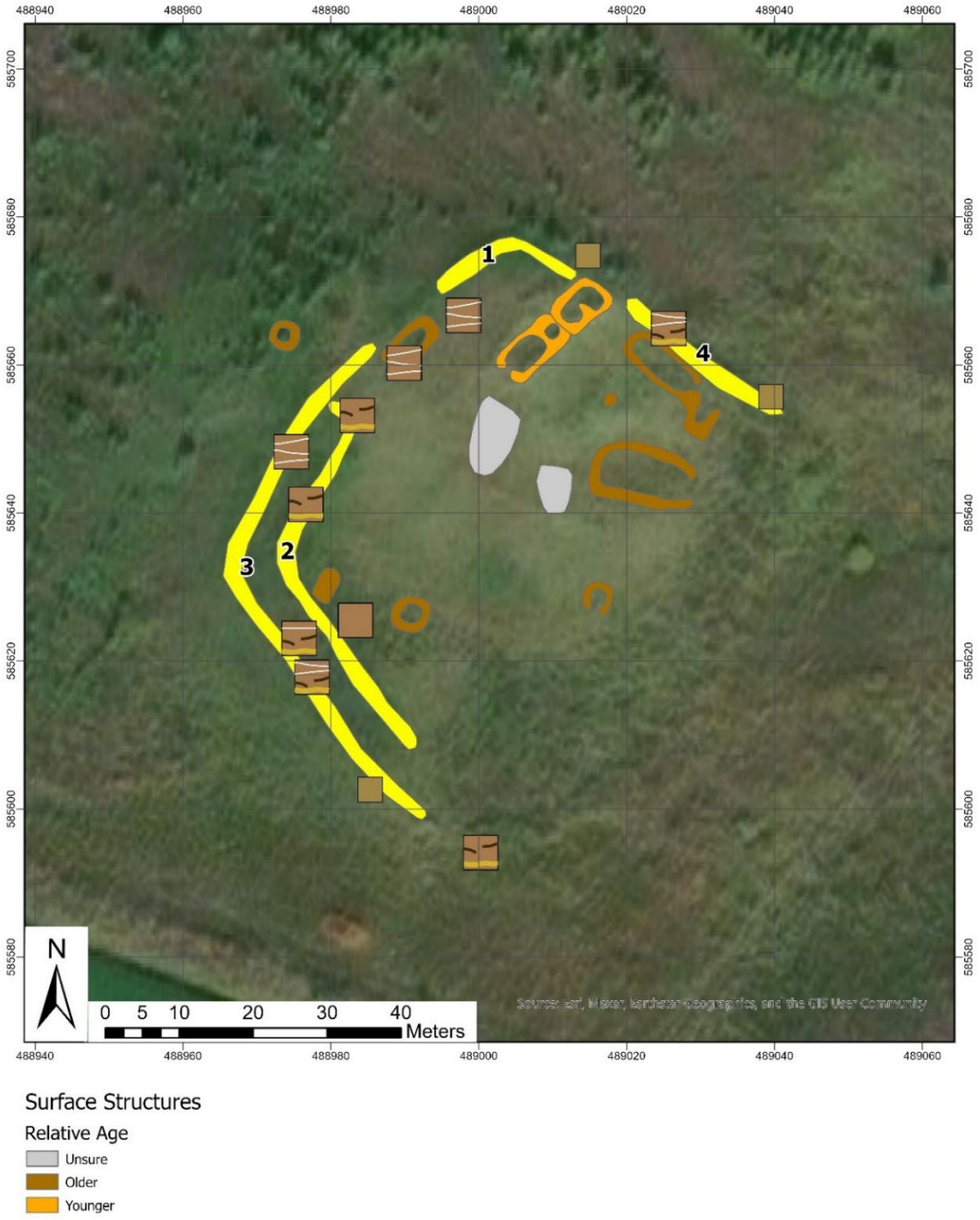

Figure 37. Wall coring results at Kringla with walls numbered.

Enclosure date is based on the results of dating walls. For most sites, where there was only one enclosure, the enclosure date would correspond to the longest date range of the walls making up the enclosure. At some sites like Kringla, the remaining walls form multiple possible

enclosures. Determining which enclosures were in use at which time relied on determining which walls were contemporary. Then, an enclosure designation was created by drawing a line that connected contemporary walls. At Kringla, the 1104-1300 enclosure was more straightforward, and was drawn by connecting walls (1, 4, and 3) that have evidence of post-1104 turf construction and then tracing the area of collapsed wall to the east (Figure 38, in red). Determining the pre-1104 enclosure was somewhat more complicated. The southern boundary of the pre-1104 enclosure could have been either wall 2 or 3 because both had some evidence of pre-1104 turf. Wall 2 was chosen because it had less ambiguous evidence and had no evidence of repairs after 1104, suggesting that wall 3 was more important after 1104 (Figure 38, in blue). At Kringla, enclosure 1 (blue) was dated post-1104, and enclosure 2 (red) was dated pre-1104. For cases when the same enclosure was rebuilt in multiple time periods, multiple boxes would be checked. One outlier of note at Kringla was a single core that contained post-1300 turf, which was excluded because it was the only core out of twelve that had any evidence of turf after 1300.

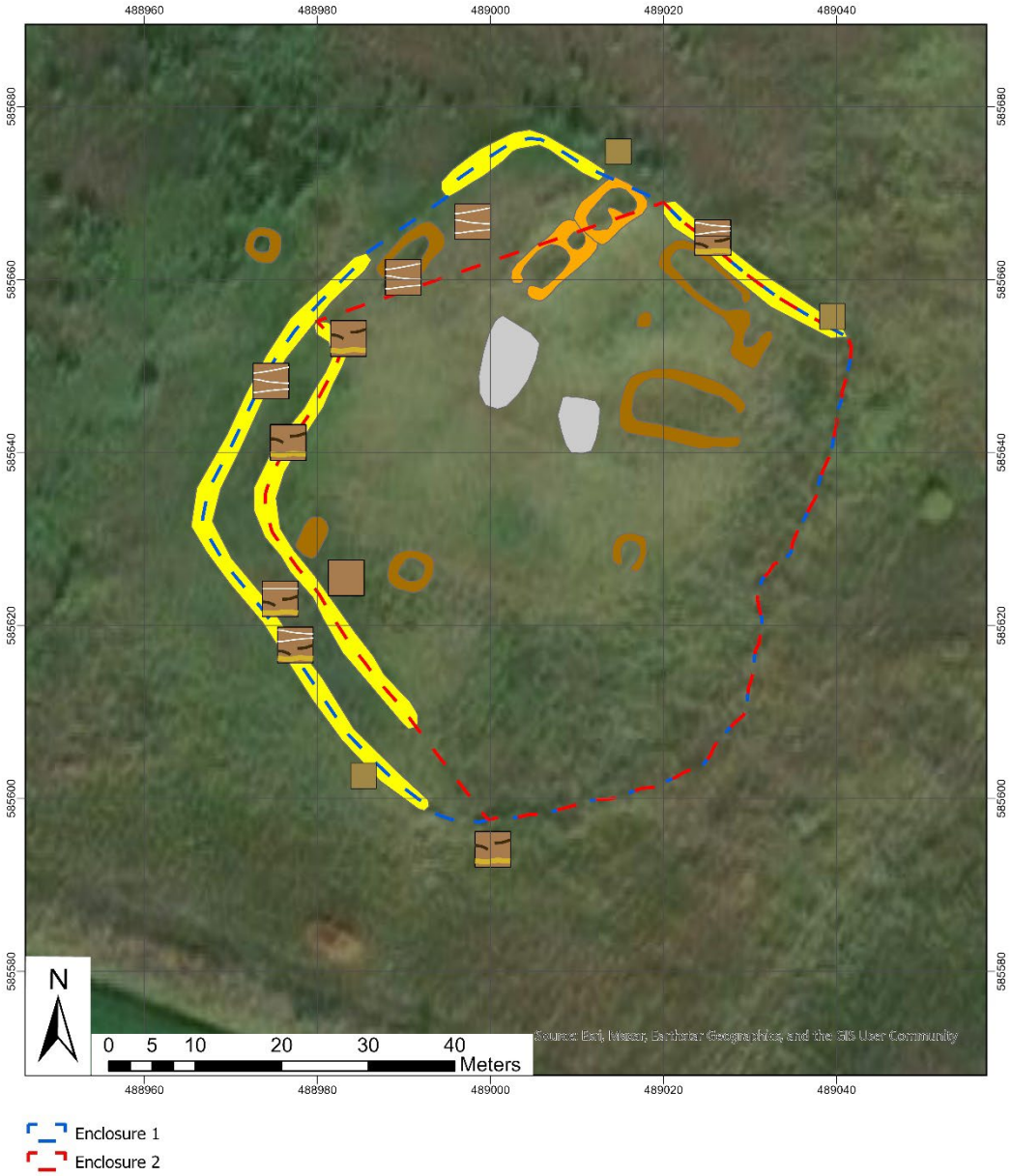

Figure 38. Enclosures at Kringla, based on wall cores.

Enclosure date is based on the results of dating walls. For most sites, where there was only one enclosure, the enclosure date would correspond to the longest date range of the walls making up the enclosure. At some sites like Kringla, the remaining walls form multiple possible enclosures. Determining which enclosures were in use at which time relied on determining which

walls were contemporary. Then, an enclosure designation was created by drawing a line that connected contemporary walls.

Appendix 2: Coring Data

Table 3. Primary cultural deposits by time period, including turf

	Primary cultural deposits by time period, including turf								
	Pre-1104			**1104-1300**			**Post-1300**		
Place	**Maybe**	**No**	**Yes**	**Maybe**	**No**	**Yes**	**Maybe**	**No**	**Yes**
Geitnakofahóll	10	25	3	12	21	5	17	21	0
Hvammsgerði	17	27	9	17	27	9	17	29	7
Kringla	20	17	4	23	16	2	24	17	0
Kringlugerði	14	22	5	15	18	8	22	16	3
Total	*61*	*91*	*21*	*67*	*82*	*24*	*80*	*83*	*10*

Table 4. Primary cultural deposits by time period, excluding turf

	Primary cultural deposits by time period, not including turf								
	Pre-1104			**1104-1300**			**Post-1300**		
Place	**Maybe**	**No**	**Yes**	**Maybe**	**No**	**Yes**	**Maybe**	**No**	**Yes**
Geitnakofahóll	10	0	3	7	0	0	6	0	0
Hvammsgerði	17	0	9	13	0	7	11	0	3
Kringla	20	0	4	17	0	2	18	0	0
Kringlugerði	14	0	5	5	0	0	3	0	0
Total	*61*	*0*	*21*	*42*	*0*	*9*	*38*	*0*	*3*

Table 5. Coring deposit classes for pre-1104 “yes” or “maybe” cores with mean depth of deposit class by place. Note that midden and LDC identified at Kringlugerði was preliminary identification that was later determined to be non-cultural.

	LDC		**Midden**		**Floor**		**Turf**	
Place	**n**	**Mean Depth**	**n**	**Mean Depth**	**n**	**Mean Depth**	**n**	**Mean Depth**
Geitnakofahóll	3	33	3	36.33	2	35	5	31.4
Hvammsgerði	10	32.3	3	31.33	2	35	4	30.75
Kringla	10	45.5	1	70.00	1	47	6	48.5
Kringlugerði	1	50	4	29.00			12	42.5

Table 6. Farmstead areas over time.

Place Name	Farmstead Area Pre-1104	Farmstead Area 1104-1300	Farmstead Area Post-1300
Hvammsgerði	3697.51	3234.11	0
Geitnakofahóll	253.32	0	0
Kringla	1005.38	984.09	0
Kringlugerði	0	0	0

Table 7. Tephra recovery and depth for 2024 sites.

Non-farm mound cores

			H3/H4			LNL			1000			1104			1300			1766		
Place Name	**Count**	**Average End Depth**	**Count**	**Mean Depth**	**%**	**Count**	**Mean Depth**	**%**	**Count**	**Mean Depth**	**%**	**Count**	**Mean Depth**	**%**	**Count**	**Mean Depth**	**%**	**Count**	**Mean Depth**	**%**
Geitnakofahóll	21	28.81	11	24.73	52.38%	3	22.00	14.29%	0	0	0.00%	3	19.00	14.29%	0		0.00%	0		0.00%
Hvammsgerði	23	31.48	1	75.00	4.35%	6	20.17	26.09%	0	0	0.00%	4	26.50	17.39%	4	11.50	17.39%	1	6	4.35%
Kringla	16	38.15	5	36.60	31.25%	2	32.50	12.50%	0	0	0.00%	2	17.50	12.50%	0		0.00%	0		0.00%
Kringlugerði	13	51.55	7	41.86	53.85%	2	26.00	15.38%	0	0	0.00%	2	17.50	15.38%	1	25.00	7.69%	1	9	7.69%

Farm mound cores

			H3/H4			LNL			1000			1104			1300			1766		
Place Name	**Count**	**Average End Depth**	**Count**	**Mean Depth**	**%**	**Count**	**Mean Depth**	**%**	**Count**	**Mean Depth**	**%**	**Count**	**Mean Depth**	**%**	**Count**	**Mean Depth**	**%**	**Count**	**Mean Depth**	**%**
Geitnakofahóll	17	49.75	5	44.20	29.41%	3	36.00	17.65%	0	0	0	0	0.00	0.00%	0		0.00%	1	14	5.88%
Hvammsgerði	30	40.27	3	62.33	10.00%	3	28.00	10.00%	0	0	0	9	23.44	30.00%	7	14.57	23.33%	1	8	3.33%
Kringla	25	51.00	10	43.00	40.00%	1	30.00	4.00%	0	0	0	4	25.00	16.00%	0		0.00%	0		0.00%
Kringlugerði	28	47.89	12	39.58	42.86%	0		0.00%	0	0	0	3	16.33	10.71%	1	33.00	3.57%	1	10	3.57%

Difference Between Farm Mound and Non-Farm Mound Cores

			H3/H4			LNL			1000			1104			1300			1766		
Place Name	**Total Cores**	**End Depth Difference**	**Count**	**Mean Difference in Depth**	**% in total cores**	**Count**	**Mean Difference in Depth**	**% in total cores**	**Count**	**Mean Difference in Depth**	**% in total cores**	**Count**	**Mean Difference in Depth**	**% in total cores**	**Count**	**Mean Difference in Depth**	**% in total cores**	**Count**	**Mean Difference in Depth**	**% in total cores**
Geitnakofahóll	38	20.94	16	19.47	42.11%	6	14.00	15.79%	0	0.00	0.00%	3	-19.00	7.89%	0	0.00	0.00%	1	14.00	2.63%
Hvammsgerði	53	8.79	4	-12.67	7.55%	9	7.83	16.98%	0	0.00	0.00%	13	-3.06	24.53%	11	3.07	20.75%	2	2.00	3.77%
Kringla	41	12.85	15	6.40	36.59%	3	-2.50	7.32%	0	0.00	0.00%	6	7.50	14.63%	0	0.00	0.00%	0	0.00	0.00%
Kringlugerði	41	-3.66	19	-2.27	46.34%	2	-26.00	4.88%	0	0.00	0.00%	5	-1.17	12.20%	2	8.00	4.88%	2	1.00	4.88%