

REU

A NABO and IPY field Project 2010
**Excavations at Skútustaðir, Mývatn Northern Iceland:
Preliminary Field Report After the Excavation Season June – July 2010**



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with

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Front page:

A group photograph of the 2010 season team members

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Table of Contents

Samantekt á íslensku.....	4
Summary	6
Excavations in Area E3.....	9
Excavations in area H	16
Faunal Analysis of Skútustaðir: a report on ongoing fieldwork and laboratory analysis.	24
Summary	24
Introduction.....	25
Field Season 2010: Recovery of Faunal Remains in Area H.....	26
Field Season 2010: Recovery of Faunal Remains in Area E3	28
Ongoing Laboratory Analysis.....	30
Discussion.....	32
Future Objectives: Field and Laboratory	35
Reference	35
Skútustaðir 2010: Interim finds report.....	37
E3	37
H.....	38
Summary	38
Reference	38
Appendices.....	39
Context register.....	39
Finds register.....	40
Sample register.....	48

Samantekt á íslensku

Sumarið 2010 var haldið áfram að rannsaka bæjarhólinn að Skútustöðum í Mývatnssveit. Rannsókn á bæjarhólnum hófst þegar tekin voru borkjarnasýni á svæðinu árið 2007 en niðurstöður þeirrar borunar leiddu til uppgrافتa sumurin 2008 og 2009.

Búið hefur verið á Skútustöðum frá fyrstu tímum Íslandsbyggðar, jörðin jafnvel talin vera með þeim elstu við Mývatn og að hún hafi fljótt orðið miðstöð jarða við sunnanvert Mývatnið.¹ Ýmislegt hefur komið fram við uppgröftinn sem styður háan aldur, gripasafnið bendir til búsetu á staðum allt frá landnámi og afstaða gjóskulaga við mannvistarlögin sýna einnig fram á búsetu frá fyrstu tíð.

Rannsóknarmarkmið fyrir árið 2010 voru að halda áfram uppgræftri á svæði H sem byrjað var að grafa árið 2009 auk þess að opna nýtt svæði, E3, sem er vestan og sunnan við núverandi íbúðarhús.

Á svæði H komu í ljós mikil ösku- og ruslalög sem hægt er að tímasetja nokkuð vel út frá gjóskulögum. Gjóskulögin sem komu í ljós voru frá 1717, tvö gjóskulög frá 17. Öld, þar af annað fá því snemma á 17. öld og loks lag frá 1477 sem var fjarlæggt við lok uppgrافتar en ekki var grafið niður fyrir það.

Mikið fannst af dýrabeinum og gripum á svæði H og á þetta sérstaklega við um jarðlög frá 1550-1850 þó að einnig hafi verið mikið um bein og gripi á tímabilinu 1477-1717.

Á hinu nýja svæði E3, sem er í framhaldi af E1 og E2 svæðum frá 2009, kom í ljós hlaðinn veggur. Veggurinn var hlaðinn úr torfi og grjóti en grjótið hefur verið hlaðið utan á þá hlið sem sjáanleg var innan uppgrافتarmarka. Í torfi var að finna bæði landnámsgjósku og 940 gjósku. Hann hefur verið hlaðinn á tímabilinu 940-1262 því að síðarnefnda gjóskan lá óslitin yfir veggnum. Ekki voru önnur mannvirki rannsökuð á Skútustöðum þetta árið.

Vísbendingar um að reynt hafi verið að bæta tún á Skútustöðum með því að dreifa þunnum lögum af ösku og torfsneplum yfir svörð var að sjá á svæði E3. Við uppgröft kemur þetta fram sem þynnri lög eða linsur af mismunandi jarðefnum en þegar um hefðbundin ruslalög er að ræða. Þó ber að nefna að einnig gæti verið um endamörk ruslahaugu að ræða þar sem lögin verða mjög þunn til endanna. Þessar vísbendingar um jarðabætur eru þó ekki síður mikilvægar í ljósi þeirrar jarðeyðingar sem virðist hafa orðið þess valdandi að búskapur á tveimur jörðum í nágrenni Skútustaða, Sveigakot og Hrísheimar, lagðist snemma af á meðan Skútustaðir hafa haldist í byggð allt til dagsins í dag.

Í beinasafninu er mest af kinda- og geitabeinum en einnig er hátt hlutfall af nautgripabeinum miðað við aðra staði í Mývatnssveit sem hafa verið rannsakaðir. Þá er einnig athyglisvert að bein sjávarfiska finnast á Skútustöðum í bland við ferskvatnsfiska.

¹ Ágústa Edwald, ritstj. 2010. *Öskuhaugsrannsóknir á Skútustöðum í Mývatnssveit 2009. Framvinduskýrsla II. Fornleifastofnun Íslands. Reykjavík. Bls. 7.*

Gripasafnið er athyglisvert og fjölbreytt, en þar er að finna gripi allt frá því fyrir 1262 og til 20. aldar. Listafallegir útskornir gripir eru meðal annarra merkilegra gripa sem fundist hafa á Skútustöðum þetta árið.

Á Svæði H hafa flestir gripirnir fundist í jarðlögum milli gjóskulaga frá 1477 og 1717 en á svæði E3 eru flestir fundnir í jarðlögum sem eru tímasett til miðalda.

Nánari greining á gripum sem fundust 2010 fer fram samhliða greiningu á gripum sem kunna að koma í ljós 2011.

Uppgröftur mun halda áfram á Skútustöðum sumarið 2011.

Summary

In 2007 a joint FSÍ/CUNY NABO team, conducting a coring and test trenching survey, visited Skútustaðir following the discovery of a patch of eroding midden, noted by Árni Einarsson (of the Mývatn Research Station). Investigations in 2008, lead by Agusta Edwald and Thomas H. McGovern, followed up on the 2007 results with a set of test trenches. The three 2008 test units (D, E1&2, and F) located midden deposits with excellent organic preservation and multiple tephra horizons. Artifacts recovered and tephra observed in area D indicate that the deposits sampled date from ca. 1717-1477, E1 & 2 have an early Viking Age deposit directly upon the Landnám surface, and F revealed a very rich early modern midden deposit and an unexpected structural wall. The 2009 season saw a major expansion of the area D unit into two connected larger units G (13 sq m) and H (20 sq m). Unit G was carried-out down to lava bedrock, revealing an exceptionally productive Viking Age midden deposit packed into the natural fissures and crevices. Large artifact and eco-fact collections were recovered from the early modern and Viking age deposits, with excellent conditions of preservation throughout.

Objectives for the 2010 season included further excavation in Area H, where extensive deposits, in some places nearly two meters deep, are known to be present. In addition a new area was opened a midden near the contemporary house of Gerður Benediktsdóttir. Excavations of test pits E1 and E2 in 2008 indicated that deposits in the new area could be dated to the Viking age. In addition to adding to the collection of ecofacts and artifacts, we successfully integrated undergraduate students-in-training into our research process. Last, structural remains were unexpectedly found in the northern edge of area E3- further indication of the rich archaeological record at Skútustaðir. The structural remains were not excavated or otherwise disturbed as that was not within the scope or permit of the project.

Several related projects were carried out during the 2010 field season. These included the production of a blog and multimedia teaching tool composed by Aaron Kendall (CUNY, Ph.D. program in Archaeology). In addition, we collaborated with the local archaeological association, *Hið þingeyska fornleifafélag*, working closely with friend and host Unnsteinn Ingason in building a community consisting of local and international groups support of archaeology in Þingeyjarsýsla. Visiting student trainees from the Research Experience for Undergraduates (REU) program lead by Dr. Sophia Perdikaris from CUNY Brooklyn College. Collaboration continued with the *Hið þingeyska fornleifafélag* and the Litlulaugaskóli and Hafralækjarskóli KAPI (Kids Archaeology Project Iceland, formerly *Fornleifaskóli barnanna*). The project is part of a larger NABO (North Atlantic Biocultural Organization) and IPY (International Polar Year) program *Human Ecodynamics in the North Atlantic*, which works to coordinate international interdisciplinary projects in the Shetlands, Faroes, Iceland, and Greenland

(see www.nabohome.org). KAPI (Kids Archaeology Project Iceland) is locally headed by Sif Jóhannesdóttir and Pétur Ingólfsson with collaboration from the REU program.

The excavation of the rich multiperiod site was lead by Þóra Pétursdóttir (FSI) and Dr. Thomas H. McGovern (CUNY Hunter College). Excavators, all from CUNY PhD program in Archaeology include, Seth Brewington, Frank Feeley, Megan Hicks, Aaron Kendall, and Amanda Schreiner. Óskar Gisli Sveinbjarnarson of FSI contributed expertise in GIS and mapped the 2010 trenches and Lilja Björk Pálsdóttir (FSÍ) assisted with post excavation work.

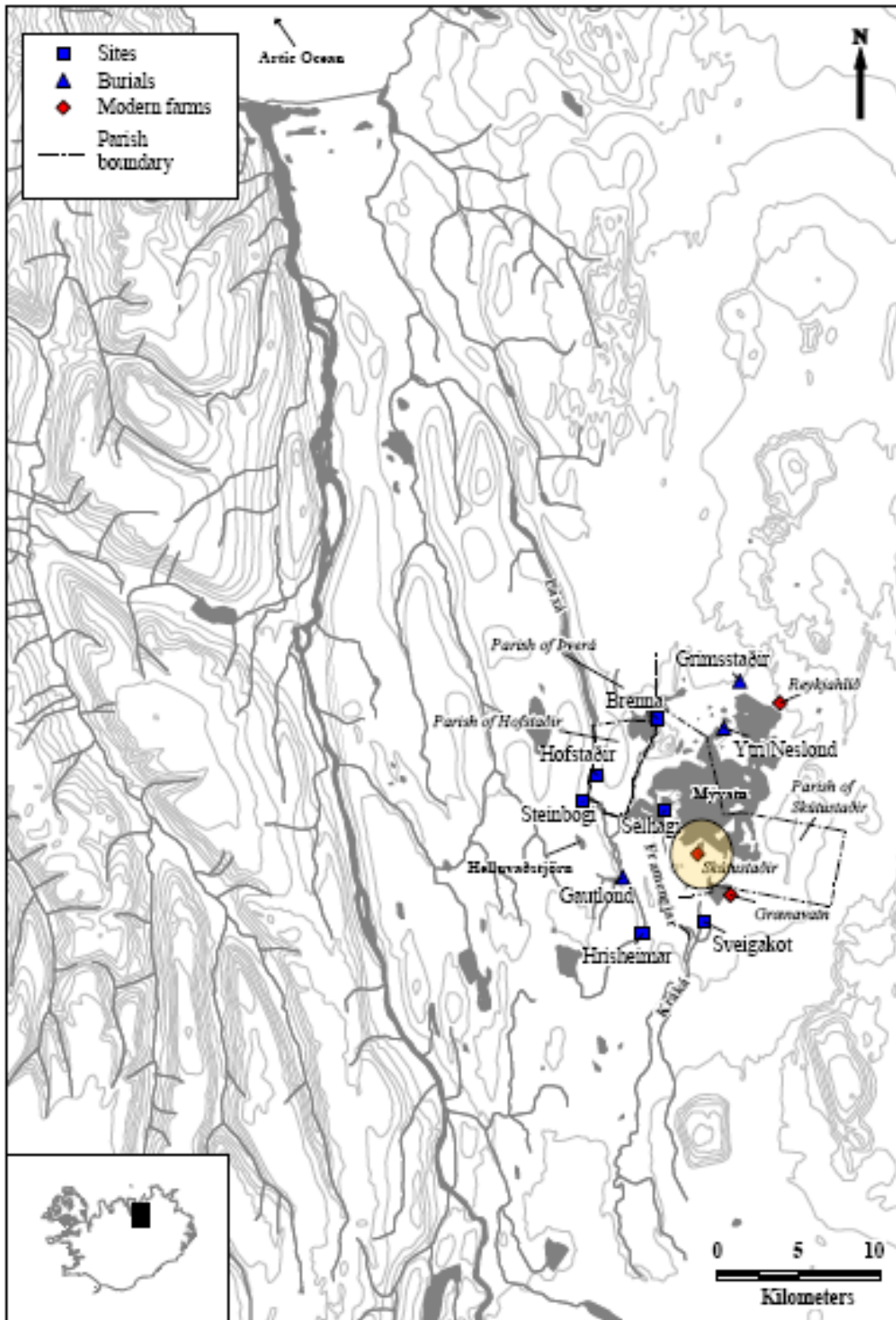


Figure 1 The location of Skútustaðir and other lake Mývatn archaeological sites (map by Oscar Aldred).

Excavations in Area E3

Area E3 formed an “L” shape around the southwestern corner of the modern building. The area was truncated to the east by two areas excavated in 2008 (E1 and 2) as well as the home itself. The trench edges and corners do not align with the site grid created in 2008. Instead, Óskar Gísli Sveinbjarnarson established absolute points using a *trimble* and *ARGIS* software.



Figure 2. The opening day for the 2010 excavations included unturfing a large area (E3) around the contemporary home. Intact midden layers and improved homefield soils compose the ground surface and subsurface, except from the small builders-trench cut around the home at approximately one to two meters out from the modern structure’s edges.

After unturfing in area E3, we were able to work back from a clear profile of midden deposits, soil amendment deposits and tephra layers that were previously exposed by the excavation of areas E1 and E2 in 2008. Very intact, flat surfaces of the V1717 tephra and the V1477 tephra were easily encountered beneath relatively homogeneous soil layers containing very scant anthropogenic debris.

Such deposits including thinly dispersed domestic waste may likely relate to those described as soil amendments, i.e. varying types of waste added to soil to improve its fertility (Adderly *et al* 2008). The deposits may be the result of past inhabitants lightly distributing refuse around the home field to fertilize and increase hay production. It is highly significant that the build-up of home field soil at Skútustaðir sharply contrasts the farming landscapes to the south that surround the archaeological farms of Sveigakot and Hrísheimar -which lost soil and productive land to the extent that this may have contributed to their abandonments.



Figure 3. The V1477 tephra is removed on to a medium brown soil amendment deposit. The ground surface is uniform and soil- rich at this juncture, but a portion of the uneven bedrock, encountered later in the excavation, is just barely visible in the profile.

When the V1477 tephra was excavated, the team noted a cracked ground surface. The tephra ran into deep fissures and lines converging in polygon shapes resembling frost polygons. The cracking ran through several stratigraphic units, creating uneven surfaces and was visible in the profiles. In other places, stratigraphy was visibly interrupted by a shift in vertical position of the ground surface. This frost cracking and vertical disturbance was noted in Area E3, though not in Area H.

Excavation down to the 1300 tephra began to reveal a more uneven landscape, with lava bedrock crags appearing in slopes and ridges. Deposits including midden, turf, and gravel were found to have also been spread in E3. It's possible that residents intentionally spread these materials as general soil amendments or potentially over the tephra.

After the excavation of the deposits below the H1300 tephra, a ridge of lava bedrock emerged which divided the deposits in Area E3. To north side of the bedrock ridge within the trench, deposits lay in a basin created by the bedrock and to the south, deposits lay flat on a more evenly sloped and higher plane of loose bedrock gravel, without the deep bedrock ravines below that we would later find.



Figure 4. REU Kimberly Kearns (Brooklyn College) and George Hambrecht (CUNY Ph.D. program) begin to excavate the baulk at the eastern end of area E3. The baulk extends to a truncation by a late 20th century builder's trench dug for utilities and delimits the eastern extent of area E3.

We encountered southward sloping deposits in the northern side of Area E3 that, when removed, were overlying the remains of the edge of a turf and stone wall. Several stones, approximately 20-30 centimeters in length, were aligned in an east-west direction with turves apparently packed around them. The entire feature lay under the 1262 tephra and the turves contained both the landnám tephra and the V940 tephra placing the wall's construction at post 940 CE and predating 1262 CE. As more deposits were removed, we found the crevices in the lava surface were deep, and the remains of the wall ran along a ridge of lava bordering a steep drop into the crevice.



Figure 5. A small portion of the remains of a wall are uncovered on the north side of Area E3. This photograph was taken on July 14th 2010.



Figure 6. The above images show the NE corner of trench E3. The stone and turf wall is becoming visible as is the ravine in the lava bedrock which spread over this area in 300 BC, before it was settled. Aaron Kendall (CUNY PhD program) works in the ravine that is depicted below after being excavated down to the natural ground surface.

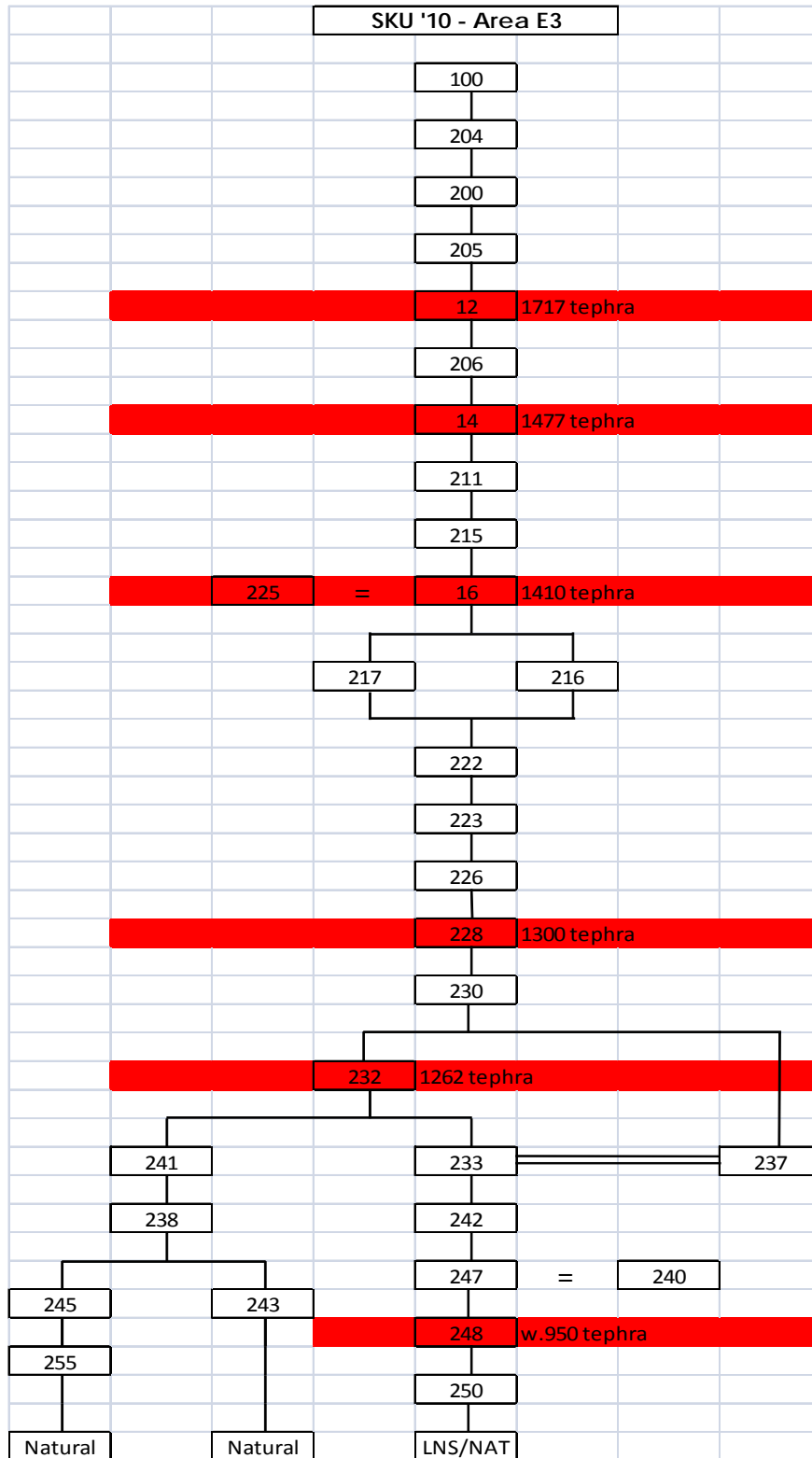
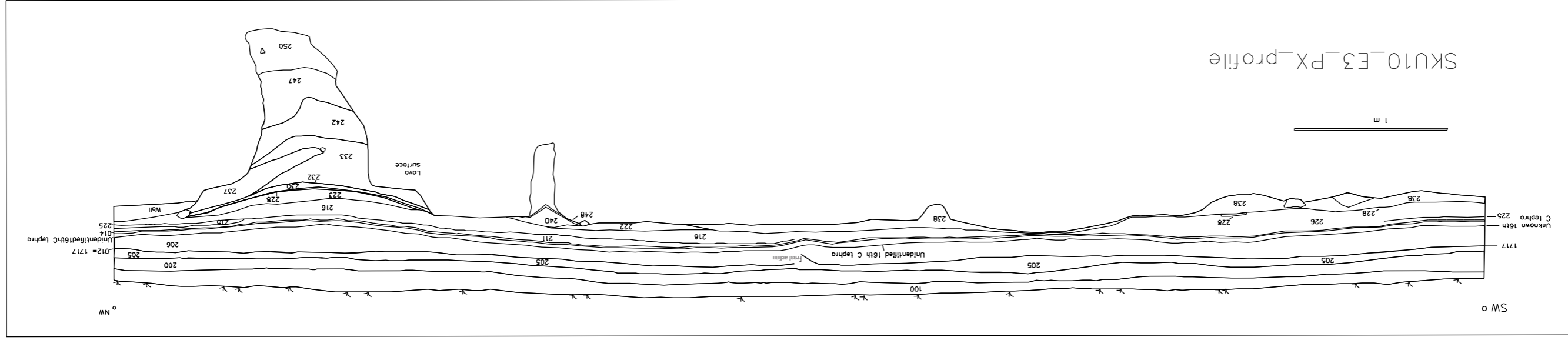


Figure 7. Matrix for area E3.

Context number	Area	Type	Description
200	E3	d	Brown soil
204	E3	d	grey coarse tephra ??
205	E3	d	medium brown cultural deposit, very low conc.
206	E3	d	medium brown cultural deposit, very low conc.
211	E3	d	brown uniform deposit (soil amendment?)(Frost crack)
215	E3	d	dark brown deposit
216	E3	d	lt brown deposit with small amount of midden material
217	E3	d	medium brown midden deposit, much bone and art. Below 1477 above
222	E3	d	med brown midden deposit with ash lumps
223	E3	d	dark brown midden deposit filling depression in N side of E3 along E1 p
225	E3	d	1410 tephra
226	E3	d	Medium brown midden below 1410
227	E3	d	Medium-light brown soil below 226
228	E3	d	1300 tephra
230	E3	d	Mottled tan deposit with pebbles below 1300
232	E3	d	1262 tephra surface, black, thin
233	E3	d	Gravel and midden fill between 1212 and 1158
235	E3	d	Tephra: H 1158
236	E3	d	Turf deposit
237	E3	d	Turf collapse=[233]-> (fallen out as one)
238	E3	d	Gravel and turf debris
240	E3	d	Mottled brown with gravel below 1262 and above LNS
241	E3	d	Brown silt below 1262
242	E3	d	Orange midden between turf wall and rock formation
243	E3	d	Turf debris with charcoal lenses and gravel
245	E3	d	Mixed soil with tephra (landnam) in gravel substrate
247	E3	d	Mixed midden in crevice
248	E3	d	Turf deposit in lava crevice
249	E2	d	Ash and charcoal deposit on top of natural = context
250	E3	d	Silty midden with windblown tephra
255	E3	g	Turf and rock wall in North of trench



Excavations in area H

Turf, in-fill and protective *teram* fabric were removed off of Area H on the first excavation day, to reveal the archaeological levels left in place in 2009. In 2009, excavation ended at contexts lying just below the 1717 tephra. The 2010 excavation unit differed slightly in extent: the trench's northern and southern boundary were consistent with the previous years (being four meters apart, however the western boundary was a baulk of turves placed to protect H from the backfill of the contiguous area G. This baulk was approximately 64 cm wide so it should be noted that the western side of trench H no longer corresponds with an even meter on the site, grid, but that distance off of it. The eastern end of the trench was extended by one meter to compensate for the loss on one meter on the western end, making the total length of the excavated area 8 m and 36 cm. This eastern end was reduced to come into phase with the main body of the trench and the context relations were as follows.

Figure 8. Matrix for area H 2010 and corresponding contexts from 2009.

SKU 2010 - Area H			
2009		2010	
100	=	201	
120	=	202	
122	=	203	
124	=	207	
125	=	208	
127	=	209	
129	=	210	
130	=	212	2009 153
118	=	213	1717 Tephra
		214	
		218	early-17th c. tephra
		219	
		220	
		221	
		224	
		229	C. 1610-1640 pipe bowl
		231	
		234	
		239	
		244	
		246	
		251	Unidentified tephra
		252	
		253	
		256	
		254	1477 tephra
		EOS	



Figure 9. Area H, Context [229] contained a 1610-1640's "WS" pipe bowl to aid in dating stratigraphic units between the V1717 tephra and the V1477 tephra). The deposits are very deep, and consist of dense midden until they neared the V1477 tephra. Comparisons of the pipe's stamp with the Museum of London's information archive indicated that the maker was possibly William Sterridge. This date and identification should be re-confirmed by a specialist.



Figure 10. A knife handle and a carved figurine from area H.

The early 17th c. tephra (thought to have brought the trench into phase at the end of 2009) was found to not be a continuous deposit, rather significant deposits were removed toward the western edge of the trench before it was in phase with the eastern edge.

Several deposits excavated in Area H, were extremely soft and friable wood ash with plentiful midden material, interspersed with orange turf lenses. The turf lenses were not excavated as separate lenses, but the observations in the field lead us to ask whether turf was laid on this loose midden material to prevent its dispersal by wind and weather. Visible in the section is a large area of such deposits lengthwise in the middle of Area H.

There was a notable decrease in clay pipe fragments as the excavation progressed toward the very distinct V1477 tephra. The density of ash and midden also decreased sharply approaching the depths at which the 1V477 tephra was uncovered. On the second to last day of excavation, the crew removed the V1477 tephra. In the previous year of excavation, we found there to be few bones or artifacts below the 1477 tephra until we encountered Viking age material. This low density of midden corresponding with what are probably high medieval period contexts is seen both in Area H and Area E3 and was noted in Area G (G was excavated in 2009). People living at Skútustaðir may have shifted their dwelling area during medieval period; at the very least, they certainly changed their area regularly used for habitual refuse disposal.

Excavation will continue in Area H in the summer of 2011. We hope to reach the bedrock surface and recover high medieval and Viking age material.



Figure 11. REU students remove the 1477 tephra by trowel- the last effort this season in Area H. In this photograph one can see the slight greenish contrast of the 1477 tephra against the even, medium reddish brown deposits below, as well as the remarkable thickness of the 1477 tephra in this location.

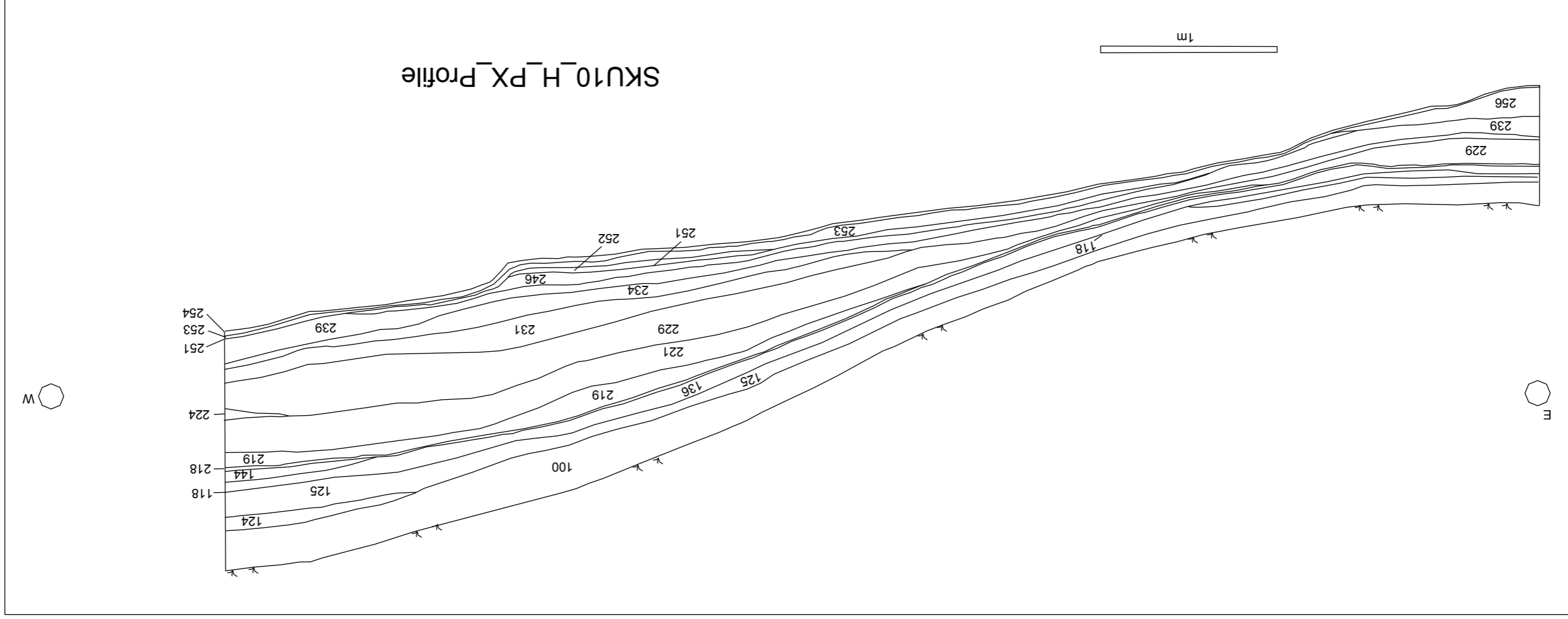


Figure 12. The 1477 tephra was cleaned on to a surface that appears to have been stepped on the eastern end, possibly by past turf cutting. Bedrock is emerging but deposits are deep in other areas of the area H. The V1477 tephra was the last context to be excavated in 2010 in Area H.



Figure 13. The final view of the southern (north facing) profile in Area H clearly shows the friable grey ash, bone and turf (in a wedge that thickens to the west) that composed much of the material removed in 2010. Below the ashy deposits were more silty deposits containing fewer bones and artifacts, following a similar pattern to findings in 2009: late medieval deposits contained more silt and less bone and were less artifact- rich than the early modern deposits.

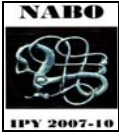
Context number	Area	Type	Description
200	H	d	Brown soil
201	H	d	Sand and pebble deposit under topsoil
202	H	d	tephra 1717 and ash deposits
203	H	d	medium brown deposit with charcoal
207	H	d	grey brown midden deposit
208	H	d	grey midden deposit
209	H	d	Brown grey mottled midden deposit
210	H	d	lt grey brown midden deposit
212	H	d	pink to lt brown burnt peat ash deposit
213	H	d	tephra (early 16th c ?). End point of 2009 excavation in H
214	H	d	lensed midden deposit
218	H	d	Possible early 17th c tephra, cleaned off
219	H	d	medium brown bone rich midden deposit
220	H	d	greyish brown wood ash deposit
221	H	d	Brown grey mottled midden deposit
224	H	d	dark grey brown fine mottled midden
229	H	d	Grey brown midden deposit with turf lenses
231	H	d	Mid-grey finely mottled midden deposit
234	H	d	Brown (mid) mottled midden deposit
239	H	d	Uniform brown deposit
244	H	d	Charcoal rich midden deposit
246	H	d	Ashy midden layer
251	H	d	Tephra, unidentified tephra above 1477 (early 16th c.)
252	H	d	Grey midden dump
253	H	d	Light brown windblown soil
254	H	d	1477 tephra
256	H	d	Dark midden above 1477 tephra



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Adderly, W. Paul, Ian A. Simpson and Orri Vésteinsson. 2008. Local-Scale Adaptations: A Modeled Assessment of Soil, Landscape, Microclimatic, and Management Factors in Norse Home-Field Productivities. www.nabohome.org



Faunal Analysis of Skútustaðir: a report on ongoing fieldwork and laboratory analysis

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Summary

Intensive archaeological study of the Mývatn area of northern Iceland has been an ongoing focus of international, collaborative teams for two decades (McGovern *et al* 2007, Vésteinsson *ed.* 2008). Skútustaðir, a long term farming site in the same region, occupies a unique niche within these works as it has so far yielded the most continuous archaeological record of farming, subsistence, diet and economy, when compared to the faunal record from several other sites. A combination of dense and well-preserved midden deposits and the presence of several volcanic tephra isochrones make this site ideal for extensive study (McGovern in Vésteinsson *ed.* 2008). Analysis of the Skútustaðir faunal collection is currently being carried out by the present author at the City University of New York, Hunter College and Brooklyn College NORSEC Zooarchaeological Laboratories. The preliminary results are summarized here. Skútustaðir's archaeofauna points to a focus on caprines (sheep and goats) but also indicates long-term cattle raising at possibly a higher degree than surrounding farms. Marine fish are present, potentially increasing during the early modern era (1550-1850 CE). Also present in the archaeofauna are horses, pigs, seals in low numbers and several species of birds. Analysis is ongoing. For detailed reports, please refer to the NABO website: www.nabohome.org

The Research Team

Dr. Thomas H. McGovern (CUNY) and Þóra Pétursdóttir of Fornleifastofnun Íslands (FSÍ) led our team which included students from the CUNY Ph.D. program: Seth Brewington, Francis Feeley, George Hambrecht, Megan T. Hicks, Aaron Kendall and Amanda Schreiner. The 2010 field efforts were greatly enhanced by the REU (Research Experience for Undergraduates) program under the direction of Dr. Sophia Perdikaris of (CUNY) Brooklyn College. Reaksha Persaud, and Jessica Vobornik, (both undergraduates from Brooklyn College) joined us as senior members of the REU program. New REU students included Ayo Oti, Kimberly Kearns, Derya Gunayaden, Joanna Tchurchenthaller, Ingrid Feeney, Finessa Javier and Jade de la Paz. We worked alongside archaeological teams pursuing related projects nearby from FSÍ who generously lent their assistance in the first days of excavation. Óskar Gísli Sveinbjarnasson (FSÍ) aided us in the establishment of fixed GPS points to delineate our trenches with the help of David Stott. Magnús Sigurgeirsson lent his expertise in identifying volcanic tephras *in situ*.

Acknowledgements

Many thanks to the scholars who have built the foundations for this research and are cited within this paper. Thanks also to local friends and collaborators: Unnsteinn Ingasson and his entire family, Árni Einarsson, the Director of the Mývatn Research Station, collaborators from KAPI (Kids Archaeological Project, Iceland) and the current residents of Skútustaðir, especially Gerður Benediksdóttir, for ongoing collaboration, assistance, and for welcoming our team in to the area. Many of us regard Þingeyjarsýsla and the Mývatn region as a second home because of the generosity of these friends of our project. Funding support from the U.S. National Science Foundation Office of Polar Programs Arctic Social Science Program through International Polar Year grant 0732327 is gratefully acknowledged. This report is a product of the International Polar Year program and of the NABO research cooperative.

Introduction

Investigations at Skútustaðir emerged out of a regional-scale research design called *Landscapes of Settlement* that was initiated by Orri Vésteinsson and Adolf Friðriksson. The collective work aimed to describe through archaeology, past regional settlement patterns, economic developments, social histories, and environmental histories of Mývatnssveit. Thus far, the majority of the archaeofaunal collections excavated in the Mývatn area dated to the Viking period and the subsequent medieval period, but none had been recovered from the early modern period. Seeking a broader chronology, Orri

Vésteinsson led an Mývatn regional survey which was carried out by CUNY archaeologists. This research was conducted under the project entitled *Human and Social Dynamics in Myvatnssveit, Iceland, from the Settlement to the Present*, directed by Astrid Ogilvie. Efforts were focused on locating a site with an archaeofauna that included late medieval and post medieval remains (ca. 1300-1900). Following a very promising 2007 coring survey at Skútustaðir (McGovern in Vésteinsson *ed.* 2008), four test trenches were excavated in 2008: Area E 1& 2, Area D, and Area F. A full report is available as Edwald and McGovern 2008. The 2009 field season included additional trench Areas G and H and the results are described in Edwald 2009 and Hicks 2010.

Field Season 2010: Recovery of Faunal Remains in Area H

Excavations continued in Area H from the 2009 field season. During the 2009 season, the upper strata of Area H were found to be rich in well-preserved midden remains pertaining to the early modern period (1550-1850 CE). In 2009, excavation was carried out only through early modern strata so the 2010 field team aimed to excavate Area H as far as possible.

In 2010, Area H was extended down slope to the east by one meter. It measured 4m in width by 8 m and 36 cm in length. We were able to recover bone and artifacts from rich contexts both above and below the V1717 tephra. The chart below details that faunal finds were especially rich in the early modern context [246] and there was good recovery throughout the site phase defined between the V1717 and the V1477 tephras. It should be noted that as a result of significant volumes gravel being recovered along with the faunal remains context [246], the documented number of bags is inflated to some degree. Gravel was recovered along with the bones to maintain time-efficient and total recovery of sieved material, as context [246] was a mixture of small mammal bone fragments, small fish bones and small (1 cm) gravel.

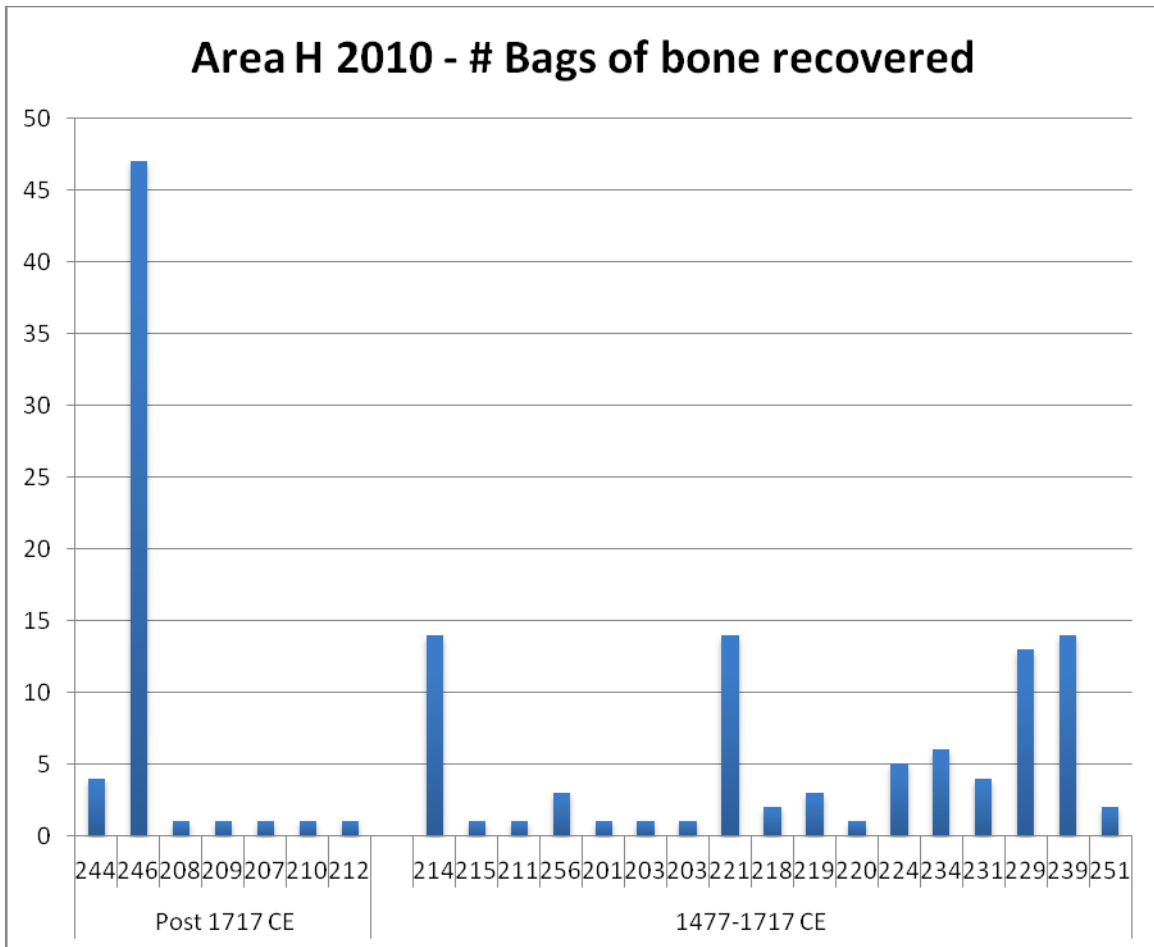


Figure 2. The chronological grouping of the recovered bones is based on identification of volcanic tephra V1717 and V1477 *in situ* kindly provided by Magnús Sigurgeirsson. This chart depicts 142 bags of bone recovered from area H. Additionally, three bags of unstratified bone were recovered, which normally includes a very small amount of bone from a profile cleaning or surface find, hand collected and does not actually indicate a full bag.

Excavations in 2010 ended with the removal of the V1477 tephra on to a deposit that appears to have been truncated by past turf cutting. We expect that the proposed 2011 field season will allow us to carry excavation in Area H down to the lava bedrock and to reach a particularly important deposit that was present in the contiguous Area G. This deposit was an anthropogenic, bone, rich in-filling of a crevice in the lava bedrock surface that closely related to the V940 tephra (context [161]). The complete excavation

of Area H is crucial for the recovery of well-preserved faunal remains from several phases.

Field Season 2010: Recovery of Faunal Remains in Area E3

Area E3 was laid out and excavated in 2010 after Viking age and medieval midden remains were uncovered in closely located units (E1 and E2) during the 2008 field season. It measured 9 meters on the western side, 11 meters on the southern side and 4 meters on the northern side. The remaining trench edge was a curving open profile from excavation season 2008, arching around the home of Gerður Benediktsdóttir. In area E3 we hoped to expand our faunal collection from the medieval occupation phase of Skútustaðir. While recovery was excellent from some contexts in E3, others were mostly devoid of the rich archaeological deposits encountered elsewhere within the site. The majority of layers in E3 were composed of silty soils with occasional charcoal and bone and low densities of artifacts. Instead of looking like the characteristic rich middens, commonly preserved in Iceland, these deposits resembled soil amendments, soils enriched by the addition of domestic waste, manure and other materials, as described by Ian Simpson in his work on infield soil characteristics on farms in the north Atlantic (Simpson *et al.* 2002). Another possibility is that the deposits with thinly dispersed ash and bone could be the edges of thicker midden deposits, thinning as they spread outward from a concentrated area.

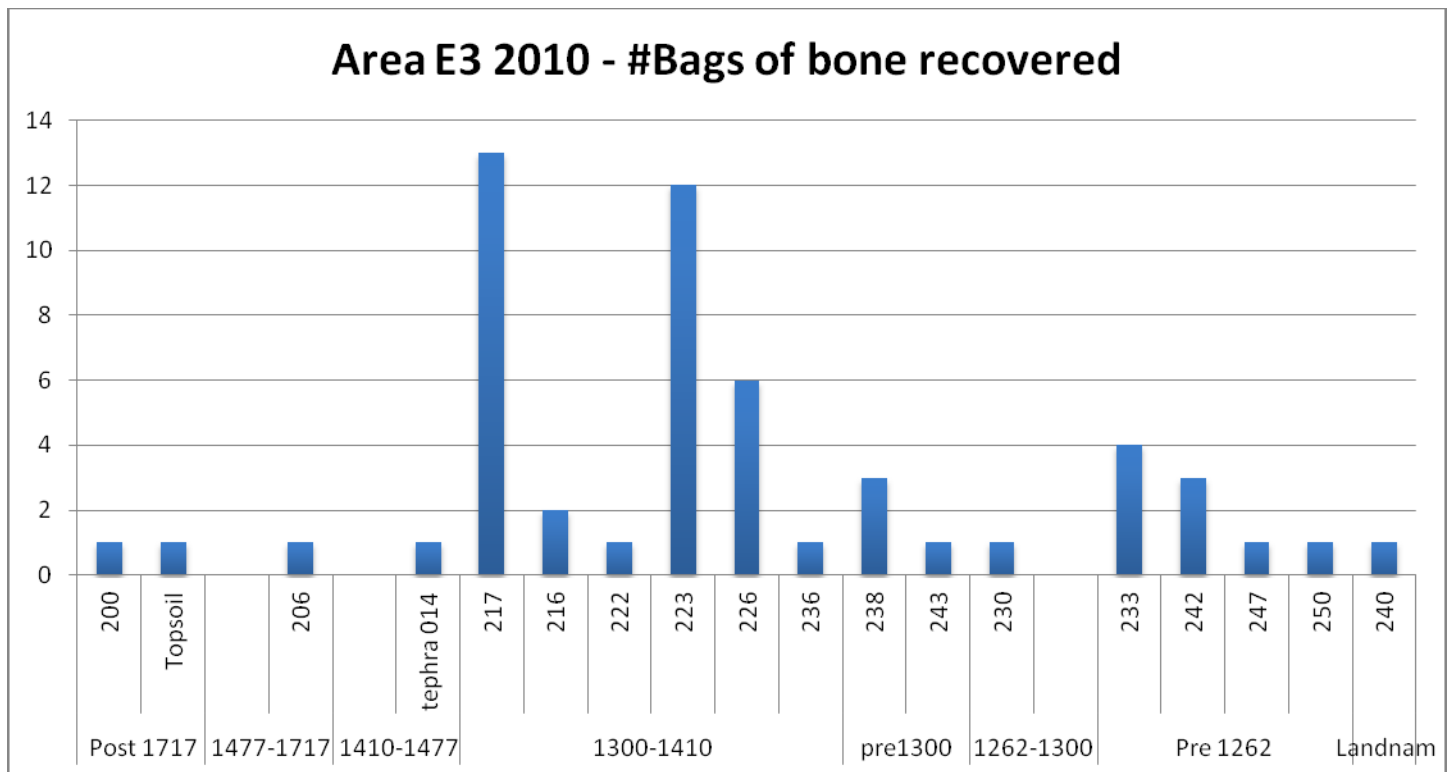


Figure 3. The bags of bone are phased chronologically using volcanic tephtras identified in the field by Magnús Sigurgeirsson. Two contexts, each yielding one bag of bone, were not included in this tally. Unstratified bone (3 bags) was also left out.

Aspects of excavation in Area E3 are reviewed in detail in the main body of the 2011 field report, however, there are some important additional notes regarding recovery of faunal remains. The majority of osseous finds were recovered from contexts between the H1300 and V1410 tephtras, while from most other contexts, one bag of bone on average was recovered. Faunal analysis benefits increasingly with greater sample sizes, so the excavation of Area E3 will certainly benefit our understanding of farming, diet, and economy in the high medieval to the late medieval phase. It is worth re-iterating here that Area E3 demonstrated and reconfirmed that Skútustaðir’s archaeological sequence is run through with a comparatively high number of tephra, providing very secure and sometimes high- resolution dating.

The depositional patterns of the faunal remains at Skútustaðir clearly changed through time. Based on changing density of midden material, some areas are used intensively for periods and then fall out of use. This likely compliments changes over time in settlement organization, the placement of domestic spaces, work-spaces, animal enclosures, infields, and storage areas. The decisions regarding where to dispose of

disused items relates to and shadows other aspects of use of space, and in this way hints to the variety of processes that make up the archaeological site. As Skútustaðir is a large site whose remains are segmented by numerous tephra, it seems it would be worthwhile to carry investigation into other realms of past uses, such as those of domestic spaces or sacred and burial places. As these phenomena are often interrelated in complex ways to the economic activity observable the midden remains.

Ongoing Laboratory Analysis

The most complete report resulting from the ongoing faunal analysis (Hicks 2010) is available on the NABO website nabohome.org, and the results are summarized here.

Laboratory Methods

Analysis completed so far was carried out at the Hunter College Zooarchaeological Laboratory and made use of the extensive reference collections there. Analysis of the fish bones recovered in 2008, 2009, and 2010 will be carried out at the Brooklyn College and the Hunter College Zooarchaeological Laboratories. All elements (bird and mammal) were identified as far as taxonomically possible (a selected element approach was not employed) but most mammal ribs, long bone shaft fragments and vertebral fragments were assigned to “Large Terrestrial Mammal” (cattle or horse sized), “Medium Terrestrial Mammal” (sheep, goat, pig or large dog sized), and “Small Terrestrial Mammal” (small dog-fox sized). Only elements positively identified as *Ovis aries* and *Capra hircus* were assigned to the separate sheep and goat categories respectively while all other sheep/goat element were assigned to the “caprine” category potentially including both sheep and goats.

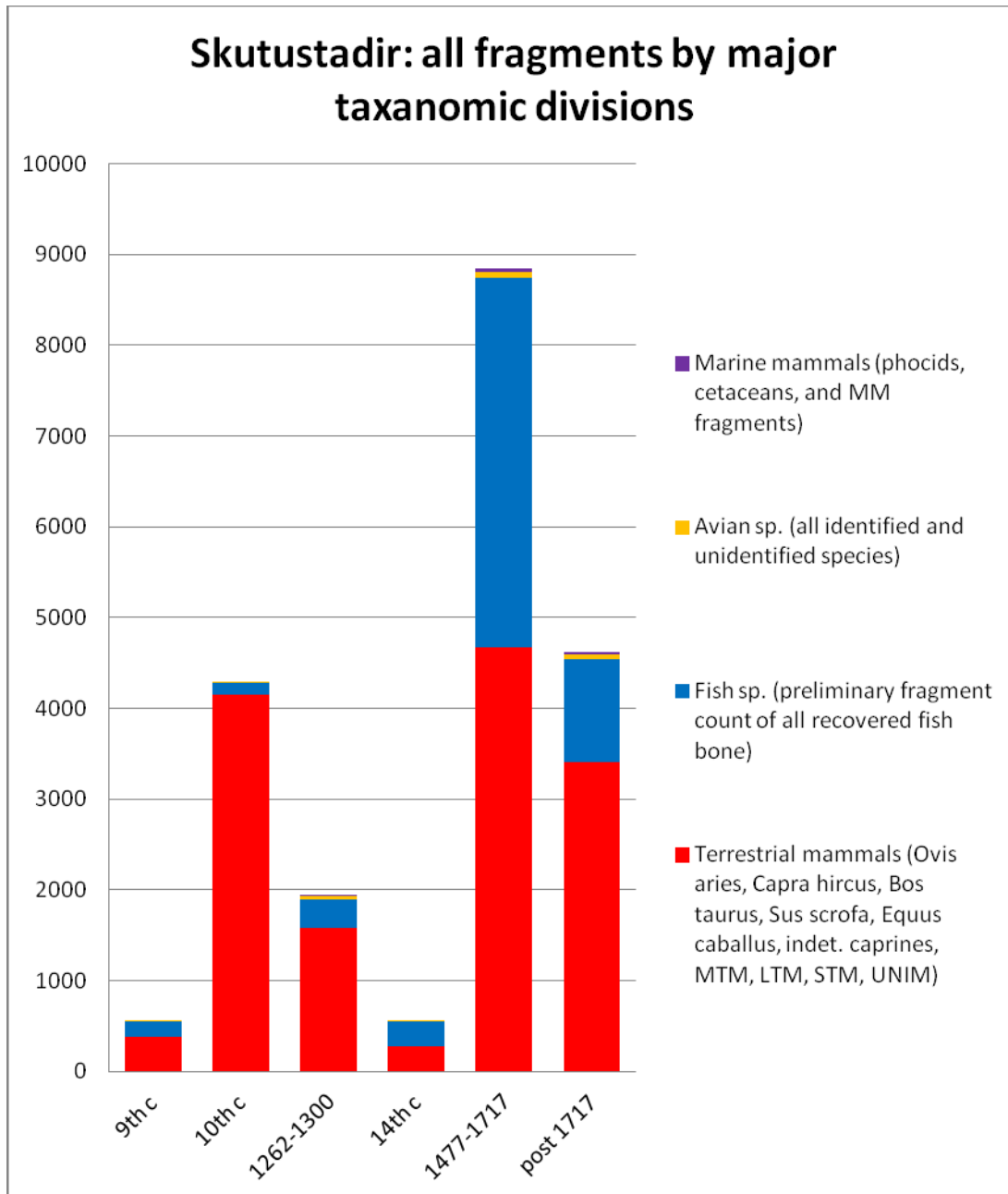
Digital records of all data collected were made following the 9th edition of the NABONE recording package (a Microsoft Access database supplemented with specialized Microsoft Excel spreadsheets). The animal bones excavated will be permanently curated at the National Museum of Iceland. This report, other reports and data are available from nabo@voicenet.com and the NABO website: www.nabohome.org.

Curation followed the NABONE protocols followed for other archaeofauna from Iceland, Faroes, Greenland, and northern Norway. Following widespread North Atlantic

tradition, bone fragment quantification makes use of the Number of Identified Specimens (NISP) method (outlined in Grayson 1984).

Species Present

SKU 010 An Overview of Species Present, Number of Identified Specimens and and Total Number of Fragments									
	unstratified	9th c	10th c [161	1262-1300	14th c	pre 1477	1477-1717	post 1717	Total
Cow (<i>Bos taurus</i>)	8		198	110	13		117	84	525
Horse (<i>Equus caballus</i>)			1	1			1		3
Dog (<i>Canis familiaris</i>)								1	1
Pig (<i>Sus scrofa</i>)	1		11					1	13
Sheep (<i>Ovis aries</i>)	5	2	57	13	4		78	49	208
Goat (<i>Capra hircus</i>)			9					1	10
Ovis/Capra sp.	22	5	594	159	19		467	380	1646
Total Domestic Mammals	36	7	870	283	36		658	516	2406
SEALS									
Harp seal (<i>Pag. Groenlandicus</i>)								2	2
Phocid spp. (unident. seals)				1			34	18	53
CETACEA (small whales/porpoise)				1					1
OTHER MAMMALS									
Arctic fox (<i>Alopex lagopus</i>)		1		2				1	4
Mouse (<i>Mus musculus</i>)							2		2
BIRDS	3	9	6	35	11		62	49	175
MOLLUSCA				3	1		14	2	20
TOTALNISP(No. of Ident Specimen:	39	17	876	325	48		770	588	2663
MM (Marine mammal)							1	3	4
STM (Small terrestrial mammal)									
MTM (Med. terr. mammal)	9	49	766	322	43		981	517	2687
LTM (Large terr. mammal)	2	25	195	64	14		120	102	522
UNIM (Unidentified mammal)	3	299	2384	905	184	7	2928	2277	8987
Total Number of Fragments	53	390	4221	1616	289	7	4800	3487	14863
Fish (Preliminary count)	6	175	127	321	272	2	4065	1131	6099
Total Number of Fragments (including fish)	59	565	4348	1937	561	9	8865	4618	20962



Discussion

Among domestic mammal bones analyzed from Skútustaðir, caprines (sheep and goats) are the most common. This follows a general pattern for the lake Mývatn area where during the time of settlement (871 – 950 CE) there may have been some livestock diversity, but by the medieval period, the most common animals were caprines, followed by cattle (Brewington *et al* 2004). Caprines were kept for wool, meat and dairy products.

Skútustaðir seems to have a high relative number of cattle (*Bos taurus domesticus*) compared to other Mývatn region farms studied archaeologically. Where some Mývatn area farms had 22 sheep (*Ovis aries*) for every cow, Skútustaðir seems to stay well below ten sheep for every cow, throughout its record (Brewington *et al* 2004, Hicks 2010).

The high ratio of cattle apparently kept at Skútustaðir joins the archaeology with ongoing discussions regarding environmental change, past land use, value, and social change in Iceland. This dialogue is best illustrated in McGovern *et al.* 2007, Vésteinsson 2008 and Vésteinsson 2000. To summarize some key points, the productivity and value of land in Iceland was linked to its infield hay production capacities and cattle holdings. Cattle depended on hay cultivation to a high degree. Cattle rearing became linked to productive, wealthy elite farms and thus a marker of status. As Skútustaðir appears to be a long-term elite farm, the ongoing description and study of its economy will lend important new information to studies of the changing socio-environmental conditions of Iceland over a long period of time. This ongoing conversation highlights the cross-disciplinary nature of the study of Iceland's environmental and social past. It will be worthwhile to apply the archaeofauna from Skútustaðir to carry this discussion through the early modern period as it is a central issue in landscape change in the Mývatn area (McGovern *et al* 2007, Dugmore *et al* 2005).

Horses (*Equus caballus*) and pigs (*Sus scrofa*) are relatively scarce in the faunal collection when compared to caprines and cattle. It has been suggested that horses were not typically eaten in Iceland (especially after ca 1000 CE) because of Christian prohibitions on eating horseflesh. However evidence through space and time in the archaeological record of Iceland suggests that these prohibitions were irregularly heeded.

Fish species have not yet been analyzed though analysis will commence after the 2011 field season. It was noted both in the field and can be seen in the above chart, that use of fish species appears to increase. More work needs to be done here to securely assert such a pattern and it is currently a preliminary suggestion. Species visible in preliminary observations in the field include members of the cod family (*Gadidae*) as well as Salmon (*Salmo salar*), Trout (*Salmo trutta*) and Char (*Salvelinus alpinus*).

Scant bird bones demonstrate a low relative frequency of birds being consumed compared to other animals. Bird species found throughout the site include mallards (*Anas*

platyrhynchos), red breasted merganser (*Mergus serrator*), scaup (*Aythya marilla*), swans (*Cygnus sp.*), swan/goose sized specimens, slavian grebe (*Auritus podiceps*), long-tailed ducks (*Clangula hyemalis*) and one specimen of gull (*Larus sp.*). Another present avian species was ptarmigan (*Lagopus mutus*), a local terrestrial bird. One sea eagle claw (*Haliastur albicilla*) was found in an unstratified context. In addition, domestic chicken (*Gallus gallus*) was represented among avian fauna.

Most notably, the team repeatedly unearthed compact, thin, but horizontally dense layers of eggshell *in situ* during all excavation seasons. A research design is still being formulated to obtain information (such as species identification) from these remains, but they are well documented and sampled. The eggshell most likely belongs to eider ducks (*Somateria molissima*) that congregate in a small chain of lakes about two hundred meters to the east of the main cluster of modern homes at Skútustaðir. Egg collection has been a long-term practice of Icelanders and there is documentary and archaeological evidence that it has been strictly managed for sustainability over the long term (McGovern *et al* 2007).

Seal remains (*Phocidae*) are present but rare; it is significant to note that the nearest stretch of seacoast is 60 km distant. Seal bones so far appear to predominantly be distributed amongst early modern contexts. Though it is early in analysis- a preliminary pattern may at least be suggested for further inquiry; that seal remains and marine fish remains (both from the coast) increase into the early modern period (1550-1850 CE).

Remains of Arctic fox (*Alopex lagopus*) and mouse (*Mus musculus*) were not included in the bar chart above, as they are not necessarily indicative of economic patterns at the farm in the same manner as the other species/taxa listed; that is, they are not likely food items. Very few fragments of each were present among material analyzed so far.

Molluscan remains from the coast are also present but uncommon. Other scholars have suggested that they were incidentally introduced inland, traveling on seaweed used for salt production or to pad cargo from the coast.

For an in-depth discussion of taphonomy, age at death patterns, and metrical analysis of the collection analyzed so far, see Hicks 2010 available on the NABO website (www.nabohome.org).

Future Objectives: Field and Laboratory

The most singular aspect of Skútustaðir's archaeological record is its chronological distribution: artifacts and faunal remains recovered so far have spanned from the Viking age through the early modern period. This will allow for a thorough analysis of how people farmed, fed themselves and interacted economically over the long term.

It would be beneficial to include the following objectives within the research design for the 2011 field season:

1. to complete recovery of archaeological material in Area H and carry excavation down to the natural ground surface.
2. to locate an additional area where high medieval midden deposits may be present either for excavation in a future season or for a test pit in the 2011 season.

Goals for laboratory work include the analysis of fish skeletal remains from Skútustaðir for a more complete picture of the use of non-terrestrial resources through time. Special focus for laboratory work in 2011 will be placed on material from the medieval period and it is hoped that faunal material from the 2010 fieldwork in Area E3 will fill current gaps in our knowledge of past activity at this site by enlarging our current data sets.

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Skútustaðir 2010: Interim finds report

Guðrún Alda Gísladóttir

In 2010 the midden at Skútustaðir continued to provide substantial amount of finds, 340 finds number registered in the excavation database. The excavation took place within two areas; in new area E3 and continued in trench H, though extended from previous year.

Several tephra deposits have been detected in Skútustaðir, though it varies between areas. The time frame given by the tephra layers will add greatly to our knowledge and help our interpretation and understanding of the data, not the least the medieval data as the research evolves.

The preservation is low/fair to excellent; iron is corroded but copper alloys in good condition as are organic materials as bones and textiles. Leather is absent and wood and textiles few.

E3

Roughly 1/3 of the total material is from this area. By far most of the finds are from medieval period. Fourteen finds numbers are registered below the 1226 tephra, 73 are registered within the time period 1300-1410. Only two find are between 1477 and 1717 and eight above 1717 tephra.

Only few fragments of glass and ceramics were found in top soil deposit 200, along with imported coal. Rest of the materials are divided between bone, copper alloys, lead, iron and stone - iron and stone being the largest group. Below the 1226 tephra are mainly Manuports but also pre-formed bone pin, iron objects (i.e. nails) and a hook. The medieval assemblage from the 1300-1410 period includes most of the finds. The categories are diverse, i.e. knife with bone handle, bone bead, copper-alloy button, nails and fittings.

H

The excavation from this area returned 240 registered finds numbers. The material is more diverse than in area E3. Most of the finds are found in deposits between the two tephra from 1477 and 1717.

Most of the datable material is 17th and 18th century ceramics and glass (vessels, clay pipes, bottles and window glass). Interestingly large pieces of copper-alloy cooking vessels are present but those were common from the medieval period until the late 17th century when import of iron cooking vessels started.² Knives, nails, fish hooks, bone handle, metal chain, cubical bone dice, worn whetstones, stone mould, buttons, carved figurines and beads are amongst the assemblage.

Summary

As the Skútustaðir research evolves it becomes clearer that the site is producing very rich artefact assemblage that stretches from late 9th century to ca. 1900. The material is well sequenced and good amount is of late medieval date which has not received the same attention as the Viking age period and early modern/modern periods in Iceland. The assemblage reflects voluminous and long residence and the material culture will add greatly to our understanding of the function and household of a high status farm in North-Iceland. Through 1000 years of usage the midden might not only provide information on i.e. the relevance of imported materials, exploitation of local resources, changes in material culture through time, reuse and recycling and handicraft. It might also add insight to the activity (i.e. household, workshops, smithies) around the midden and (changing) roles of nearby houses suggested by absence/presence of specific waste through time.

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² Hallgerður Gísladóttir. 1994. 'Rauðamelskatlarnir', 204.

Appendices

Context register

Context number	Area	Type	Description
200	E3	d	Brown soil
201	H	d	Sand and pebble deposit under topsoil
202	H	d	tephra 1717 and ash deposits
203	H	d	medium brown deposit with charcoal
204	E3	d	grey coarse tephra ??
205	E3	d	medium brown cultural deposit, very low conc.
206	E3	d	medium brown cultural deposit, very low conc.
207	H	d	grey brown midden deposit
208	H	d	grey midden deposit
209	H	d	Brown grey mottled midden deposit
210	H	d	lt grey brown midden deposit
211	E3	d	brown unform deposit (soil amendment??)(Frost crack)
212	H	d	pink to lt brown burnt peat ash deposit
213	H	d	tephra (early 16th c ??). End point of 2009 excavation in H
214	H	d	lensed midden deposit
215	E3	d	dark brown deposit
216	E3	d	lt brown deposit with small amount of midden material
217	E3	d	medium brown midden deposit, much bone and art. Below 1477 above 1410
218	H	d	Possible early 17th c tephra, cleaned off
219	H	d	medium brown bone rich midden deposit
220	H	d	greyish brown wood ash deposit
221	H	d	Brown grey mottled midden deposit
222	E3	d	med brown midden deposit with ash lumps
223	E3	d	dark brown midden deposit filling depression in N side of E3 along E1 profile, many bones
224	H	d	dark grey brown fine mottled midden
225	E3	d	1410 tephra
226	E3	d	Medium brown midden below 1410
227	E3	d	Medium-light brown soil below 226
228	E3	d	1300 tephra
229	H	d	Grey brown midden deposit with turf lenses
230	E3	d	Mottled tan deposit with pebbles below 1300
231	H	d	Mid-grey finely mottled miden deposit
232	E3	d	1262 tephra surface, black, thin
233	E3	d	Gravel and midden fill between 1212 and 1158
234	H	d	Brown (mid) mottled midden deposit
235	E3	d	Tephra: H 1158
236	E3	d	Turf deposit
237	E3	d	Turf collapse=[233]-> (fallen out as one)
238	E3	d	Gravel and turf debris
239	H	d	Uniform brown deposit
240	E3	d	Mottled brown with gravel below 1262 and above LNS
241	E3	d	Brown silt below 1262
242	E3	d	Orange midden between turf wall and rock formation
243	E3	d	Turf debris with charcoal lenses and gravel
244	H	d	Charcoal rich midden deposit
245	E3	d	Mixed soil with tephra (landnam) in gravel substrate
246	H	d	Ashy midden layer
247	E3	d	Mixed midden in crevice
248	E3	d	Turf deposit in lava crevice
249	E2	d	Ash and charcoal deposit on top of natural = context
250	E3	d	Silty midden with windblown tephra
251	H	d	Tephra, unidentified tephra above 1477 (early 16th c.)
252	H	d	Grey midden dump
253	H	d	Light brown windblown soil
254	H	d	1477 tephra
255	E3	g	Turf and rock wall in North of trench
256	H	d	Dark midden above 1477 tephra

Finds register

Finds number	Area	Context number	Phase	Type	Material type
600		cleaning finds	III	pottery fragments	ceramic
601	H	203	III	nail	metal
602	H	203	III	pottery fragments	ceramic
603	H	203	III	pipe stem	ceramic
604	H	201	III	fragments	glass and ceramic
605	H	201	III	fragments of sheet metal, fish hook, nails	Fe
606		topsoil		fragment whetstone	stone
607	E3	200	III	buttons	Glass
608	E3	200	III	fragments	glass and ceramic
609	E3	200	III	Nails and other objects	Fe
610	E3	200	III	small fragments	coal
611	H	207	III		Fe
612	H	207	III		ceramic
613	H	208	III		Fe
614	H	208	III		Stone?
615	H	207	III		stone?
616	H	207	III	flint	stone
617	E3	206	II	flint?	stone
618	H	209	III		Fe objects
619	H	203	III	vessel fragments	glass
620	E3	205	III	bead?, ceramic pipe stem?	bone?
621	H	203	III		Fe
622	H	210	III	Pipe stem	Kaolin
623	H	210	III	Nails	Fe
624	H	210	III	Vessel base	Ceramic
625	H	212	III	Button	glass?
626	H	214	II	Pipe stem	Ceramic
627	H	214	II	Nails	Fe
628	H	214	II		Ceramic
629	H	214	II	Knife	Fe
630	H	214	II		Fe
631	E3	211	II	Nails	Fe
632	H	214	II	?	Fe
633	H	214	II		Glass
634	H	214	II	Hook	Fe
635	H	214	II		Glass
636	H	214	II	Hook/Loop	Fe
637	H	214	II		Ceramic?
638	H	214	II	Loom	Stone
639	H	214	II		Stone
640	H	214	II		Ceramic
641	H	214	II	Nail	Fe
642	H	214	II		Fe
643	H	214	II		Glass
644	H	214	II	Whetstone	Stone
645	H	214	II	Nails	Fe
646	H	214	II		Glass
647	H	214	II		Ceramic
648	H	214	II		Fe
649	E3	217	I	Bone comb frag?	Bone
650	H	219	II		Cu
651	E3	217	I	Hook?	Fe
652	E3	217	I	Hook?	Fe

653	E3	217	I	Bead	Bone
654	E3	217	I	Nail?	Fe
655	E3	217	I	?	Fe
656	E3	217	I	Nail	Fe
657	E3	217	I	?	Cu
658	E3	217	I	?	Fe
659	H	221	II	Pipe stem	Ceramic
660	H	221	II	Worked object	Bone
661	H	221	II		Bone
662	H	221	II	Pipe stem	Ceramic
663	H	221	II	?	Fe
664	H	229	II		Ceramic
665	H	229	II		Glass
666	H	221	II	?	Stone
667	H	221	II	Many	Metal
668	H	221	II	Worked (toggle)	Bone
669	H	221	II		Glass
670	H	221	II	Thimble	Cu alloy
671	H	221	II	Pipe	Clay
672	H	221	II	Pipe stem	Clay
673	H	221	II	Pipe stem	Clay
674	H	221	II	Pot sherd	Ceramic
675	H	221	II	Pot sherd	Ceramic
676	H	221	II		Bone
677	H	221	II	Dice	Bone
678	H	221	II		Bone
679	E3	223	I	Knife	Bone+Fe
680	E3	223	I	Sheet fragment	Cu
681	H	221	II	Indeterminate	Cu
682	H	221	II	Wire	Cu
683	H	221	II	Sheet metal loop	Cu
684	H	221	II	Knife blade	Fe
685	H	221	II	Unknown	Ceramic
686	E3	222	I	Nail	Fe
687	H	221	II	Unknown	Wood
688	H	221	II	Clay pipe fragments	Ceramic
689	H	221	II	Indeterminate Glass fragments	Glass
690	H	221	II	pottery fragments	Ceramic
691	H	221	II	Manuport	Stone
692	H	221	II	Composite tool?	Bone+Fe
693	H	221	II	Nail	Fe
694	H	221	II	Unidentified objects	Fe
695	H	221	II	Sheet fragment	Cu
696	H	221	II	Manuports	Stone
697	H	221	II	Pipe stem fragments	Clay
698	H	221	II	Unidentified fragments	Ceramic
699	H	221	II	Unidentified fragments	Fe
700	H	221	II	Sheet with rivet	Cu
701	H	221	II	Fragments	Glass
702	H	221	II	Worked	Bone
703	E3	223	I	Nail	Fe
704	E3	223	I	Nail	Fe

704	E3	223	I	Nail	Fe
705	E3	223	I	Sheet fragment	Cu
706	E3	223	I	Whetstone	Stone
707	E3	223	I	Unknown fragment	Fe
708	E3	223	I	Whetstone	Stone
709	E3	223	I	Unknown fragments	Fe
710	E3	223	I	Nail with rove	Fe
711	E3	223	I	Unidentified object	Fe
712	E3	223	I	Unidentified object	Cu
713	E3	223	I	Manuport	Stone
714	E3	223	I	Rivet	Cu
715	E3	223	I	Staple	Fe
716	E3	200	III	Nail	Fe
717	E3	200	III	Nail	Fe
718	E3	200	III	Nail	Fe
719	E3	223	I	Nail	Fe
720	E3	223	I	Nail	Fe
721	E3	223	I	Rove?	Fe
722	E3	223	I	unidentified fragment	Cu
723	E3	223	I	Sheet with perforation	Cu
724	E3	222	I	Knife blade	Fe
725	E3	223	I	Handle?	Fe
726	H	221	II	Whetstone	Stone
727	H	221	II	Pipe Stem fragment	Clay
728	H	221	II	Worked	Bone
729	E3	217	I	Manuport	Stone
730	E3	217	I	Nail	Fe
731	E3	217	I	Unidentified fragments	Stone
732	H	221	II	Fragments	Ceramic
733	H	221	II	Pipe Stem fragment	Clay
734	E3	217	I	Nail	Fe
735	E3	217	I	Manuport	Stone
736	E3	217	I	Unidentified objects	Fe
737	E3	217	I	Unidentified objects	Fe
738	E3	217	I	Nail	Fe
739	E3	217	I	Whetstone	Stone
740	E3	217	I	Flint fragment	Stone
741	E3	217	I	Nail	Fe
742	E3	217	I	Whetstone?	Stone
743	E3	217	I	Unidentified object	Fe
744	E3	217	I	Sheet	Cu
745	E3	217	I	Nail	Fe
746	H	218	?	Miscellaneous	Ceramic
747	E3	217	I	Nail	Fe
748	H	218	?	Nail	E3
749	H	218	?	Rivet	Cu
750	E3	217	I	Whale bone clamp?	Bone
751	E3	217	I	Nail	Fe
752	E3	217	I	Nail	Fe
753	E3	217	I	Unidentified object	Fe
754	E3	217	I	Unidentified objects	Fe
755	E3	217	I	Unidentified objects	Fe
756	E3	217	I	Manuport	Stone

757	E3	217	I	Manuport	Stone
758	E3	217	I	Manuport	Stone
759	E3	217	I	Manuport	Stone
760	E3	216	I	Rivet	Fe
761	E3	216	I	Nail	Fe
762	H	221	II	Pipe Stem fragment	Clay
763	H	221	II	Shards	Glass
764	H	221	II	Sheet fragments	Cu
765	H	221	II	pottery fragments	Ceramic
766	H	221	II	Unidentified fragments	Fe
767	H	221	II	Nails	Fe
768	H	221	II	Unidentified fragments	Fe
769	H	221	II	String fragment	Cloth
770	H	219	II	Fragments	Ceramic
771	H	219	II	Fragments	Glass
772	H	219	II	Nail	Fe
773	H	219	II	Unidentified fragments	Cu
774	H	219	II	Unidentified fragments	Fe
775	E3	223	I	Nail	Fe
776	H	218	?	Fragments	Glass
777	H	218	?	Bottle top	Glass
778	H	224	II	Clay pipe stem	Ceramic
779	H	221	II	Clay pipe bowl	Ceramic
780	E3	226	I	Fragment	Cu
781	H	231	II	Pipe stem	Clay
782	H	221	II	Fragment	Glass
783	H	221	II	Fragment	Fe
784	H	229	II	Vessel fragments	Ceramic
785	E3	226	I	Fragment	Obsidian
786	H	229	II	Nail	Fe
787	H	229	II	Unidentified	Fe
788	H	229	II	Unidentified	Fe
789	H	229	II	Nail	Fe
790	H	229	II	Unidentified	Cu
791	H	229	II	Vessel fragments	Ceramic
792	H	229	II	Vessel Rim sherd	Ceramic
793	H	229	II	Vessel Rim sherd	Ceramic
794	H	229	II	Sherds	Glass
795	H	229	II	Whetstone fragments	Stone
796	H	229	II	Clay pipe stem fragments	Ceramic
797	H	229	II	Pipe bowl	Ceramic
798	H	229	II	Pippin?	Ceramic
799	H	229	II	Pipe stem fragments	Ceramic
800	H	229	II	Whetstone fragment	Stone
801	H	229	II	Shards	Glass
802	H	229	II	Manuport	Stone
803	H	229	II	Thimble	Cu
804	H	221	II	Rivet	Cu
805	H	224	II	Shards	Glass
806	H	224	II	Clay pipe stem fragments	Ceramic
807	H	224	II	Nails	Fe
808	H	224	II	Unidentified fragments	Fe
809	H	224	II	Vessel fragments	Ceramic

810	H	224	II	Bead?	Ceramic
811	H	224	II	unidentified fragment	Fe
812	H	224	II	Pottery sherds	Ceramic
813	H	231	II	Nails	Fe
814	H	231	II	Fragments	Glass
815	E3	226	I	Fragments	Cu
816	E3	226	I	Button	Cu?
817	E3	226	I	Nail	Fe
818	E3	226	I	Unidentified	Fe
819	E3	226	I	Manuport	Stone
820	E3	226	I	Nail	Fe
821	H	224	II	Fitting	Cu
822	H	221	II	Nail	Fe
823	H	221	II	Indeterminate	Cu
824	H	221	II	Rivet	Cu
825	H	221	II	Shards	Glass
826	H	231	II	Shards	Glass
827	H	231	II	?	Fe
828	H	231	II	?	Bone
829	H	231	II	Pipe stems	Ceramic
830	H	231	II	Nails	Fe
831	E3	233	I	Hook	Fe
832	H	231	II	?	Cu
833	H	231	II		Ceramic
834	H	231	II	?	Bone
835	H	231	II	Whetstone	Stone
836	H	239	II		Fabric
837	H	239	II	?	Cu
838	H	239	II		Obsidian
839	H	239	II	Hooks	Fe
840	H	239	II		Fe
841	H	239	II	Nails	Fe
842	H	234	II	?	Fe
843	H	239	II	Pin	Cu
844	E3	238	I		Wood
845	E3	238	I		Stone
846	E3	238	I		Stone
847	E3	238	I		Fe
848	E3	238	I		Stone
849	H	234	II	Pipe stem	Ceramic
850	E3	238	I	Nail	Fe
851	H	234	II		Glass
852	E3	236	I		Fe
853	H	234	II		Ceramic
854	H	234	II		Fe
855	H	234	II		Cu
856	H	239	II		Fe
857	H	239	II	coin/mark	Cu
858	H	239	II	?	Cu
859	H	239	II	Loop	Silver?
860	H	239	II	Chain	Silver?
861	H	221	II	Pipe stem	Ceramic

862	H	221	II	Pipe bowl	Ceramic
863	E3	238	I	Manuport	Stone
864	H	239	II	Fragment	Glass
865	H	239	II	Strip	Cu
866	E3	242	I	Pin	Bone
867	E3	242	I	Manuport	Stone
868	E3	243	I	Manuports	Stone
869	H	244	II	Knife blade	Fe
870	H	244	II	Indeterminate	Fe
871	H	244	II	Indeterminate	Fe
872	H	244	II	Rolled sheet	Cu
873	H	244	II	Manuport	Stone
874	H	244	II	Obsidian	Stone
875	H	246	II	Strip	Cu
876	H	246	II	Fitting	Cu
877	H	246	II	Nail	Fe
878	H	246	II	Nail	Fe
879	H	246	II	Coarse fabric fragment	Textile
880	H	246	II	Indeterminate fragments	Cu
881	H	246	II	Token?	Cu
882	H	246	II	Manuport	Stone
883	H	246	II	Handle	Reindeer Antler
884	H	246	II	Weight	Stone
885	H	246	II	Worked	Bone
886	H	246	II	Pot sherd	Ceramic
887	H	246	II	Handle?	Fe
888	H	246	II	Loop	Fe
889	H	246	II	Nails	Fe
890	H	246	II	Indeterminate	Fe
891	H	246	II	Indeterminate	Fe
892	H	246	II	Nail	Fe
893	H	246	II	Manuports	Stone
894	H	246	II	Indeterminate	Fe
895	H	246	II	Indeterminate	Stone
896	H	221	II	Indeterminate	Cu
897	H	246	II	Loop	Cu
898	E3	211	I	Fire Starter?	Red Sandstone
899	H	246	II	Indeterminate	Fe
900	E3	226	I	Indeterminate	Fe
901	E3	226	I	Indeterminate	Cu
902	H	246	II	Indeterminate	Fe
903	H	246	II	Whetstone	Stone
904	H	246	II	Indeterminate	Fe
905	H	246	II	Nail	Fe
906	H	246	II	Sherd	Ceramic
907	H	246	II	Indeterminate	Fe
908	H	246	II	Indeterminate	Fe
909	H	246	II	Indeterminate	Fe
910	H	246	II	Loop	Fe
911	H	246	II	Sheet	Fe
912	H	246	II	Manuport	Stone
913	H	246	II	Fragments	Cu alloy

914	H	246	II	Hinge	Cu
915	H	246	II	Whetstone	Stone
916	H	246	II	Indeterminate	Cu
917	H	246	II	Loops	Cu
918	H	246	II	Indeterminate, 1 nail	Fe
919	H	246	II	Loop	Cu
920	H	246	II	Indeterminate	Fe
921	E3	238	I	Indeterminate	Fe
922	E3	226	I	Indeterminate	Fe
923	E3	226	I	Nail?	Fe
924	H	246	II	Indeterminate	Fe
925	E3	247	I	Manuport	Stone
926	H	229	II	Indeterminate	Cu+Bone
927	H	246	II	Strip	Cu
928	H	254	?	Indeterminate	Fe
929	H	256	II	Manuports	Stone
930	H	254	?	Loop	Cu
931	H	256	II	Flake	Obsidian
932	H	246	II	Flake	Obsidian
933	H	252	II	Fragment	Glass
934	H	246	II	Fragments	Glass
935	H	251	II	Strip	Cu
936	H	251	II	Indeterminate	Fe
937	H	251	II	Indeterminate	Fe
938	H	254	?	Fragment	Cu
939	H	252	II	Indeterminate	Fe

Sample register

Sample number	Area	Context	Quantity	Description
			Bag/Buckets	
1	E3	204	1 Bag	Post 1717 tephra?
2	E3	211	10 L	Brown soil with charcoal
3	H	214	10 L	Lensed midden deposit
4	E3	216	10 L	Brown soil with some midden
5	E3	217	10 L	Medium brown midden deposit
6	H	219	10 L	Medium brown midden deposit
7	H	221	10 L	Brown grey mottled
8	H	221	1 Bag	Birch bark
9	H	224	10 L	Dark grey brown deposit
10	E3	226	10 L	Turf and midden deposit
11	H	229	10 L	Grey brown
12	E3	226	1 Bag	Wood (burnt partially)
13	H	231	10 L	Mid-grey midden
14	E3	230	10 L	Mottled brown midden
15	H	224	1 Bag	Birch bark
16	E3	233	10 L	Mottled tan-brown midden
17	H	234	10 L	Mottled brown midden
18	E3	236	10 L	Turf debris
19	E3	235	Small bag	Tephra (1158?)below 233
20	H	239	10 L	Uniform brown deposit
21	E3	238	10 L	Mix of gravel and turf
22	E3	242	10 L	Orange brown midden
23	E3	243	10 L	Turf debris and gravel
24	H	246	10 L	Wood ash midden
25	E3	247	10 L	Mixed midden in crevice
26	E3	248	10 L	Turf deposit in crevice
27	H	246	10 L	Charcoal wood ash midden
28	H	246	1 Bag	Organic soil from cow skull
29	E3	250	10 L	Midden at base of crevice
30	H	251	Small bag	Tephra
31	H	252	10 L	Grey midden deposit
32	H	246	1 piece	Sulfur
33	H	246	1 Bag	Wood
34	H	251	1 Bag	Tephra Sample
35	H	246	1 Bag	Wood/carbonized