

Siglunes

Archaeological investigations in 2011



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Front page: A chess piece discovered in section A, below the 1300 tephra horizon.
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Yfirlit

Sumarið 2006 var gerð fornleifaskráning á Siglunesi við Siglufjörð. Skráningin var hluti af aðalskráningu minja í sveitarfélaginu öllu. Á nesinu voru skráðar margar áhugaverðar minjar, meðal annars nokkrir rústahólar niðri á nesinu sjálfu sem voru augljóslega í bráðri hættu vegna sjávarrofs og mátti sjá berskjölduð mannvistarlög blasa við í sniðum á sunnanverðu nesinu á einum sex stöðum. Heimildir geta um verbúðir á þessum slóðum, en vitað er að Siglunes var mikilvæg verstöð fyrir á tímum. Sumarið 2008 fóru Þór Hjaltalín og Sólborg Una Pálsdóttir, starfsmenn Fornleifaverndar ríkisins, á Siglunes að kanna aðstæður. Minjar á nesinu voru mældar upp og í sniði eins stærsta rústahólsins sást gjóskulag sem talið var frá árinu 1104 liggja yfir miklum öskuhaug og öðrum mannvistarleifum. Vorið 2011 fékkst styrkur frá Fornleifasjóði til að gera frumrannsókn á minjunum. Hreinsuð voru fram snið í sex rústahólum sem liggja undir skemmdum af sjávar völdum. Í ljós komu minjar allt frá fyrstu öldum byggðar og fram yfir 1300, bæði leifar bygginga og gríðarlegir öskuhaugar með miklu af vel varðveittum dýrabeinum. Ljóst er að frekari rannsóknir á Siglunesi væru mikilvægt innlegg í rannsóknir á fiskveiðum á Íslandi til forna og þar með þáttum sem tengjast hagsögu, fiskveiðistjórnun og afkomu allrar þjóðarinnar.

Höfundar eru afar þakklátir landeigendum á Siglunesi, sem sýndu mikinn velvilja og áhuga á rannsókninni. Eigendur Þormóðshúss fá sérstakar þakkir fyrir að leyfa okkur að dvelja í húsinu, ekki síst Margrét Steinunn Þórðardóttir sem að auki sá um að sigla með okkur yfir fjörðinn.

1. Introduction and overview



In the years 2004 and 2006 archaeological survey was conducted in the district of Siglufjörður, NE Iceland. A total of nearly 700 sites was surveyed in the field¹ at 23 farms. Among those farms is *Siglunes* at the eastern mouth of Siglufjörður bay. Many different sites were surveyed there, including

several eroded mounds on a narrow peninsula that stretches out to the west from the farm site. It was apparent that these required immediate investigation as the soil is soft and easily swept away by the merciless waves of the northern sea. In 2011 a small grant was obtained from Fornleifasjóður to conduct a preliminary investigation in the area. The aim of the season was to gain a better understanding of the eroding cultural remains in Siglunes, especially with regard to possible dating with tephra, and to assess the preservation of bones and other organic remains. The fieldwork was conducted between the 18th-29th of July 2011. The westernmost part of the site sadly seems to be quickly eroding and a large mound recorded there in 2006 has largely disappeared. However the results are very promising and the site proved very desirable for further investigation. Rich and well stratified midden layers were uncovered, dated by tephra from soon after landnám to post-1300. Over 100 kg of bone were recovered, mainly from contexts between the H-1104 and H-1300 tephra. Further investigations are necessary to increase the sample size from other phases and to investigate some of the structures visible in sections.

A grant from Fornleifasjóður made the project possible and also assistance from City University, New York, who provided bone analysis and paid traveling costs for Ramona Harrison, zooarchaeologist. The project was carried out in cooperation with Fornleifavernd ríkisins (The Archaeological Heritage Agency of Iceland) as well

¹ Birna Lárusdóttir og Sigríður Þorgeirsdóttir 2005. Birna Lárusdóttir (editor) 2008.

as NABO (North Atlantic Biocultural Organization). The Siglunes project is a part of the GHEA coastal erosion group (Global Human Ecodynamics Alliance) who focuses on the issue of coastal erosion and how it affects human communities past and present.

2. Siglunes: some historical notes and the site

The Siglunes farm was finally abandoned as a permanent residence in 1970. It is now isolated and accessible only by boat. Although remote today, Siglunes used to be the central farm of the district, which used to be called *Sigluneshreppur* (later *Hvanneyrarhreppur*). The parish church of the area was originally at Siglunes, but relocated to Hvanneyri across the bay in 1614. According to oral tradition, this was after several people were killed by an avalanche on the way to church in Siglunes, travelling on a very steep and dangerous path in the so called *Siglunesskriður* (a loose skree slope).

Siglunes has a long history as a central farm and as a fishing station. According to *Landnámabók* it was the settlement farm of Þormóður rammi (ÍF I, pp. 245-247). Siglunes is also mentioned in *Sturlunga saga* in 1188 as a place where



Map showing sites mentioned in the report. Note that the coastline has moved closer to dots A, B and D. Site G was not investigated this season. Black dots mark archaeological sites surveyed in 2006. (©Landmælingar Íslands)

„föstumatur“, most likely stockfish, was readily available (Sturlunga saga I, p. 169). The farm is often referred to as a fishing station with the number of residents growing considerably during fishing seasons. The focus of excavation was the main area of fishing booths – attested as such until at least as late as the early 20th century. However, the most evident ruins still visible on the peninsula are apparently those of sheep-houses and other buildings from the farm. A map from 1920 shows this area as a part of the homefield. Thus the peninsula has been important also for farming practises, at least in later times. Some of these structures have obviously been built on top of earlier ruins and man-made mounds. The size of the farm mound (located east of dot “G” on Map 2) reflects the scale of occupation in Siglunes. It measures some 70-80 m in diameter and 2-3 m high, and is one of the more impressive mounds of its kind known to the authors.

Örlygur Kristfinnsson, curator of the Herring Museum in Siglufjörður, drew the attention of surveyors to the eroding ruins on the peninsula west of the farm site back in 2006. Örlygur had realized that archaeology was under immediate threat of coastal erosion and had picked up some finds and bones discovered falling out of erosion faces. The peninsula is heavily eroded by the sea on three sides and locals claim that a wide strip of land has been lost to the sea over the last decades. As many as six ruin mounds are sitting directly on the edge of the erosion face on the southern shore, and are currently and actively being destroyed by wave action. The thickness of cultural layers visible in section, in excess of 1 m, made it abundantly clear to the survey team that the area holds evidence of extensive and enduring human activity.

Þór Hjaltalín, district antiquarian, visited Siglunes in 2008 and examined the remains. He cleaned an erosion face in one of the larger mounds and found a white tephra layer to be sealing large quantities of bone and midden material. The tephra was thought to be from 1104, and originate from Hekla in southern Iceland.

In the spring of 2011 a grant was obtained from Fornleifasjóður to make a preliminary investigation of the endangered sites in Siglunes. The aim of the first season was to clean and record the active erosion faces on the peninsula, in order to map the cultural layers, establish dating parameters and hopefully retrieve a significant animal bone assemblage. The results of this effort are presented below.



Siglunes, facing west. The eroding mounds are located on the southern shoreline and the western tip of the peninsula.

3. Results of fieldwork

Mound A (66°11.788N 18°51.378V)



Mound A, looking northwest. Mound B is visible in the distance (with sieving frame in front of it).

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Mound A has a very complex depositional sequence, showing both dumping layers and structural remains. In the western part of the section a clear line of the 1104 tephra is visible, the only “in situ” tephra in this section. It seems that most of the layers are post-1104 as the ground surface has been reduced, truncating the tephra layer. It can however not be ruled out that parts in the middle and eastern part of the section are somewhat earlier, as they can not be associated directly with any “in situ” tephtras.

The central part of the section is made up from repeated building activities, two walls that have been rebuilt at least three times and some surface layers accumulated between them. Externally there is evidence of repeated dumping and burning activities. Substantial bone dumps were not visible in this section.



Section of Mound A. Note the white tephra to the left, 1104 in situ.

Mound B (N66 11.793 W18 51.426)

This is one of the larger mounds on site, up to 15 m in diameter. It has been severely disturbed by a 20th century hay-pit with concrete walls, located some 2-3 m inland from the eroding section. Judging from the layout of the mound it seems likely that some 3-4 meters from the southern end have been lost to the sea.

This section includes a well stratified midden including exceptional quantities of very well preserved unburnt bone. The eastern part of the section is divided by clear tephra horizons - H-1104 and H-1300. Extensive midden layers are sealed by the 1104 tephra, and large quantities of animal bone was retrieved from this phase. Above the white 1104 tephra, further substantial layers were identified beneath a dark grey tephra layer, H-1300. In order to recover a significant bone assemblage, limited areas of the section were targeted for excavation. After cleaning and initial recording, the section was excavated to a horizontal depth of 0.50m. All layers were described in detail, and all layers including bone were 100% dry sieved on site through a 4mm mesh. Over 100 kg of animal bone were retrieved from this mound. The most spectacular single find from the season was a gaming piece made of haddock bone, found in layer [150] in this section, clearly sealed by the 1300 tephra (see front page). The earliest layers in the midden, at the base of the western part of the section include evidence of burning and the remains of fire pits or temporary hearths. These layers continue beneath the seashore pebbles to the south and west of the exposed section, clearly evidencing the impact of coastal process on the remains.



Rich bone- and midden layers in mound A, the majority of which is sealed by the 1300 tephra and the lower parts sealed by tephra from 1104.

Mound C (N66 11.767 W18 51.183)

What remains visible of this mound measures ca. 5 x 3 m (E-W) on the surface. Judging from the size and layout it can be estimated that at least half of it has been lost to the sea.

Remains of a natural surface are visible at the bottom of the section, on top of what is most likely a part the LNS sequence (Sample 4). Structural remains on top of that appear to be the remains of a stonebuilt platform. No obvious walls are connected to this structure. It appears that two layers of stones have been laid out on the ground to create a level surface. The most recent deposits on top of this stony surface is an uneven layer of stones and turf, possibly including tephra from 1104. Other dating evidence is not present.



Mound D (N66 11.812 W18 51.522)

The remnants of a small mound are located on the southwestern limit of the peninsula, precisely where limited surviving vegetation meets the seashore. The mound seems to be eroding very quickly. When surveyed in 2006 it measured nearly 10 m across, with a shallow depression in the middle, but had started to erode on the southern side. Today very little remains of the mound. The part of it recorded was a piece of wall and surrounding layers that had been completely stripped of vegetation. The wall, which has a large piece of whale-bone beneath/adjacent to it, has clearly been built



Anna Hellgren standing next to what remains of mound D.

after 1104 as the tephra is visible undisturbed under the walls and also in the building blocks in the turf. This wall (Context 113) shows evidence of repair or reconstruction (Context 109). Some remains of compacted organic floor layers (Context 111) survive to the east of the upstanding turf wall remains.



Whale bone next to wall in the remnants of mound D, possibly a part of the structure. Note the white stripes in the building turf, tephra from 1104.

Mound E (N66°11.757 W18°51.121)

On the surface this mound seems ca. 10 m long (E-W) but the strip left is only about 2-3 m wide (N-S). It seems that the majority of this structure has already eroded away. The section consists of an accumulation of cultural material, although structural features or extensive middens and bones are not present. The layers are in general mixed with a lot of burnt material, pieces of charcoal, burnt bone and peatash. Light coloured tephra is visible near the bottom of the mound, 1104 in situ, sitting on top of natural layers. A regular cut, ca. 80 cm in diameter is visible in the western part of the section, cutting through the 1104 tephra and thus later than that but is sealed by a dark tephra, H-1300. The cut shows two phases of fill, both of which have been deposited after some kind of burning activity took place within the cut. Extensive cultural layers are visible above the 1300 tephra.



Mound E. Note the cut full of large stones to the left – truncating the white 1104 tephra.

Mound F (N66 11.769 W18 51.224)

The remains of a small ruin are visible on the surface, 6 x 4 m from N-S but the southern part has disappeared. The section shows obvious remains of two massive walls [137 and 164], sealed by whitish tephra, H-1104. The oldest wall phases possibly include the LNS tephra but this has not been confirmed. They have some occupational layers (floor) associated with them [159 / 162]. The structure has been rebuilt after 1104, at least the eastern wall, but the exact dating is difficult to establish. Bone or midden material is not present.



Mound F.

Ramona Harrison:

4. The faunal remains

Background

The multidisciplinary investigation presented here aims at an overview of the area's long term human ecodynamics in general. Specifically, the project seeks to investigate the degree of development of inland trade connections to early commercial fishing institutions in place in Viking Age and early medieval Eyjafjörður.

The impact and extent of domestic and international trade in the Viking Age and early Icelandic Middle Ages on rural society and economy has long been debated by historians and anthropologists. While recent archaeological research has added some contributions to a better understanding of the nature and extent of international trade in the Viking Age North Atlantic (McGovern et al 2007), domestic exchange patterns concerning fish products during the Viking Age and the early medieval period are still not well understood. Viking Age sites such as the ones in Mývatnssveit, but also Skuggi in Hörgárdalur have provided data suggesting a presence of an inland fish product exchange system established before 1100 AD. The nature and organization of this inland fish provisioning system is not well understood, as to date the producing sites have not been found; neither in Mývatnssveit nor in Eyjafjörður.

The site at Siglunes thus potentially provides new data and information on the nature of commercial fishing and the organization of inland fish trade in early Icelandic economy. Beyond providing an early sequence of Icelandic commercial fishing activities and trade for Eyjafjörður, this data can also shed light on issues relating to early inland fish trade and commercial fishing in Mývatnssveit (or S-Þingeyjarsýsla) and even the whole of Northern Iceland, including the Snæfellsnes Peninsula. There, ongoing archaeological research of a fishing station threatened by coastal erosion has contributed initial information on late medieval and post medieval commercial fishing in Iceland's Western regions (Pálsdóttir et al. 2009, Feeley et al. 2010). In combination with results from Gufuskálar and other later medieval and post-medieval commercial fish processing sites in the Western Fjords (Edvardsson et al. 2004, Edvardsson & McGovern 2005, Krivogorskaya et al 2005, Perdikaris

et al 2004), a long-term chronology of commercial fishing in Northern Iceland could be established if Viking Age/early medieval data were available from this Eyjafjörður site.

The Siglunes Archaeofauna

As at least one feature at Siglunes (Mound B) contains a AD 1104 H tephra layer covered by later phases of midden dumping events and in turn sealing earlier cultural remains. This would make these layers from one of the eroding coastal fishing booths directly contemporaneous with those encountered at Skuggi and Oddstadir inland sites in Hörgárdalur/Eyjafjörður (www.nabohome.org for laboratory and field reports, Harrison 2010). The later are part of a project investigating international and local economies, and connections between this region and the rest of Iceland (i.e. Gufuskalar, The Westfjords) as a whole, and the global medieval trade and exchange systems often termed Medieval World System (i.e. Findlay & O'Rourke 2007, Abu-Lughod 1989).

About the 2011 archaeofauna:

The 2011 animal bones removed from cultural deposits (midden dumps) in mounds B and E have great potential for contributing to our knowledge of site economy, as well as changes in long-term local, regional, and inter-regional subsistence and commercial practices (i.e. fishing, but also animal husbandry).

In 2011, the Siglunes investigation revealed great quantities of well preserved fish bones, whale and seal bones, domesticate (i.e. sheep, horse) and bird (sea birds) bones. From the samples already retrieved from mounds B and E, it has become clear that with a larger sample from these ruins, in addition to substantial numbers of animal bones excavated from the various other structures eroding into the sea, this site can provide a detailed chronology of local and regional long-term human ecodynamics. Such a set of faunal (and other environmental and cultural) data can then potentially provide the early (Viking Age to early medieval) link to the story of Icelandic subsistence and commercial fishing and thus offer a major contribution not only to the history/archaeology of Icelandic fish trade (see the projects mentioned above) and the lives of people involved in it, but also to that of the North Atlantic and ultimately the global medieval exchange system.

5. Results/Discussion

The preliminary investigations in Siglunes in 2011 produced very promising results, as well as recovering a substantial collection of exceptionally well preserved animal bone. The bone assemblage is dominated by fishbone, but also includes the remains of large marine mammals and other wild fauna as well as domesticates. The full analysis of these remains will without doubt cast light on early fishing in Siglunes, beginning soon after landnám until at least the 14th century.

This is of major importance in understanding subsistence strategies in the Eyjafjörður region at the time, but also for understanding early fishing in Iceland in general. Recent investigations throughout Iceland are beginning to indicate the importance of fishing for early trade throughout the North Atlantic. The sections showed a range of different activities including the processing of fish, building construction and cooking. It is interesting to note that none of the structural remains so far visible in sections fall immediately within conventional ideas of Icelandic fishing booths as temporary structures with insubstantial walls and little if any floor layers, except perhaps the quickly eroding ruin at the tip of the peninsula, which has a turf wall, possibly supported by a whale-bone. This needs further investigation but of course it cannot be ruled out that structures visible in section F and perhaps A were built and used for farming activities and perhaps as temporary shelters for fishermen during the winter.

Most of the remains investigated seem to be quite early, from soon after landnám to 1300. Where cultural layers are visible after 1300 they are not easily dated as no later tephra layers are present. It can still be pointed out that the absence of clay pipes and pottery, typically found in abundance from the 17th century onwards, suggest a relatively early date for all the deposits thus far recorded. It is suggested that further research should aim to increase the bone assemblage, especially the pre-1104 and post 1300 parts of it. Furthermore, structures that are easily accessible, f.ex. D or F, should be targeted for full excavation.

Finds

A total of 50 finds were retrieved from the sections in Siglunes, most from mound B. Most of them were either metal/copper or whalebone, including some large whalebone finds. These include a possible chopping board and some possible shovel blades. The most impressive find was, as earlier mentioned, found in section B, a chess piece, most likely a pawn, showing a small figure holding a shield and a spear with some carefully carved details. This was found in context [150], above tephra that has been dated to H-1104 but sealed by tephra from H-1300. The piece is carved from haddock bone (cleithrum). A few comparative pieces should be mentioned. A chess piece (king) dated to the 12th or 13th centuries has been found recently at Steinbogi in Mývatnssveit (Batey 2011, p. 65). It thus seems that chess was already a widespread game at the time. However Steinbogi is some 60 km inland but nevertheless marine fishbone and in particular this find show connections to the coast, even as early as the Viking Age. The use of haddock bone has not been entirely an Icelandic custom. The medieval site of Kongshavn in Norway has produced quite a few chess pieces. Among them is a piece carved from haddock bone as well, similar in shape to the Siglunes piece but considerably smaller. It has been pointed out that this piece resembles a wooden chess piece from mid 13th century Trondheim (Henriksen et al. 2011, pp. 200-201).

All artefacts from Siglune have been examined by curator Jannie Ebsen and finds specialist Sigríður Þorgeirsdóttir.

Context register

Unit	Area	Description	ID
101	B	Turf collapse mixed with peat ash and midden - white tephra in turf	RH/S P
102	B	Mixed midden deposit with charcoal, bone and large stones	RH/S P
103	B	Mixed peat ash - firepit? (Fill of [145])	RH/S P
104	B	Shallow irregular cut at base of stratigraphy. Filled by (102)	HMR
105	D	Turf/grass	HMR
106	D	Turbated aeolian deposit - topsoil between stones	HMR
107	D	Dark orange brown silt overlying northern face of ruin, including occasional turf fragments with grey/ white tephra	HMR
108	D	Clay rich very dark brown turf collapse, with frequent red/orange turf. Turbated, includes decayed timber and modern artefacts.	HMR
109	D	Secondary turf build in wall. Yellow sandy silt matrix, with grey/green tephra (1300?), up to 7 courses, each 5cm thick, horizontal. Capped/faced by 4 courses of large water rounded stones.	HMR
110	D	Internal turf collapse, derived from (109) and (113), frequent large rounded stones, occasional peat ash.	HMR
111	D	Dark brown black clay silt, compacted laminar occupation surface. Occasional white tephra flecks, occasional decayed bone and wood.	HMR
112	D	Dark brown silt with small turbated turf fragments (inc white tephra)	HMR
113	D	Primary turf wall. Dark brown/ yellow brown/ white turves (hnaus?). Survives up to 9 courses, and 1.1m in height. Turf up to 15cm thick and 40cm length. Overlies/includes large whale bone fragment at base.	HMR
114	D	Natural. Dark yellow brown organic rich silt with white tephra at ground surface.	HMR RH/S
115	B	Grey/green/brown turf collapse or turf dump, occasional charcoal and small rounded stone.	P RH/S
116	B	Mixed peat ash and in situ burning, including charcoal, burnt bone, shells	P RH/S
117	B	Mixed deposit of peat ash, bone and burnt bone in a matrix of dark brown silt.	P RH/S
118	B	Orange pink peat ash over blackened soil/charcoal. In situ burning	P RH/S
119	B	Dark brown sandy silt with occasional charcoal	P

120	B	Pale brown silty turf block with white tephra	RH/S P
121	B	Peat ash, red at surface, includes burnt bone and charcoal at base	RH/S P
122	B	Organic rich mid brown silt, with occasional bone, burnt bone	RH/S P
123	B	Red brown silt with frequent charcoal, and occasional possible turf collapse	RH/S P
124	B	Mid brown silt with peat ash, charcoal, burnt bone, flecks of white tephra	RH/S P
125	B	Thin grey white band, lens of white burnt bone, occasional charcoal	RH/S P
126	B	Mid brown silt with peat ash, charcoal, burnt bone. Overlies white tephra horizon	RH/S P
127	B	Mixed yellow brown turf deposit - possible consolidation	RH/S P
128	B	Dark brown clay silt, occasional charcoal	RH/S P
129	B	Dark grey/ black charcoal/ash, occasional burnt bone	RH/S P
130	B	Orange pink peat ash layer with occasional charcoal and burnt bone	RH/S P
131	B	Thin grey ash layer - possibly redeposited?	RH/S P
132	B	Thin grey ash layer - possibly redeposited?	RH/S P
133	B	Mid brown silt - aeolian?	RH/S P
134	B	Mixed burnt dump including wood ash, peat ash etc.	RH/S P
135	F	Dark brown silt with turf fragments, and occasional charcoal - above white tephra.	HMR
136	F	Occupational layer west of wall. Compacted, contains turf fragments, occasional small charcoal. Beneath white tephra in situ.	HMR
137	F	Turf wall (dark brown, greyish brown, pale yellow brown). Might include LNS tephra. With large rounded stones at eastern face. See also (157)	HMR RH/S
138	B	Loose mid brown silt, with occasional fine roots. Aeolian	P RH/S
139	B	Loose mid brown silt, with occasional fine roots. Aeolian	P

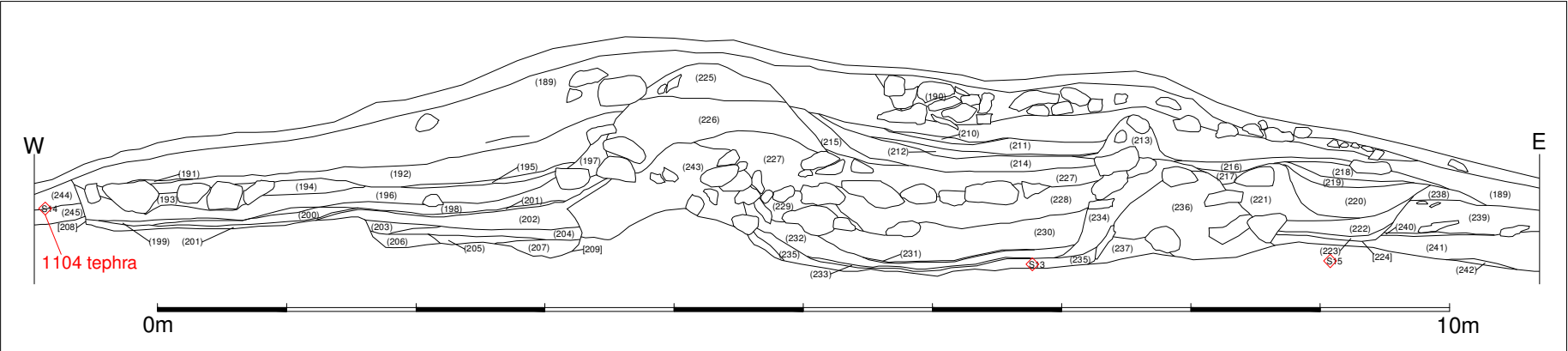
140	B	Mid yellow brown silt	RH/S P
141	B	Dark brown clay silt	RH/S P
142	B	Fine black possible tephra horizon - K1000?	RH/S P
143	B	Mid brown silt with peat ash, charcoal, burnt bone. Underlies white tephra horizon	RH/S P
144	B	3-4mm white tephra horizon in situ. 1104?	RH/S P
145	B	Cut filled by (103)	RH/S P
146	B	Fine blue grey tephra horizon - possibly H1300?	RH/S P
147	B	Grey/green turf collapse	RH/S P
148	B	Soft grey brown turf collapse with occasional peat ash and charcoal. Very frequent bone, fish bone at base.	RH/S P
149	B	Dark brown black silt with burnt turf, occasional peat ash and charcoal	RH/S P
150	B	Bone dump - in matrix of mid brown silt and occasional turf fragments	RH/S P
151	B	Layer of yellow brown turf between bone layers (150) and (152) - including white tephra in turf, includes fire cracked rock.	RH/S P
152	B	Bone dump - in matrix of dark brown black silt with turf fragments - includes burntshell, fire cracked rock.	RH/S P
153	F	Topsoil	BL
154	F	Occupational layer west of wall. Compacted, contains turf fragments, occasional small charcoal, overlying white tephra in situ, with occasional flecks of white tephra	BL
155	F	Pink peat ash deposit between stones - possible single use fireplace.	BL
156	F	Mixed turf collapse with occasional peat ash	BL
157	F	Turf wall, likely a secondary build (dark brown, greyish brown, pale yellow brown). Might include LNS tephra. Very similar to (137) and (164).	BL
158	F	Turf collapse containing red/orange turf, and small whitish flecks of probable tephra.	BL
159	F	Dark brown - black compacted clay silt with frequent burnt bone and peat ash. Floor layer - occupation.	BL
160	F	Orange - dark brown compacted clay silt with very frequent charcoal inclusions and occasional flecks of whitish tephra.	BL
161	F	Mixed loose mid brown silt containing charcoal, occasional turf fragments and peat ash. Also contains multiple layers of white tephra towards the east - possibly in situ and redeposited.	BL
162	F	Compact dark brown occupation layer with frequent fish bone, occasional peat ash and charcoal.	BL

163	F	Mixed mid brown silt with turf collapse (including orange red turf).	BL
164	F	Wall of turf and stone very similar to (137)/(157). Constructed of strengur turf between stones, same colours as (137).	BL
165	F	Later addition to wall (164). With reddish turf pieces and occasional flecks of whitish tephra.	BL
166	F	Occupational layer? Mixed brown silt deposit, including turf fragments and aeolian material	BL
167	F	Dark brown silt with turf fragments	BL
168	F	Dark brown silt with turf fragments, with peat ash lenses. Below white tephra.	BL RH/S
169	B	Bone dump - dark brown silt with occasional turf fragments and very frequent bone	P
170	C	Mid yellowish brown silt, with frequent large rounded stones (up to 40cm), occasional small angular stones (1-3cm) and occasional flecks of white tephra, possibly 1104.	HMR
171	C	Mixed dark yellow brown silt with turf fragments (irregular, random - yellow, blackish brown, grey green). With 2 courses of large rounded stone up to 30cms.	HMR
172	C	Turbated dark yellow brown clay silt, with lenses of turf, occasional charcoal and decayed bone (?) or organic content.	HMR
173	C	Compacted dark brown organic clay silt. Land surface?	HMR
174	C	Grey/grey green layer beneath (173) - possibly part of Landnám tephra sequence?	HMR
175	E	Soft mid brown clay silt.	AH
176	E	Soft pinkish silt with occasional charcoal and burnt bone	AH
177	E	Thin horizon of blue grey tephra (1300)?	AH
178	E	White tephra horizon - likely in situ	AH
179	E	Orange pink peat ash with occasional burnt bones and charcoal	AH
180	E	Cut feature circa 0.9m in diameter and circa 0.45m in depth. Filled by (181) and (185)	AH
181	E	Lower fill of cut [180]. Greyish brown sandy silt with burnt bone, charcoal. In situ soot/charcoal at base.	AH
182	E	Mid brown sandy silt with very occasional charcoal. Possibly equals (186)	AH
183	E	Mid orange brown sandy silt.	AH
184	E	Mid orange brown sandy clay silt	AH
185	E	Upper fill of cut [180] Dark brown sandy silt with frequent charcoal and burnt bones. In situ soot/charcoal at base.	AH
186	E	Mid brown sandy silt with very occasional charcoal. Possibly equals (182)	AH
187	E	Dark brown clay silt with frequent bone, burnt bone, and large rounded stones.	AH
188	E	Compact dark brown clay silt. Possibly natural	AH
189	A	Mixed turbated yellow brown silt with very occasional small stones, turf fragments, charcoal and peat ash	HMR
190	A	Loose large rounded stones and top of section. Storm deposit?	HMR
191	A	Charcoal and wood ash lens.	HMR
192	A	Highly mixed yellow brown silt with occasional turf fragments, burnt stone, charcoal and flecks of white tephra.	HMR
193	A	Charcoal and wood ash deposit between 3 stones.	HMR
194	A	Layered turfy deposit (yellow, yellow brown, with white tephra) in mid brown aeolian matrix.	HMR
195	A	Grey ash with burnt bone, peat ash and charcoal.	HMR

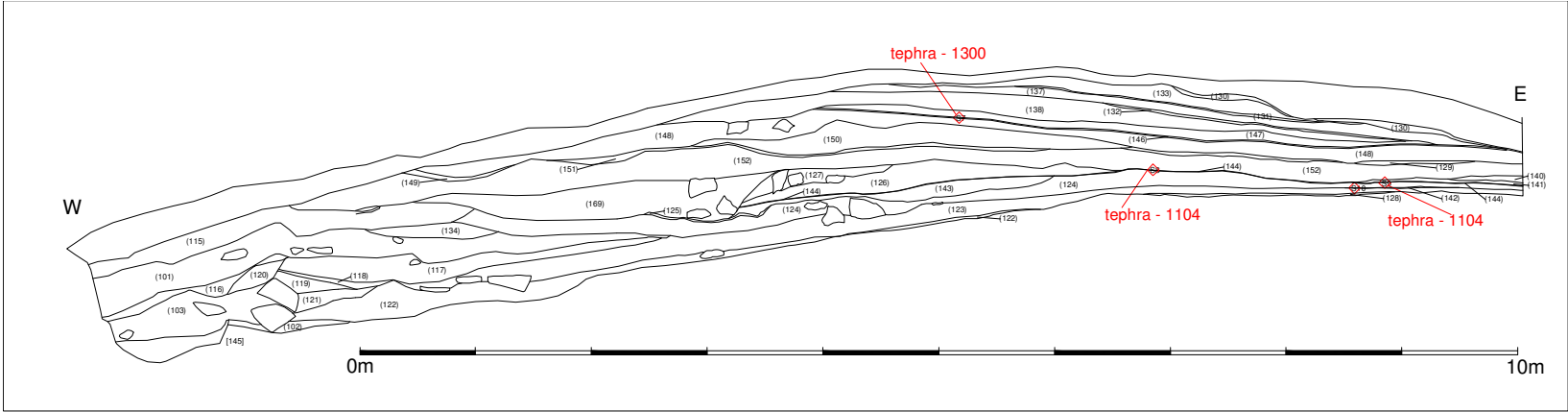
196	A	Mixed yellow brown /grey brown silt with occasional charcoal and peat ash flecks.	HMR
197	A	As (196) but slightly darker and with turf fragments. Possibly equivalent to (196)	HMR
198	A	Laminar peat ash deposit with charcoal/soot at base. In situ burning - temporary hearth.	HMR
199	A	As (198) but not contiguous in section.	HMR
200	A	Mixed yellow brown aeolian silt with occasional peat ash and charcoal flecks.	HMR
201	A	Grey black charcoal/ash layer	HMR
202	A	Mixed dark yellow brown silt with yellow/brown turf fragments.	HMR
203	A	Peat ash lens sitting in small depression in natural surface - possible hearth.	HMR
204	A	Yellow brown silt with occasional charcoal and small stone.	HMR
205	A	Peat ash /wood ash deposit with soot/charcoal at base. In situ burning - hearth.	HMR
206	A	Mixed yellow brown silt, turbated with very occasional charcoal and anthropogenic content. Derived from underlying natural deposits.	HMR
207	A	Mixed yellow brown turf fragments with occasional small stones.	HMR
208	A	Shallow irregular cut truncating natural deposits, truncating white tephra in situ. Possibly equals [209] Filled by (196) to (207) inclusive	HMR
209	A	Shallow irregular cut truncating natural deposits. Possibly equals [208] Filled by (196) to (207) inclusive.	HMR
210	A	Black soot/charcoal deposit. In situ burning.	HMR
211	A	Mixed yellow brown aeolian silt with occasional turf fragments	HMR
212	A	Charcoal and ash, black soot at base - in situ burning.	HMR
213	A	Mixed block of reddish turf including white tephra and small rounded stones.	HMR
214	A	Layers of mixed yellow brown turf fragments with occasional flecks of peat ash.	HMR
215	A	Dark yellow brown silt with frequent fish bone.	HMR
216	A	Peat ash and in situ burning.	HMR
217	A	Blackened silt - in situ burning.	HMR
218	A	Yellow brown silt with occasional flecks of white tephra.	HMR
219	A	Peat ash, black at base, in situ burning.	HMR
220	A	Turf collapse (yellow, brown, white tephra) in silt matrix. Highly disordered small fragments.	HMR
221	A	Yellow brown silt matrix with frequent turf collapse	HMR
222	A	Dark brown mixed aeolian silt, occasional charcoal, occasional flecks of white tephra	HMR
223	A	Fine mixed ash, charcoal burnt bone - fill of cut [224]	HMR
224	A	Cut - small, shallow, truncating deposits east of eastern wall	HMR
225	A	Turf wall rebuild. At least 5 courses of 5cm thick turf, formed from yellow/ yellow brown silt with white tephra	HMR
226	A	Collapsed turf wall - as (225) but disordered.	HMR
227	A	Highly mixed aeolian silt with frequent small fragments of turf collapse and frequent flecks of white tephra	HMR
228	A	Irregular yellow brown turf deposit, possibly a levelling/consolidation event.	HMR
229	A	Peat ash	HMR

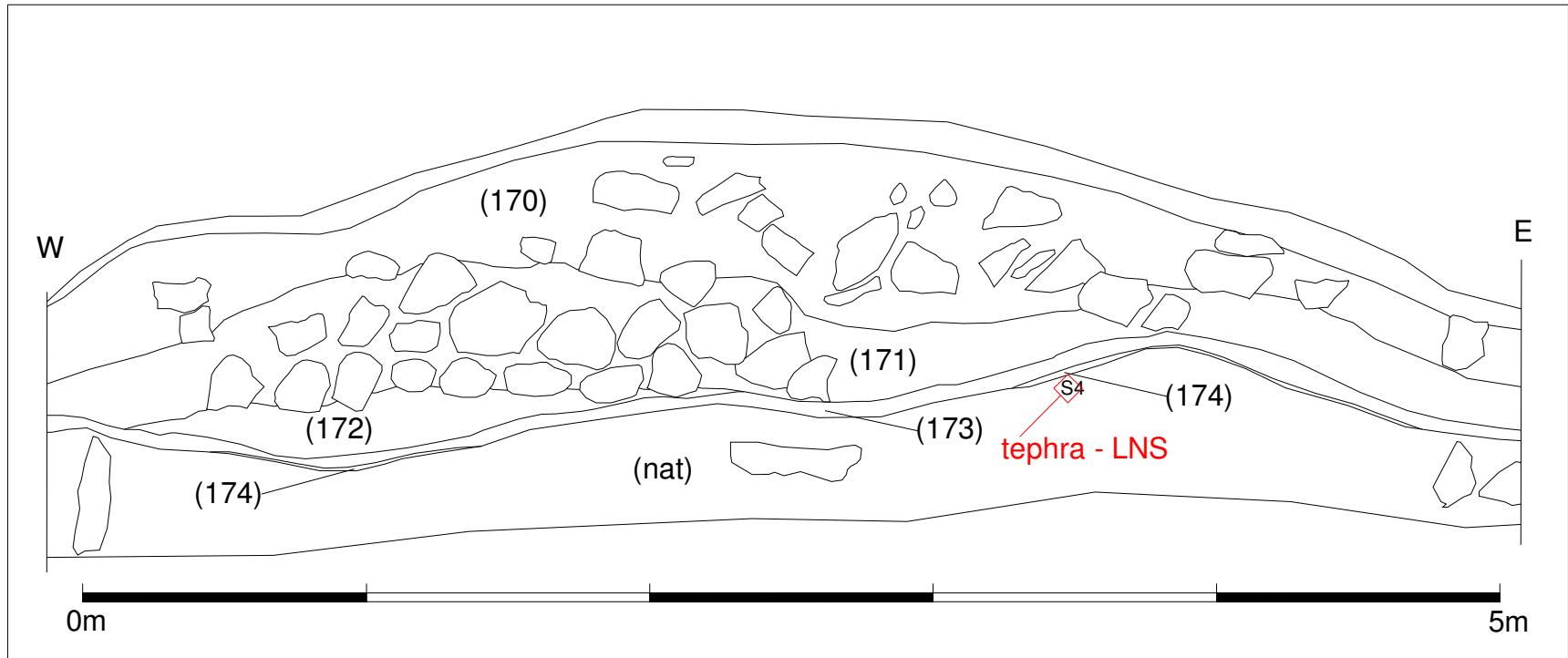
230	A	Mixed, layered yellow brown turf including white tephra. Possibly consolidation.	HMR
231	A	Grey/white ash layer including very fine burnt bone, charcoal etc	HMR
232	A	Dark, compacted yellow brown clay silt. Occupation horizon.	HMR
233	A	Peat ash	HMR
234	A	Dark yellow brown silt with moderate yellow/brown turf fragments.	HMR
235	A	Dark brown/ black compacted clay silt with occasional bone and charcoal. Occupation.	HMR
236	A	Yellow brown turf (including yellow tephra - H3?) - irregular, disordered. Collapse.	HMR
237	A	Turf wall fragment - multiple layers of yellow tephra (H3?) interspersed with dark brown silt. Possible LNS elements at upper surface.	HMR
238	A	Mixed yellow brown aeolian silt	HMR
239	A	Dark brown/ yellow irregular turf with white tephra in situ at upper surface.	HMR
240	A	Peat ash, charcoal, in situ burning	HMR
241	A	Mixed aeolian silt with yellow brown turf fragments	HMR
242	A	Dark brown clay silt. Possibly natural	HMR
243	A	Yellow (H3)/ dark brown/ grey brown turf in wall. At least 5 course, faced with large rounded stones at E.	HMR
244	A	Mixed yellow brown aeolian silt	HMR
245	A	Dark yellow brown aeolian silt with white tephra at upper surface.	HMR

Section drawings

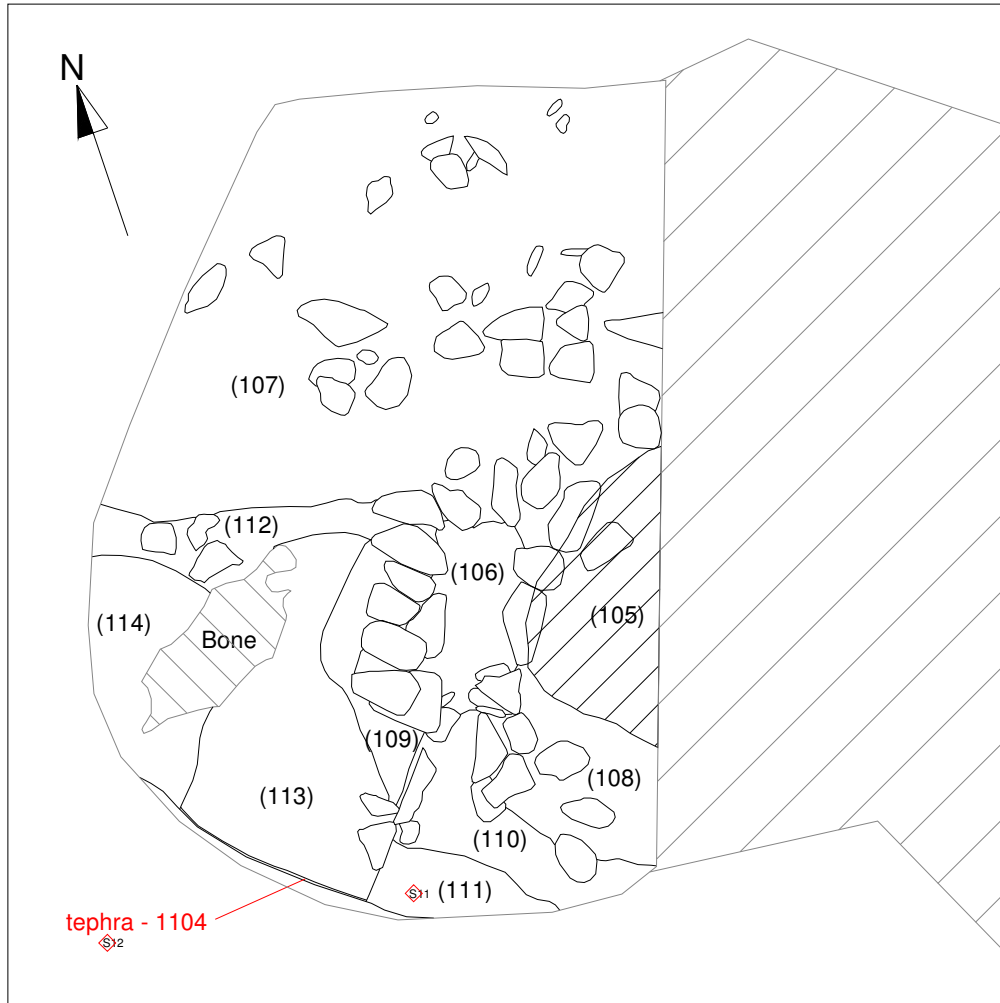


Section A (above) and section B (below)

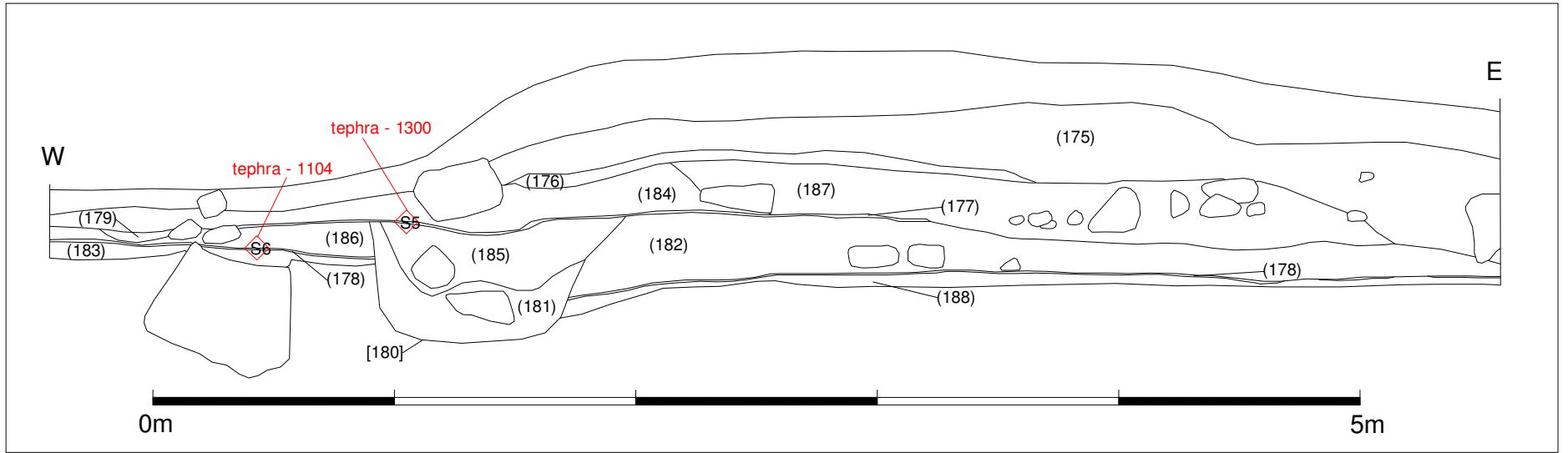




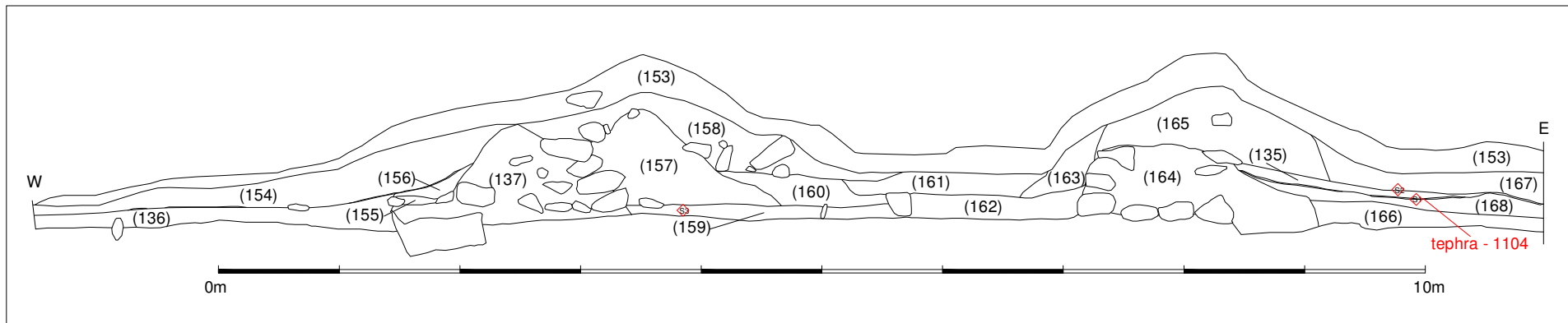
Section C



Plan D



Section E



Section F

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Fornleifarannsókn á Siglunesi í Fjallabyggð sumarið 2011

Gjóskulagarannsókn

Magnús Á. Sigurgeirsson, jarðfræðingur

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INNGANGUR

Skoðuð voru 11 aðsend gjóskusýni frá Siglunesi í Fjallabyggð. Sem stoðefni voru sniðteikningar fornleifafræðinga, ljósmyndir og jarðlagalýsingar. Sýnin voru skoðuð í víðsjá, með allt að 60-faldri stærkkun. Höfundur hefur ekki skoðað gjóskulög á Siglunesi en hins vegar nokkru sunnar s.s. víða í Skagafirði, í Ólafsfirði og víðs vegar við Eyjafjörð.

Samkvæmt tiltækum heimildum um útbreiðslu gjóskulaga á Norðurlandi má búast við að finna eftirfarandi gjóskulög við Siglufjörð og nágrenni:

1. Landnámslag frá 870-880 e. Kr. Þykkt lagsins við Siglufjörð er vel innan við 0,5 cm samkvæmt útbreiðslukorti. Ólíklegt er að það sjáist þar. Á Norðurlandi er svokölluð Landnámsstyrpa (LNS) skýr en í henni koma fyrir allt að sex dökk gjóskulög sem mynduðust á rúmlega 200 ára tímabili. Yngsta lagið í LNS er V-940. Þykkt LNS við Siglunes ætti að vera minni en 5 cm og vart meira en 2-3 lög sjáanleg.
2. Dökkt gjóskulag frá því um árið 1000. Þetta gjóskulag hefur fundist víða í Skagafirði og gæti mögulega fundist á Siglunesi. Útbreiðsla lagsins er ekki þekkt en upptökin eru í einni af eldstöðvum Vatnajökuls. Þykkt lagsins ætti að vera innan við 0,3 cm. Lagið hefur verið nefnt Vj-1000.
3. Hekla-1104, hvítt lag. Þykkt lagsins ætti að vera minni en 0,5 cm við Siglunes. Samkvæmt útbreiðslukorti ætti H-1158, sem einnig er hvítt, ekki að finnast á Siglunesi.
4. Hekla-1300. Þykktarkort er ekki til en samkvæmt mælingum Sigurðar Þórarinssonar er meðalþykkt þess í Fljótum um 0,4 cm.
5. Veidivötn-1477 ("a"-lagið svonefnda). Allskýrt í Svarfaðardal. Þykkt minni en 0,5 cm.
6. Hekla-1766. Áberandi gjóskulag í Skagafirði. Gæti verið um 0,5 cm við Siglunes.

Eins og sést af þessari upptalningu eru gjóskulög frá sögulegum tíma fá við Siglunes, og öll fremur þunn. Leit að slíkum lögum í mörkinni er tímafrek og krefst mikillar nákvæmni.

(Sigurður Þórarinsson 1968, Guðrún Larsen 1984, Karl Grönvold *et al.* 1995, Zielinski *et al.* 1997, Magnús Á. Sigurgeirsson 2000; 2001; 2004, Guðrún Larsen *et al.* 2002, Magnús Á. Sigurgeirsson *et al.* 2008).

Sýnalisti (merkingar):

- a. Sýni-1 (Area-F).
- b. Sýni-2 (Area-F).
- c. Sýni-4 (context 174). Section C.
- d. Sýni-5 (context 177). Section E.
- e. Sýni-6 (context 178). Section E.
- f. Sýni-7 (Mound B).
- g. Sýni-8 (Mound B).
- h. Sýni-9 Mound B.
- i. Sýni-10 (merkt, K-1000?).
- j. Sýni-12 (28.7.2011). Plan D.
- k. Sýni-14 (Mound A, 28.7.2011).

NIÐURSTÖÐUR

Niðurstöður greininga eru eftirfarandi:

- a. Sýni-1. Hekla-1104
- b. Sýni-2. Hekla-1104
- c. Sýni-4. Líklega eitt af lögum LNS. Móbrúnt gler, nokkuð blöðrótt. Kristallar < 3%.
- d. Sýni-5. Hekla-1300
- e. Sýni-6. Hekla-1104
- f. Sýni-7. Hekla-1300
- g. Sýni-8. Hekla-1104
- h. Sýni-9. Hekla-1104
- i. Sýni-10. Mjög blandað og korn eru mjög núin, líklega fokefni.
- j. Sýni-12. Hekla-1104
- k. Sýni-14. Hekla-1104

Gjóskan í H-1104 eru úr mjög fínkorna, smáblöðróttu ljósu glerkurli. Einkennandi er að glerkornin eru samloðandi og mynda klumpa, líklega er um svokallaðar öskubaunir að ræða. Dálítið er af rauðu gjalli og kristöllum. Lítið er um korn af öðru tagi, s.s. bergbrot eða dekkra gler.

Gjóskan í H-1300 einkennist af margbreytilegri kornagerð. Glerlitur er frá svörtu í grábrúnt. Korn eru fremur hnöttótt. Einkennandi eru svartar örsmáar innlyksur í glerinu, sem bendir til að það sé örkrystallað. Slíkt er einkennandi fyrir Heklugjósku. Talsvert er af rauðu gjalli í bland við glerið. Sýni-4 er að öllum líkindum hvorki LNL né V-940, heldur nokkru eldra lag sem hefur upptök í Vatnajökli, líklega Grímsvötnum.

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