The Midden at Möðruvellir 2006
Preliminary Excavation Report

Ramona Harrison

Between July 31st and August 9th 2006, Fornleifastofnun Íslands carried out an exploratory trenching exercise in the area of the so-called Ash Hill (Óskuhóll) at Möðruvellir, in Högárbyggð, Eyjafjörður. The key aim of this effort was to locate and recover animal bones, artefacts, and environmental samples from a well stratified midden sequence at Möðruvellir, in connection with ongoing archaeological work investigating local subsistence strategies in late medieval Eyjafjord.

This work was initiated by Fornleifastofnun Íslands and funded by Fornleifasjóður. The project was directed by Howell Roberts and Orri Vésteinsson. Field work was supervised was by Ramona Harrison, assisted by Oddgeir Hansson, Norie Manigault and Sebastien Martel.

This work was undertaken in collaboration with RALA (the Agricultural Research Institute at Möðruvellir), and with Minjasafnið á Akureyri (the Akureyri Museum).

The author would like to thank Dr. Thomas H. McGovern and Dr. Sophia Perdikaris from CUNY (New York) for their continuous support and advice, and particularly the American Scandinavian Foundation (ASF) – Thor Thor’s Fund – and The Leifur Eiríksson Foundation for their generous financial support, enabling travel to and accommodation in Iceland.
Brief History:

Möðruvellir:
Möðruvellir is located in Hörgárdal, Eyjafjörður, Northern Iceland. The site lies on open lowland pasture, to the north of the river Hörgá, some 13 kilometres north of the modern City of Akureyri. Möðruvellir is situated only a short distance from the delta of the Hörgá, and may be regarded as being within a coastal environment.

Möðruvellir has been a site of considerable importance throughout Icelandic history. It has been the site of a church since at least the second half of the 12th Century (Vésteinsson, 2001:10), and Möðruvellir was established as a House of Canons at the end of the 13th Century. These religious activities were supported by the produce of a large and important farming estate.

The location of original farm and religious buildings is not known with any precision – but they may be assumed to lie beneath the historic farm mound, and it is hoped that clearer evidence may emerge during the course of further excavation. The farm mound, and historic buildings at Möðruvellir form a major cultural and archaeological monument of exceptional research potential. The mound itself – formed by the accumulation of centuries of construction and occupation – measures some 80m in diameter and stands some 4-5 metres above the surrounding topography. The mound
has seen continued use down to current times, and this will have inevitably caused some minor disturbance to underlying archaeological deposits. Nonetheless, such a mound is a priceless repository of the material remains of past times.

The modern church (see location plan in figure 1) was built in 1865 (www.skolavefurinn.is), and is a protected building of historic importance in its own right. It is the successor to a series of churches and other ecclesiastical buildings.

Öskuhóll:
The ‘ash’ hill is situated on the northwestern quarter of the farmstead and was supposedly used for discarding of rubbish over many generations. (Vésteinsson, 2001).

The hill is probably a natural rise at the base and it is likely that it contains structural remains as well as ash and midden material. It is highest at the west, where there is a ridge which turns eastwards towards the southern end of Stefánssfjós. There is a tight cluster of trees on this ridge but east of it there is a large clearing and then another row of trees between the Öskuhóll proper and an open area behind the dwelling, where the turf-house stood formerly. (Vésteinsson, 2001:34).

Further investigation of the Öskuhóll will provide a better chronology of the deposits unearthed. Animal bones thus recovered will provide an insight into the farm’s food supply system over the centuries, and other artefacts such as pottery, iron, leather stone etc will provide intimate evidence of how people lived at Möðruvellir. A site of this importance may be expected to produce a significant quantity of high status imported goods, especially from the late medieval period when a major site of trade operated at Gásir, only some 3km away at the coast.
Previous research at Möðruvellir:
Archaeological and historical research regarding the farm was undertaken as early as the 19th Century, by Kristian Kaalund (Vésteinsson, 2001:7).

A kuml (burial mound) was unearthed in the 19th Century and therefore it is safe to assume that the area was settled (at least that people were buried there) before the year 1000 AD (Vesteinsson, 2001:10).

In 1985, Guðmundur Ólafsson of the National Museum of Iceland surveyed the area, and produced a list of archaeological sites.

Fornleifastofnun Íslands activity at Gásir:
- 2005 - Howell Roberts, excavation of an evaluation trench in the churchyard; investigative work prior to planned ground works for central heating and path construction (Roberts, 2005)
- 2006 – Ramona Harrison and Howell Roberts, excavation of an evaluation trench into the Óskuhóll.
Results

2006 Evaluation trench

Prior to excavation an area to the west of Stefánsfjós, (the northwestern portion of the extant farm mound) was identified as being the likely historic Öskuhóll. This area was then assessed by test coring, using a 25mm manual corer.

The coring consisted of three transects, originating from a centre point that appeared undisturbed by recent farming activity or any measures requiring the movement of soil (i.e. electrical cables, sewer pipes etc). One transect was extended to the North, one towards the West, and one towards SW, within the perimeter of undisturbed area, whilst the East and SE were deemed too far away from the edge of the hill. Cores were taken at intervals along the transects, the soil profiles were described, and the depth of anthropogenic activity recorded.

The area SW from the mid-line turned out to be the most promising place for an investigative trench. Digging a trench at that location would enable an inclusion of the most recent midden deposits, which in turn would assist in establishing the full chronology of the length of use of this hill for the disposal of household refuse.

An area 2m in width and 5m in length, located at the western edge of the ash hill was excavated. This trench immediately proved to contain a well preserved and well stratified sequence of bone rich peat ash deposits – and all further work was focused on this trench.

All excavation was carried out in accordance with excavation protocols set out in the Archaeological Field Manual of Fornleifastofnun Íslands, based upon an excavation method of single context planning. All layers were planned at 1:20, and described using pro-forma recording systems, supplemented by photography. All excavated deposits were dry sieved through a 4mm for recovery of artefacts and faunal remains. Further bulk soil samples were taken from each context for the recovery of environmental data, and as a control on the dry sieving process. These await analysis.

Removal of the topsoil/cleaning deposit yielded faunal remains that were well preserved and numerous. Most of the contexts removed contained midden material to a greater or lesser. Notable is the context [007], filling a cut [031] and containing a large amount of fish bone.

The first few deposits excavated were concentrated in the western half of the trench, probably due to some disturbance of the soil by agricultural machinery – pushing some materials downhill. All of the various midden events contained a certain amount of either wood or peat ash (or both in some cases), as well as traces of charcoal.

The analysis of the faunal material will be carried out during the winter/spring of 2006-2007 by Ramona Harrison at the laboratory facilities of City University New York. This work will provide detailed evidence as to the nature of the different dumping events.
Artefacts so far recovered from the excavated layers include window glass, bottle glass, and clay tobacco pipes. These items clearly suggest that the excavated layers are fairly recent in date, most likely from the 18th and 19th centuries.

While the medieval occupation has not yet been reached, a chronology of deposits going further back in time the deeper they are located, can be loosely determined by the finds. These deposits have proved to include some diagnostic material, and appear largely undisturbed. This is very promising for continued excavations.

During the nine days of excavation, a total of 20 deposits and three negative features (cuts) were excavated and planned. Context [022] was the last to be excavated. It ran through the whole length of the trench and revealed further ‘undisturbed’ midden deposits beneath it. These await continued work in 2007.
Möðruvellir Midden 2006 - Trench 1 - South facing section

Figure 2 – South facing section
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<tr>
<th>Context Number</th>
<th>Description</th>
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<td>001</td>
<td>Topsoil/cleaning deposit - bone rich</td>
</tr>
<tr>
<td>002</td>
<td>mixed layer of turf debris and peat ash</td>
</tr>
<tr>
<td>003</td>
<td>wood ash layer and charcoal rich</td>
</tr>
<tr>
<td>004</td>
<td>mixed silty and peat ash deposit</td>
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<tr>
<td>005</td>
<td>greasy/turfy deposit mixed w. charcoal</td>
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<td>006</td>
<td>mixed peat ash deposit</td>
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<tr>
<td>007</td>
<td>peat ash layer, rich in fish bone</td>
</tr>
<tr>
<td>008</td>
<td>peat ash layer, sheet on top of larger peat ash layer</td>
</tr>
<tr>
<td>009</td>
<td>layer rich in wood ash an charcoal</td>
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<tr>
<td>010</td>
<td>Orange/grey mix of peat and wood ash</td>
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<tr>
<td>011</td>
<td>mix of turf debris and peat ash</td>
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<tr>
<td>012</td>
<td>dump of peat ash and charcoal</td>
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<tr>
<td>013</td>
<td>fill of cut, rich in fish bone</td>
</tr>
<tr>
<td>014</td>
<td>fill of cut, fewer fish, less turf</td>
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<td>015</td>
<td>cut for fill, group 16</td>
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<td>017</td>
<td>grey deposit with pebbles</td>
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<td>018</td>
<td>mixed dump of charcoal and peat ash</td>
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<td>022</td>
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<td>031</td>
<td>cut for deposit [7]</td>
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**Table 1 – List of contexts illustrated in Figure 2**

Picture of trench, profile facing south: Clearly visible are the pit on the right half (eastern half) of the picture, representing Group [016] (013, 014,015) and the various deposits of midden and turf-collapse layers on the left side, which also marks one of the edges of the Öskuhóll.

*Picture 1 – South facing section*
The Möðruvellir finds

A total of 67 artefacts were recovered during excavation at Möðruvellir in 2006. The material classes of these artefacts are many and varied, and the presence of preserved wood and textiles is very promising for further work.

These artefacts await further analysis.

**Chart 1 – breakdown of finds**

Iron objects (including nails and slag) account for 31% of the total finds. Glass and Pottery were also rather frequent, and seem to represent mostly window pane, and post medieval pottery/clay pipes. One of the textiles (06-60), found in the lowest deposit, could be of a medieval date and will be examined by specialists.
Picture 2 - Clay pipes from contexts [002], [003] and [004]

Picture 3 - Object made from faunal material, context [013]

Picture 4 - Glazed pottery sherd, context [013]
The Möðruvellir bone

A total of 12.2 kg of archaeofauna was recovered from the investigative trench, and will be processed and analyzed in the NORSEC and NABO laboratories of the City University of New York, located at Hunter and Brooklyn College Campuses.

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*Table 2 – List of bones*
Conclusions and Research Potential

H. M. Roberts

Trial excavation at Möðruvellir in 2006 successfully located and tested a complex sequence of midden deposits, thus achieving our primary aims.

A large number of artefacts were recovered, along with a large quantity of animal bone. These came from well stratified deposits including adequate dating evidence. Detailed analysis of this material is continuing. Preservation of both bone and artefacts proved to be excellent – and included the rare preservation of organic items such as wood and cloth.

In light of these successes, it is proposed that further excavation be undertaken at Möðruvellir in 2007, expanding from and building upon the current results. The current excavation trench will be extended, and other locations will also be evaluated.

Such a programme of work will in time provide an invaluable collection of artefacts and eco-facts. This material will add substantially to the archaeological evidence from Eyjafjörður. To date, comparable datasets from Eyjafjörður exist only for Viking period Granastaðir, and for High medieval Gásir. The Eyjafjörður region is thus severely under-represented in Icelandic archaeology – even when compared to “neglected” areas such as the eastern region, and the westfjords.

Work is underway to expand our knowledge of Eyjafjörður. Further work at Möðruvellir will form an important part of a research effort targeting the hinterlands of the medieval trade site at Gásir. Details of that proposed research are appended below.
References:


http://www.skolavefurinn.is/_opid/samfelagsgreinar/landafraedi/island/syslur/eyjarfjordur/a_leid_um_landid/modruvellir/index.htm
Appendix 1- Finds list

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Appendix 2 – Gásir Hinterlands Research Proposal

H. M. Roberts

Medieval Faunal Collections from Eyjafjörður

After a major 6 year excavation at the medieval trading site of Gásir much new information has come to light regarding the nature of exchange in medieval Iceland. Large amounts of data have been gathered about the nature of the remarkably well preserved structures that survive today, the ways that these were built, how they altered over time and how they were used in the 14th century.

Substantial collections of artefacts have been recovered. These include the largest single collection of pottery recovered from a site of this period in Iceland, and also large quantities of iron objects, bronze objects several weights, many stone baking plates and whetstones, items of leather including several shoes, assorted textiles, rope, and not least, lumps of raw mineral sulphur. These collections provide an exceptional opportunity to examine the material culture of a later medieval seasonal trading place. Most if not all of these items will have been brought to Gásir as items of trade. Some will have originated locally, or at least within Iceland (for instance the sulphur), whilst many others are indicative of long distance trading contacts – communication vectors that bring goods to Gásir from Norway, the Rhineland, England and probably Denmark and perhaps Holland. Some of these finds may be seen as elite goods – eg fine pottery vessels containing perhaps alcohol, oils and even possibly unguents. Other imported goods such as the baking plates and whetstones are hard to interpret as being of high status, but rather some of the few necessities that could not be sourced within Iceland.

A substantial programme of environmental and geoarchaeological sampling has also been carried out, and in due time this will provide valuable data about conditions at Gásir.

A third class of object recovered from the site is animal bone. Although bone preservation at this coastal location is variable, large quantities have been recovered, and subjected to (ongoing) analysis by Ramona Harrison (and others) at City University New York. This archaeofauna has generated unusual data – rare finds and atypical patterns of consumption and utilisation. In the words of Professor Thomas H. McGovern, City University New York:

“Zooarchaeology can contribute to the economic history of Eyjafjord more effectively if additional bone collections can be made from stratified midden sites. At present, there are two important archaeofauna from the district - Granastaðir and Gásir. Both collections have proved extremely valuable for understanding settlement and economy in the district. The 10th century Granastaðir collection provides a view of the economy of the settlement age (cattle, pig, goats, sheep, horse supplemented by wild birds and marine fish brought inland) which adds to the complementary picture provided by the contemporary sites in Mývatnssveit. Following centuries are now undocumented until the 14th century collection from Gásir. The bone collection from Gásir is as unusual as the site itself, with exotic animals (walrus and falcon), late occurrence of pigs (possibly imported), and a clear indication that the residents of Gásir were consuming prime meat age cattle and sheep. To provision the site of Gásir, local farmers would have had to significantly change their normal dairy economy (which culls cattle either near birth or after a long life as a milk cow). Gásir thus would have had major impacts on the farming economy of the district, and to understand these impacts we need samples from contemporary farm sites in the district. The most valuable archaeofauna would come from a deeply
stratified, long occupied site ideally spanning the whole period of settlement in the district, connecting
the settlement age with the documentary record of the early modern period.”

Furthermore, analysis of Nitrogen 15 isotopes in cattle bones, carried out in parallel
with radiocarbon dating, suggest that these animals come from different sources, as
different diets have affected the N15 values in their bones. A substantial quantity of
recently analysed fish bone has shown the need for context specific study of the Gásir
material. Until 2004 all fish bone recovered from the site had shown element
distributions typical of consumption at Gásir – ie with processing occurring off site.
New evidence from a single feature excavated in 2005 indicates the opposite, with a
high percentage of head parts being included – indicative seemingly of on-site
processing. This suggests that trade in fish had some role in the economy of Gásir.

With all of this in mind we have begun a program of research aimed at looking
beyond Gásir itself and into its immediate surroundings. Whereas we accept that
Gásir’s regional impact maybe broad and sometimes particular (the sulphur at Gásir is
very likely to have been sourced east of Lake Mývatn) we propose that any signal of
Gásir’s economic impact should be most detectable within its immediate hinterlands.
The products of fishing and farming evidenced by animal bones illuminate a flow of
material into Gásir for consumption on site, local exchange or for shipment abroad.
And in a complimentary fashion the regional distribution of artefacts such as
Norwegian baking plates, Rhenish pottery, English green glazed pottery etc should
throw light on the compensatory flows of goods back into the surrounding area.

These goods might also seen as proxies for chains of contact within the
regional society, perhaps even the flow of information and ideas. Another role that
Gásir is known to have played is as an embarkation points for messengers and
messages exchanged between the episcopal see at Hólar, and the arch-episcopal seat
in Trondheim.

Our project will test these two hypotheses:
A. At Gásir exotic goods (sulphur, falcons etc.) were exchanged for
luxury items for elite consumption and all other trade was either
incidental or marginal in economic value. If this is true there should
be limited or no presence of imported goods in middens of low or
middle status farms in the vicinity of Gásir.

B. The provisioning of the trading site had a marked impact on the
economy of the surrounding farms, the severity of the impact
increasing with proximity to the site.

As a first stage in addressing this, in the summer of 2006 members of the Gásir team
and students began a test excavation into the farm mound at Möðruvellir, some 3km
from Gásir. Prior to the Reformation, Möðruvellir housed a house of canons and was
a substantial and wealthy farm with extensive holdings. Its high status has been
retained to this day and it is an ideal site to examine in context of its relationship with
Gásir. In the 14th century, monks returning from Gásir are known to have accidentally
set fire to the monastery.

This test excavation, targeting an area known as the “Öskuhóll” or ash-heap
brought to light extensive deposits of peat ash and wood ash, and has produced
significant quantities of animal bone, and a few artefacts. At present, these layers
appear to date from the post medieval period, but show excellent potential for further
excavation, and have good bone preservation. These collections will be studied during the winter of 2006-2007 and further excavation is planned for the summer of 2007 and onwards.

Our ultimate goal is to acquire and analyse multiple collections of animal bones and associated artefacts from a broad range of sites within the larger regional area of Eyjafjörður, and from a broad temporal range also, encompassing the periods before and after Gásir’s prime as a site of trade in the 13th-14th centuries. This set of sites should ideally encompass the full range of environmental variables within the study area – highland, lowland, valley, coastal etc. It should also encompass a broad range of economic values ie high status and low status. As a first step site status can be deduced from the detailed accounts of the Möðruvellir House of canons and other ecclesiastical institutions in Eyjafjörður from the 14th and 15th centuries, along with place name evidence and early modern census and taxation data.

Our immediate goal is target, prospect for, and identify a smaller number of sites of high potential within the local regional area of Hörgárbyggð. The valleys of Hörgardalur and Öxnadalur, together with the coastal zone around the mouth of the Hörgá from Glerá in the south to Arnarnes in the north (encompassing both Gásir and Möðruvellir) can be seen as a contiguous and well bounded geographical unit – and perhaps a test case for the articulated regional approach we are seeking to develop.

An outline for this proposed prospection follows below;

**Archaeological Prospection of Midden sites in Hörgárbyggð**

This project aims to identify, locate and test probable domestic middens within the district of Hörgárbyggð in Eyjafjörður, Northern Iceland.

This process will have several stages;

1) Desk based assessment. Fornleifastofnun Íslands maintains a database of known archaeological sites in Iceland (Ísleif). For the region of Eyjafjörður, Ísleif contains a near complete register of sites known from documentary survey, of which the vast majority have now been subject to pedestrian survey and registration. The completion of this registration process in Hörgárbyggð is expected imminently. Together with Elin Ósk Hreiðarsdottir (Head of Department - responsible for the survey of Hörgárbyggð) 10-12 likely locations will be derived from the database, utilising placename evidence, information regarding site condition, and possibly the noted visible erosion of midden deposits. The Ísleif data set contain GPS location data, and this will be used to precisely locate individual features for further study.

2) Field prospection. A series of transects will be laid out, and located using either GPS equipment or a total station theodolite. Manual coring equipment will used to acquire soil columns at regular intervals – the content of which will be recorded in detail. Areas that show high potential will be more intensively cored in order to define the extent of midden deposits. Criteria for high potential will include the presence of bone, peat ash, wood ash, but also on the visibility of volcanic tephra horizons that might be used as dating horizons.
3) Field evaluation. 3-5 of the above sites will be selected on the basis of the coring exercise, where test trenches measuring up to 2m x 2m will be excavated by hand. All midden deposits will then be dry-sieved through a 4mm mesh, for the controlled recovery of faunal and artefactual remains. In addition, appropriate samples will be taken for wet sieving and flotation.

4) Analysis of recovered materials. (zoo-archaeological protocol following Gásir)

5) Selection and analysis of material for radiocarbon dating, delta N15 etc

6) Identification of sites for further large scale excavation. Based upon successful recovery of useful quantities of well stratified, well dated material with good levels of preservation and site context.

7) Identification of sites for a second cycle of prospection.

Additional information

This study will make an important contribution toward our understanding of settlement and economic relationships within Eyjafjörður during the late-medieval period. It will produce an excellent regional model to test against other comparable faunal and artefactual collections now recovered from, for instance, the Mývatn area in the C10-12th (FSÍ/NABO). Regional economic models are also being developed using other datasets (soil enrichment, midden extent, geophysical research) in Skagafjörður, by a team from UCLA/Northwestern led by Jon Steinberger and Doug Bolender. Steinberger and Bolender have expressed an interest in the identification and mapping of midden deposits using geophysical techniques such as Ground Penetrating Radar.

Further research is also underway at Vatnsfjörður in northwestern Iceland, where a multi-period high status farm mound is being investigated, along with Viking period domestic structures. This project will include a study of landscape context and a study of the economic basis for Vatnsfjörður’s wealth in the medieval period, particularly addressing the relative inputs of farming and fishing.

Taken together, there is a potential for comparative studies encompassing four regional areas spanning the northern coast of Iceland, a sub-arctic region underrepresented in our knowledge of medieval, late medieval and early modern societies and economies. The prehistory of subsistence in the region - as evidenced from the archaeofauna and other resources - can teach us valuable lessons about sustainable (and unsustainable) practices in fishing and farming.

The period 1200-1400 is sorely under-represented in Icelandic archaeology, with far more emphasis both historically and recently having been given to the Viking period. Other recent major projects have focussed on post medieval remains at the episcopal sees Skálholt and Hólar, and 15th-16th century remains at the religious houses of Skriðuklaustur and Kirkjubæjarklaustur.

Additionally, Eyjafjörður as a region is profoundly under-represented in the archaeological record. With the exception of mostly isolated pagan burials, significant modern excavations have only been undertaken at Gásir (1907, 1986, 2001-2006), and the Viking age farmsteads Granastaðir (1987-91) and Klaufanes
(1943). This is a shockingly low count when one considers the population density and economic importance of the region – even when compared to “neglected” areas such as the Westfjords and/or Eastern Iceland.

Conversely – Eyjafjörður has for a long time led Iceland in the adoption of thorough monument registration. After some 12 years of intensive desk based study and fieldwork, carried out on behalf of the local authorities by Fornleifastofnun Íslands, this process is drawing to a close. A total of 7238 sites are known from documentary sources, with circa 6300 archaeological sites having been identified, located, inspected and recorded in the field (as of 15/9/06 – further work is currently underway). This process has produced a huge dataset that may now, amongst other functions, serve to target further archaeological research. The experience and personal knowledge of the survey team may now be drawn upon in the earliest stages of planning and development of this study.